

**BILL OF LADING (pursuant to 310 CMR 40.0030)**

3 - 36013

**A. LOCATION OF SITE OR DISPOSAL SITE WHERE REMEDIATION WASTE WAS GENERATED:**

1. Release Name/Location Aid: PLANNED RIVERS EDGE DEVELOPMENT
2. Street Address: 484-490 BOSTON POST ROAD
3. City/Town: WAYLAND 4. Zip Code: 017781831
5. Check here if the disposal site that is the source of the release is Tier Classified. Check the current Tier Classification Category.  
 a. Tier I     b. Tier ID     c. Tier II

**B. THIS FORM IS BEING USED TO:** (check one: B1-B4):

1. Submit a **Bill of Lading (BOL)** to transport Remediation Waste to Temporary Storage or a Receiving Facility.  
Response Actions associated with this BOL (check all that apply):  
 a. Immediate Response Action (IRA)     e. Comprehensive Response Actions  
 b. Release Abatement Measure (RAM)     f. Limited Removal Action (LRA): (must be retained pursuant to 310 CMR 40.0034(6); can't be submitted via eDEP)  
 c. Downgradient Property Status (DPS)     g. Other \_\_\_\_\_  
 d. Utility Release Abatement Measure (URAM)
2. Submit an Attestation of Completion of **Shipment to Temporary Storage** (Sections C, F and J are not required):
3. Submit an Attestation of **Completion of Shipment to a Receiving Facility** (Sections C, F and J are not required):
4. Certify that Remediation Waste Was **Not Shipped, and the Bill of Lading is Void**. (Sections C, D, E, and F are not required)
5. Date Bill of Lading submitted to the Department: 03/15/2021 b. eDEP Transaction ID: 1262371  
(mm/dd/yyyy)
6. Period of Generation Associated with this Bill of Lading 3/15/2021 to 8/15/2021  
(mm/dd/yyyy) (mm/dd/yyyy)

**(All sections of this transmittal form must be filled out unless otherwise noted above)**

The Bill of Lading is not considered complete until the Attestation of Completion of Shipment is received by the Department.

**C. DESCRIPTION OF WASTE AND WASTE SOURCE:**

1. Contaminated Media/Debris (check all that apply):  
 a. Soil     b. Groundwater     c. Surface Water     d. Sediment     e. Vegetation or Organic Debris  
 f. Demolition/Construction Waste     g. Inorganic Absorbent Materials     h. Other: \_\_\_\_\_
2. Uncontainerized Waste (check all that apply):  
 a. Inorganic Absorbent Materials     b. Other: \_\_\_\_\_



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**C. DESCRIPTION OF WASTE AND WASTE SOURCE (cont.):**

3. Containerized Waste (check all that apply):

- a. Tank Bottoms/Sludges
- b. Containers
- c. Drums
- d. Engineered Impoundments

e. Other: \_\_\_\_\_

4. Estimated Quantity: 5500  Tons  Cu. Yds.  Gallons

5. Contaminant Source (check one):

- a. Transportation Accident
- b. Underground Storage Tank
- c. Brownfields Redevelopment

d. Other: URBAN FILL

6. Type of Contaminant (check all that apply):

- a. Gasoline
- b. Diesel Fuel
- c. #2 Fuel Oil
- d. #4 Fuel Oil
- e. #6 Fuel Oil
- f. Jet Fuel

g. Waste Oil  h. Kerosene  i. Chlorinated Solvents  j. Urban Fill  k. Other: \_\_\_\_\_

7. Constituents of Concern (check all that apply):

- a. As
- b. Cd
- c. Cr
- d. Pb
- e. Hg
- f. EPH/TPH
- g. VPH

h. PCBs  i. VOCs  j. SVOCs  k. Other: \_\_\_\_\_

8. If applicable, check the box for the Reportable Concentration Category of the site:

- a. RCS-1
- b. RCS-2
- c. RCGW-1
- d. RCGW-2

9. Remediation Waste Characterization Documentation (check at least one):

- a. Site History Information
- b. Sampling Analytical Methods and Procedures
- c. Laboratory Data

d. Field Screening Data  e. Characterization Documentation previously submitted to the Department

i. Date submitted: \_\_\_\_\_ ii. Type of Documentation: \_\_\_\_\_  
(mm/dd/yyyy)

**D. TRANSPORTER OR COMMON CARRIER INFORMATION:**

1. Transporter/Common Carrier Name: BOSTON ENVIRONMENTAL CORP

2. Contact First Name: JOHN 3. Last Name: COLE

4. Street: 338 HOWARD STREET 5. Title: DIRECTOR OF OPERATIONS

6. City/Town: BROCKTON 7. State: MA 8. Zip Code: 023020000

9. Telephone: 5088978025 10. Ext: \_\_\_\_\_ 11. Email: jcole@bostonenvcorp.com



**BILL OF LADING (pursuant to 310 CMR 40.0030)**

**E. RECEIVING FACILITY/TEMPORARY STORAGE LOCATION:**

1. Operator/Facility Name: SOUTHBRIDGE LANDFILL

2. Contact First Name: TRACY 3. Last Name: MARKHAM

4. Street: 165 BAREFOOT ROAD 5. Title: CONTACT

6. City/Town: SOUTHBRIDGE 7. State: MA 8. Zip Code: 015500000

9. Telephone: 7743641940 10. Ext: \_\_\_\_\_ 11. Email: scott.sampson@casella.com

12. Type of facility: (check one)

a. Temporary Storage i. Period of Temporary Storage \_\_\_\_\_ to \_\_\_\_\_  
(mm/dd/yyyy) (mm/dd/yyyy)

ii. Reason for Temporary Storage: \_\_\_\_\_

b. Asphalt Batch/Hot Mix  c. Landfill/Disposal  d. Landfill/Structural Fill  e. Landfill/Daily Cover

f. Asphalt Batch/Cold Mix  g. Thermal Processing  h. Incinerator  i. Other: \_\_\_\_\_

13. Division of Hazardous Waste/Class A Permit Number: \_\_\_\_\_

14. Division of Solid Waste Permit Number: W045668, W068640, W148135, X255987,

15. EPA Identification Number: \_\_\_\_\_

**F. LSP SIGNATURE AND STAMP:**

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this submittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and 309 CMR 4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief, the assessment action(s) undertaken to characterize the Remediation Waste which is (are) the subject of this submittal for acceptance at the facility identified in this submittal comply with applicable provisions of 310 CMR 40.0000, and such facility is permitted to accept Remediation Waste having the characteristics described in this submittal.

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

1. LSP #: 5217

2. First Name: WILLIAM J 3. Last Name: GIBBONS

4. Telephone: 7816987654 5. Ext: \_\_\_\_\_ 6. Email: \_\_\_\_\_

7. Signature: WILLIAM J GIBBONS

8. Date: 3/12/2021  
(mm/dd/yyyy)

9. LSP Stamp:





**BILL OF LADING (pursuant to 310 CMR 40.0030)**

**G. PERSON SUBMITTING BILL OF LADING:**

1. Check all that apply:  a. change in contact name  b. change of address  c. change in the person undertaking response actions
2. Name of Organization: ALTA RIVER'S EDGE, LLC
3. Contact First Name: JON 4. Last Name: BERTOLAMI
5. Street: 91 HARTWELL AVENUE 6. Title: SENIOR VICE PRESIDENT
7. City/Town: LEXINGTON 8. State: MA 9. Zip Code: 024210000
10. Telephone: 7815415829 11. Ext: \_\_\_\_\_ 12. Email: jon.bertolami@woodpartners.com

**H. RELATIONSHIP TO SITE OF PERSON SUBMITTING BILL OF LADING:**

Check here to change relationship

1. RP or PRP  a. Owner  b. Operator  c. Generator  d. Transporter
- e. Other RP or PRP Specify: ELIGIBLE PERSON
2. Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)
3. Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))
4. Any Other Person Undertaking Response Actions: Specify Relationship: \_\_\_\_\_

**I. REQUIRED ATTACHMENT AND SUBMITTALS:**

1. Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approvals issued by DEP or EPA. If the box is checked, you must attach a statement identifying the applicable provisions thereof.
2. Check here if any non-updatable information provided on this form is incorrect, e.g. Release Address/Location Aid. Send corrections to BWSC.eDEP@state.ma.us
3. Check here to certify that the LSP Opinion containing the material facts, data, and other information is attached.

**J. CERTIFICATION OF PERSON SUBMITTING BILL OF LADING:**

1. I, JON BERTOLAMI, attest under the pains and penalties or perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

2. By: JON BERTOLAMI 3. Title: ASSISTANT VICE PRESIDENT
4. For: ALTA RIVER'S EDGE, LLC 5. Date: 3/12/2021
- (Name of person or entity recorded in Section G) (mm/dd/yyyy)





**BILL OF LADING (pursuant to 310 CMR 40.0030)**

**J. CERTIFICATION OF PERSON SUBMITTING BILL OF LADING (cont.) :**

6. Check here if the address of the person providing certification is different from address recorded in Section G.

7. Street: \_\_\_\_\_

8. City/Town: \_\_\_\_\_ 9. State: \_\_\_\_\_ 10. Zip Code: \_\_\_\_\_

11. Telephone: \_\_\_\_\_ 12. Ext: \_\_\_\_\_ 13. Email: \_\_\_\_\_

**YOU ARE SUBJECT TO AN ANNUAL COMPLIANCE ASSURANCE FEE OF UP TO \$10,000 PER BILLABLE YEAR FOR THIS DISPOSAL SITE. YOU MUST LEGIBLY COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.**

Date Stamp (MassDEP USE ONLY):

Received by DEP on 3/15/2021 10:00:57 AM





**Massachusetts Department of Environmental Protection**  
*Bureau of Waste Site Cleanup*

**BWSC112B**

Release Tracking Number

-

**BILL OF LADING** (pursuant to 310 CMR 40.0030)  
**SUMMARY SHEET SIGNATURE PAGE**

**A. ACKNOWLEDGEMENT OF RECEIPT OF REMEDIATION WASTE AT RECEIVING FACILITY OR TEMPORARY STORAGE:**

1. I, \_\_\_\_\_, attest under the pains and penalties or perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

2. By: \_\_\_\_\_ 3. Title: \_\_\_\_\_

4. For: \_\_\_\_\_ 5. Date: \_\_\_\_\_  
 (mm/dd/yyyy)

6. Date of Final Shipment associated with this Bill of Lading: \_\_\_\_\_  
 (mm/dd/yyyy)

**B. ACKNOWLEDGEMENT OF SHIPMENT AND RECEIPT OF REMEDIATION WASTE BY PERSON CONDUCTING RESPONSE ACTIONS ASSOCIATED WITH THIS BILL OF LADING:**

1. I, \_\_\_\_\_, attest under the pains and penalties or perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

2. By: \_\_\_\_\_ 3. Title: \_\_\_\_\_

4. For: \_\_\_\_\_ 5. Date: \_\_\_\_\_  
 (Name of person or entity recorded in Section G) (mm/dd/yyyy)

6. Check here if the address of the person providing certification is different from address recorded in BWSC112 Section H.

7. Street: \_\_\_\_\_

8. City/Town: \_\_\_\_\_ 9. State: \_\_\_\_\_ 10. Zip Code: \_\_\_\_\_

11. Telephone: \_\_\_\_\_ 12. Ext: \_\_\_\_\_ 13. \_\_\_\_\_ :

14. Check here if attaching optional supporting documentation such as copies of Load Information Summary Sheets



March 6, 2021

Southbridge Recycling and Disposal Park  
165 Barefoot Road  
Southbridge, Massachusetts  
Attn: Mr. Scott Sampson

**RE: Licensed Site Professional Opinion Letter**  
River's Edge  
484-490 Boston Post Road  
Wayland, Massachusetts  
VERTEX Project No. 67404

To Whom it May Concern:

The Vertex Companies, Inc. (VERTEX) is pleased to submit this Licensed Site Professional (LSP) Opinion Letter on behalf of Alta River's Edge, LLC, for the proposed transport of up to 6,000 cubic yards of soil from the above-referenced property (the "property") to the Southbridge Recycling and Disposal Park (the Facility) for reuse. The soil is currently stockpiled at the property and is being removed to support property redevelopment.

The approximately 7-acre property is currently being redeveloped by Alta River's Edge, LLC as a multi-residential development. The general property locus is shown on Figure 1, and the general layout of the property is shown on Figure 2.

Portions of the property are identified as Disposal Sites by the Massachusetts Department of Environmental Protection (MassDEP) under Release Tracking Numbers (RTN) 3-34474 and 3-36013, for the reported detection of oil and hazardous materials (OHM) in soil at concentrations exceeding Massachusetts Contingency Plan (MCP) RCS-1 Reportable Concentrations. The detected OHM is attributed to urban fill materials originated from off-site locations and historical uses. Additional information regarding these RTN is included below.

The information provided in this LSP Opinion letter includes a general property history and summary of investigation activities and demonstrates that the soil proposed to be transported for disposal at the Facility meets the Facility's acceptance criteria.

## General Property History

Based on a review of readily available historical information, a portion of the property was utilized as a firing range since at least the mid-1970s until 2017 and the remainder of the property historically consisted of undeveloped cleared land prior to construction of a municipal wastewater treatment plant (WWTP) in 1983. The WWTP treatment plant operated until 2009.

After 1983 and based on available records, the Wayland Department of Public Works (DPW) began storing soils containing minor amounts of waste asphalt, masonry, concrete, and other debris which originated from off-site locations, in the eastern portion of the property. DPW transportation of soil to the property for storage continued until 2017. Some of the DPW soil stockpiled at the property is being proposed for transport and reuse at the Facility.

## Disposal Site Release History

Based on the available information, three releases of OHM have occurred at the property related to historical uses. The following summarizes identified OHM releases at the site:

### RTN 3-001724 (Septage Facility)

This RTN was assigned in 1987 following the discharge of an estimated 3-gallons unknown oil “ostensibly from a restaurant grease trap” into the WWTP’s receiving tanks. Based on available documentation, the plant operator identified this wrongful discharge shortly following the release and responded by closing valves thereby isolating the discharged material in the “Raw Well” and restricting pathways that would have resulted in a release to the environment. The oil was subsequently removed under Hazardous Waste Manifest documentation, and a sample was collected submitted for laboratory analysis of polychlorinated biphenyls (PCBs). PCBs were not detected above the laboratory detection limit.

After additional investigations by the MassDEP in 1993 and based on available documentation, the MassDEP determined the release was no longer considered a “Disposal Site” under the Massachusetts Contingency Plan (MCP) and classified the release as DEPND (MassDEP Not a Disposal Site). Soil proposed for reuse at the Facility was not impacted by the RTN 3-001724 release.

### RTN 3-34474

RTN 3-34474 is associated with the discovery of asbestos at the property in August 2017 during pre-purchase due-diligence activities undertaken for Alta River’s Edge, LLC. On August 8, 2017, during regrading of the large stockpile of DPW soil to enable it to be sampled for characterization analyses, VERTEX identified various suspect asbestos containing waste materials (ACWM) including potential transite pipe and floor tiles, all located within a small area of the stockpile. Six samples of suspect ACWM were collected and submitted for polarized light microscopy (PLM) analysis.

Based on the analytical results, five of the six samples contained greater than 1% asbestos. On August 14, 2017, following discussions between VERTEX, the Town of Wayland and their consultant, and the MassDEP Bureau of Air and Waste, it was determined that greater than 1 pound of asbestos was present, triggering a 2-hour reportable condition under the MCP. The Town of Wayland notified the MassDEP of the release, and the release was subsequently assigned RTN 3-34474.

In July 2018, VERTEX observed the advancement of 15 test pits through the entire thickness of the stockpiles to determine the potential presence of additional ACWM within ungraded portions of the stockpile. Figure 4 depicts the location of these 15 test pits relevant to the stockpile configuration at the time of the sampling. Soil from each test pit was visually assessed by a Massachusetts-licensed Asbestos Inspector who collected samples of suspect ACWMs and 15 composite soil samples for asbestos analysis by PLM. Additional ACWM was identified in one test pit (TP-8) at depths of approximately 3 to 7 feet, within the general area of the initial observed surficial ACWM. Asbestos was not detected in any soil samples. A summary of the suspect ACWM analytical results is provided on Table 1A and a summary of asbestos soil analytical results is provided on Table 1B. Copies of the analytical results are provided in Attachment 2.

Based on the visual observations and test results, it was determined that the horizontal extent of the buried ACWM was the area defined by test pits TP-1, TP-2, TP-9, TP-10, TP-14, and TP-15. Based on the material observed in test pit TP-8, the vertical extent of the ACWM was determined to be a maximum of 7 feet below ground surface (bgs). In December 2018, following MassDEP approval of a Non-Traditional Asbestos Work Plan (NTAWP), VERTEX oversaw the excavation and off-site transport of approximately 2,000 cubic yards of commingled soil and ACWM from the on-site stockpile. Soil within the ACWM area was excavated to a depth of 10 feet bgs, which was 3 feet deeper than the maximum depth of observed ACWM. VERTEX's oversight during the ACWM remediation included continuous air monitoring and continuous Massachusetts-licensed Asbestos Inspector observation of the excavated materials and excavation sidewalls and base to confirm the full extent of ACWM was excavated and disposed of off-site. No additional ACWM was observed in the excavation sidewalls and/or base during the remediation and as noted above, analysis of soil samples did not detect asbestos fibers in any sample.

On January 26, 2021 this RTN was closed with a Permanent Solution Statement with No Conditions under the MCP. As noted below, the post-closure characterization of the soil also included collection and analysis of **80 additional samples** for asbestos and **no asbestos was detected**.

Following abatement activities, the remainder of the stockpile was graded to a manageable height and configuration to allow for the collection of soil characterization samples and a sampling grid of characterization cells was established, surveyed, and marked with stakes.

RTN 3-36013

In March 2019, during the collection of soil characterization samples at the property, semi-volatile organic compounds (SVOCs) and lead were detected in samples collected from the graded large on-site stockpile at concentrations exceeding applicable MCP RCS-1 Reportable Concentrations (additional information regarding the characterization sampling and analysis is included below). Additionally, concentrations of lead, copper, and antimony were detected in soils at the former firing range at concentrations exceeding applicable MCP RCS-1 Reportable Concentrations, and dissolved arsenic, nickel, and ammonia were detected in groundwater at concentrations exceeding applicable MCP RCGW-1 Reportable Concentrations. On December 2, 2019, the Town of Wayland notified the MassDEP of the release, and the release was subsequently assigned RTN 3-36013.

Soils located outside of the large stockpile are not proposed for reuse at the facility at this time. If soils outside the large stockpile are proposed for reuse at the facility, an additional disposal package will be provided. Additionally, **soil within the large stockpile containing OHM at concentrations greater than the Facility acceptance criteria is not proposed for reuse at the Facility.**

**Sampling Activities**

Following ACWM abatement activities, the remainder of the stockpile was graded to a manageable height and configuration to allow for the collection of soil characterization samples and a sampling grid of characterization cells was established, surveyed by a professional survey company, and the limits of each characterization cell were marked with stakes. Between, March 1 and March 12, 2019, VERTEX oversaw the advancement of 44 test pits within the proposed area of excavation, identified as TP-A1 through TP-A5, TP-B1 through TP-B6, TP-C1 through TP-C6, TP-D1 through TP-D7, TP-E2 through TP-E8, TP-F3 through TP-F8, TP-G6, TP-G7, and TP-V-101 through TP-V-105. Soil samples were collected continuously in 5-foot vertical composites from the ground surface to approximately 10 feet bgs (with the exception of test pits D3 and E5 which were advanced to 15 feet bgs). A total of 85 soil samples were collected for characterization analysis.

The soil was classified in the field using a modified Burmister soil classification system and generally consisted of a mixture of tan to dark brown sand, silt, gravel, and trace debris, including brick, concrete, asphalt, glass, metal, plastic and wood. Odors emanating from these soils ranged from no odor to a slight organic odor. Figure 3 shows the stockpiles for which soil is proposed for reuse and test pit locations.

The soils were screened in the field using a photoionization detector (PID) calibrated to 100 parts per million by volume (ppmv) isobutylene standard to report ionizable total volatile organic compounds (TVOCs) as isobutylene equivalents. Visual and olfactory evidence of impacts were

recorded in the field and on the boring logs, where observed. Soil characterization and PID screening results are provided on the boring logs included as Attachment 1.

VERTEX collected 85 soil samples for laboratory analysis. Each of the soil samples consisted of five approximately equal-volume aliquots of soil collected from the characterization cells. The aliquots were mixed in a stainless-steel bowl to create the representative composite sample for each cell, which was then placed into laboratory-supplied sample containers. Soil samples collected for analysis of volatile organic compounds (VOCs) were collected by placing approximately equal-volume aliquots from five points within each characterization cell directly from the excavator bucket into the sample containers.

Samples were submitted to Con-Test Analytical Laboratory (Con-Test) of East Longmeadow, Massachusetts for laboratory analysis of the MassDEP Reuse and Disposal of Contaminated Soil at Massachusetts Landfills DEP Policy #COMM-97-001 (COMM-97) disposal parameters as well as additional analyses, including:

- Volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8260;
- SVOCs plus pyridine by USEPA Method 8270;
- Extractable Petroleum Hydrocarbons (EPH) by MassDEP Method 04-1.1;
- Massachusetts Contingency Plan (MCP) 14 Total Metals by USEPA Methods 6010 and 7471;
- PCBs by USEPA Method 8082 with Soxhlet extraction;
- Total petroleum hydrocarbons (TPH) by USEPA Method 8015;
- Corrosivity (pH) by USEPA Method 1,9045D;
- Reactivity (cyanide and sulfide) by USEPA Method 125,7.3;
- Conductivity by USEPA Method 1,9050A; and
- Ignitability by USEPA Method 1030.

Additionally, 80 soil samples were also submitted for analysis of asbestos fibers, using the California Air Resources Board CARB-435 preparation method and USEPA Method 600/R-93/116. A summary of soil sample analytical results representing the soil proposed for reuse at the Facility is provided on Table 1 and copies of the laboratory analytical reports are provided in Attachment 2.

### **Soil Sampling Results**

Laboratory analysis did not detect asbestos fibers in any of the 80 soil samples (and were not detected in the 15 soil samples analyzed prior to ACWM remediation activities) and target



analytes were not detected at concentrations exceeding the Facility's acceptance criteria in the 12 samples, listed below:

TP-A5(5-10)	TP-C1 (5-10)	TP-C2 (0-5)	TP-C3 (0-5)
TP-C3 (5-10)	TP-C6 (0-5)	TP-D1 (0-5)	TP-D1 (5-10)
TP-D4 (0-5)	TP-D6 (5-10)	TP-E3 (5-10)	TP-F3 (5-10)

Based on the analytical results, toluene, EPH fractions, SVOCs, Aroclor 1254, and metals were detected in several of the qualifying soil samples at concentrations exceeding laboratory detection limits, but not exceeding the Facility acceptance criteria.

VERTEX requests acceptance of the soils characterized by these 12 samples for reuse at the Facility. A summary of soil analytical results is included on Table 1 and copies of the laboratory analytical reports are provided in Attachment 2.

### Soil Reuse

Based on the laboratory analytical results and the Facility's required sampling frequency of one sample per 500 cubic yards, the data supports the reuse of approximately 6,000 cubic yards of soil. Figures 3A through 3C show the locations and depths (in 5-foot depth increments) of the soil characterization cells proposed for reuse at the Facility.

The soil characterization sampling detailed herein was completed at the property in March 2019. Since the collection and analysis of the characterization samples no material has been added to the stockpile and no new releases have been reported or observed at the property. Additionally, since sample collection, property soils have not been disturbed, and access to the property has been restricted by a locked gate.

It is the opinion of the LSP that the soil samples analyzed are representative of the soil proposed for reuse, and the analytical results meet the Facility's acceptance criteria. Soil will not be shipped from uncharacterized locations or at greater quantities than the quantity requested without prior Facility approval.

If needed or where specifically requested, additional samples and analytical data will be collected and provided to the Facility for approval of additional volume prior to transport to the Facility.

Please do not hesitate to contact us should you have any questions or require additional information.

Sincerely,

**The Vertex Companies, Inc.**



Kristen Sarson  
Project Manager

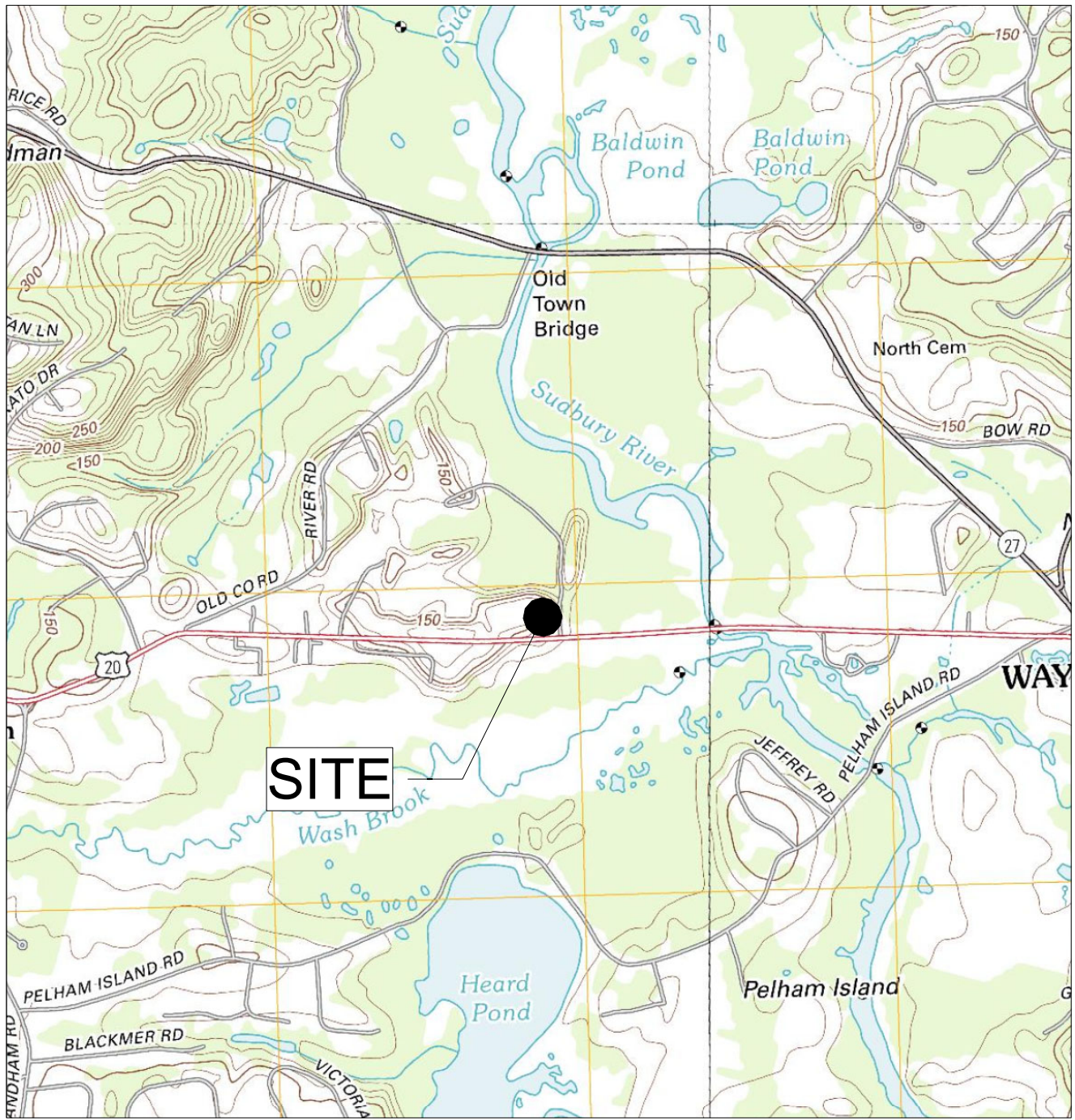


William J. Gibbons, PG, LSP  
Senior Project Manager

#### **ATTACHMENTS**

Figure 1	Property Locus
Figure 2	General Property Layout
Figure 3	Stockpile Characterization Layout
Figure 3A	Soil Management Classification 0-5 Feet
Figure 3B	Soil Management Classification 5-10 Feet
Figure 3C	Soil Management Classification 10-15 Feet
Figure 4	Test Pit Locations
Table 1A	Summary of Debris Sample Asbestos Analysis Results
Table 1B	Summary of Soil Sample Asbestos Analysis Results
Table 2	Summary of Analytical Results - Qualifying Samples
Attachment 1	Test Pit Logs – Qualifying Sampling
Attachment 2	Laboratory Analytical Reports

## FIGURES



SCALE: 1" = 0.5 miles  
(WHEN PRINTED AT 8x11)

SOURCE: UNITED STATES GEOLOGICAL SURVEY MAP FRAMINGHAM  
MA QUADRANGLE 7.5 MINUTE SERIES (2012)

**SITE LOCUS**  
**RIVER'S EDGE**

484 - 490 Boston Post Road  
Wayland, Massachusetts

Date:	04/22/19
Drawn:	KS
Checked:	FC
Job No.:	46047

FIGURE

**1**






VERTENX.COM

**VERTENX**<sup>®</sup>

100 N WASHINGTON ST, 302  
BOSTON, MA 02114  
617.275.5407



**LEGEND:**

- V-103 (MW)  VERTEX Monitoring Well
- V-113  Soil Boring
- MW-3  Monitoring Well Installed by Others
- V-SG-101  Soil Vapor Sample Point
-  Approximate Site Boundary



C:\Users\lhervey\Documents\2014 CAD standards\VERTEX symbols & standards\_for\_TurbocAD.dwg  
 Friday, March 07, 2014 11:59:37 AM  
 Copyright: 2014 McGraw-Hill Construction Information Group

**SITE SCHEMATIC**  
**RIVER'S EDGE**  
 484 - 490 BOSTON POST ROAD  
 WAYLAND, MA

File No.:  
 Date: 3/29/19  
 Drawn: KS  
 Checked: FC  
 Job No.: 46047

FIGURE  
**2**




REVISIONS  
 4/22/19

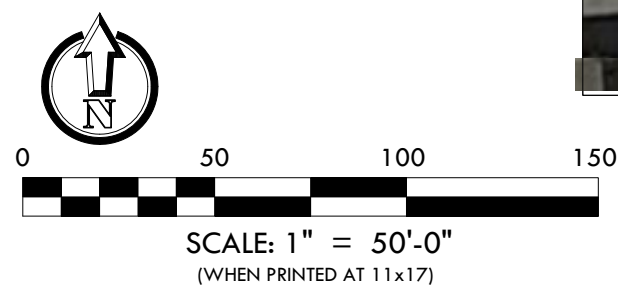
VERTEXENG.COM

**VERTEX**<sup>®</sup>  
 100 N WASHINGTON ST, STE 302  
 BOSTON, MA 02114  
 617.275.5407



**LEGEND:**

- B3 Test Pit Grid Number
-  Approximate Configuration of 32,000 cy Stockpile
-  4,500 cy Stockpile  
TP-V-101 Test Pit Location
-  Approximate Configuration of 4,500 cy Stockpile



**STOCKPILE GRID LAYOUT**  
**RIVER'S EDGE**  
 484 - 490 BOSTON POST ROAD  
 WAYLAND, MA

File No.:  
 Date: 05/07/19  
 Drawn: KS  
 Checked: FC  
 Job No.: 46047

FIGURE  
3

REVISIONS

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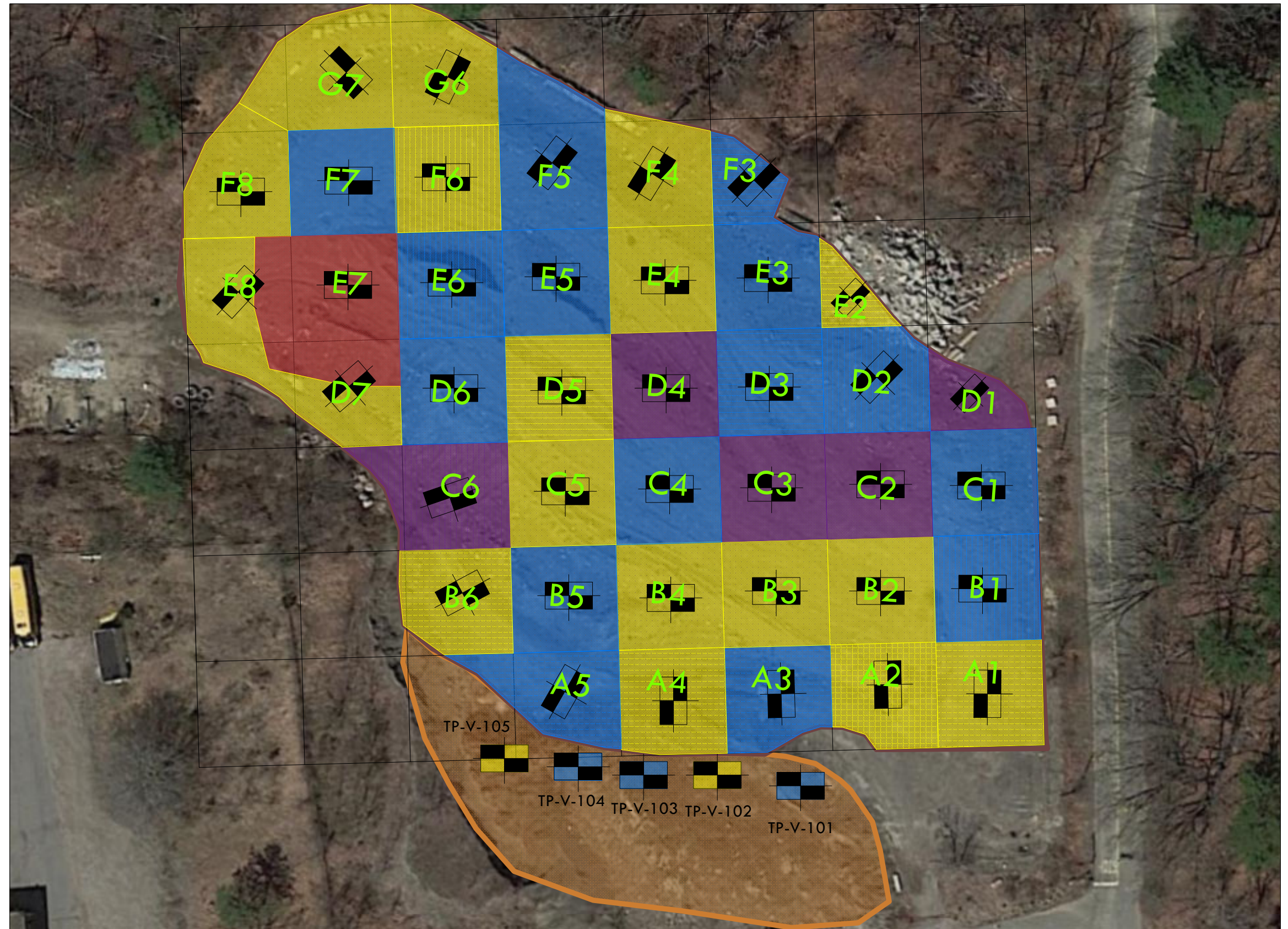
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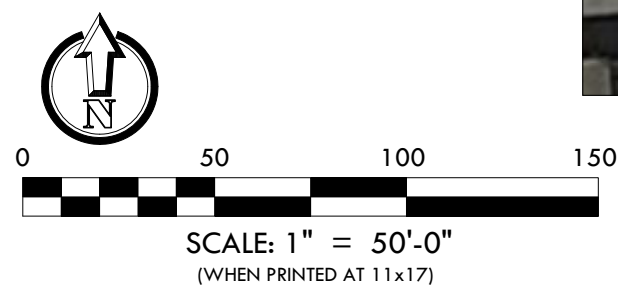


**LEGEND:**

- B3 Test Pit Grid Number
- <RCS-1 Facility
- <RCS-2 Facility
- Unlined Landfill
- >Massachusetts Comm-97 Criteria
- Approximate Configuration of 32,000 cy Stockpile
- Test Pit Location
- Approximate Configuration of 4,500 cy Stockpile



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**SOIL MANAGEMENT CLASSIFICATION 0-5 FEET**

RIVER'S EDGE  
 484-490 BOSTON POST ROAD  
 WAYLAND, MA  
 RTN 3-36013

Date: 05/07/19  
 Drawn: KS  
 Checked: FC  
 Job No.: 67404

FIGURE  
3A

03/05/2021  
 02/08/2021  
 REVISIONS

VERTEXENG.COM

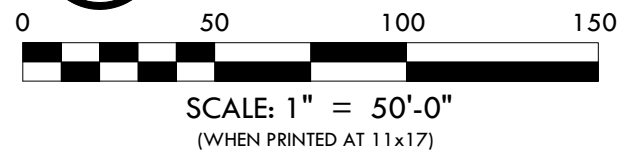
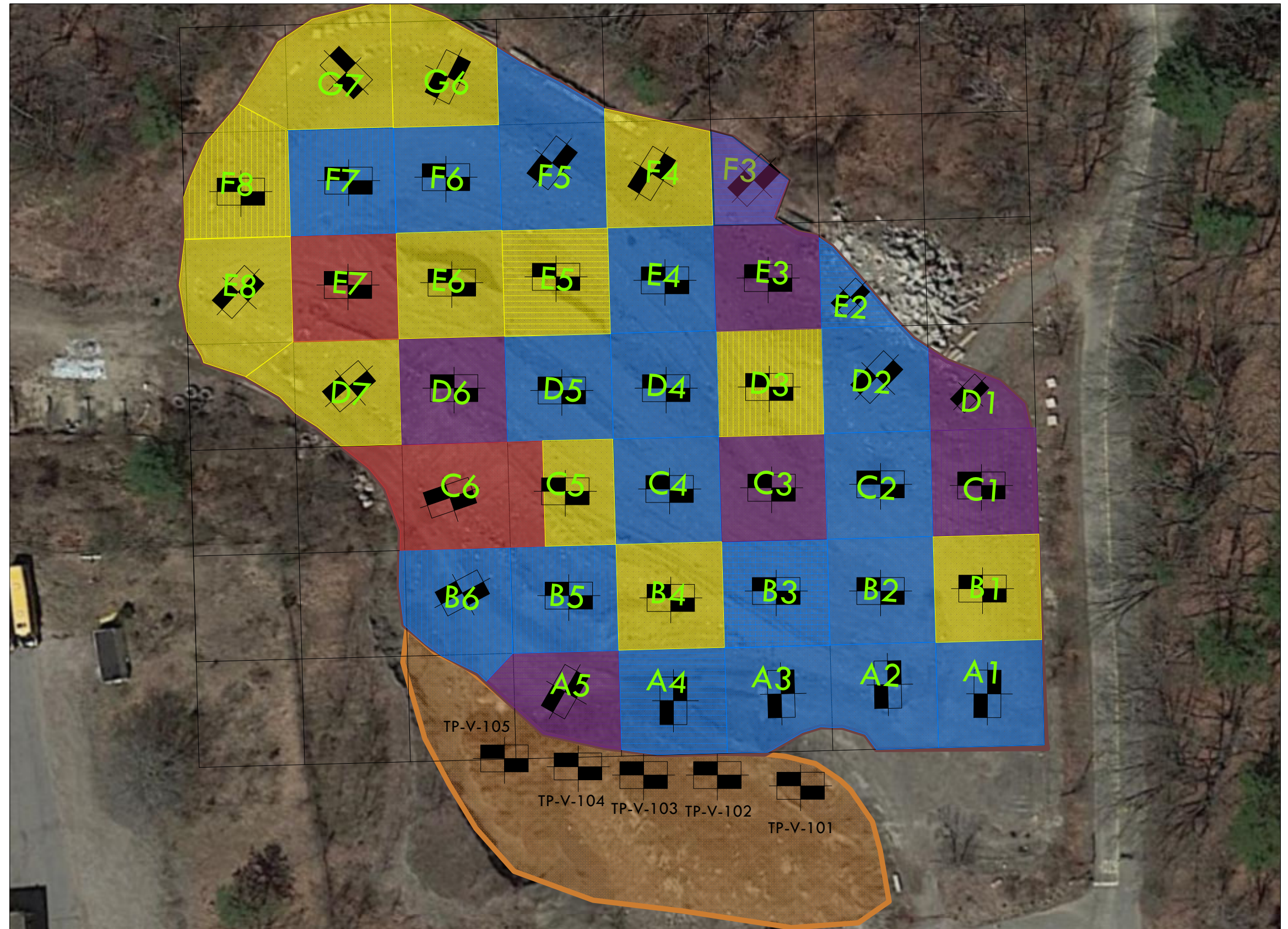
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 BOSTON, MA 02114  
 617.275.5407



**LEGEND:**

- B3 Test Pit Grid Number
- <RCS-1 Facility
- <RCS-2 Facility
- Unlined Landfill
- >Massachusetts Comm-97 Criteria
- Approximate Configuration of 32,000 cy Stockpile
- Test Pit Location
- Approximate Configuration of 4,500 cy Stockpile



**SOIL MANAGEMENT CLASSIFICATION 5-10 FEET**

RIVER'S EDGE  
 484-490 BOSTON POST ROAD  
 WAYLAND, MA  
 RTN 3-36013

Date: 05/07/19  
 Drawn: KS  
 Checked: FC  
 Job No.: 67404

FIGURE  
3B

03/05/2021	02/08/2021
------------	------------

**REVISIONS**

VERTEXENG.COM

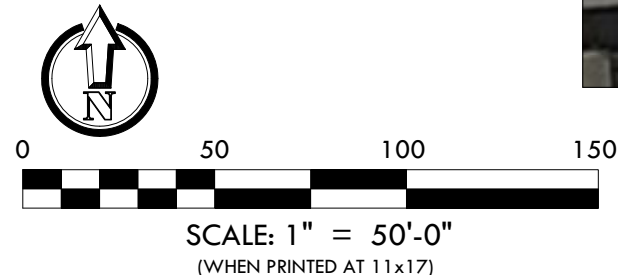


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 BOSTON, MA 02114  
 617.275.5407



**LEGEND:**

- B3 Test Pit Grid Number
- <RCS-1 Facility
- <RCS-2 Facility
- Unlined Landfill
- >Massachusetts Comm-97 Criteria
- Approximate Configuration of 32,000 cy Stockpile
- Test Pit Location  
TP-V-101
- Approximate Configuration of 4,500 cy Stockpile



**SOIL MANAGEMENT CLASSIFICATION 10-15 FEET**

RIVER'S EDGE  
 484-490 BOSTON POST ROAD  
 WAYLAND, MA  
 RTN 3-36013

Date: 05/07/19  
 Drawn: KS  
 Checked: FC  
 Job No.: 67404

FIGURE  
3C

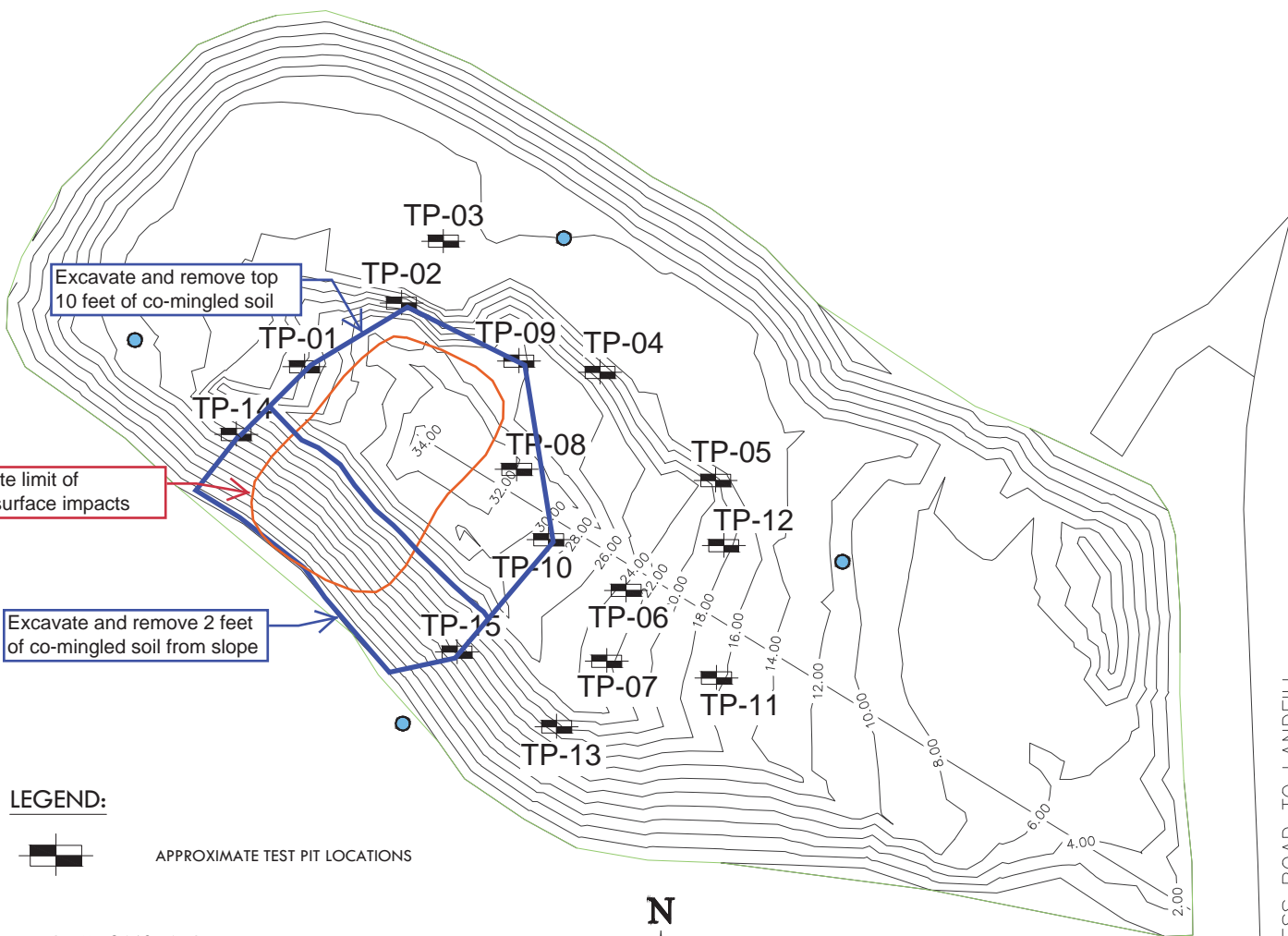
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Approximate limit of observed surface impacts

Excavate and remove 2 feet of co-mingled soil from slope

Excavate and remove top 10 feet of co-mingled soil

**LEGEND:**


 APPROXIMATE TEST PIT LOCATIONS

PILE VOLUME: 34,607.41 C.Y.  
 PILE SURFACE AREA: 72,232.90 S.F.  
 PILE BASE MEAN ELEVATION: 127.34  
 PILE BASE LOW POINT: 124.20  
 PILE BASE LENGTH(APPROX.): 450'  
 PILE BASE WIDTH(APPROX.): 200'



SCALE: 1" = 60'

ACCESS ROAD TO LANDFILL

General Notes		
No.	Revision/Issue	Date
 Department of Public Works <small>200 State Street, Wayland, MA 01981</small>		
Town of Wayland Landfill Boston Post Road Wayland, Massachusetts		
Project: LANDFILL VOLUME	Sheet:	1
Date: 5-9-18		
Scale: 1" = 60'		

**FIGURE 4: TEST PIT LOCATIONS**

## **TABLES**

**Table 1A – Summary of Debris Sample Asbestos Analysis Results**  
**484-490 Boston Post Road, Wayland, MA**  
**VERTEX PROJECT NO. 67404**

<b>TABLE 1 – BULK SAMPLE ANALYTICAL RESULTS</b>				
<b>SAMPLE ID</b>	<b>SAMPLE LOCATION</b>	<b>SAMPLE DESCRIPTION</b>	<b>ESTIMATED VOLUME <sup>1</sup></b>	<b>ASBESTOS CONTENT</b>
B-0716-001A	Test Pit #1, ~2 feet deep	White ceramic tile	--	ND
B-0716-001B	Test Pit #1, ~2 feet deep	White ceramic tile	--	ND
B-0716-002A	Test Pit #1, ~2 feet deep	White thinset	--	ND
B-0716-002B	Test Pit #1, ~2 feet deep	White thinset	--	ND
B-0716-003A	Test Pit #1, ~2 feet deep	Black glue for white ceramic tile	--	ND
B-0716-003B	Test Pit #1, ~2 feet deep	Black glue for white ceramic tile	--	ND
B-0716-004A	Test Pit #1, ~4 feet deep	Brown burlap	--	ND
B-0716-004B	Test Pit #1, ~4 feet deep	Brown burlap	--	ND
B-0716-005A	Test Pit #1, ~2 feet deep	Red ceramic tile	--	ND
B-0716-005B	Test Pit #1, ~2 feet deep	Red ceramic tile	--	ND
B-0716-006A	Test Pit #1, ~2 feet deep	Yellow glue for red ceramic tile	--	ND
B-0716-006B	Test Pit #1, ~2 feet deep	Yellow glue for red ceramic tile	--	ND
B-0716-007A	Test Pit #3, ~1 foot deep	White subway tile	--	ND
B-0716-007B	Test Pit #3, ~1 foot deep	White subway tile	--	ND
B-0716-008A	Test Pit #3, ~1 foot deep	Grey material attached to white subway tile	--	ND
B-0716-008B	Test Pit #3, ~1 foot deep	Grey material attached to white subway tile	--	ND
B-0716-009A	Test Pit #3, ~4 feet deep	Transite counter	--	ND
B-0716-009B	Test Pit #3, ~4 feet deep	Transite counter	--	ND
B-0716-010A	Test Pit #3, ~4 feet deep	Yellow glue adhered to transite counter	--	ND
B-0716-010B	Test Pit #3, ~4 feet deep	Yellow glue adhered to transite counter	--	ND
B-0716-011A	Test Pit #3, throughout upper 5 feet	White ceramic tile with flower patterns	--	ND
B-0716-011B	Test Pit #3, throughout upper 5 feet	White ceramic tile with flower patterns	--	ND

**Table 1A – Summary of Debris Sample Asbestos Analysis Results**  
**484-490 Boston Post Road, Wayland, MA**  
**VERTEX PROJECT NO. 67404**

<b>TABLE 1 – BULK SAMPLE ANALYTICAL RESULTS</b>				
<b>SAMPLE ID</b>	<b>SAMPLE LOCATION</b>	<b>SAMPLE DESCRIPTION</b>	<b>ESTIMATED VOLUME <sup>1</sup></b>	<b>ASBESTOS CONTENT</b>
B-0716-012A	Test Pit #3, throughout upper 5 feet	Grey material adhered to white ceramic tile with flower patterns	--	ND
B-0716-012B	Test Pit #3, throughout upper 5 feet	Grey material adhered to white ceramic tile with flower patterns	--	ND
B-0716-013A	Test Pit #4, ~5 feet deep	Transite shingle	--	ND
B-0716-013B	Test Pit #4, ~5 feet deep	Transite shingle	--	ND
B-0716-014A	Test Pit #4, ~8 feet deep	Black wrapping material	--	ND
B-0716-014B	Test Pit #4, ~8 feet deep	Black wrapping material	--	ND
B-0716-015A	Test Pit #5, upper 2 feet	White ceramic tile	--	ND
B-0716-015B	Test Pit #5, upper 2 feet	White ceramic tile	--	ND
B-0716-016A	Test Pit #5, upper 2 feet	Grey backing material for white ceramic tile	--	ND
B-0716-016B	Test Pit #5, upper 2 feet	Grey backing material for white ceramic tile	--	ND
B-0716-017A	Test Pit #5, ~8 feet deep	Orange/red ceramic tile	--	ND
B-0716-017B	Test Pit #5, ~8 feet deep	Orange/red ceramic tile	--	ND
B-0716-018A	Test Pit #5, ~8 feet deep	White backing material for orange/red ceramic tile	--	ND
B-0716-018B	Test Pit #5, ~8 feet deep	White backing material for orange/red ceramic tile	--	ND
B-0716-019A	Test Pit #6, upper 5 feet	Orange shingle material	--	ND
B-0716-019B	Test Pit #6, upper 5 feet	Orange shingle material	--	ND
B-0716-020A	Test Pit #6, upper 5 feet	White ceramic tile	--	ND
B-0716-020B	Test Pit #6, upper 5 feet	White ceramic tile	--	ND
B-0716-021A	Test Pit #6, upper 5 feet	Black glue for white ceramic tile	--	ND
B-0716-021B	Test Pit #6, upper 5 feet	Black glue for white ceramic tile	--	ND
B-0716-022A	Test Pit #6, upper 5 feet	Grey base material for white ceramic tile	--	ND

**Table 1A – Summary of Debris Sample Asbestos Analysis Results**  
**484-490 Boston Post Road, Wayland, MA**  
**VERTEX PROJECT NO. 67404**

<b>TABLE 1 – BULK SAMPLE ANALYTICAL RESULTS</b>				
<b>SAMPLE ID</b>	<b>SAMPLE LOCATION</b>	<b>SAMPLE DESCRIPTION</b>	<b>ESTIMATED VOLUME <sup>1</sup></b>	<b>ASBESTOS CONTENT</b>
B-0716-022B	Test Pit #6, upper 5 feet	Grey base material for white ceramic tile	--	ND
B-0716-023A	Test Pit #7, upper 5 feet	Orange shingle material	--	ND
B-0716-023B	Test Pit #7, upper 5 feet	Orange shingle material	--	ND
B-0716-024A	Test Pit #7, ~8 feet deep	Thinset material	--	ND
B-0717-024B	Test Pit #7, ~8 feet deep	Thinset material	--	ND
B-0717-025A	Test Pit 8, ~2-3 feet	Rectangular ceramic tile grout	--	ND
B-0717-025B	Test Pit 8, ~2-3 feet	Rectangular ceramic tile grout	--	ND
B-0717-026A	Test Pit 8, ~2-3 feet	Mortar between rectangular and white ceramic tiles	--	ND
B-0717-026B	Test Pit 8, ~2-3 feet	Mortar between rectangular and white ceramic tiles	--	ND
<b>B-0717-027A</b>	<b>Test Pit 8, ~3 feet</b>	<b>Pebble floor tile</b>	<b>1 SF</b>	<b>3% Chrysotile</b>
<b>B-0717-027B</b>	<b>Test Pit 8, ~3 feet</b>	<b>Pebble floor tile</b>	<b>See Sample B-0717-027A</b>	<b>3% Chrysotile</b>
<b>B-0717-028A</b>	<b>Test Pit 8, ~3 feet</b>	<b>Mastic associated with pebble floor tile</b>	<b>1 SF</b>	<b>7% Chrysotile</b>
<b>B-0717-028B</b>	<b>Test Pit 8, ~3 feet</b>	<b>Mastic associated with pebble floor tile</b>	<b>See Sample B-0717-028A</b>	<b>7% Chrysotile</b>
B-0717-029A	Test Pit 8, ~5-10 feet	Transite	--	ND
B-0717-029B	Test Pit 8, ~5-10 feet	Transite	--	ND
B-0717-030A	Test Pit 8, ~6 feet	Cement wallboard	--	ND
B-0717-030B	Test Pit 8, ~6 feet	Cement wallboard	--	ND
<b>B-0717-031A</b>	<b>Test Pit 8, ~7 feet</b>	<b>Green pebble linoleum</b>	<b>1 SF</b>	<b>25% Chrysotile</b>
<b>B-0717-031B</b>	<b>Test Pit 8, ~7 feet</b>	<b>Green pebble linoleum</b>	<b>See Sample B-0717-031A</b>	<b>25% Chrysotile</b>
B-0717-032A	Test Pit 8, ~7 feet	Red sheet flooring	--	ND

**Table 1A – Summary of Debris Sample Asbestos Analysis Results**  
**484-490 Boston Post Road, Wayland, MA**  
**VERTEX PROJECT NO. 67404**

<b>TABLE 1 – BULK SAMPLE ANALYTICAL RESULTS</b>				
<b>SAMPLE ID</b>	<b>SAMPLE LOCATION</b>	<b>SAMPLE DESCRIPTION</b>	<b>ESTIMATED VOLUME <sup>1</sup></b>	<b>ASBESTOS CONTENT</b>
B-0717-032B	Test Pit 8, ~7 feet	Red sheet flooring	--	ND
B-0717-033A	Test Pit 8, ~6 feet	Thinset associated with white honeycomb-back ceramic tile	--	ND
B-0717-033B	Test Pit 8, ~6 feet	Thinset associated with white honeycomb-back ceramic tile	--	ND
B-0717-034A	Test Pit 8, ~4 feet	Square ceramic tile grout	--	ND
B-0717-034B	Test Pit 8, ~4 feet	Square ceramic tile grout	--	ND
B-0717-035A	Test Pit 8, ~5 feet	Speckled ceramic tile thinset	--	ND
B-0717-035B	Test Pit 8, ~5 feet	Speckled ceramic tile thinset	--	ND
B-0717-036A	Test Pit 8, ~3-5 feet	Adhesive associated with white ceramic tile	--	ND
B-0717-036B	Test Pit 8, ~3-5 feet	Adhesive associated with white ceramic tile	--	ND
B-0717-037A	Test Pit 9, ~2 feet	Waterproof paper	--	ND
B-0717-037B	Test Pit 9, ~2 feet	Waterproof paper	--	ND
B-0717-038A	Test Pit 9, ~8 feet	Adhesive associated with speckled ceramic tile	--	ND
B-0717-038B	Test Pit 9, ~8 feet	Adhesive associated with speckled ceramic tile	--	ND
B-0717-039A	Test Pit 9, ~6 feet	Mortar associated with green ceramic tile	--	ND
B-0717-039B	Test Pit 9, ~6 feet	Mortar associated with green ceramic tile	--	ND
B-0717-040A	Test Pit 11, ~7 feet	Mortar associated with white honeycomb-back ceramic tile	--	ND
B-0717-040B	Test Pit 11, ~7 feet	Mortar associated with white honeycomb-back ceramic tile	--	ND
B-0717-041A	Test Pit 11, ~9 feet	Marble ceramic tile thinset	--	ND
B-0717-041B	Test Pit 11, ~9 feet	Marble ceramic tile thinset	--	ND

**Table 1A – Summary of Debris Sample Asbestos Analysis Results**  
**484-490 Boston Post Road, Wayland, MA**  
**VERTEX PROJECT NO. 67404**

<b>TABLE 1 – BULK SAMPLE ANALYTICAL RESULTS</b>				
<b>SAMPLE ID</b>	<b>SAMPLE LOCATION</b>	<b>SAMPLE DESCRIPTION</b>	<b>ESTIMATED VOLUME <sup>1</sup></b>	<b>ASBESTOS CONTENT</b>
B-0717-042A	Test Pit 11, ~8 feet	Beige ceramic tile thinset	--	ND
B-0717-042B	Test Pit 11, ~8 feet	Beige ceramic tile thinset	--	ND
B-0717-043A	Test Pit 11, ~4 feet	Burlap	--	ND
B-0717-043B	Test Pit 11, ~4 feet	Burlap	--	ND
B-0717-044A	Test Pit 11, ~2 feet	Cream ceramic tile thinset	--	ND
B-0717-044B	Test Pit 11, ~2 feet	Cream ceramic tile thinset	--	ND
B-0717-045A	Test Pit 11, ~3-5 feet	Cement	--	ND
B-0717-045B	Test Pit 11, ~3-5 feet	Cement	--	ND
B-0717-046A	Test Pit 11, ~3 feet	Adhesive associated with hex ceramic tile	--	ND
B-0717-046B	Test Pit 11, ~3 feet	Adhesive associated with hex ceramic tile	--	ND
B-0717-047A	Test Pit 12, ~5 feet	Mortar associated with matte ceramic tile	--	ND
B-0717-047B	Test Pit 12, ~5 feet	Mortar associated with matte ceramic tile	--	ND
B-0717-048A	Test Pit 12, ~7 feet	Orange ceramic tile thinset	--	ND
B-0717-048B	Test Pit 12, ~7 feet	Orange ceramic tile thinset	--	ND
B-0717-049A	Test Pit 12, ~6 feet	Mortar associated with red and grey ceramic tile	--	ND
B-0717-049B	Test Pit 12, ~6 feet	Mortar associated with red and grey ceramic tile	--	ND
B-0717-050A	Test Pit 12, ~2-10 feet	Brick mortar	--	ND
B-0717-050B	Test Pit 12, ~2-10 feet	Brick mortar	--	ND
B-0717-051A	Test Pit 12, ~9 feet	White floor tile	--	ND
B-0717-051B	Test Pit 12, ~9 feet	White floor tile	--	ND
B-0717-052A	Test Pit 12, ~6-7 feet	Adhesive associated with cement wallboard	--	ND
B-0717-052B	Test Pit 12, ~6-7 feet	Adhesive associated with cement wallboard	--	ND
B-0717-053A	Test Pit 13, ~3-6 feet	White splattered ceramic tile grout	--	ND



**Table 1A – Summary of Debris Sample Asbestos Analysis Results**  
**484-490 Boston Post Road, Wayland, MA**  
**VERTEX PROJECT NO. 67404**

<b>TABLE 1 – BULK SAMPLE ANALYTICAL RESULTS</b>				
<b>SAMPLE ID</b>	<b>SAMPLE LOCATION</b>	<b>SAMPLE DESCRIPTION</b>	<b>ESTIMATED VOLUME <sup>1</sup></b>	<b>ASBESTOS CONTENT</b>
B-0717-053B	Test Pit 13, ~3-6 feet	White splattered ceramic tile grout	--	ND
B-0717-054A	Test Pit 13, ~8 feet	Blue/Red ceramic tile thinset	--	ND
B-0717-054B	Test Pit 13, ~8 feet	Blue/Red ceramic tile thinset	--	ND
B-0718-055A	Test Pit 14, ~9 feet	Chalky cement	--	ND
B-0718-055B	Test Pit 14, ~9 feet	Chalky cement	--	ND
B-0718-056A	Test Pit 14, ~10 feet	Pink ceramic tile mortar	--	ND
B-0718-056B	Test Pit 14, ~10 feet	Pink ceramic tile mortar	--	ND
B-0718-057A	Test Pit 15, ~9 feet	Black ceramic tile adhesive	--	ND
B-0718-057B	Test Pit 15, ~9 feet	Black ceramic tile adhesive	--	ND

**Notes:**

**Bold** indicates representative bulk sample analyzed positive for Asbestos.  
**ND** indicates representative bulk sample did not contain Asbestos.  
<sup>1</sup> = Material quantities are approximate and were based on what materials were visually present in each test pit. Actual quantity of material, buried with the stockpile, is unknown at the current time.

**Table 1B – Summary of Soil Sample Asbestos Analysis Results**  
**484-490 Boston Post Road, Wayland, MA**  
**VERTEX PROJECT NO. 67404**

<b>SAMPLE ID</b>	<b>SAMPLE LOCATION</b>	<b>ESTIMATED VOLUME</b>	<b>ASBESTOS CONTENT</b>
TP-0716-001	Soil Composite, Test Pit 1	--	ND
TP-0716-002	Soil Composite, Test Pit 2	--	ND
TP-0716-003	Soil Composite, Test Pit 3	--	ND
TP-0716-004	Soil Composite, Test Pit 4	--	ND
TP-0718-005	Soil Composite, Test Pit 5	--	ND
TP-0718-006	Soil Composite, Test Pit 6	--	ND
TP-0718-007	Soil Composite, Test Pit 7	--	ND
TP-0718-008	Soil Composite, Test Pit 8	--	ND
TP-0718-009	Soil Composite, Test Pit 9	--	ND
TP-0718-010	Soil Composite, Test Pit 10	--	ND
TP-0718-011	Soil Composite, Test Pit 11	--	ND
TP-0718-012	Soil Composite, Test Pit 12	--	ND
TP-0718-013	Soil Composite, Test Pit 13	--	ND
TP-0718-014	Soil Composite, Test Pit 14	--	ND
TP-0718-015	Soil Composite, Test Pit 15	--	ND
<b>Notes:</b>			
ND indicates representative bulk sample did not contain Asbestos.			

**Table 2**  
**Summary of Soil Analytical Results - Qualifying Samples**  
**484 - 490 Boston Post Road, Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	Comm-97 Unlined Landfill	Units	TP-A5 (5-10)	TP-C1 (5-10)	TP-C2 (0-5)	TP-C3 (0-5)	TP-C3 (5-10)	TP-C6 (0-5)	TP-D1 (0-5)	TP-D1 (5-10)	TP-D4 (0-5)	TP-D6 (5-10)	TP-E3 (5-10)	TP-F3 (5-10)
Sample Date			3/11/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/11/2019	3/12/2019	3/12/2019	3/11/2019	3/11/2019	3/12/2019	3/12/2019
Starting Depth			5	5	0	0	5	0	0	5	0	5	5	5
Ending Depth			10	10	5	5	10	5	5	10	5	10	10	10
CHEMICAL NAME														
<b>Asbestos</b>														
CARB 435/USEPA PLM	NSE	%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Extractable Petroleum Hydrocarbons (EPH) with target Polynuclear Aromatic Hydrocarbons (PAHs)</b>														
C <sub>9</sub> -C <sub>18</sub> Aliphatic Hydrocarbons	NSE	mg/kg	ND(23)	ND(55)	ND(21)	ND(53)	ND(55)	--	ND(59)	--	ND(22)	ND(24)	ND(24)	--
C <sub>11</sub> -C <sub>22</sub> Aromatic Hydrocarbons (adjusted)	NSE	mg/kg	300	330	140	250	430	--	250	--	310	210	170	--
C <sub>11</sub> -C <sub>22</sub> Aromatics (unadjusted)	NSE	mg/kg	340	350	150	260	470	--	260	--	350	220	190	--
C <sub>19</sub> -C <sub>36</sub> Aliphatics	NSE	mg/kg	190	270	100	210	310	--	190	--	200	160	130	--
Total EPH fractions	NSE	mg/kg	490	600	240	460	740	--	440	--	510	370	300	--
<b>Total Petroleum Hydrocarbons (TPH)</b>														
TPH	2500	mg/kg	1300	1200	1200	1700	1100	520	1200	910	1000	1000	1100	910
<b>Volatile Organic Compounds (VOCs)</b>														
1,1,1,2-Tetrachloroethane	0.1	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,1,1-Trichloroethane (1,1,1-TCA)	30	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,1,2-Trichloroethane	0.1	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,1-Dichloroethane (1,1-DCA)	0.4	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,1-Dichloroethene (1,1-DCE)	3	mg/kg	ND(0.0037)	ND(0.0033)	ND(0.0033)	ND(0.0043)	ND(0.0033)	ND(0.0037)	ND(0.0037)	ND(0.0035)	ND(0.0024)	ND(0.0036)	ND(0.0043)	ND(0.0039)
1,1-Dichloropropene	NSE	mg/kg	ND(0.0037)	ND(0.0017)	ND(0.0017)	ND(0.0043)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,2,3-Trichlorobenzene	NSE	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,2,3-Trichloropropane	100	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,2,4-Trichlorobenzene	2	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,2,4-Trimethylbenzene	1000	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,2-Dibromo-3-Chloropropane	10	mg/kg	ND(0.0037)	ND(0.0017)	ND(0.0017)	ND(0.0043)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,2-Dibromoethane	0.1	mg/kg	ND(0.00094)	ND(0.00084)	ND(0.00083)	ND(0.0011)	ND(0.00082)	ND(0.00094)	ND(0.00093)	ND(0.00087)	ND(0.00060)	ND(0.00089)	ND(0.0011)	ND(0.00096)
1,2-Dichlorobenzene	9	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,2-Dichloroethane (1,2-DCA)	0.1	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,2-Dichloroethylene, trans (1,2-DCE, trans)	1	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,2-Dichloropropane	0.1	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,3,5-Trimethylbenzene	10	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,3-Dichlorobenzene (1,3-DCB)	3	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,3-Dichloropropane	500	mg/kg	ND(0.00094)	ND(0.00084)	ND(0.00083)	ND(0.0011)	ND(0.00082)	ND(0.00094)	ND(0.00093)	ND(0.00087)	ND(0.00060)	ND(0.00089)	ND(0.0011)	ND(0.00096)
1,3-Dichloropropene, cis	0.01	mg/kg	ND(0.00094)	ND(0.00084)	ND(0.00083)	ND(0.0011)	ND(0.00082)	ND(0.00094)	ND(0.00093)	ND(0.00087)	ND(0.00060)	ND(0.00089)	ND(0.0011)	ND(0.00096)
1,3-Dichloropropene, trans	0.01	mg/kg	ND(0.00094)	ND(0.00084)	ND(0.00083)	ND(0.0011)	ND(0.00082)	ND(0.00094)	ND(0.00093)	ND(0.00087)	ND(0.00060)	ND(0.00089)	ND(0.0011)	ND(0.00096)
1,4-Dichlorobenzene	0.7	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,4-Dioxane	0.2	mg/kg	ND(0.19)	ND(0.084)	ND(0.083)	ND(0.22)	ND(0.082)	ND(0.094)	ND(0.093)	ND(0.087)	ND(0.12)	ND(0.089)	ND(0.11)	ND(0.096)
2,2-Dichloropropane	NSE	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
2-Hexanone	100	mg/kg	ND(0.019)	ND(0.017)	ND(0.017)	ND(0.022)	ND(0.016)	ND(0.019)	ND(0.019)	ND(0.017)	ND(0.012)	ND(0.018)	ND(0.021)	ND(0.019)
Acetone	6	mg/kg	ND(0.094)	ND(0.084)	ND(0.083)	ND(0.11)	ND(0.082)	ND(0.094)	ND(0.093)	ND(0.087)	ND(0.060)	ND(0.089)	ND(0.11)	ND(0.096)
Benzene	2	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Bromobenzene	100	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Bromochloromethane (Chlorobromomethane)	NSE	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Bromodichloromethane	0.1	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Bromoform	0.1	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Bromomethane	0.5	mg/kg	ND(0.0094)	ND(0.0084)	ND(0.0083)	ND(0.011)	ND(0.0082)	ND(0.0094)	ND(0.0093)	ND(0.0087)	ND(0.0060)	ND(0.0089)	ND(0.011)	ND(0.0096)
Carbon Disulfide	100	mg/kg	ND(0.0056)	ND(0.0050)	ND(0.0050)	ND(0.0065)	ND(0.0049)	ND(0.0056)	ND(0.0056)	ND(0.0052)	ND(0.0036)	ND(0.0053)	ND(0.0064)	ND(0.0058)
Carbon Tetrachloride	5	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Chlorobenzene	1	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Chloroethane	100	mg/kg	ND(0.0094)	ND(0.0084)	ND(0.0083)	ND(0.011)	ND(0.0082)	ND(0.0094)	ND(0.0093)	ND(0.0087)	ND(0.0060)	ND(0.0089)	ND(0.011)	ND(0.0096)
Chloroform	0.2	mg/kg	ND(0.0037)	ND(0.0033)	ND(0.0033)	ND(0.0043)	ND(0.0033)	ND(0.0037)	ND(0.0037)	ND(0.0035)	ND(0.0024)	ND(0.0036)	ND(0.0043)	ND(0.0039)

**Table 2**  
**Summary of Soil Analytical Results - Qualifying Samples**  
**484 - 490 Boston Post Road, Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	Comm-97 Unlined Landfill	Units	TP-A5 (5-10)	TP-C1 (5-10)	TP-C2 (0-5)	TP-C3 (0-5)	TP-C3 (5-10)	TP-C6 (0-5)	TP-D1 (0-5)	TP-D1 (5-10)	TP-D4 (0-5)	TP-D6 (5-10)	TP-E3 (5-10)	TP-F3 (5-10)
Sample Date			3/11/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/11/2019	3/12/2019	3/12/2019	3/11/2019	3/11/2019	3/12/2019	3/12/2019
Starting Depth			5	5	0	0	5	0	0	5	0	5	5	5
Ending Depth			10	10	5	5	10	5	5	10	5	10	10	10
CHEMICAL NAME														
Chloromethane	100	mg/kg	ND(0.0094)	ND(0.0084)	ND(0.0083)	ND(0.011)	ND(0.0082)	ND(0.0094)	ND(0.0093)	ND(0.0087)	ND(0.0060)	ND(0.0089)	ND(0.011)	ND(0.0096)
Dibromochloromethane	0.005	mg/kg	ND(0.00094)	ND(0.00084)	ND(0.00083)	ND(0.0011)	ND(0.00082)	ND(0.00094)	ND(0.00093)	ND(0.00087)	ND(0.00060)	ND(0.00089)	ND(0.0011)	ND(0.00096)
Dibromomethane	500	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Dichlorodifluoromethane	1000	mg/kg	ND(0.0094)	ND(0.0084)	ND(0.0083)	ND(0.011)	ND(0.0082)	ND(0.0094)	ND(0.0093)	ND(0.0087)	ND(0.0060)	ND(0.0089)	ND(0.011)	ND(0.0096)
Dichloroethylene, cis 1,2 (cis-1,2 DCE)	0.1	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Ethyl Ether	100	mg/kg	ND(0.0094)	ND(0.0084)	ND(0.0083)	ND(0.011)	ND(0.0082)	ND(0.0094)	ND(0.0093)	ND(0.0087)	ND(0.0060)	ND(0.0089)	ND(0.011)	ND(0.0096)
Ethylbenzene	40	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Ethyl-Tert-Butyl-Ether (Tert-Butylethyl Ether)	NSE	mg/kg	ND(0.00094)	ND(0.00084)	ND(0.00083)	ND(0.0011)	ND(0.00082)	ND(0.00094)	ND(0.00093)	ND(0.00087)	ND(0.00060)	ND(0.00089)	ND(0.0011)	ND(0.00096)
Hexachlorobutadiene	30	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Isopropyl Benzene	1000	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Isopropyl Ether	100	mg/kg	ND(0.00094)	ND(0.00084)	ND(0.00083)	ND(0.0011)	ND(0.00082)	ND(0.00094)	ND(0.00093)	ND(0.00087)	ND(0.00060)	ND(0.00089)	ND(0.0011)	ND(0.00096)
Methyl Ethyl Ketone (MEK)	4	mg/kg	ND(0.037)	ND(0.033)	ND(0.033)	ND(0.043)	ND(0.033)	ND(0.037)	ND(0.037)	ND(0.035)	ND(0.024)	ND(0.036)	ND(0.043)	ND(0.039)
Methyl Isobutyl Ketone (MIBK)	0.4	mg/kg	ND(0.019)	ND(0.017)	ND(0.017)	ND(0.022)	ND(0.016)	ND(0.019)	ND(0.019)	ND(0.017)	ND(0.012)	ND(0.018)	ND(0.021)	ND(0.019)
Methyl Tert-Butyl Ether	0.1	mg/kg	ND(0.0037)	ND(0.0033)	ND(0.0033)	ND(0.0043)	ND(0.0033)	ND(0.0037)	ND(0.0037)	ND(0.0035)	ND(0.0024)	ND(0.0036)	ND(0.0043)	ND(0.0039)
Methylene Chloride	0.1	mg/kg	ND(0.0094)	ND(0.0084)	ND(0.0083)	ND(0.011)	ND(0.0082)	ND(0.0094)	ND(0.0093)	ND(0.0087)	ND(0.0060)	ND(0.0089)	ND(0.011)	ND(0.0096)
Naphthalene	NSE	mg/kg	ND(0.0037)	ND(0.0033)	ND(0.0033)	ND(0.0043)	ND(0.0033)	ND(0.0037)	ND(0.0037)	ND(0.0035)	ND(0.0024)	ND(0.0036)	ND(0.0043)	ND(0.0039)
n-Butylbenzene	NSE	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
o-Chlorotoluene	100	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
o-Xylene	100	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
p/m-Xylene	100	mg/kg	ND(0.0037)	ND(0.0033)	ND(0.0033)	ND(0.0043)	ND(0.0033)	ND(0.0037)	ND(0.0037)	ND(0.0035)	ND(0.0024)	ND(0.0036)	ND(0.0043)	ND(0.0039)
p-Chlorotoluene (4-Chlorotoluene)	NSE	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
p-Cymene	100	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Propylbenzene	100	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Sec-Butylbenzene	NSE	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Styrene	3	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Tert-Butylbenzene	100	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Tertiary-Amyl Methyl Ether (TAME)	NSE	mg/kg	ND(0.00094)	ND(0.00084)	ND(0.00083)	ND(0.0011)	ND(0.00082)	ND(0.00094)	ND(0.00093)	ND(0.00087)	ND(0.00060)	ND(0.00089)	ND(0.0011)	ND(0.00096)
Tetrachloroethane	0.005	mg/kg	ND(0.00094)	ND(0.00084)	ND(0.00083)	ND(0.0011)	ND(0.00082)	ND(0.00094)	ND(0.00093)	ND(0.00087)	ND(0.00060)	ND(0.00089)	ND(0.0011)	ND(0.00096)
Tetrachloroethylene (PCE)	1	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Tetrahydrofuran	500	mg/kg	ND(0.0094)	ND(0.0084)	ND(0.0083)	ND(0.011)	ND(0.0082)	ND(0.0094)	ND(0.0093)	ND(0.0087)	ND(0.0060)	ND(0.0089)	ND(0.011)	ND(0.0096)
Toluene	NSE	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Trichloroethylene (TCE)	0.3	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Trichlorofluoromethane	1000	mg/kg	ND(0.0094)	ND(0.0084)	ND(0.0083)	ND(0.011)	ND(0.0082)	ND(0.0094)	ND(0.0093)	ND(0.0087)	ND(0.0060)	ND(0.0089)	ND(0.011)	ND(0.0096)
Vinyl Chloride	0.7	mg/kg	ND(0.0094)	ND(0.0084)	ND(0.0083)	ND(0.011)	ND(0.0082)	ND(0.0094)	ND(0.0093)	ND(0.0087)	ND(0.0060)	ND(0.0089)	ND(0.011)	ND(0.0096)
Total VOCs	4	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Semivolatile Organic Compounds (SVOCs)</b>														
1,2,4-Trichlorobenzene	2	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
1,2-Dichlorobenzene	9	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
1,2-Diphenylhydrazine	50	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
1,3-Dichlorobenzene (1,3-DCB)	3	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
1,4-Dichlorobenzene	0.7	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
2,4,5-Trichlorophenol	4	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
2,4,6-Trichlorophenol	0.7	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
2,4-Dichlorophenol	0.7	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
2,4-Dimethylphenol	0.7	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
2,4-Dinitrophenol	3	mg/kg	ND(3.8)	ND(1.5)	ND(1.5)	ND(7.3)	ND(1.5)	ND(3.7)	ND(1.6)	ND(1.5)	ND(2.8)	ND(3.9)	ND(1.6)	ND(3.2)
2,4-Dinitrotoluene	0.7	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
2,6-Dinitrotoluene	100	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
2-Chloronaphthalene	1000	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)



**Table 2**  
**Summary of Soil Analytical Results - Qualifying Samples**  
**484 - 490 Boston Post Road, Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	Comm-97 Unlined Landfill	Units	TP-A5 (5-10)	TP-C1 (5-10)	TP-C2 (0-5)	TP-C3 (0-5)	TP-C3 (5-10)	TP-C6 (0-5)	TP-D1 (0-5)	TP-D1 (5-10)	TP-D4 (0-5)	TP-D6 (5-10)	TP-E3 (5-10)	TP-F3 (5-10)
Sample Date			3/11/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/11/2019	3/12/2019	3/12/2019	3/11/2019	3/11/2019	3/12/2019	3/12/2019
Starting Depth			5	5	0	0	5	0	0	5	0	5	5	5
Ending Depth			10	10	5	5	10	5	5	10	5	10	10	10
CHEMICAL NAME														
2-Chlorophenol	0.7	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
2-Methylnaphthalene	NSE	mg/kg	ND(0.98)	ND(0.39)	0.69	ND(1.9)	ND(0.38)	ND(0.96)	ND(0.41)	ND(0.38)	ND(0.73)	ND(1.0)	ND(0.40)	ND(0.82)
2-Methylphenol (o-Cresol)	NSE	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
2-Nitrophenol (o-Nitrophenol)	NSE	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
3,3-Dichlorobenzidine	NSE	mg/kg	ND(0.98)	ND(0.39)	ND(0.38)	ND(1.9)	ND(0.38)	ND(0.96)	ND(0.41)	ND(0.38)	ND(0.73)	ND(1.0)	ND(0.40)	ND(0.82)
3-Methylphenol/4-Methylphenol	NSE	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
4-Bromophenyl Phenyl Ether	NSE	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
Acenaphthene	NSE	mg/kg	ND(0.98)	0.54	ND(0.38)	ND(1.9)	ND(0.38)	ND(0.96)	ND(0.41)	ND(0.38)	ND(0.73)	ND(1.0)	ND(0.40)	ND(0.82)
Acenaphthylene	NSE	mg/kg	ND(0.98)	ND(0.39)	0.99	ND(1.9)	0.56	ND(0.96)	0.49	ND(0.38)	ND(0.73)	ND(1.0)	ND(0.40)	ND(0.82)
Acetophenone	NSE	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
Aniline	NSE	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
Anthracene	NSE	mg/kg	ND(0.98)	1.4	2.0	ND(1.9)	0.91	ND(0.96)	1.4	0.55	0.89	1.5	1.2	ND(0.82)
Benzo(a)Anthracene	NSE	mg/kg	2.1	2.3	3.2	2.3	3.0	2.1	2.8	2.0	2.9	3.5	3.4	ND(0.82)
Benzo(a)Pyrene	NSE	mg/kg	2.0	2.2	2.7	2.1	2.9	2.1	2.7	2.2	2.6	3.2	3.1	ND(0.82)
Benzo(b)Fluoranthene	NSE	mg/kg	2.5	2.5	3.2	2.4	3.3	2.5	3.2	2.5	3.0	3.8	3.6	ND(0.82)
Benzo(g,h,i)Perylene	NSE	mg/kg	1.2	1.0	1.6	ND(1.9)	1.3	1.0	1.5	1.0	1.5	1.3	1.5	ND(0.82)
Benzo(k)Fluoranthene	NSE	mg/kg	ND(0.98)	0.95	1.2	ND(1.9)	1.3	0.97	1.2	0.88	1.3	1.4	1.4	ND(0.82)
Bis (2-Chloroethyl) Ether	NSE	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
Bis(2-Ethylhexyl)Phthalate	NSE	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
Butyl Benzyl Phthalate	NSE	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
Chrysene	NSE	mg/kg	1.9	2.2	2.9	2.2	2.7	2.2	2.9	1.9	2.6	3.2	3.3	ND(0.82)
Dibenzo(a,h)Anthracene	NSE	mg/kg	ND(0.98)	ND(0.39)	0.45	ND(1.9)	ND(0.38)	ND(0.96)	ND(0.41)	ND(0.38)	ND(0.73)	ND(1.0)	ND(0.40)	ND(0.82)
Dibenzofuran	NSE	mg/kg	ND(2.0)	ND(0.78)	1.2	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
Dichloroisopropyl Ether	NSE	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
Dichloromethoxy Ethane	NSE	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
Diethyl Phthalate	NSE	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
Dimethyl Phthalate	NSE	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
Fluoranthene	NSE	mg/kg	3.8	5.1	7.6	4.8	6.0	3.8	5.7	3.7	6.1	8.4	6.6	0.83
Fluorene	NSE	mg/kg	ND(0.98)	0.70	0.90	ND(1.9)	0.39	ND(0.96)	ND(0.41)	ND(0.38)	ND(0.73)	ND(1.0)	ND(0.40)	ND(0.82)
Hexachlorobenzene	NSE	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
Hexachlorobutadiene	NSE	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
Hexachloroethane	NSE	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
Indeno(1,2,3-cd)Pyrene	NSE	mg/kg	1.3	1.1	1.8	ND(1.9)	1.5	1.1	1.7	1.1	1.6	1.6	1.7	ND(0.82)
Isophorone	NSE	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
Naphthalene	NSE	mg/kg	ND(0.98)	ND(0.39)	1.2	ND(1.9)	ND(0.38)	ND(0.96)	ND(0.41)	ND(0.38)	ND(0.73)	ND(1.0)	ND(0.40)	ND(0.82)
n-Butyl Phthalate	NSE	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
n-Dioctyl Phthalate	NSE	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
Nitrobenzene	NSE	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
p-Chloroaniline	NSE	mg/kg	ND(3.8)	ND(1.5)	ND(1.5)	ND(7.3)	ND(1.5)	ND(3.7)	ND(1.6)	ND(1.5)	ND(2.8)	ND(3.9)	ND(1.6)	ND(3.2)
Pentachlorophenol	NSE	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
Phenanthrene	NSE	mg/kg	2.3	4.6	8.3	4.5	3.1	3.0	2.4	1.9	3.6	4.8	4.2	ND(0.82)
Phenol	NSE	mg/kg	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
p-Nitrophenol	NSE	mg/kg	ND(3.8)	ND(1.5)	ND(1.5)	ND(7.3)	ND(1.5)	ND(3.7)	ND(1.6)	ND(1.5)	ND(2.8)	ND(3.9)	ND(1.6)	ND(3.2)
Pyrene	NSE	mg/kg	4.3	5.5	7.1	5.0	6.4	4.5	6.0	4.0	5.7	7.9	7.5	0.90
Total SVOCs	100	mg/kg	21.4	29.55	47.03	23.3	33.36	23.27	31.99	21.73	31.79	35.60	32.90	1.73

**Table 2**  
**Summary of Soil Analytical Results - Qualifying Samples**  
**484 - 490 Boston Post Road, Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	Comm-97 Unlined Landfill	Units	TP-A5 (5-10)	TP-C1 (5-10)	TP-C2 (0-5)	TP-C3 (0-5)	TP-C3 (5-10)	TP-C6 (0-5)	TP-D1 (0-5)	TP-D1 (5-10)	TP-D4 (0-5)	TP-D6 (5-10)	TP-E3 (5-10)	TP-F3 (5-10)
Sample Date			3/11/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/11/2019	3/12/2019	3/12/2019	3/11/2019	3/11/2019	3/12/2019	3/12/2019
Starting Depth			5	5	0	0	5	0	0	5	0	5	5	5
Ending Depth			10	10	5	5	10	5	5	10	5	10	10	10
CHEMICAL NAME														
<b>Metals</b>														
Antimony	NSE	mg/kg	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.8)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.9)	ND(1.8)	ND(2.0)	ND(2.0)	ND(2.0)
Arsenic	40	mg/kg	4.5	5.2	5.1	4.5	3.5	5.9	3.4	4.6	3.4	3.9	5.3	4.7
Barium	NSE	mg/kg	34	32	36	30	35	46	32	31	37	32	42	34
Beryllium	NSE	mg/kg	0.28	0.36	0.34	0.28	0.34	0.32	0.40	0.33	0.28	0.36	0.42	0.34
Cadmium	30	mg/kg	0.41	0.39	0.42	0.29	0.30	0.40	0.29	0.31	0.31	0.30	0.40	0.40
Chromium	1000	mg/kg	17	17	14	13	16	23	17	15	14	19	18	13
Lead	1000	mg/kg	35	62	50	27	43	79	40	47	56	32	53	26
Mercury	10	mg/kg	0.054	0.028	0.073	0.048	0.053	0.064	0.055	0.059	0.28	0.041	0.072	0.030
Nickel	NSE	mg/kg	13	12	12	12	13	10	15	12	12	15	14	12
Selenium	NSE	mg/kg	ND(3.8)	ND(3.8)	ND(3.8)	ND(3.6)	ND(3.7)	ND(3.8)	ND(4.1)	ND(3.7)	ND(3.6)	ND(4.0)	ND(4.0)	ND(4.1)
Silver	NSE	mg/kg	ND(0.38)	ND(0.38)	ND(0.38)	ND(0.36)	ND(0.37)	ND(0.38)	ND(0.41)	ND(0.37)	ND(0.36)	ND(0.40)	ND(0.40)	ND(0.41)
Thallium	NSE	mg/kg	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.8)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.9)	ND(1.8)	ND(2.0)	ND(2.0)	ND(2.0)
Vanadium	NSE	mg/kg	24	22	24	32	31	20	27	25	26	32	27	21
Zinc	NSE	mg/kg	44	49	48	36	52	51	52	46	54	45	59	67
<b>Polychlorinated Biphenyls (PCBs)</b>														
Aroclor 1016	NSE	mg/kg	ND(0.089)	ND(0.091)	ND(0.089)	ND(0.088)	ND(0.089)	ND(0.089)	ND(0.098)	ND(0.090)	ND(0.087)	ND(0.091)	ND(0.096)	ND(0.098)
Aroclor 1221	NSE	mg/kg	ND(0.089)	ND(0.091)	ND(0.089)	ND(0.088)	ND(0.089)	ND(0.089)	ND(0.098)	ND(0.090)	ND(0.087)	ND(0.091)	ND(0.096)	ND(0.098)
Aroclor 1232	NSE	mg/kg	ND(0.089)	ND(0.091)	ND(0.089)	ND(0.088)	ND(0.089)	ND(0.089)	ND(0.098)	ND(0.090)	ND(0.087)	ND(0.091)	ND(0.096)	ND(0.098)
Aroclor 1242	NSE	mg/kg	ND(0.089)	ND(0.091)	ND(0.089)	ND(0.088)	ND(0.089)	ND(0.089)	ND(0.098)	ND(0.090)	ND(0.087)	ND(0.091)	ND(0.096)	ND(0.098)
Aroclor 1248	NSE	mg/kg	ND(0.089)	ND(0.091)	ND(0.089)	ND(0.088)	ND(0.089)	ND(0.089)	ND(0.098)	ND(0.090)	ND(0.087)	ND(0.091)	ND(0.096)	ND(0.098)
Aroclor 1254	NSE	mg/kg	ND(0.089)	ND(0.091)	ND(0.089)	ND(0.088)	ND(0.089)	ND(0.089)	ND(0.098)	ND(0.090)	ND(0.087)	ND(0.091)	ND(0.096)	0.21
Aroclor 1260	NSE	mg/kg	ND(0.089)	ND(0.091)	ND(0.089)	ND(0.088)	ND(0.089)	ND(0.089)	ND(0.098)	ND(0.090)	ND(0.087)	ND(0.091)	ND(0.096)	ND(0.098)
Aroclor 1262	NSE	mg/kg	ND(0.089)	ND(0.091)	ND(0.089)	ND(0.088)	ND(0.089)	ND(0.089)	ND(0.098)	ND(0.090)	ND(0.087)	ND(0.091)	ND(0.096)	ND(0.098)
Aroclor 1268	NSE	mg/kg	ND(0.089)	ND(0.091)	ND(0.089)	ND(0.088)	ND(0.089)	ND(0.089)	ND(0.098)	ND(0.090)	ND(0.087)	ND(0.091)	ND(0.096)	ND(0.098)
Total PCBs	2	mg/kg	ND(0.089)	ND(0.091)	ND(0.089)	ND(0.088)	ND(0.089)	ND(0.089)	ND(0.098)	ND(0.090)	ND(0.087)	ND(0.091)	ND(0.096)	0.21
<b>General Chemistry</b>														
Ignitability	140	present/ absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent
pH	NSE	pH Units	7.8	8.3	7.7	8.5	7.9	7.3	7.9	7.9	8.2	7.7	8.1	7.9
Reactivity Cyanide	250	mg/kg	ND(3.9)	ND(3.9)	ND(3.9)	ND(4.0)	ND(3.9)	ND(4.0)	ND(3.9)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)
Reactivity Sulfide	500	mg/kg	ND(20)	ND(20)	ND(20)	ND(20)	ND(19)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)
Solids, Total	NSE	%	86.4	87.7	89.7	90.9	90.2	87.4	81.8	89.1	91.7	ND(20)	ND(20)	ND(20)
Specific Conductance	4000	umhos/cm	20	16	8.5	20	17	21	13	11	24	23	19	31

Notes:

- mg/kg=milligram per kilogram; umhos/cm=microohms per centimeter
- MA Unlined Landfill taken from Massachusetts Department of Environmental Protection (MassDEP) Policy COMM-97-001
- ND = Not Detected above laboratory reporting limits shown in parenthesis
- -- = Not Analyzed
- NSE = No Standard Exists
- Highlighted values exceeds the applicable Reportable Concentration
- Full analytical results, including QA/QC information and data flags, are detailed in the laboratory analytical report

**ATTACHMENT 1:  
TEST PIT LOGS  
QUALIFYING SAMPLES**

**TEST PIT LOG**

**DESIGNATION:**

**TP-C6**

**PROJECT NO.:**

46047

**EXCAVATOR:**

The Greener Group, LLC

**INSPECTOR:**

Kristen Sarson

**DATE:**

3/11/2019



Project: Wayland  
Location: Wayland, MA

DEPTH ELEVATION	NO.	SOIL DESCRIPTION	PID (PPM)
		0-5' Dark brown fine to coarse GRAVEL and fine to coarse SAND, trace clay and debris (asphalt, plastic, metal, wood, concrete).	<1.0
1			
2			
3			
4			
5		5-10' Dark brown fine to coarse GRAVEL and fine to coarse SAND, trace debris (asphalt, plastic, metal, wood, concrete).	<1.0
6			
7			
8			
9			
10		Test pit terminated at 10 feet bgs. Refusal not encountered.	
11			
12			
13			
14			
15			

Test Pit Sketch



NORTH

See Figure 1 for test pit locations.

**NOTES:**

1. Soil are visually classified in general accordance with the Modified Burmister Soil Classification System.



**TEST PIT LOG**

**DESIGNATION:**  
**PROJECT NO.:**  
**EXCAVATOR:**  
**INSPECTOR:**  
**DATE:**

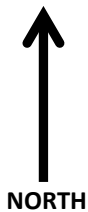
**TP-D4**  
 46047  
 The Greener Group, LLC  
 Kristen Sarson  
 3/11/2019



Project: Wayland  
 Location: Wayland, MA

DEPTH ELEVATION	NO.	SOIL DESCRIPTION	PID (PPM)
		0-5' Brown fine to coarse GRAVEL, some fine to coarse sand, trace cobbles, clay, and debris (brick, asphalt, concrete, plastic).	<1.0
1			
2			
3			
4			
5		5-10' Brown fine to coarse GRAVEL grading to fine to coarse SAND, some asphalt/coal patch, trace cobbles and debris (brick, concrete, plastic).	<1.0
6			
7			
8			
9			
10		Test pit terminated at 10 feet bgs. Refusal not encountered.	
11			
12			
13			
14			
15			

Test Pit Sketch



See Figure 1 for test pit locations.

**NOTES:**

1. Soil are visually classified in general accordance with the Modified Burmister Soil Classification System.

**TEST PIT LOG**

**DESIGNATION:**

**TP-A5**

**PROJECT NO.:**

46047

**EXCAVATOR:**

The Greener Group, LLC

**INSPECTOR:**

Kristen Sarson

**DATE:**

3/11/2019



Project: Wayland  
Location: Wayland, MA

DEPTH ELEVATION	NO.	SOIL DESCRIPTION	PID (PPM)
		0-5' Brown fine to coarse SAND, little fine to coarse gravel, trace cobbles and debris (metal, asphalt, plastic, concrete, glass, wood).	<1.0
1			
2			
3			
4			
5		5-10' Brown fine to coarse SAND, little fine to coarse gravel, trace cobbles and debris (metal, asphalt, plastic, concrete, glass, wood).	<1.0
6			
7			
8			
9			
10		Test pit terminated at 10 feet bgs. Refusal not encountered.	
11			
12			
13			
14			
15			

Test Pit Sketch



NORTH

See Figure 1 for test pit locations.

**NOTES:**

1. Soil are visually classified in general accordance with the Modified Burmister Soil Classification System.

**TEST PIT LOG**

**DESIGNATION:**

**TP-C3**

**PROJECT NO.:**

46047

**EXCAVATOR:**

The Greener Group, LLC

**INSPECTOR:**

Kristen Sarson

**DATE:**

3/12/2019



Project: Wayland  
Location: Wayland, MA

DEPTH ELEVATION	NO.	SOIL DESCRIPTION	PID (PPM)
		0-5' Dark brown fine to coarse GRAVEL and fine to coarse SAND, trace cobbles and debris (metal, asphalt, concrete, plastic).	<1.0
1			
2			
3			
4			
5		5-10' Dark brown fine to coarse GRAVEL and fine to coarse SAND, trace cobbles, silt, and debris (metal, asphalt, concrete, plastic).	1.2
6			
7			
8			
9			
10		Test pit terminated at 10 feet bgs. Refusal not encountered.	
11			
12			
13			
14			
15			

Test Pit Sketch



NORTH

See Figure 1 for test pit locations.

**NOTES:**

1. Soil are visually classified in general accordance with the Modified Burmister Soil Classification System.

**TEST PIT LOG**

**DESIGNATION:**

**TP-C2**

**PROJECT NO.:**

46047

**EXCAVATOR:**

The Greener Group, LLC

**INSPECTOR:**

Kristen Sarson

**DATE:**

3/12/2019



Project: Wayland  
Location: Wayland, MA

DEPTH ELEVATION	NO.	SOIL DESCRIPTION	PID (PPM)
		0-5' Brown fine to coarse SAND and fine to coarse GRAVEL, trace cobbles, silt, and debris (concrete, metal, brick, glass, ceramic, asphalt).	<1.0
1			
2			
3			
4			
5		5-10' Brown fine to coarse SAND and fine to coarse GRAVEL, trace cobbles, silt, and debris (concrete, metal, brick, glass, ceramic, asphalt).	<1.0
6			
7			
8			
9			
10		Test pit terminated at 10 feet bgs. Refusal not encountered.	
11			
12			
13			
14			
15			

Test Pit Sketch



NORTH

See Figure 1 for test pit locations.

**NOTES:**

1. Soil are visually classified in general accordance with the Modified Burmister Soil Classification System.

**TEST PIT LOG**

**DESIGNATION:**  
**PROJECT NO.:**  
**EXCAVATOR:**  
**INSPECTOR:**  
**DATE:**

**TP-D1**  
 46047  
 The Greener Group, LLC  
 Kristen Sarson  
 3/12/2019



Project: Wayland  
 Location: Wayland, MA

DEPTH ELEVATION	NO.	SOIL DESCRIPTION	PID (PPM)
		0-5' Dark brown and black fine to coarse SAND, some silt and fine to coarse gravel, trace debris (concrete, asphalt, wood, metal) and cobbles.	1.1
1			
2			
3			
4			
5		5-10' Dark brown and black fine to coarse SAND, some silt and fine to coarse gravel, trace debris (concrete, asphalt, wood, metal) and cobbles.	<1.0
6			
7			
8			
9			
10		Test pit terminated at 10 feet bgs. Refusal not encountered.	
11			
12			
13			
14			
15			

Test Pit Sketch



NORTH

See Figure 1 for test pit locations.

**NOTES:**

1. Soil are visually classified in general accordance with the Modified Burmister Soil Classification System.

**TEST PIT LOG**

**DESIGNATION:**

**TP-C1**

**PROJECT NO.:**

46047

**EXCAVATOR:**

The Greener Group, LLC

**INSPECTOR:**

Kristen Sarson

**DATE:**

3/12/2019



Project: Wayland  
Location: Wayland, MA

DEPTH ELEVATION	NO.	SOIL DESCRIPTION	PID (PPM)
		0-5' Dark brown and black fine to coarse SAND and fine to coarse GRAVEL, some silt, trace cobbles and debris (plastic, metal, asphalt, concrete).	1.3
1			
2			
3			
4			
5		5-10' Dark brown and black fine to coarse SAND and fine to coarse GRAVEL, some silt, trace cobbles and debris (plastic, metal, asphalt, concrete).	<1.0
6			
7			
8			
9			
10		Test pit terminated at 10 feet bgs. Refusal not encountered.	
11			
12			
13			
14			
15			

Test Pit Sketch



NORTH

See Figure 1 for test pit locations.

**NOTES:**

1. Soil are visually classified in general accordance with the Modified Burmister Soil Classification System.

**TEST PIT LOG**

**DESIGNATION:**

**TP-D6**

**PROJECT NO.:**

46047

**EXCAVATOR:**

The Greener Group, LLC

**INSPECTOR:**

Kristen Sarson

**DATE:**

3/11/2019



Project: Wayland  
Location: Wayland, MA

DEPTH ELEVATION	NO.	SOIL DESCRIPTION	PID (PPM)
		0-5' Dark brown fine to coarse SAND and fine to coarse GRAVEL, some cobbles, trace debris (concrete, asphalt, fabric, brick). Clumps of clay observed.	<1.0
1			
2			
3			
4			
5		5-10' Dark brown fine to coarse SAND and fine to coarse GRAVEL, some cobbles, trace clay trace clay and debris (asphalt, brick, concrete, ceramic, metal).	<1.0
6			
7			
8			
9			
10		Test pit terminated at 10 feet bgs. Refusal not encountered.	
11			
12			
13			
14			
15			

Test Pit Sketch



NORTH

See Figure 1 for test pit locations.

**NOTES:**

1. Soil are visually classified in general accordance with the Modified Burmister Soil Classification System.

**TEST PIT LOG**

**DESIGNATION:**

**TP-E3**

**PROJECT NO.:**

46047

**EXCAVATOR:**

The Greener Group, LLC

**INSPECTOR:**

Kristen Sarson

**DATE:**

3/12/2019



Project: Wayland  
Location: Wayland, MA

DEPTH ELEVATION	NO.	SOIL DESCRIPTION	PID (PPM)
		0-5' Tan fine to coarse SAND, some fine to coarse gravel, trace debris (large concrete blocks, wood, asphalt, plastic).	<1.0
1			
2			
3			
4			
5		5-10' Brown fine to medium SAND and fine GRAVEL, some coarse gravel, trace silt, clay, and debris (concrete, wood, asphalt, plastic).	<1.0
6			
7			
8			
9			
10		Test pit terminated at 10 feet bgs. Refusal not encountered.	
11			
12			
13			
14			
15			

Test Pit Sketch



NORTH

See Figure 1 for test pit locations.

**NOTES:**

1. Soil are visually classified in general accordance with the Modified Burmister Soil Classification System.



**TEST PIT LOG**

**DESIGNATION:**

**TP-F3**

**PROJECT NO.:**

46047

**EXCAVATOR:**

The Greener Group, LLC

**INSPECTOR:**

Kristen Sarson

**DATE:**

3/12/2019



Project: Wayland  
Location: Wayland, MA

DEPTH ELEVATION	NO.	SOIL DESCRIPTION	PID (PPM)
		0-5' Dark brown fine to coarse SAND, some fine to coarse gravel, some silt, trace cobbles and debris (asphalt, concrete, metal, plastic, wood).	<1.0
1			
2			
3			
4			
5		5-10' Dark brown fine to coarse SAND, some fine to coarse gravel, some silt, trace cobbles and debris (asphalt, concrete, metal, plastic, wood).	<1.0
6			
7			
8			
9			
10		Test pit terminated at 10 feet bgs. Refusal not encountered.	
11			
12			
13			
14			
15			

Test Pit Sketch



NORTH

See Figure 1 for test pit locations.

**NOTES:**

1. Soil are visually classified in general accordance with the Modified Burmister Soil Classification System.

**ATTACHMENT 2:  
LABORATORY ANALYTICAL  
REPORTS**



**BILL OF LADING (pursuant to 310 CMR 40.0030)**

3 - 36013

**A. LOCATION OF SITE OR DISPOSAL SITE WHERE REMEDIATION WASTE WAS GENERATED:**

1. Release Name/Location Aid: PLANNED RIVERS EDGE DEVELOPMENT
2. Street Address: 484-490 BOSTON POST ROAD
3. City/Town: WAYLAND 4. Zip Code: 017781831
5. Check here if the disposal site that is the source of the release is Tier Classified. Check the current Tier Classification Category.  
 a. Tier I     b. Tier ID     c. Tier II

**B. THIS FORM IS BEING USED TO:** (check one: B1-B4):

1. Submit a **Bill of Lading (BOL)** to transport Remediation Waste to Temporary Storage or a Receiving Facility.  
 Response Actions associated with this BOL (check all that apply):
- a. Immediate Response Action (IRA)                       e. Comprehensive Response Actions
- b. Release Abatement Measure (RAM)                       f. Limited Removal Action (LRA): (must be retained pursuant to 310 CMR 40.0034(6); can't be submitted via eDEP)
- c. Downgradient Property Status (DPS)
- d. Utility Release Abatement Measure (URAM)                       g. Other \_\_\_\_\_
2. Submit an Attestation of Completion of **Shipment to Temporary Storage** (Sections C, F and J are not required):
3. Submit an Attestation of **Completion of Shipment to a Receiving Facility** (Sections C, F and J are not required):
4. Certify that Remediation Waste Was **Not Shipped, and the Bill of Lading is Void**. (Sections C, D, E, and F are not required)
5. Date Bill of Lading submitted to the Department: 03/23/2021 b. eDEP Transaction ID: 1262624  
 (mm/dd/yyyy)
6. Period of Generation Associated with this Bill of Lading 3/15/2021 to 8/15/2021  
 (mm/dd/yyyy) (mm/dd/yyyy)

**(All sections of this transmittal form must be filled out unless otherwise noted above)**

The Bill of Lading is not considered complete until the Attestation of Completion of Shipment is received by the Department.

**C. DESCRIPTION OF WASTE AND WASTE SOURCE:**

1. Contaminated Media/Debris (check all that apply):
- a. Soil     b. Groundwater     c. Surface Water     d. Sediment     e. Vegetation or Organic Debris
- f. Demolition/Construction Waste     g. Inorganic Absorbent Materials     h. Other: \_\_\_\_\_
2. Uncontainerized Waste (check all that apply):
- a. Inorganic Absorbent Materials     b. Other: \_\_\_\_\_



**BILL OF LADING (pursuant to 310 CMR 40.0030)**

**C. DESCRIPTION OF WASTE AND WASTE SOURCE (cont.):**

3. Containerized Waste (check all that apply):

- a. Tank Bottoms/Sludges
- b. Containers
- c. Drums
- d. Engineered Impoundments

e. Other: \_\_\_\_\_

4. Estimated Quantity: 900  Tons  Cu. Yds.  Gallons

5. Contaminant Source (check one):

- a. Transportation Accident
- b. Underground Storage Tank
- c. Brownfields Redevelopment

d. Other: URBAN FILL

6. Type of Contaminant (check all that apply):

- a. Gasoline
- b. Diesel Fuel
- c. #2 Fuel Oil
- d. #4 Fuel Oil
- e. #6 Fuel Oil
- f. Jet Fuel

g. Waste Oil  h. Kerosene  i. Chlorinated Solvents  j. Urban Fill  k. Other: \_\_\_\_\_

7. Constituents of Concern (check all that apply):

- a. As
- b. Cd
- c. Cr
- d. Pb
- e. Hg
- f. EPH/TPH
- g. VPH

h. PCBs  i. VOCs  j. SVOCs  k. Other: \_\_\_\_\_

8. If applicable, check the box for the Reportable Concentration Category of the site:

- a. RCS-1
- b. RCS-2
- c. RCGW-1
- d. RCGW-2

9. Remediation Waste Characterization Documentation (check at least one):

- a. Site History Information
- b. Sampling Analytical Methods and Procedures
- c. Laboratory Data

d. Field Screening Data  e. Characterization Documentation previously submitted to the Department

i. Date submitted: \_\_\_\_\_ ii. Type of Documentation: \_\_\_\_\_  
(mm/dd/yyyy)

**D. TRANSPORTER OR COMMON CARRIER INFORMATION:**

1. Transporter/Common Carrier Name: BOSTON ENVIRONMENTAL CORP

2. Contact First Name: JOHN 3. Last Name: COLE

4. Street: 338 HOWARD STREET 5. Title: DIRECTOR OF OPERATIONS

6. City/Town: BROCKTON 7. State: MA 8. Zip Code: 023020000

9. Telephone: 5088978025 10. Ext: \_\_\_\_\_ 11. Email: jcole@bostonenvcorp.com



**BILL OF LADING (pursuant to 310 CMR 40.0030)**

**E. RECEIVING FACILITY/TEMPORARY STORAGE LOCATION:**

1. Operator/Facility Name: ONDRICK MATERIALS & RECYCLING

2. Contact First Name: DAVID 3. Last Name: COSTANZO

4. Street: 58 INDUSTRY ROAD 5. Title: ENVIRONMENTAL DIVISION MANAGER

6. City/Town: CHICOPEE 7. State: MA 8. Zip Code: 010200000

9. Telephone: 4135922566 10. Ext: \_\_\_\_\_ 11. Email: dcostanzo@ondrickmr.com

12. Type of facility: (check one)

a. Temporary Storage i. Period of Temporary Storage \_\_\_\_\_ to \_\_\_\_\_  
(mm/dd/yyyy) (mm/dd/yyyy)

ii. Reason for Temporary Storage: \_\_\_\_\_

b. Asphalt Batch/Hot Mix  c. Landfill/Disposal  d. Landfill/Structural Fill  e. Landfill/Daily Cover

f. Asphalt Batch/Cold Mix  g. Thermal Processing  h. Incinerator  i. Other: \_\_\_\_\_

13. Division of Hazardous Waste/Class A Permit Number: X258844

14. Division of Solid Waste Permit Number: \_\_\_\_\_

15. EPA Identification Number: MAR000529677

**F. LSP SIGNATURE AND STAMP:**

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this submittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and 309 CMR 4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief, the assessment action(s) undertaken to characterize the Remediation Waste which is (are) the subject of this submittal for acceptance at the facility identified in this submittal comply with applicable provisions of 310 CMR 40.0000, and such facility is permitted to accept Remediation Waste having the characteristics described in this submittal.

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

1. LSP #: 5217

2. First Name: WILLIAM J 3. Last Name: GIBBONS

4. Telephone: 7816987654 5. Ext: \_\_\_\_\_ 6. Email: \_\_\_\_\_

7. Signature: WILLIAM J GIBBONS

8. Date: 3/23/2021  
(mm/dd/yyyy)

9. LSP Stamp:







**BILL OF LADING (pursuant to 310 CMR 40.0030)**

**J. CERTIFICATION OF PERSON SUBMITTING BILL OF LADING (cont.) :**

6. Check here if the address of the person providing certification is different from address recorded in Section G.

7. Street: \_\_\_\_\_

8. City/Town: \_\_\_\_\_ 9. State: \_\_\_\_\_ 10. Zip Code: \_\_\_\_\_

11. Telephone: \_\_\_\_\_ 12. Ext: \_\_\_\_\_ 13. Email: \_\_\_\_\_

**YOU ARE SUBJECT TO AN ANNUAL COMPLIANCE ASSURANCE FEE OF UP TO \$10,000 PER BILLABLE YEAR FOR THIS DISPOSAL SITE. YOU MUST LEGIBLY COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.**

Date Stamp (MassDEP USE ONLY):

Received by DEP on 3/23/2021 1:58:42 PM







March 17, 2021

Ondrick Materials & Recycling, LLC  
22 Industry Road  
Chicopee, MA 01020  
Attn: David S. Costanzo

**RE: Licensed Site Professional Opinion Letter**

Alta at River's Edge  
484-490 Boston Post Road  
Wayland, Massachusetts  
VERTEX Project No. 67404  
Release Tracking Number (RTN) 3-36013

To Whom it May Concern:

The Vertex Companies, Inc. (VERTEX) is pleased to submit this Licensed Site Professional (LSP) Opinion Letter on behalf of Alta River's Edge, LLC, for the proposed transport of up to 900 cubic yards of soil from the above-referenced property (the "property") to Ondrick Materials and Recycling, LLC (the Facility) for recycling. The soil is currently stockpiled at the property and is being removed to support Site redevelopment. The undersigned is a Massachusetts LSP.

The approximately 7-acre property is currently being redeveloped by Alta River's Edge, LLC as a multi-residential development. The general property locus is shown on Figure 1, and the general layout of the property is shown on Figure 2.

A portion of the property is a Disposal Site listed by the Massachusetts Department of Environmental Protection (MassDEP) under Release Tracking Number (RTN) 3-34474 and 3-36013, for the reported releases of oil and hazardous materials (OHM) attributed to urban fill materials originating from off-site locations and historical uses of that portion of the property. Additional information regarding these RTNs is included below.

The information provided in this LSP Opinion letter includes a general property history and summary of investigation activities and demonstrates that the soil proposed to be transported for recycling at the Facility meets the Facility's acceptance criteria.

## General Site History

Based on a review of readily available historical information, a portion of the property was utilized as a firing range since at least the mid-1970s until 2017. The remainder of the property historically consisted of undeveloped cleared land prior to construction of a municipal wastewater treatment plant (WWTP) in 1983. The WWTP operated until 2009.

After 1983 and based on available records, it appears that the Wayland Department of Public Works (DPW) transported and stockpiled soil from off-site locations to the eastern portion of the property. The stockpiled soils contained minor amounts of waste asphalt, masonry, concrete, and other debris. Transportation of the soil to the site for storage continued until 2017. Some of the stockpiled DPW soil at the property is being proposed for transport and recycling at the Facility.

## Disposal Site Release History

Based on the available information, three releases of oil and hazardous materials (OHM) have occurred at the property. The following summarizes identified OHM releases at the property:

### RTN 3-001724 (Septage Facility)

This RTN assigned in 1987 following the discharge of an estimated 3-gallons of unknown oil “ostensibly from a restaurant grease trap” into the WWTP’s receiving tanks. Based on available documentation, the plant operator identified this wrongful discharge shortly following the release and responded by closing valves to isolate the discharged material to the ‘Raw Well’ and to restrict pathways that would have resulted in a release to the environment. The oil was subsequently removed under Hazardous Waste Manifest documentation, and a sample was collected submitted for laboratory analysis of polychlorinated biphenyls (PCBs). PCBs were not detected above the laboratory detection limit.

After additional investigations by the MassDEP in 1993 and based on available documentation, the MassDEP determined the release was no longer considered a ‘Disposal Site’ under the Massachusetts Contingency Plan (MCP) and classified the release as DEPND (MassDEP Not a Disposal Site). Soil proposed for recycling at the Facility was not impacted by the RTN 3-001724 release.

### RTN 3-34474

RTN 3-34474 is associated with the discovery of asbestos at the site in August 2017 during pre-purchase due-diligence activities undertaken for WP East Acquisitions, LLC. On August 8, 2017, during regrading of the large stockpile of DPW materials, VERTEX identified various suspect asbestos containing waste materials (ACWM) including potential transite pipe and floor tiles, all located within a localized area of the stockpile. Six samples of suspect ACWM were collected and submitted for polarized light microscopy (PLM) analysis.

Based on the analytical results, five of the six samples contained greater than 1% asbestos. On August 14, 2017, following discussions between VERTEX, the Town of Wayland and their consultant, and the MassDEP Bureau of Air and Waste, it was determined that greater than 1 pound of asbestos was present at the site, triggering a 2-hour reportable condition under the MCP. The Town of Wayland notified the MassDEP of the release, and the release was subsequently assigned RTN 3-34474.

In July 2018, VERTEX observed the advancement of 44 test pits through the entire thickness of the stockpiles to determine the potential presence of additional ACWM within ungraded portions of the stockpile. Soil from each test pit was visually assessed by a Massachusetts-licensed Asbestos Inspector who collected samples of suspect ACWMs and composite soil samples for asbestos analysis by PLM. Additional ACWM was identified in one test pit; however, asbestos was not detected in any soil samples.

Based on the assessment activities, VERTEX delineated the area of the stockpile impacted with ACWM. In December 2018, following MassDEP approval of a Non-Traditional Asbestos Work Plan (NTAWP), VERTEX oversaw the excavation and off-site transport of approximately 2,000 cubic-yards of commingled soil and ACWM from the on-site stockpile.

On January 26, 2021 this RTN was closed with a Permanent Solution Statement with No Conditions under the MCP. As noted below, the post-closure characterization of the soil also included collection and analysis of 80 additional samples for asbestos and no asbestos was detected.

#### RTN 3-36013

In March 2019 during the collection of soil characterization samples at the property, semi-volatile organic compounds (SVOCs) and lead were detected at concentrations exceeding applicable MCP RCS-1 Reportable Concentrations in soil samples collected from the large on-site stockpile (additional information regarding the characterization sampling and analysis is included below). Additionally, lead, copper, and antimony were detected at concentrations exceeding applicable MCP RCS-1 Reportable Concentrations in soils at the former firing range, and dissolved arsenic, nickel, and ammonia were detected in groundwater at concentrations exceeding applicable MCP RCGW-1 Reportable Concentrations. On December 2, 2019, the Town of Wayland notified the MassDEP of the release, and the release was subsequently assigned RTN 3-36013.

Soils located outside of the large stockpile are not proposed for recycling at the facility at this time. If soils outside the large stockpile are proposed for recycling at the Facility, an additional disposal package will be provided. Additionally, **soil within the large stockpile containing OHM at concentrations greater than the Facility acceptance criteria is not proposed for recycling at the Facility.**



## Sampling Activities

Following ACWM abatement activities, the remainder of the stockpile was graded to a manageable height and configuration to allow for the collection of soil characterization samples and a sampling grid of characterization cells was established, surveyed by a professional survey company, and the limits of each characterization cell were marked with stakes. Between, March 1 and March 12, 2019, VERTEX oversaw the advancement of 44 test pits within the stockpile, identified as TP-A1 through TP-A5, TP-B1 through TP-B6, TP-C1 through TP-C6, TP-D1 through TP-D7, TP-E2 through TP-E8, TP-F3 through TP-F8, TP-G6, TP-G7, and TP-V-101 through TP-V-105. Soil samples were collected continuously in 5-foot vertical composites from the ground surface to approximately 10 feet bgs (with the exception of test pits D3 and E5 which were advanced to 15 feet bgs). A total of 85 soil samples were collected for characterization analysis.

The soil was classified in the field using a modified Burmister soil classification system and generally consisted of a mixture of tan to dark brown sand, silt, gravel, and trace debris, including brick, concrete, asphalt, glass, metal, plastic and wood (generally less than 1%). Odors emanating from these soils ranged from no odor to a slight organic odor. Figure 3 shows the stockpiles from which soil is proposed for recycling and test pit locations.

The soils were screened in the field using a photoionization detector (PID) calibrated with a 100 parts per million by volume (ppmv) isobutylene standard to report ionizable total volatile organic compounds (TVOCs) as isobutylene equivalents. Visual and olfactory evidence of impacts were recorded in the field and on the test pit logs, where observed. Soil characterization and PID screening results are provided on the boring logs included as Attachment 1.

Each of the soil samples submitted for laboratory analysis was a composite of five approximately equal-volume aliquots of soil collected from each 5-foot depth interval of each characterization cell. The aliquots were mixed in a stainless-steel bowl to create the representative composite sample for each cell, which was then placed into laboratory-supplied sample containers. Soil samples for analysis of volatile organic compounds (VOCs) were collected by placing approximately equal-volume aliquots from five points within each characterization cell directly from the excavator bucket into the sample containers.

Samples were submitted to Con-Test Analytical Laboratory (Con-Test) of East Longmeadow, Massachusetts for laboratory analysis of the MassDEP Reuse and Disposal of Contaminated Soil at Massachusetts Landfills DEP Policy #COMM-97-001 (COMM-97) disposal parameters as well as additional analyses, including:

- Volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8260;
- Semi-volatile organic compounds (SVOCs) plus pyridine by USEPA Method 8270;
- Extractable Petroleum Hydrocarbons (EPH) by MassDEP Method 04-1.1;

- Massachusetts Contingency Plan (MCP) 14 Total Metals by USEPA Methods 6010 and 7471;
- Polychlorinated biphenyls (PCBs) by USEPA Method 8082 with Soxhlet extraction;
- Total petroleum hydrocarbons (TPH) by USEPA Method 8015;
- Corrosivity (pH) by USEPA Method 1,9045D;
- Reactivity (cyanide and sulfide) by USEPA Method 125,7.3;
- Conductivity by USEPA Method 1,9050A;
- Ignitability by USEPA Method 1030; and
- Asbestos by USEPA Methods.

Additionally, based on the previous discovery of ACWM within the larger of the two stockpiles, the 80 soil samples were also submitted for analysis of asbestos fibers, using the California Air Resources Board CARB-435 Method.

To meet additional Facility acceptance criteria, on February 26, 2021 and March 8, 2021 VERTEX oversaw the advancement of six additional test pits within cells B6, C5, and C6. Six soil samples were collected from the interior of cells B6, C5, and C6 at 5 to 10 feet bgs as depicted on Figure 3B.

Each of the soil samples submitted for laboratory analysis was a composite of five approximately equal-volume aliquots of soil collected from each test pit. The aliquots were mixed in a sealable plastic bag to create the representative composite sample for each cell, which was then placed into laboratory-supplied sample containers and submitted to Con-Test for laboratory analysis of TPH.

A summary of soil sample analytical results representing the soil proposed for recycling at the Facility is provided on Table 1 and copies of the laboratory analytical reports are provided in Attachment 2.

## Soil Sampling Results

Laboratory analytical results did not detect target analytes at concentrations exceeding the Facility's acceptance criteria in samples:

- TP-C6 (5-10')
- TP-C6 (5-10')\_TPH1
- TP-C6 (5-10')\_TPH2
- TP-C6 (5-10')\_TPH3
- TP-C6 (5-10')\_TPH4
- TP-C6 (5-10')\_TPH5
- TP-C5 (5-10')
- TP-C5 (5-10')\_TPH1
- TP-B6 (5-10')

Based on the analytical results, toluene, EPH fractions, TPH, SVOCs, and metals were detected in several of the qualifying soil samples at concentrations above laboratory detection limits, but below the Facility acceptance criteria.

Based on analytical results, VERTEX requests acceptance of these soils for recycling at the Facility. A summary of soil analytical results is included on Table 1 and copies of the laboratory analytical reports are provided in Attachment 2.

## Soil Recycling

Based on the laboratory analytical results and the Facility's required sampling frequency of one sample per 100 cubic yards for TPH analysis and one sample per 500 cubic yards for other soil characterization analyses, the data supports the recycling of approximately 900 cubic yards of soil. Figures 3A through 3C show the locations and depths (in 5-foot depth increments) of the soil characterization cell proposed for recycling at the Facility. A summary of the analytical results for those samples representative of the soil for which approval is being requested is included on Table 1, and copies of the laboratory analytical reports are included in Attachment 2.

The soil characterization sampling detailed herein was completed at the Site in early 2019 and February and March 2021. Since the collection and analysis of the characterization samples, no new releases have been reported or observed at the Site.

It is the opinion of the LSP that the soil samples analyzed are representative of the soil proposed for recycling, and the analytical results meet the Facility's acceptance criteria. Soil will not be shipped from uncharacterized locations or at greater quantities than the quantity requested without prior Facility approval. Furthermore, soil from within the vertical boundary, soil with a sheen or petroleum odor, or other evidence that the soil does not meet the import requirements

for the facility will not be shipped under this LSP Letter. No known RCRA-listed hazardous waste has been used or released at the Site.

If needed or where specifically requested, additional samples and analytical data will be collected and provided to the Facility for approval of additional volume prior to transport to the Facility.


Please do not hesitate to contact us should you have any questions or require additional information.

Sincerely,

**The Vertex Companies, Inc.**



Kristen Sarson  
Project Manager



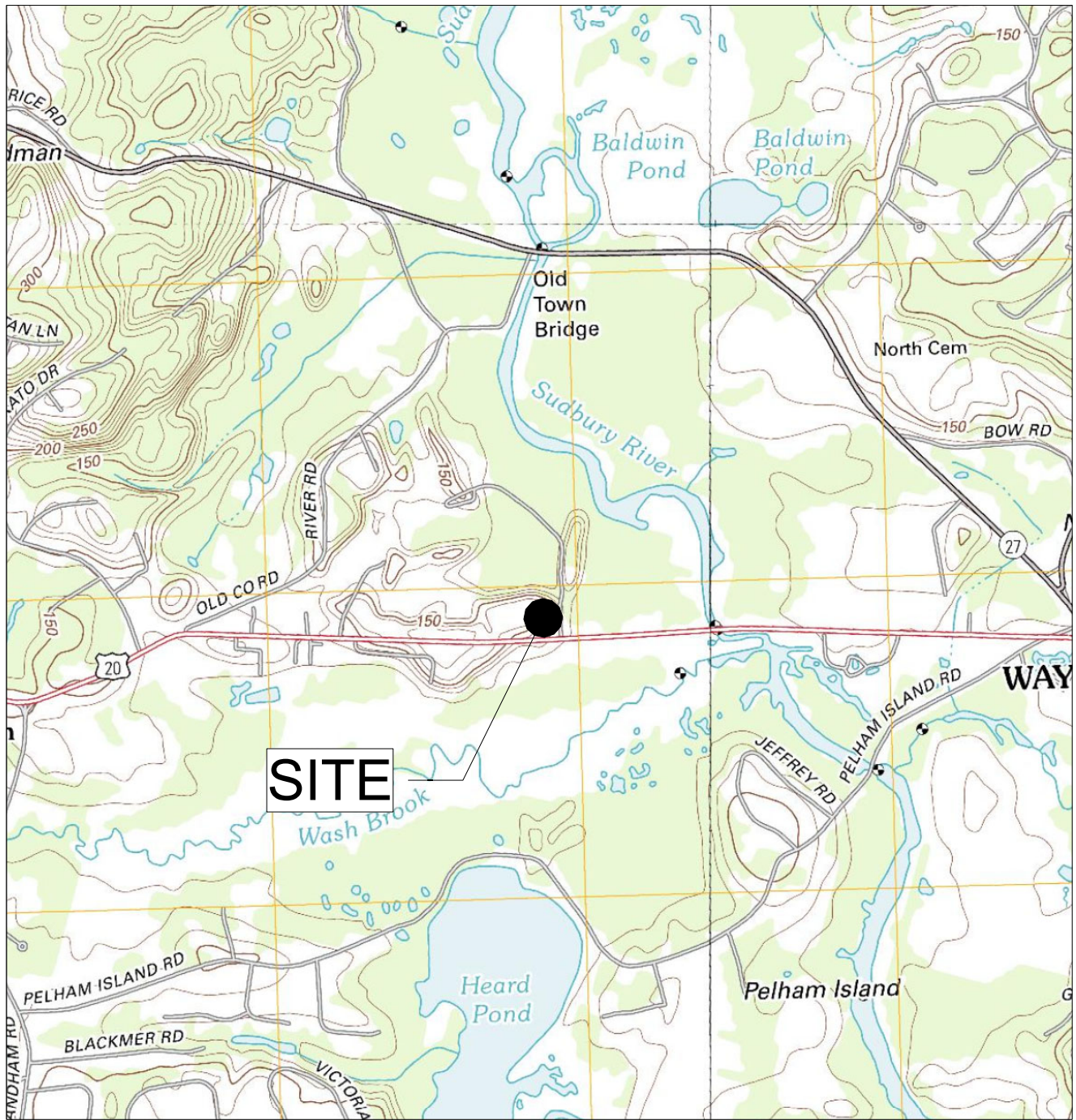
William J. Gibbons, PG, LSP  
Senior Project Manager

**ATTACHMENTS**

Figure 1	Site Locus
Figure 2	Site General Layout
Figure 3	Stockpile Characterization Layout
Figure 3A	Soil Management Classification 0-5 Feet
Figure 3B	Soil Management Classification 5-10 Feet
Figure 3C	Soil Management Classification 10-15 Feet
Table 1	Summary of Analytical Results - Qualifying Samples
Attachment 1	Boring Logs – Qualifying Sampling
Attachment 2	Laboratory Analytical Reports



## FIGURES



SCALE: 1" = 0.5 miles  
(WHEN PRINTED AT 8x11)

SOURCE: UNITED STATES GEOLOGICAL SURVEY MAP FRAMINGHAM  
MA QUADRANGLE 7.5 MINUTE SERIES (2012)

SITE LOCUS  
RIVER'S EDGE

484 - 490 Boston Post Road  
Wayland, Massachusetts

Date:	04/22/19
Drawn:	KS
Checked:	FC
Job No.:	46047

FIGURE

1






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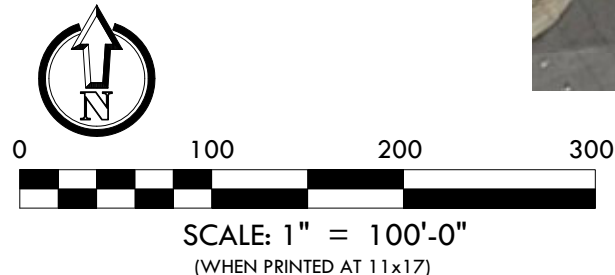
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100 N WASHINGTON ST, 302  
BOSTON, MA 02114  
617.275.5407



**LEGEND:**

- V-103 (MW)  VERTEX Monitoring Well
- V-113  Soil Boring
- MW-3  Monitoring Well Installed by Others
- V-SG-101  Soil Vapor Sample Point
-  Approximate Site Boundary



**SITE SCHEMATIC**  
**RIVER'S EDGE**  
 484 - 490 BOSTON POST ROAD  
 WAYLAND, MA

File No.:  
 Date: 3/29/19  
 Drawn: KS  
 Checked: FC  
 Job No.: 46047

FIGURE  
**2**




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**VERTEX**  
 VERTEXENG.COM  
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 BOSTON, MA 02114  
 617.275.5407

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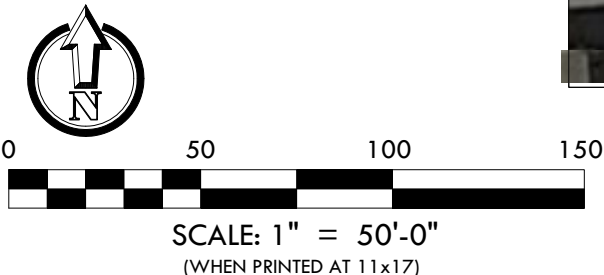


**LEGEND:**

- B3 Test Pit Grid Number
-  Approximate Configuration of 32,000 cy Stockpile
-  4,500 cy Stockpile  
TP-V-101 Test Pit Location
-  Approximate Configuration of 4,500 cy Stockpile



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**STOCKPILE GRID LAYOUT**  
**RIVER'S EDGE**  
 484 - 490 BOSTON POST ROAD  
 WAYLAND, MA

File No.:	FIGURE
Date: 05/07/19	<b>3</b>
Drawn: KS	
Checked: FC	
Job No.: 46047	

REVISIONS

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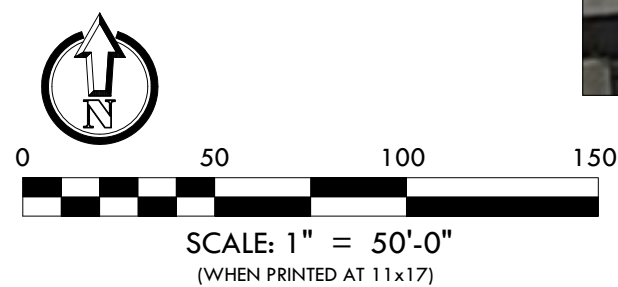
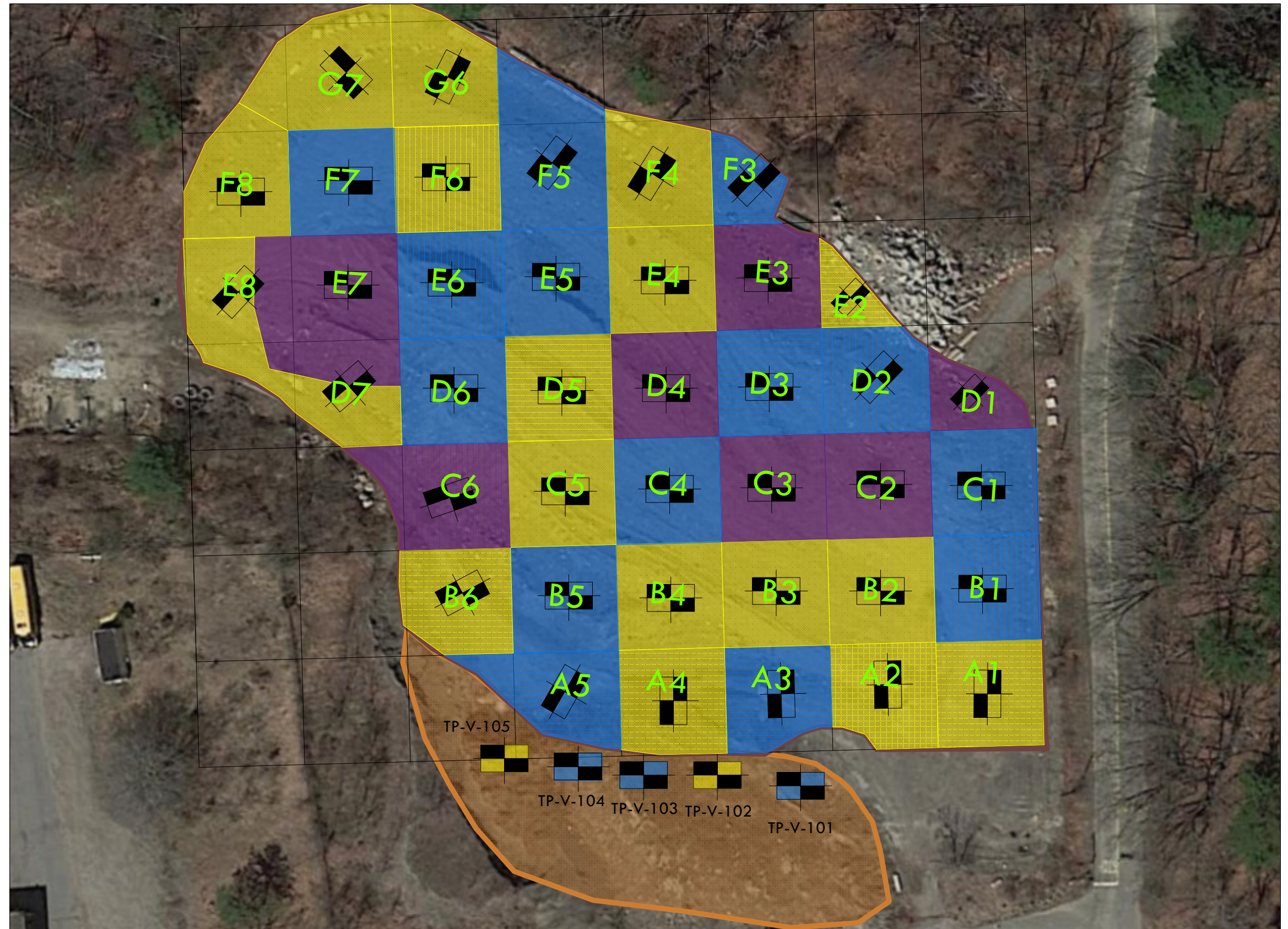
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**LEGEND:**

- B3 Test Pit Grid Number
- <RCS-1 Facility
- <RCS-2 Facility
- Unlined Landfill
- Asphalt Batch Facility
- Approximate Configuration of 32,000 cy Stockpile
- Test Pit Location
- Approximate Configuration of 4,500 cy Stockpile



**SOIL MANAGEMENT CLASSIFICATION 0-5 FEET**

RIVER'S EDGE

484 BOSTON POST ROAD  
WAYLAND, MA

Date: 05/07/19  
Drawn: KS  
Checked: FC  
Job No.: 46047

FIGURE  
**3A**

02/08/2021  
REVISIONS

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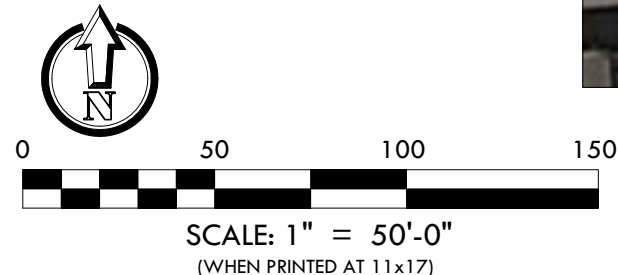
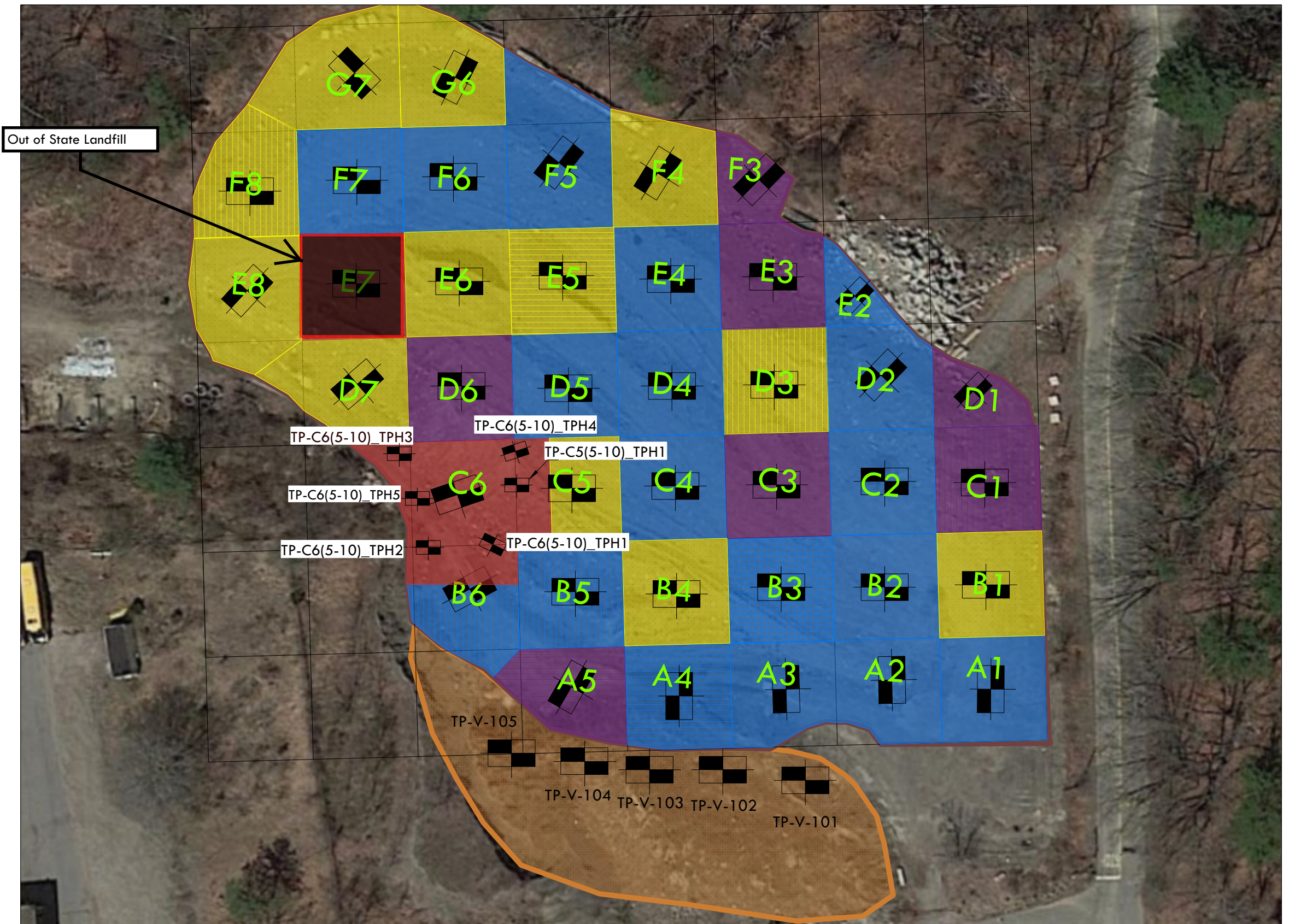
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BOSTON, MA 02114  
617.275.5407



**LEGEND:**

- B3 Test Pit Grid Number
- <RCS-1 Facility
- <RCS-2 Facility
- Unlined Landfill
- Asphalt Batch Facility
- Approximate Configuration of 32,000 cy Stockpile
- Test Pit Location  
TP-V-101
- Approximate Configuration of 4,500 cy Stockpile



**SOIL MANAGEMENT CLASSIFICATION 5-10 FEET**

RIVER'S EDGE  
 484-490 BOSTON POST ROAD  
 WAYLAND, MA  
 RTN 3-36013

Date: 05/07/19  
 Drawn: KS  
 Checked: FC  
 Job No.: 67404

FIGURE  
3B

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02/08/2021	

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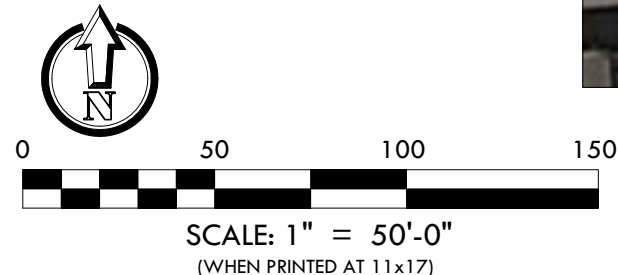
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**LEGEND:**

- B3 Test Pit Grid Number
- <RCS-1 Facility
- <RCS-2 Facility
- Unlined Landfill
- Asphalt Batch Facility
- Approximate Configuration of 32,000 cy Stockpile
- Test Pit Location  
TP-V-101
- Approximate Configuration of 4,500 cy Stockpile



**SOIL MANAGEMENT CLASSIFICATION 10-15 FEET**

RIVER'S EDGE

484 BOSTON POST ROAD  
WAYLAND, MA

Date: 05/07/19  
 Drawn: KS  
 Checked: FC  
 Job No.: 46047

FIGURE  
**3C**

02/08/2021

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## **TABLES**

**Table 1**  
**Summary of Analytical Results - Qualifying Samples**  
**484 - 490 Boston Post Road, Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	MCP RCS-1	Ondrick	Units	TP-C6 (5-10)	TP-C6	TP-C6	TP-C6	TP-C6	TP-C6	TP-C5	TP-C5 (5-10)	TP-B6 (5-10)
Sample Date				3/11/2019	(5-10)_TPH1	(5-10)_TPH2	(5-10)_TPH3	(5-10)_TPH4	(5-10)_TPH5	(5-10)_TPH1	TP-C5 (5-10)	TP-B6 (5-10)
Starting Depth				5	5	5	5	5	5	5	5	5
Ending Depth				10	10	10	10	10	10	10	10	10
<b>Asbestos</b>												
CARB 435	NSE	%	%	0.00	--	--	--	--	--	--	0.00	0.00
<b>Extractable Petroleum Hydrocarbons (EPH) with target Polynuclear Aromatic Hydrocarbons (PAHs)</b>												
C <sub>9</sub> -C <sub>18</sub> Aliphatic Hydrocarbons	1000	NSE	mg/kg	ND(23)	--	--	--	--	--	--	--	--
C <sub>11</sub> -C <sub>22</sub> Aromatic Hydrocarbons (adjusted)	1000	NSE	mg/kg	210	--	--	--	--	--	--	--	--
C <sub>19</sub> -C <sub>36</sub> Aliphatics	3000	NSE	mg/kg	140	--	--	--	--	--	--	--	--
Total EPH fractions	NSE	60,000	mg/kg	350	--	--	--	--	--	--	--	--
<b>Total Petroleum Hydrocarbons (TPH)</b>												
TPH	1000	60,000	mg/kg	<b>1100</b>	530	520	560	89	230	240	70	660
<b>Volatile Organic Compounds (VOCs)</b>												
1,1,1,2-Tetrachloroethane	0.1	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
1,1,1-Trichloroethane (1,1,1-TCA)	30	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
1,1,2-Trichloroethane	0.1	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
1,1-Dichloroethane (1,1-DCA)	0.4	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
1,1-Dichloroethene (1,1-DCE)	3	NSE	mg/kg	ND(0.0036)	--	--	--	--	--	--	ND(0.0037)	ND(0.0040)
1,1-Dichloropropene	NSE	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0037)	ND(0.0020)
1,2,3-Trichlorobenzene	NSE	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
1,2,3-Trichloropropane	100	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
1,2,4-Trichlorobenzene	2	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
1,2,4-Trimethylbenzene	1000	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
1,2-Dibromo-3-Chloropropane	10	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0037)	ND(0.0020)
1,2-Dibromoethane	0.1	NSE	mg/kg	ND(0.00089)	--	--	--	--	--	--	ND(0.00094)	ND(0.0010)
1,2-Dichlorobenzene	9	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
1,2-Dichloroethane (1,2-DCA)	0.1	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
1,2-Dichloroethylene, trans (1,2-DCE, trans)	1	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
1,2-Dichloropropane	0.1	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
1,3,5-Trimethylbenzene	10	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
1,3-Dichlorobenzene (1,3-DCB)	3	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
1,3-Dichloropropane	500	NSE	mg/kg	ND(0.00089)	--	--	--	--	--	--	ND(0.00094)	ND(0.0010)
1,3-Dichloropropene, cis	0.01	NSE	mg/kg	ND(0.00089)	--	--	--	--	--	--	ND(0.00094)	ND(0.0010)
1,3-Dichloropropene, trans	0.01	NSE	mg/kg	ND(0.00089)	--	--	--	--	--	--	ND(0.00094)	ND(0.0010)
1,4-Dichlorobenzene	0.7	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
1,4-Dioxane	0.2	NSE	mg/kg	ND(0.089)	--	--	--	--	--	--	ND(0.19)	ND(0.10)
2,2-Dichloropropane	NSE	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
2-Hexanone	100	NSE	mg/kg	ND(0.018)	--	--	--	--	--	--	ND(0.019)	ND(0.020)
Acetone	6	NSE	mg/kg	ND(0.089)	--	--	--	--	--	--	ND(0.094)	ND(0.10)
Benzene	2	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
Bromobenzene	100	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
Bromochloromethane (Chlorobromomethane)	NSE	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
Bromodichloromethane	0.1	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)



**Table 1**  
**Summary of Analytical Results - Qualifying Samples**  
**484 - 490 Boston Post Road, Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	MCP RCS-1	Ondrick	Units	TP-C6 (5-10)	TP-C6	TP-C6	TP-C6	TP-C6	TP-C6	TP-C5	TP-C5 (5-10)	TP-B6 (5-10)
				(5-10)_TPH1	(5-10)_TPH2	(5-10)_TPH3	(5-10)_TPH4	(5-10)_TPH5	(5-10)_TPH1			
				3/11/2019	2/26/2021	2/26/2021	2/26/2021	2/26/2021	3/8/2021	3/8/2021	3/11/2019	3/11/2019
				5	5	5	5	5	5	5	5	5
Ending Depth				10	10	10	10	10	10	10	10	
Bromoform	0.1	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
Bromomethane	0.5	NSE	mg/kg	ND(0.0089)	--	--	--	--	--	--	ND(0.0094)	ND(0.010)
Carbon Disulfide	100	NSE	mg/kg	ND(0.0054)	--	--	--	--	--	--	ND(0.0056)	ND(0.0060)
Carbon Tetrachloride	5	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
Chlorobenzene	1	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
Chloroethane	100	NSE	mg/kg	ND(0.0089)	--	--	--	--	--	--	ND(0.0094)	ND(0.010)
Chloroform	0.2	NSE	mg/kg	ND(0.0036)	--	--	--	--	--	--	ND(0.0037)	ND(0.0040)
Chloromethane	100	NSE	mg/kg	ND(0.0089)	--	--	--	--	--	--	ND(0.0094)	ND(0.010)
Dibromochloromethane	0.005	NSE	mg/kg	ND(0.00089)	--	--	--	--	--	--	ND(0.00094)	ND(0.0010)
Dibromomethane	500	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
Dichlorodifluoromethane	1000	NSE	mg/kg	ND(0.0089)	--	--	--	--	--	--	ND(0.0094)	ND(0.010)
Dichloroethylene, cis 1,2 (cis-1,2 DCE)	0.1	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
Ethyl Ether	100	NSE	mg/kg	ND(0.0089)	--	--	--	--	--	--	ND(0.0094)	ND(0.010)
Ethylbenzene	40	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
Ethyl-Tert-Butyl-Ether (Tert-Butylethyl Ether)	NSE	NSE	mg/kg	ND(0.00089)	--	--	--	--	--	--	ND(0.00094)	ND(0.0010)
Hexachlorobutadiene	30	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
Isopropyl Benzene	1000	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
Isopropyl Ether	100	NSE	mg/kg	ND(0.00089)	--	--	--	--	--	--	ND(0.00094)	ND(0.0010)
Methyl Ethyl Ketone (MEK)	4	NSE	mg/kg	ND(0.036)	--	--	--	--	--	--	ND(0.037)	ND(0.040)
Methyl Isobutyl Ketone (MIBK)	0.4	NSE	mg/kg	ND(0.018)	--	--	--	--	--	--	ND(0.019)	ND(0.020)
Methyl Tert-Butyl Ether	0.1	NSE	mg/kg	ND(0.0036)	--	--	--	--	--	--	ND(0.0037)	ND(0.0040)
Methylene Chloride	0.1	NSE	mg/kg	ND(0.0089)	--	--	--	--	--	--	ND(0.0094)	ND(0.010)
Naphthalene	4	NSE	mg/kg	ND(0.0036)	--	--	--	--	--	--	ND(0.0037)	ND(0.0040)
n-Butylbenzene	NSE	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
o-Chlorotoluene	100	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
o-Xylene	100	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
p/m-Xylene	100	NSE	mg/kg	ND(0.0036)	--	--	--	--	--	--	ND(0.0037)	ND(0.0040)
p-Chlorotoluene (4-Chlorotoluene)	NSE	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
p-Cymene	100	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
Propylbenzene	100	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
Sec-Butylbenzene	NSE	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
Styrene	3	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
Tert-Butylbenzene	100	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
Tertiary-Amyl Methyl Ether (TAME)	NSE	NSE	mg/kg	ND(0.00089)	--	--	--	--	--	--	ND(0.00094)	ND(0.0010)
Tetrachloroethane	0.005	NSE	mg/kg	ND(0.00089)	--	--	--	--	--	--	ND(0.00094)	ND(0.0010)
Tetrachloroethylene (PCE)	1	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
Tetrahydrofuran	500	NSE	mg/kg	ND(0.0089)	--	--	--	--	--	--	ND(0.0094)	ND(0.010)
Toluene	30	NSE	mg/kg	0.0027	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
Trichloroethylene (TCE)	0.3	NSE	mg/kg	ND(0.0018)	--	--	--	--	--	--	ND(0.0019)	ND(0.0020)
Trichlorofluoromethane	1000	NSE	mg/kg	ND(0.0089)	--	--	--	--	--	--	ND(0.0094)	ND(0.010)
Vinyl Chloride	0.7	NSE	mg/kg	ND(0.0089)	--	--	--	--	--	--	ND(0.0094)	ND(0.010)
Total VOCs	NSE	500	mg/kg	0.0027	--	--	--	--	--	--	ND(0.19)	ND(0.10)

**Table 1**  
**Summary of Analytical Results - Qualifying Samples**  
**484 - 490 Boston Post Road, Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	MCP RCS-1	Ondrick	Units	TP-C6 (5-10)	TP-C6	TP-C6	TP-C6	TP-C6	TP-C6	TP-C5	TP-C5 (5-10)	TP-B6 (5-10)
				3/11/2019	(5-10)_TPH1 2/26/2021	(5-10)_TPH2 2/26/2021	(5-10)_TPH3 2/26/2021	(5-10)_TPH4 2/26/2021	(5-10)_TPH5 3/8/2021	(5-10)_TPH1 3/8/2021	3/11/2019	3/11/2019
Starting Depth				5	5	5	5	5	5	5	5	5
Ending Depth				10	10	10	10	10	10	10	10	10
Semivolatile Organic Compounds (SVOCs)												
1,2,4-Trichlorobenzene	2	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
1,2-Dichlorobenzene	9	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
1,2-Diphenylhydrazine	50	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
1,3-Dichlorobenzene (1,3-DCB)	3	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
1,4-Dichlorobenzene	0.7	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
2,4,5-Trichlorophenol	4	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
2,4,6-Trichlorophenol	0.7	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
2,4-Dichlorophenol	0.7	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
2,4-Dimethylphenol	0.7	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
2,4-Dinitrophenol	3	NSE	mg/kg	ND(3.8)	--	--	--	--	--	--	ND(0.83)	ND(3.6)
2,4-Dinitrotoluene	0.7	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
2,6-Dinitrotoluene	100	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
2-Chloronaphthalene	1000	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
2-Chlorophenol	0.7	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
2-Methylnaphthalene	0.7	NSE	mg/kg	ND(0.97)	--	--	--	--	--	--	ND(0.21)	ND(0.93)
2-Methylphenol (o-Cresol)	500	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
2-Nitrophenol (o-Nitrophenol)	100	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
3,3-Dichlorobenzidine	3	NSE	mg/kg	ND(0.97)	--	--	--	--	--	--	ND(0.21)	ND(0.93)
3-Methylphenol/4-Methylphenol	NSE	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
4-Bromophenyl Phenyl Ether	100	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
Acenaphthene	4	NSE	mg/kg	4.1	--	--	--	--	--	--	ND(0.21)	ND(0.93)
Acenaphthylene	1	NSE	mg/kg	ND(0.97)	--	--	--	--	--	--	ND(0.21)	ND(0.93)
Acetophenone	1000	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
Aniline	1000	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
Anthracene	1000	NSE	mg/kg	9	--	--	--	--	--	--	ND(0.21)	ND(0.93)
Benzo(a)Anthracene	7	NSE	mg/kg	13	--	--	--	--	--	--	ND(0.21)	1.5
Benzo(a)Pyrene	2	NSE	mg/kg	12	--	--	--	--	--	--	ND(0.21)	1.7
Benzo(b)Fluoranthene	7	NSE	mg/kg	13	--	--	--	--	--	--	ND(0.21)	2.2
Benzo(g,h,i)Perylene	1000	NSE	mg/kg	5.6	--	--	--	--	--	--	ND(0.21)	0.94
Benzo(k)Fluoranthene	70	NSE	mg/kg	4.8	--	--	--	--	--	--	ND(0.21)	ND(0.93)
Bis (2-Chloroethyl) Ether	0.7	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
Bis(2-Ethylhexyl)Phthalate	100	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
Butyl Benzyl Phthalate	100	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
Chrysene	70	NSE	mg/kg	12	--	--	--	--	--	--	ND(0.21)	1.4
Dibenzo(a,h)Anthracene	0.7	NSE	mg/kg	1.5	--	--	--	--	--	--	ND(0.21)	ND(0.93)
Dibenzofuran	100	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
Dichloroisopropyl Ether	0.7	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
Dichloromethoxy Ethane	500	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
Diethyl Phthalate	10	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
Dimethyl Phthalate	0.7	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
Fluoranthene	1000	NSE	mg/kg	23	--	--	--	--	--	--	ND(0.21)	2.6
Fluorene	1000	NSE	mg/kg	4.2	--	--	--	--	--	--	ND(0.21)	ND(0.93)

**Table 1**  
**Summary of Analytical Results - Qualifying Samples**  
**484 - 490 Boston Post Road, Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	MCP RCS-1	Ondrick	Units	TP-C6 (5-10)	TP-C6	TP-C6	TP-C6	TP-C6	TP-C6	TP-C5	TP-C5 (5-10)	TP-B6 (5-10)
Sample Date				3/11/2019	(5-10)_TPH1	(5-10)_TPH2	(5-10)_TPH3	(5-10)_TPH4	(5-10)_TPH5	(5-10)_TPH1	TP-C5 (5-10)	TP-B6 (5-10)
Starting Depth				5	5	5	5	5	5	5	5	5
Ending Depth				10	10	10	10	10	10	10	10	10
Hexachlorobenzene	0.7	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
Hexachlorobutadiene	30	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
Hexachloroethane	0.7	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
Indeno(1,2,3-cd)Pyrene	7	NSE	mg/kg	6.4	--	--	--	--	--	--	ND(0.21)	1.0
Isophorone	100	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
Naphthalene	4	NSE	mg/kg	ND(0.97)	--	--	--	--	--	--	ND(0.21)	ND(0.93)
n-Butyl Phthalate	50	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
n-Dioctyl Phthalate	1000	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
Nitrobenzene	500	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
p-Chloroaniline	1	NSE	mg/kg	ND(3.8)	--	--	--	--	--	--	ND(0.83)	ND(3.6)
Pentachlorophenol	3	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
Phenanthrene	10	NSE	mg/kg	19	--	--	--	--	--	--	ND(0.21)	1.1
Phenol	1	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(0.43)	ND(1.9)
p-Nitrophenol	100	NSE	mg/kg	ND(3.8)	--	--	--	--	--	--	ND(0.83)	ND(3.6)
Pyrene	1000	NSE	mg/kg	19	--	--	--	--	--	--	ND(0.21)	3.0
Total SVOCs	NSE	NSE	mg/kg	146.6	--	--	--	--	--	--	ND	13.94

**Table 1**  
**Summary of Analytical Results - Qualifying Samples**  
**484 - 490 Boston Post Road, Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	MCP RCS-1	Ondrick	Units	TP-C6 (5-10)	TP-C6	TP-C6	TP-C6	TP-C6	TP-C6	TP-C5	TP-C5 (5-10)	TP-B6 (5-10)
Sample Date				3/11/2019	(5-10)_TPH1	(5-10)_TPH2	(5-10)_TPH3	(5-10)_TPH4	(5-10)_TPH5	(5-10)_TPH1	TP-C5 (5-10)	TP-B6 (5-10)
Starting Depth				5	5	5	5	5	5	5	5	5
Ending Depth	10	10	10	10	10	10	10	10	10	10	10	10
<b>Metals</b>												
Antimony	20	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(2.1)	ND(1.9)
Arsenic	20	30	mg/kg	5.3	--	--	--	--	--	--	6.6	4.1
Barium	1000	NSE	mg/kg	33	--	--	--	--	--	--	38	33
Beryllium	90	NSE	mg/kg	0.27	--	--	--	--	--	--	0.50	0.29
Cadmium	70	30	mg/kg	0.36	--	--	--	--	--	--	0.32	0.32
Chromium	100	500	mg/kg	15	--	--	--	--	--	--	18	14
Lead	200	1000	mg/kg	30	--	--	--	--	--	--	11	26
Mercury	20	10	mg/kg	ND(0.029)	--	--	--	--	--	--	ND(0.030)	ND(0.027)
Nickel	600	NSE	mg/kg	12	--	--	--	--	--	--	12	11
Selenium	400	NSE	mg/kg	ND(3.8)	--	--	--	--	--	--	ND(4.3)	ND(3.7)
Silver	100	NSE	mg/kg	ND(0.38)	--	--	--	--	--	--	ND(0.43)	ND(0.37)
Thallium	8	NSE	mg/kg	ND(1.9)	--	--	--	--	--	--	ND(2.1)	ND(1.9)
Vanadium	400	NSE	mg/kg	21	--	--	--	--	--	--	21	22
Zinc	1000	NSE	mg/kg	39	--	--	--	--	--	--	28	38
<b>Polychlorinated Biphenyls (PCBs)</b>												
Aroclor 1016	1	2	mg/kg	ND(0.088)	--	--	--	--	--	--	ND(0.10)	ND(0.087)
Aroclor 1221	1	2	mg/kg	ND(0.088)	--	--	--	--	--	--	ND(0.10)	ND(0.087)
Aroclor 1232	1	2	mg/kg	ND(0.088)	--	--	--	--	--	--	ND(0.10)	ND(0.087)
Aroclor 1242	1	2	mg/kg	ND(0.088)	--	--	--	--	--	--	ND(0.10)	ND(0.087)
Aroclor 1248	1	2	mg/kg	ND(0.088)	--	--	--	--	--	--	ND(0.10)	ND(0.087)
Aroclor 1254	1	2	mg/kg	ND(0.088)	--	--	--	--	--	--	ND(0.10)	ND(0.087)
Aroclor 1260	1	2	mg/kg	ND(0.088)	--	--	--	--	--	--	ND(0.10)	ND(0.087)
Aroclor 1262	1	2	mg/kg	ND(0.088)	--	--	--	--	--	--	ND(0.10)	ND(0.087)
Aroclor 1268	1	2	mg/kg	ND(0.088)	--	--	--	--	--	--	ND(0.10)	ND(0.087)
Total PCBs	1	2	mg/kg	ND(0.088)	--	--	--	--	--	--	ND(0.10)	ND(0.087)
<b>General Chemistry</b>												
Ignitability	NSE	NSE	present/absent	absent	--	--	--	--	--	--	absent	absent
pH	NSE	2-12.5	pH Units	7.6	--	--	--	--	--	--	8.0	7.9
Reactivity Cyanide	NSE	ND	mg/kg	ND(4.0)	--	--	--	--	--	--	ND(3.9)	ND(4.0)
Reactivity Sulfide	NSE	ND	mg/kg	ND(20)	--	--	--	--	--	--	ND(20)	ND(20)
Solids, Total	NSE	%	%	86.4	87.2	88.2	86.8	80.2	87.1	86.7	ND(20)	ND(20)
Specific Conductance	2000	NSE	umhos/cm	17	--	--	--	--	--	--	18	5.8

- Notes:
- mg/kg=milligram per kilogram; uhoms/cm=microohms per centimeter
  - Reportable Concentrations (RCS-1) taken from the Massachusetts Contingency Plan (MCP) 310 CMR 40.0974(2) dated April 2014
  - ND = Not Detected above laboratory reporting limits shown in parenthesis
  - -- = Not Analyzed
  - NSE = No Standard Exists
  - Bolded values exceeds MCP RCS-1 Reportable Concentration
  - Full analytical results, including QA/QC information and data flags, are detailed in the laboratory analytical report



**ATTACHMENT 1:  
TEST PIT LOGS  
QUALIFYING SAMPLES**



**TEST PIT LOG**

**DESIGNATION:**

**TP-C6**

**PROJECT NO.:**

46047

**EXCAVATOR:**

The Greener Group, LLC

**INSPECTOR:**

Kristen Sarson

**DATE:**

3/11/2019



Project: Wayland  
Location: Wayland, MA

DEPTH ELEVATION	NO.	SOIL DESCRIPTION	PID (PPM)
		0-5' Dark brown fine to coarse GRAVEL and fine to coarse SAND, trace clay and debris (asphalt, plastic, metal, wood, concrete).	<1.0
1			
2			
3			
4			
5		5-10' Dark brown fine to coarse GRAVEL and fine to coarse SAND, trace debris (asphalt, plastic, metal, wood, concrete).	<1.0
6			
7			
8			
9			
10		Test pit terminated at 10 feet bgs. Refusal not encountered.	
11			
12			
13			
14			
15			

Test Pit Sketch



NORTH

See Figure 1 for test pit locations.

**NOTES:**

1. Soil are visually classified in general accordance with the Modified Burmister Soil Classification System.

**TEST PIT LOG**

**DESIGNATION:**  
**PROJECT NO.:**  
**EXCAVATOR:**  
**INSPECTOR:**  
**DATE:**

**TP-C6\_TPH1**  
 67404  
 A-Zoulias  
 Madeline Juffras  
 2/26/2021



**Project:** Wayland  
**Location:** Wayland, MA

DEPTH ELEVATION	NO.	SOIL DESCRIPTION	PID (PPM)
1			
2			
3			
4			
5		5-10' Dark brown fine to medium SAND, trace cobbles.	1.2
6			
7			
8			
9			
10		Test pit terminated at 10 feet bgs. Refusal not encountered.	
11			
12			
13			
14			
15			

Test Pit Sketch



NORTH

See Figure 1 for test pit locations.

**NOTES:**

1. Soil are visually classified in general accordance with the Modified Burmister Soil Classification System.

**TEST PIT LOG**

**DESIGNATION:**  
**PROJECT NO.:**  
**EXCAVATOR:**  
**INSPECTOR:**  
**DATE:**

**TP-C6\_TPH2**  
 67404  
 A-Zoulias  
 Madeline Juffras  
 2/26/2021



**Project:** Wayland  
**Location:** Wayland, MA

DEPTH ELEVATION	NO.	SOIL DESCRIPTION	PID (PPM)
1			
2			
3			
4			
5		5-10' Dark brown fine to medium SAND, trace cobbles.	<1.0
6			
7			
8			
9			
10		Test pit terminated at 10 feet bgs. Refusal not encountered.	
11			
12			
13			
14			
15			

Test Pit Sketch



NORTH

See Figure 1 for test pit locations.

**NOTES:**

1. Soil are visually classified in general accordance with the Modified Burmister Soil Classification System.

**TEST PIT LOG**

**DESIGNATION:**  
**PROJECT NO.:**  
**EXCAVATOR:**  
**INSPECTOR:**  
**DATE:**

**TP-C6\_TPH3**  
 67404  
 A-Zoulias  
 Madeline Juffras  
 2/26/2021



**Project:** Wayland  
**Location:** Wayland, MA

DEPTH ELEVATION	NO.	SOIL DESCRIPTION	PID (PPM)
1			
2			
3			
4			
5		5-10' Dark brown fine to medium SAND, trace cobbles.	1.8
6			
7			
8			
9			
10		Test pit terminated at 10 feet bgs. Refusal not encountered.	
11			
12			
13			
14			
15			

Test Pit Sketch



NORTH

See Figure 1 for test pit locations.

**NOTES:**

1. Soil are visually classified in general accordance with the Modified Burmister Soil Classification System.

**TEST PIT LOG**

**DESIGNATION:**  
**PROJECT NO.:**  
**EXCAVATOR:**  
**INSPECTOR:**  
**DATE:**

**TP-C6\_TPH4**  
 67404  
 A-Zoulias  
 Madeline Juffras  
 2/26/2021



**Project:** Wayland  
**Location:** Wayland, MA

DEPTH ELEVATION	NO.	SOIL DESCRIPTION	PID (PPM)
1			
2			
3			
4			
5		5-10' Light brown fine to medium SAND and SILT, trace cobbles.	0.5
6			
7			
8			
9			
10		Test pit terminated at 10 feet bgs. Refusal not encountered.	
11			
12			
13			
14			
15			

Test Pit Sketch



NORTH

See Figure 1 for test pit locations.

**NOTES:**

1. Soil are visually classified in general accordance with the Modified Burmister Soil Classification System.



**TEST PIT LOG**

**DESIGNATION:**

**TP-C6\_TPH5**

**PROJECT NO.:**

67404

**EXCAVATOR:**

Wood Partners

**INSPECTOR:**

Jacob Golden

**DATE:**

3/8/2021



Project: Wayland  
Location: Wayland, MA

DEPTH ELEVATION	NO.	SOIL DESCRIPTION	PID (PPM)
		0-5' Brown fine to coarse SAND, trace cobble, debris (asphalt, concrete).	
1			
2			
3			
4			
5		5-10' Brown fine to coarse SAND, trace cobble, debris (asphalt, wood).	
6			
7			
8			
9			
10		Test pit terminated at 10 feet bgs. Refusal not encountered.	
11			
12			
13			
14			
15			

Test Pit Sketch



NORTH

See Figure 1 for test pit locations.

**NOTES:**

1. Soil are visually classified in general accordance with the Modified Burmister Soil Classification System.

**TEST PIT LOG**

**DESIGNATION:**

**TP-C5\_TPH1**

**PROJECT NO.:**

67404

**EXCAVATOR:**

Wood Partners

**INSPECTOR:**

Jacob Golden

**DATE:**

3/8/2021



Project: Wayland  
Location: Wayland, MA

DEPTH ELEVATION	NO.	SOIL DESCRIPTION	PID (PPM)
		0-5' Brown fine to coarse SAND, some concrete debris, little cobble, trace debris (asphalt, brick).	
1			
2			
3			
4			
5		5-10' Brown fine to coarse SAND, some concrete debris, little cobble, trace debris (asphalt, brick)	
6			
7			
8			
9			
10		Test pit terminated at 10 feet bgs. Refusal not encountered.	
11			
12			
13			
14			
15			

Test Pit Sketch



NORTH

See Figure 1 for test pit locations.

**NOTES:**

1. Soil are visually classified in general accordance with the Modified Burmister Soil Classification System.

**TEST PIT LOG**

**DESIGNATION:**

**TP-C5**

**PROJECT NO.:**

46047

**EXCAVATOR:**

The Greener Group, LLC

**INSPECTOR:**

Kristen Sarson

**DATE:**

3/11/2019



Project: Wayland  
Location: Wayland, MA

DEPTH ELEVATION	NO.	SOIL DESCRIPTION	PID (PPM)
		0-6' Tan silty CLAY, some fine to coarse sand and fine to coarse gravel, trace cobbles and debris (brick, asphalt, concrete, glass).	<1.0
1			
2			
3			
4			
5			
6		6-10' Grey fine to coarse GRAVEL, some silty clay, saturated.	2.2
7			
8			
9			
10		Test pit terminated at 10 feet bgs. Refusal not encountered.	
11			
12			
13			
14			
15			

Test Pit Sketch



NORTH

See Figure 1 for test pit locations.

**NOTES:**

1. Soil are visually classified in general accordance with the Modified Burmister Soil Classification System.

**TEST PIT LOG**

**DESIGNATION:**

**TP-B6**

**PROJECT NO.:**

46047

**EXCAVATOR:**

The Greener Group, LLC

**INSPECTOR:**

Kristen Sarson

**DATE:**

3/11/2019



Project: Wayland  
Location: Wayland, MA

DEPTH ELEVATION	NO.	SOIL DESCRIPTION	PID (PPM)
		0-5' Dark brown fine to coarse SAND, some silt, trace debris (ceramic, asphalt, brick, metal, concrete).	<1.0
1			
2			
3			
4			
5		5-10' Dark brown fine to coarse SAND, some fine to coarse gravel, little debris (brick, asphalt, ceramic, concrete, metal, glass), trace silt.	<1.0
6			
7			
8			
9			
10		Test pit terminated at 10 feet bgs. Refusal not encountered.	
11			
12			
13			
14			
15			

Test Pit Sketch



NORTH

See Figure 1 for test pit locations.

**NOTES:**

1. Soil are visually classified in general accordance with the Modified Burmister Soil Classification System.



**ATTACHMENT 2:  
LABORATORY ANALYTICAL  
REPORTS**

**BILL OF LADING (pursuant to 310 CMR 40.0030)****A. LOCATION OF SITE OR DISPOSAL SITE WHERE REMEDIATION WASTE WAS GENERATED:**

1. Release Name/Location Aid: PLANNED RIVERS EDGE DEVELOPMENT
2. Street Address: 484-490 BOSTON POST ROAD
3. City/Town: WAYLAND 4. Zip Code: 017781831
5. Check here if the disposal site that is the source of the release is Tier Classified. Check the current Tier Classification Category.  
 a. Tier I     b. Tier ID     c. Tier II

**B. THIS FORM IS BEING USED TO:** (check one: B1-B4):

1. Submit a **Bill of Lading (BOL)** to transport Remediation Waste to Temporary Storage or a Receiving Facility.  
 Response Actions associated with this BOL (check all that apply):
- a. Immediate Response Action (IRA)     e. Comprehensive Response Actions
- b. Release Abatement Measure (RAM)     f. Limited Removal Action (LRA): (must be retained pursuant to 310 CMR 40.0034(6); can't be submitted via eDEP)
- c. Downgradient Property Status (DPS)     g. Other \_\_\_\_\_
- d. Utility Release Abatement Measure (URAM)
2. Submit an Attestation of Completion of **Shipment to Temporary Storage** (Sections C, F and J are not required):
3. Submit an Attestation of **Completion of Shipment to a Receiving Facility** (Sections C, F and J are not required):
4. Certify that Remediation Waste Was **Not Shipped, and the Bill of Lading is Void**. (Sections C, D, E, and F are not required)
5. Date Bill of Lading submitted to the Department: 04/14/2021 b. eDEP Transaction ID: 1272340  
 (mm/dd/yyyy)
6. Period of Generation Associated with this Bill of Lading 4/12/2021 to 6/30/2021  
 (mm/dd/yyyy) (mm/dd/yyyy)

**(All sections of this transmittal form must be filled out unless otherwise noted above)**

The Bill of Lading is not considered complete until the Attestation of Completion of Shipment is received by the Department.

**C. DESCRIPTION OF WASTE AND WASTE SOURCE:**

1. Contaminated Media/Debris (check all that apply):
- a. Soil     b. Groundwater     c. Surface Water     d. Sediment     e. Vegetation or Organic Debris
- f. Demolition/Construction Waste     g. Inorganic Absorbent Materials     h. Other: \_\_\_\_\_
2. Uncontainerized Waste (check all that apply):
- a. Inorganic Absorbent Materials     b. Other: \_\_\_\_\_



**BILL OF LADING (pursuant to 310 CMR 40.0030)**

**C. DESCRIPTION OF WASTE AND WASTE SOURCE (cont.):**

3. Containerized Waste (check all that apply):

- a. Tank Bottoms/Sludges     b. Containers     c. Drums     d. Engineered Impoundments  
 e. Other: \_\_\_\_\_

4. Estimated Quantity: 6600     Tons     Cu. Yds.     Gallons

5. Contaminant Source (check one):

- a. Transportation Accident     b. Underground Storage Tank     c. Brownfields Redevelopment  
 d. Other: URBAN FILL

6. Type of Contaminant (check all that apply):

- a. Gasoline     b. Diesel Fuel     c. #2 Fuel Oil     d. #4 Fuel Oil     e. #6 Fuel Oil     f. Jet Fuel  
 g. Waste Oil     h. Kerosene     i. Chlorinated Solvents     j. Urban Fill     k. Other: \_\_\_\_\_

7. Constituents of Concern (check all that apply):

- a. As     b. Cd     c. Cr     d. Pb     e. Hg     f. EPH/TPH     g. VPH  
 h. PCBs     i. VOCs     j. SVOCs     k. Other: PCBS <1 MG/KG

8. If applicable, check the box for the Reportable Concentration Category of the site:

- a. RCS-1     b. RCS-2     c. RCGW-1     d. RCGW-2

9. Remediation Waste Characterization Documentation (check at least one):

- a. Site History Information     b. Sampling Analytical Methods and Procedures     c. Laboratory Data  
 d. Field Screening Data     e. Characterization Documentation previously submitted to the Department

i. Date submitted: \_\_\_\_\_ ii. Type of Documentation: \_\_\_\_\_  
(mm/dd/yyyy)

**D. TRANSPORTER OR COMMON CARRIER INFORMATION:**

1. Transporter/Common Carrier Name: BOSTON ENVIRONMENTAL CORP  
2. Contact First Name: JOHN    3. Last Name: COLE  
4. Street: 338 HOWARD STREET    5. Title: DIRECTOR OF OPERATIONS  
6. City/Town: BROCKTON    7. State: MA    8. Zip Code: 023020000  
9. Telephone: 5088978025    10. Ext: \_\_\_\_\_    11. Email: jcole@bostonenv.com



**BILL OF LADING (pursuant to 310 CMR 40.0030)**

**E. RECEIVING FACILITY/TEMPORARY STORAGE LOCATION:**

1. Operator/Facility Name: FORMER MABARDY LANDFILL

2. Contact First Name: JARRETT 3. Last Name: EVERTON

4. Street: 580 RIVER STREET 5. Title: COMPLIANCE MANAGER

6. City/Town: WINCHENDON 7. State: MA 8. Zip Code: 014750000

9. Telephone: 9786632623 10. Ext: \_\_\_\_\_ 11. Email: jeverton@wlfrench.com

12. Type of facility: (check one)

a. Temporary Storage i. Period of Temporary Storage \_\_\_\_\_ to \_\_\_\_\_  
(mm/dd/yyyy) (mm/dd/yyyy)

ii. Reason for Temporary Storage: \_\_\_\_\_

b. Asphalt Batch/Hot Mix  c. Landfill/Disposal  d. Landfill/Structural Fill  e. Landfill/Daily Cover

f. Asphalt Batch/Cold Mix  g. Thermal Processing  h. Incinerator  i. Other: GRADING & SHAPING SOILS

13. Division of Hazardous Waste/Class A Permit Number: \_\_\_\_\_

14. Division of Solid Waste Permit Number: X283688

15. EPA Identification Number: \_\_\_\_\_

**F. LSP SIGNATURE AND STAMP:**

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this submittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and 309 CMR 4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief, the assessment action(s) undertaken to characterize the Remediation Waste which is (are) the subject of this submittal for acceptance at the facility identified in this submittal comply with applicable provisions of 310 CMR 40.0000, and such facility is permitted to accept Remediation Waste having the characteristics described in this submittal.

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

1. LSP #: 5217

2. First Name: WILLIAM J 3. Last Name: GIBBONS

4. Telephone: 7816987654 5. Ext: \_\_\_\_\_ 6. Email: \_\_\_\_\_

7. Signature: WILLIAM J GIBBONS

8. Date: 4/14/2021  
(mm/dd/yyyy)

9. LSP Stamp:







Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC 112

Release Tracking Number

3 - 36013

**BILL OF LADING (pursuant to 310 CMR 40.0030)**

**G. PERSON SUBMITTING BILL OF LADING:**

1. Check all that apply:  a. change in contact name  b. change of address  c. change in the person undertaking response actions
2. Name of Organization: ALTA RIVER'S EDGE, LLC
3. Contact First Name: JON 4. Last Name: BERTOLAMI
5. Street: 91 HARTWELL AVE, 3RD FLOOR 6. Title: ASSISTANT VICE PRESIDENT
7. City/Town: LEXINGTON 8. State: MA 9. Zip Code: 024100000
10. Telephone: 7815415829 11. Ext: \_\_\_\_\_ 12. Email: jon.bertolami@woodpartners.com

**H. RELATIONSHIP TO SITE OF PERSON SUBMITTING BILL OF LADING:**

Check here to change relationship

1. RP or PRP  a. Owner  b. Operator  c. Generator  d. Transporter
- e. Other RP or PRP Specify: ELIGIBLE PERSON

2. Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

3. Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

4. Any Other Person Undertaking Response Actions: Specify Relationship: \_\_\_\_\_

**I. REQUIRED ATTACHMENT AND SUBMITTALS:**

1. Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approvals issued by DEP or EPA. If the box is checked, you must attach a statement identifying the applicable provisions thereof.
2. Check here if any non-updatable information provided on this form is incorrect, e.g. Release Address/Location Aid. Send corrections to BWSC.eDEP@state.ma.us
3. Check here to certify that the LSP Opinion containing the material facts, data, and other information is attached.

**J. CERTIFICATION OF PERSON SUBMITTING BILL OF LADING:**

1. I, JON BERTOLAMI, attest under the pains and penalties or perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

2. By: JON BERTOLAMI

3. Title: ASSISTANT VICE PRESIDENT

4. For: ALTA RIVER'S EDGE, LLC

(Name of person or entity recorded in Section G)

5. Date: 4/14/2021

(mm/dd/yyyy)



**BILL OF LADING (pursuant to 310 CMR 40.0030)**

**J. CERTIFICATION OF PERSON SUBMITTING BILL OF LADING (cont.) :**

6. Check here if the address of the person providing certification is different from address recorded in Section G.

7. Street: \_\_\_\_\_

8. City/Town: \_\_\_\_\_ 9. State: \_\_\_\_\_ 10. Zip Code: \_\_\_\_\_

11. Telephone: \_\_\_\_\_ 12. Ext: \_\_\_\_\_ 13. Email: \_\_\_\_\_

**YOU ARE SUBJECT TO AN ANNUAL COMPLIANCE ASSURANCE FEE OF UP TO \$10,000 PER BILLABLE YEAR FOR THIS DISPOSAL SITE. YOU MUST LEGIBLY COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.**

Date Stamp (MassDEP USE ONLY):

Received by DEP on 4/14/2021 3:00:45 PM



# MATERIAL AND PROJECT PROFILE FORM

**FORMER MABARDY LANDFILL  
580 RIVER STREET WINCHENDON, MA**



**PROFILE NUMBER** \_\_\_\_\_  
(Assigned by W.L. French Excavating Corp.)

**A. SITE INFORMATION:**

Site Name:	Contact:
Title:	Email:
Address:	Phone:
City:	State, Zip:
Release Tracking No. or Site ID No. (if applicable):	
Anticipated Material import period: From:	To:

**B. CUSTOMER INFORMATION (Who invoice will be sent to):**

Entity Name:	Contact:
Title:	Email:
Address:	Phone:
City:	State, Zip:
Project Number or PO for Billing Reference:	

**C. GENERATOR INFORMATION (If different than customer):**

Entity Name:	Contact:
Title:	Email:
Address:	Phone:
City:	State, Zip:

**D. PROJECT OWNER (If different than customer):**

Entity Name:	Contact:
Title:	Email:
Address:	Phone:
City:	State, Zip:

**E. QEP/LSP INFORMATION:**

Company:	Name:
LSP License #:	Email:
Address:	Phone:
City:	State, Zip:

**F. MATERIAL TYPE & QUANTITY:**

Material Type:	Cubic Yards:	x (cy to ton multiplier)	=	Tons
Cubic Yard =	/ Number of Samples	= Sample Frequency of One Sample Per		CY
Material Type:	Cubic Yards:	x (cy to ton multiplier)	=	Tons
Cubic Yard =	/ Number of Samples	= Sample Frequency of One Sample Per		CY
Material Type:	Cubic Yards:	x (cy to ton multiplier)	=	Tons
Cubic Yard =	/ Number of Samples	= Sample Frequency of One Sample Per		CY



### G. PHYSICAL DESCRIPTION

Physical Description (sand, gravel, silt, peat, fill, clay etc.):

CHECK IF THE FOLLOWING MATERIALS ARE PRESENT

Clay	YES	NO	Coal	YES	NO
Ash	YES	NO	Construction Debris	YES	NO
Vegetative Matter	YES	NO	Other Material	YES	NO

### H. SOIL SAMPLING METHODOLOGY

Sampling Methods (check all that apply)

Stockpile	In-situ
Grab	Headspace Screened
Composite (based on grab samples)	Visually Contaminated
Olfactory contaminated	Other (describe in LSP Letter)

### I. LABORATORY ANALYSIS

Check the following laboratory analyses performed on the material to be reused (check all that apply):

VOCs	pH
SVOCs	PCBs
RCRA 5 Metals	TPH
PCBs	Reactivity
TCLP (if required by total levels)	Conductivity
Ignitability/Flash Point	Other laboratory analysis performed:

Additional metals,  
EPH where  
needed

Attach data summary tables for all soil from source and laboratory reports for only applicable samples (check if attached)

### K. SITE DIAGRAM

A site diagram is required indicating any major structures, roads, excavation areas, soil origin, sample locations, and stockpile locations. All sampling locations must be noted:

Check if diagram is attached

### J. GENERATOR CERTIFICATION:

I, the generator, having used due diligence and determined that the material described within this Material Submittal Package and intended for reuse as intermediate fill at the Former Mabardy Landfill meets the physical and chemical acceptance criteria, screening procedures, and due diligence described within the Fill Management Plan and MassDEP COMM-97-001 and COMM-94-007 policies. There is no reason to suspect or believe soil intended for reuse at the Former Mabardy Landfill has been impacted by any releases of oil or hazardous materials or contains any other contaminants than those at levels described herein. I agree to promptly remove any soil delivered to Former Mabardy Landfill that is determined by W. L. French Excavating Corp. to not meet acceptance criteria. Should W. L. French Excavating Corp. take action and remove such soil from the Former Mabardy Landfill and manage that material elsewhere, W. L. French Excavating Corp. will seek payment from the Generator for all costs including damages.

SIGNATURE OF GENERATOR \_\_\_\_\_ DATE \_\_\_\_\_

GENERATOR - PRINTED NAME \_\_\_\_\_

## SOIL SUBMITTAL CHECKLIST



**Facility Name:** Former Mabardy Landfill  
**Project Address:** 580 River Street, Winchendon, MA  
**Operator:** W. L. French Excavating Corporation - 14 Sterling Road, Billerica, MA  
**Contact:** Jarrett Everton 978-663-2623 email: jeverton@wlfrench.com

**Provide answers for all questions and return form with LSP Opinion Letter that provides complete details to questions below**

**Failure to provide the below information may result in the submittal being denied.**

		<b>Check One</b>	
		YES	NO
1	Laboratory analyses and results comply with COMM-97-001 or COM-94-007	YES	NO
2	Laboratory analytical results less than 1 year old (If NO explain in LSP Opinion Letter how data is representative of current conditions)	YES	NO
3	Complete laboratory analytical reports provided (non-relevant data "X" out; do not remove lab report pages)	YES	NO
4	Characterization sampling is vertically and horizontally representative of soil proposed for reuse	YES	NO
5	Characterization sampling frequency meets facility requirements	YES	NO
6	LSP Opinion Letter clearly lists sample ID used to characterize soil being offered for approval	YES	NO
7	LSP Opinion Letter describes method of delineation of material included in this profile from RCRA, TSCA, ACM, MA Haz Waste or otherwise unacceptable soil	YES	NO
8	Detailed site diagram clearly showing origin of soil, stockpiles, characterization sample locations, and delineation boundaries	YES	NO
9	VOC sample(s) were taken as discrete samples per EPA Method 5035 (If NO explain in LSP Opinion Letter)	YES	NO
10	VOC field screening used to support collection of discrete VOC sample (if NO explain rationale)	YES	NO
11	Composite samples consist of at least 5 grab samples	YES	NO
12	Detailed physical description of material provided, included material classification method	YES	NO
13	Description of current and former site usage/history is provided	YES	NO
14	Description of source, type of release and contaminants provided	YES	NO
15	LSP will be onsite to observe excavation and loading	YES	NO
16	LSP opinion letter states that soil is not a listed or characteristic RCRA Hazardous Waste	YES	NO
17	Is soil a De-listed haz waste or subject to an approved contained in determination (If yes describe in LSP Opinion letter and provide documentation)	YES	NO
18	Is soil considered "exempt from reporting" to a regulatory authority (If yes Describe in LSP Opinion Letter)	YES	NO
19	Does the soil contain any suspected asbestos containing material	YES	NO
20	Were herbicides or pesticides detected in any characterization samples (If YES a signed Generator Herbicide/Pesticide Certification Form must be provided) (see attached)	N/A	YES
21	LSP Opinion Letters addresses detections of contaminants not listed in COMM-97 or COMM-94	YES	NO
22	Lab data QA/QC issues have been identified and discussed in LSP Opinion Letter	N/A	YES
23	Lab analytical data has been tabulated and data table includes facility acceptance criteria for each compound	YES	NO
26	Generator and LSP signed MSR or Stamped BOL provided	YES	NO
27	Former Mabardy Landfill Material and Project Profile Form completed, signed, and attached	YES	NO
28	Volume of soil requested for approval in LSP letter, Profile Form and shipping document all match	YES	NO

\_\_\_\_\_  
 SIGNATURE (LSP)

\_\_\_\_\_ DATE

\_\_\_\_\_ PRINT NAME (LSP)

\_\_\_\_\_ LICENSE NUMBER



April 7, 2021

Updated April 13, 2021

Winchendon Landfill  
c/o 580 River Street, LLC  
580 River Street  
Winchendon, MA 01475

c/o W. L. French Excavating Corporation  
14 Sterling Road  
North Billerica, MA 01862  
Attn: Mr. Jarrett Everton, Compliance Manager  
(978) 663-2623

**RE: Licensed Site Professional Opinion Letter**  
River's Edge  
484-490 Boston Post Road  
Wayland, Massachusetts  
VERTEX Project No. 67404

To Whom it May Concern:

The Vertex Companies, Inc. (VERTEX) is pleased to submit this Licensed Site Professional (LSP) Opinion Letter on behalf of Alta River's Edge, LLC, for the proposed transport of up to 6,600 cubic yards of soil from the above-referenced property (the "property") to the Winchendon Landfill (the Facility) for reuse. The soil is currently stockpiled at the property and is being removed to support property redevelopment.

The approximately 7-acre property is currently being redeveloped by Alta River's Edge, LLC as a multi-residential development. The general property locus is shown on Figure 1, and the general layout of the property is shown on Figure 2.

Portions of the property are identified as Disposal Sites by the Massachusetts Department of Environmental Protection (MassDEP) under Release Tracking Numbers (RTN) 3-34474 and 3-36013, for the reported detection of oil and hazardous materials (OHM) in soil at concentrations exceeding Massachusetts Contingency Plan (MCP) RCS-1 Reportable Concentrations. The detected OHM is attributed to urban fill materials originated from off-site locations and historical uses. Additional information regarding these RTNs is included below.

The information provided in this LSP Opinion letter includes a general property history and summary of investigation activities and demonstrates that the soil proposed to be transported for disposal at the Facility meets the Facility's acceptance criteria.

### **General Property History**

Based on a review of readily available historical information, a portion of the property was utilized as a firing range since at least the mid-1970s until 2017 and the remainder of the property historically consisted of undeveloped cleared land prior to construction of a municipal wastewater treatment plant (WWTP) in 1983. The WWTP treatment plant operated until 2009.

After 1983 and based on available records, the Wayland Department of Public Works (DPW) began storing soils containing minor amounts of waste asphalt, masonry, concrete, and other debris which originated from off-site locations, in the eastern portion of the property. DPW transportation of soil to the property for storage continued until 2017. Some of the DPW soil stockpiled at the property is being proposed for transport and reuse at the Facility.

### **Disposal Site Release History**

Based on the available information, three releases of OHM have occurred at the property related to historical uses. The following summarizes identified OHM releases at the site:

#### RTN 3-001724 (Septage Facility)

This RTN was assigned in 1987 following the discharge of an estimated 3-gallons unknown oil "ostensibly from a restaurant grease trap" into the WWTP's receiving tanks. Based on available documentation, the plant operator identified this wrongful discharge shortly following the release and responded by closing valves thereby isolating the discharged material in the "Raw Well" and restricting pathways that would have resulted in a release to the environment. The oil was subsequently removed under Hazardous Waste Manifest documentation, and a sample was collected submitted for laboratory analysis of polychlorinated biphenyls (PCBs). PCBs were not detected above the laboratory detection limit.

After additional investigations by the MassDEP in 1993 and based on available documentation, the MassDEP determined the release was no longer considered a "Disposal Site" under the Massachusetts Contingency Plan (MCP) and classified the release as DEPNDs (MassDEP Not a Disposal Site). Soil proposed for reuse at the Facility was not impacted by the RTN 3-001724 release.

#### RTN 3-34474

RTN 3-34474 is associated with the discovery of asbestos at the property in August 2017 during pre-purchase due-diligence activities undertaken for Alta River's Edge, LLC. On August 8, 2017, during regrading of the large stockpile of DPW soil to enable it to be sampled for characterization



analyses, VERTEX identified various suspect asbestos containing waste materials (ACWM) including potential transite pipe and floor tiles, all located within a small area of the stockpile. Six samples of suspect ACWM were collected and submitted for polarized light microscopy (PLM) analysis.

Based on the analytical results, five of the six samples contained greater than 1% asbestos. On August 14, 2017, following discussions between VERTEX, the Town of Wayland and their consultant, and the MassDEP Bureau of Air and Waste, it was determined that greater than 1 pound of asbestos was present, triggering a 2-hour reportable condition under the MCP. The Town of Wayland notified the MassDEP of the release, and the release was subsequently assigned RTN 3-34474.

In July 2018, VERTEX observed the advancement of 15 test pits through the entire thickness of the stockpiles to determine the potential presence of additional ACWM within ungraded portions of the stockpile. Figure 4 depicts the location of these 15 test pits relevant to the stockpile configuration at the time of the sampling. Soil from each test pit was visually assessed by a Massachusetts-licensed Asbestos Inspector who collected samples of suspect ACWMs and 15 composite soil samples for asbestos analysis by PLM. Additional ACWM was identified in one test pit (TP-8) at depths of approximately 3 to 7 feet, within the general area of the initial observed surficial ACWM. Asbestos was not detected in any soil samples. A summary of the suspect ACWM analytical results is provided on Table 1A and a summary of asbestos soil analytical results is provided on Table 1B. Copies of the analytical results are provided in Attachment 2.

Based on the visual observations and test results, it was determined that the horizontal extent of the buried ACWM was the area defined by test pits TP-1, TP-2, TP-9, TP-10, TP-14, and TP-15. Based on the material observed in test pit TP-8, the vertical extent of the ACWM was determined to be a maximum of 7 feet below ground surface (bgs). In December 2018, following MassDEP approval of a Non-Traditional Asbestos Work Plan (NTAWP), VERTEX oversaw the excavation and off-site transport of approximately 2,000 cubic yards of commingled soil and ACWM from the on-site stockpile. Soil within the ACWM area was excavated to a depth of 10 feet bgs, which was 3 feet deeper than the maximum depth of observed ACWM. VERTEX's oversight during the ACWM remediation included continuous air monitoring and continuous Massachusetts-licensed Asbestos Inspector observation of the excavated materials and excavation sidewalls and base to confirm the full extent of ACWM was excavated and disposed of off-site. No additional ACWM was observed in the excavation sidewalls and/or base during the remediation and as noted above, analysis of soil samples did not detect asbestos fibers in any sample.

On January 26, 2021 this RTN was closed with a Permanent Solution Statement with No Conditions under the MCP. As noted below, the post-closure characterization of the soil also included collection and analysis of **80 additional samples** for asbestos and **no asbestos was detected**.

Following abatement activities, the remainder of the stockpile was graded to a manageable height and configuration to allow for the collection of soil characterization samples and a sampling grid of characterization cells was established, surveyed, and marked with stakes.

### RTN 3-36013

In March 2019, during the collection of soil characterization samples at the property, semi-volatile organic compounds (SVOCs) and lead were detected in samples collected from the graded large on-site stockpile at concentrations exceeding applicable MCP RCS-1 Reportable Concentrations (additional information regarding the characterization sampling and analysis is included below). Additionally, concentrations of lead, copper, and antimony were detected in soils at the former firing range at concentrations exceeding applicable MCP RCS-1 Reportable Concentrations, and dissolved arsenic, nickel, and ammonia were detected in groundwater at concentrations exceeding applicable MCP RCGW-1 Reportable Concentrations. On December 2, 2019, the Town of Wayland notified the MassDEP of the release, and the release was subsequently assigned RTN 3-36013.

Soils located outside of the large stockpile are not proposed for reuse at the facility at this time. If soils outside the large stockpile are proposed for reuse at the facility, an additional disposal package will be provided. Additionally, **soil within the large stockpile containing OHM at concentrations greater than the Facility acceptance criteria is not proposed for reuse at the Facility.**

### **Sampling Activities**

Following ACWM abatement activities, the remainder of the stockpile was graded to a manageable height and configuration to allow for the collection of soil characterization samples and a sampling grid of characterization cells was established, surveyed by a professional survey company, and the limits of each characterization cell were marked with stakes. Between, March 1 and March 12, 2019, VERTEX oversaw the advancement of 44 test pits within the proposed area of excavation, identified as TP-A1 through TP-A5, TP-B1 through TP-B6, TP-C1 through TP-C6, TP-D1 through TP-D7, TP-E2 through TP-E8, TP-F3 through TP-F8, TP-G6, TP-G7, and TP-V-101 through TP-V-105. Soil samples were collected continuously in 5-foot vertical composites from the ground surface to approximately 10 feet bgs (with the exception of test pits D3 and E5 which were advanced to 15 feet bgs). A total of 85 soil samples were collected for characterization analysis.

The soil was classified in the field using a modified Burmister soil classification system and generally consisted of a mixture of tan to dark brown sand, silt, gravel, and trace debris, including brick, concrete, asphalt, glass, metal, plastic and wood. Odors emanating from these soils ranged from no odor to a slight organic odor. Figure 3 shows the stockpiles for which soil is proposed for reuse and test pit locations.

The soils were screened in the field using a photoionization detector (PID) calibrated to 100 parts per million by volume (ppmv) isobutylene standard to report ionizable total volatile organic compounds (TVOCs) as isobutylene equivalents. Visual and olfactory evidence of impacts were recorded in the field and on the boring logs, where observed. Soil characterization and PID screening results are provided on the boring logs included as Attachment 1.

VERTEX collected 85 soil samples for laboratory analysis. Each of the soil samples consisted of five approximately equal-volume aliquots of soil collected from the characterization cells. The aliquots were mixed in a stainless-steel bowl to create the representative composite sample for each cell, which was then placed into laboratory-supplied sample containers. Soil samples collected for analysis of volatile organic compounds (VOCs) were collected by placing approximately equal-volume aliquots from five points directly into the sample containers and were not mixed in a stainless-steel bowl prior to being placed into laboratory-supplied containers.

Samples were submitted to Con-Test Analytical Laboratory (Con-Test) of East Longmeadow, Massachusetts for laboratory analysis of the MassDEP Reuse and Disposal of Contaminated Soil at Massachusetts Landfills DEP Policy #COMM-97-001 (COMM-97) disposal parameters as well as additional analyses, including:

- VOCs by United States Environmental Protection Agency (USEPA) Method 8260;
- SVOCs plus pyridine by USEPA Method 8270;
- Extractable Petroleum Hydrocarbons (EPH) by MassDEP Method 04-1.1;
- Massachusetts Contingency Plan (MCP) 14 Total Metals by USEPA Methods 6010 and 7471;
- PCBs by USEPA Method 8082 with Soxhlet extraction;
- Total petroleum hydrocarbons (TPH) by USEPA Method 8015;
- Corrosivity (pH) by USEPA Method 1,9045D;
- Reactivity (cyanide and sulfide) by USEPA Method 125,7.3;
- Conductivity by USEPA Method 1,9050A; and
- Ignitability by USEPA Method 1030.

Additionally, 80 soil samples were also submitted for analysis of asbestos fibers, using the California Air Resources Board CARB-435 preparation method and USEPA Method 600/R-93/116. A summary of soil sample analytical results representing the soil proposed for reuse at the Facility is provided on Table 2 and copies of the laboratory analytical reports are provided in Attachment 2.

Cell E-7

Based on the detection of total lead at concentrations above 100 milligrams per kilogram (mg/kg) in samples TP-E7 (0-5) and TP-E7 (5-10), on February 26, 2021, VERTEX collected one five-point composite soil sample from characterization cell E7 from the 0 to 5 foot below ground surface (bgs) depth interval and one composite sample from the 5 to 10 foot bgs depth interval, designated as samples TP-E7 (0-5)\_TCLP and TP-E7 (5-10)\_TCLP. The historical and new soil sample locations are depicted on the attached Figure 3.

Each of the five approximately equal weight aliquots composing the composite soil samples was collected by an excavator. Each composite sample was generated from five unique aliquots. The five approximately equal-volume aliquots of soil were mixed in a large sealable plastic bag to create the representative composite samples for each cell, which was then placed into laboratory-supplied sample containers. Soil samples collected for analysis of VOCs were collected by placing approximately equal-volume aliquots from five points directly into the sample containers and were not mixed in a stainless-steel bowl prior to being placed into laboratory-supplied containers.

VERTEX submitted the soil sample to Con-Test Analytical (Con-Test) of East Longmeadow, Massachusetts for TCLP extraction by USEPA Method 1311 and analysis of lead by USEPA Method 6010D. Based on the laboratory analytical results, TCLP lead was detected exceeding the Resource Conservation and Recovery Act (RCRA) regulatory threshold concentration of 5 milligrams per liter (mg/L) for classification as a characteristic hazardous waste.

On March 8, 2021 in order to delineate the TCLP exceedances, VERTEX collected five-point composite soil sample from locations 5 feet north, east, south, and west from the original TP-E7 sample, at the same 0 to 5 foot and 5 to 10 foot bgs depth intervals. The eight soil samples were designated TP-E7(0-5)\_N, TP-E7(5-10)\_N, TP-E7(0-5)\_E, TP-E7(5-10)\_E, TP-E7(0-5)\_S, TP-E7(5-10)\_S, TP-E7(0-5)\_W, and TP-E7(5-10)\_W.

Each approximately equal weight aliquot composing the composite soil samples was collected by an excavator and the samples were prepared in the same manner as described above.

VERTEX submitted the soil sample to Con-Test Analytical (Con-Test) of East Longmeadow, Massachusetts for analysis of total lead by USEPA Method 6010D and TCLP extraction by United States Environmental Protection Agency (USEPA) Method 1311 followed by analysis of lead by USEPA Method 6010D. Based on the analytical results for the samples collected 5-feet horizontally from the original TP-E7 sample, analysis of the samples collected at a distance of 10-feet was not necessary to delineate the TCLP lead. The historical and new soil sample locations are depicted on the attached Figure 3.



## Soil Analysis Results

Laboratory analysis did not detect asbestos fibers in any of the 80 soil samples (and were not detected in the 15 soil samples analyzed prior to ACWM remediation activities) and target analytes were not detected at concentrations exceeding the Facility's acceptance criteria in the 12 samples, listed below:

TP-A5(5-10)	TP-C1 (5-10)	TP-C2 (0-5)	TP-C3 (0-5)
TP-C3 (5-10)	TP-C6 (0-5)	TP-D1 (0-5)	TP-D1 (5-10)
TP-D4 (0-5)	TP-D6 (5-10)	TP-E3 (5-10)	TP-F3 (5-10)

VERTEX requests acceptance of the soils characterized by these 12 samples for reuse at the Facility. Additionally, no target analytes other than lead were detected at concentrations exceeding the Facility's acceptance criteria in samples TP-E7 (0-5) and TP-E7 (5-10). Based on the delineation of lead impacts in the center of the cell, VERTEX requests acceptance of the soils within the exterior of cell E-7 from the 0 to 10 foot bgs depth interval, outside of the lead impacted soils.

A summary of soil analytical results is included on Table 3 and copies of the laboratory analytical reports are provided in Attachment 2.

## Soil Reuse

Based on the laboratory analytical results and the Facility's required sampling frequency of one sample per 750 cubic yards, the data supports the reuse of approximately 10,5000 cubic yards of soil; however, VERTEX is requesting approximately 6,600 cubic yards total for reuse at the Facility. Figures 3A through 3C show the locations and depths (in 5-foot depth increments) of the soil characterization cells proposed for reuse at the Facility.

The soil characterization sampling detailed herein was completed at the property in March 2019. Since the collection and analysis of the characterization samples no material has been added to the stockpile and no new releases have been reported or observed at the property. Additionally, since sample collection, property soils have not been disturbed, and access to the property has been restricted by a locked gate.

It is the opinion of the LSP that the soil samples analyzed are representative of the soil proposed for reuse, and the analytical results meet the Facility's acceptance criteria. Soil will not be shipped from uncharacterized locations or at greater quantities than the quantity requested without prior Facility approval.

If needed or where specifically requested, additional samples and analytical data will be collected and provided to the Facility for approval of additional volume prior to transport to the Facility.

Please do not hesitate to contact us should you have any questions or require additional information.

Sincerely,

**The Vertex Companies, Inc.**



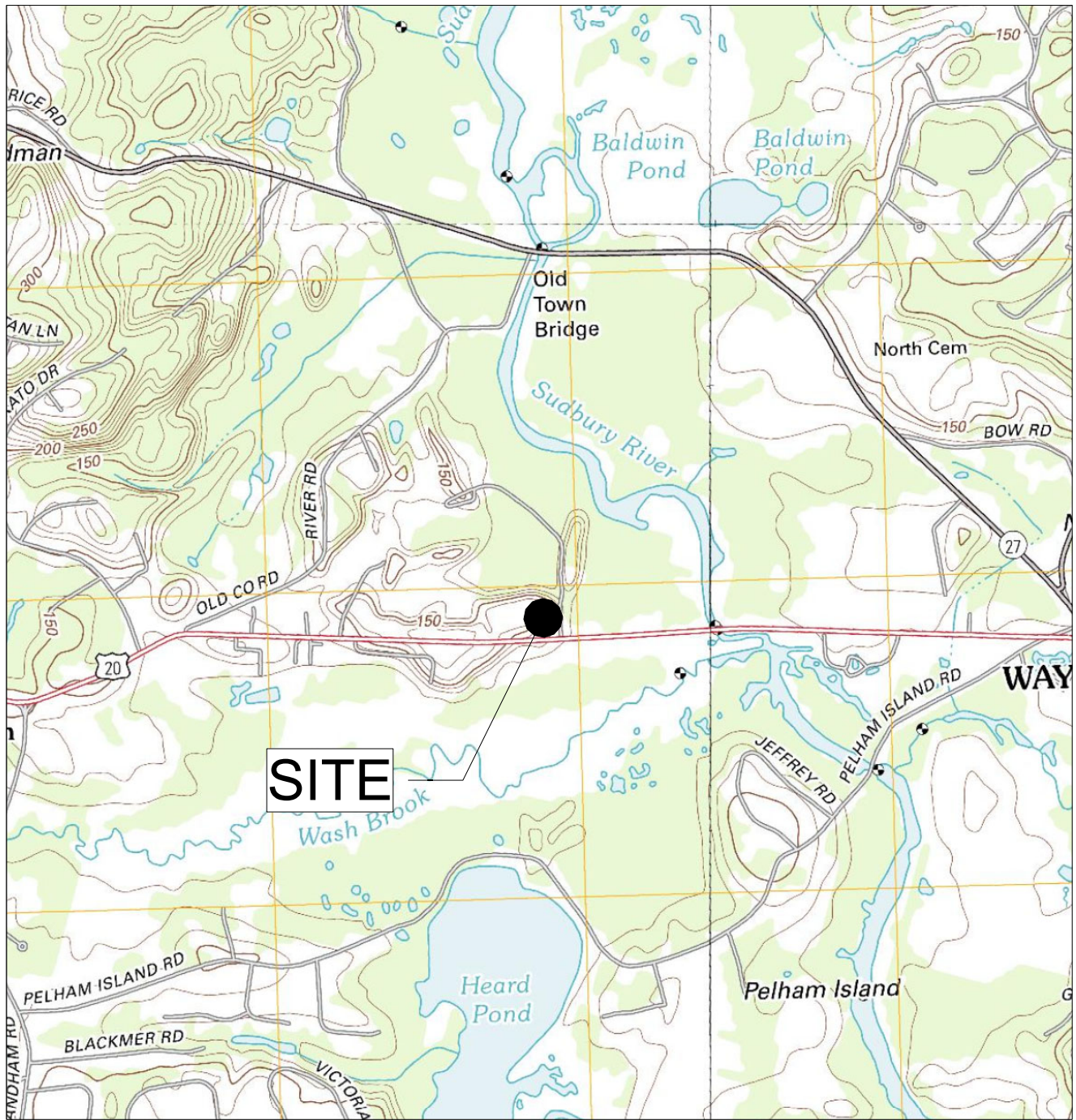
Kristen Sarson  
Project Manager



William J. Gibbons, PG, LSP  
Senior Project Manager

## ATTACHMENTS

Figure 1	Property Locus
Figure 2	General Property Layout
Figure 3	Stockpile Characterization Layout
Figure 3A	Soil Management Classification 0-5 Feet
Figure 3B	Soil Management Classification 5-10 Feet
Figure 3C	Soil Management Classification 10-15 Feet
Figure 4	Test Pit Locations
Table 1A	Summary of Debris Sample Asbestos Analysis Results
Table 1B	Summary of Soil Sample Asbestos Analysis Results
Table 2	Summary of Analytical Results - Qualifying Samples
Table 3	Summary of Analytical Results – Cell E-7
Table 4	Summary of Soil Analytical Results – All Samples
Attachment 1	Test Pit Logs – Qualifying Sampling
Attachment 2	Laboratory Analytical Reports



SCALE: 1" = 0.5 miles  
(WHEN PRINTED AT 8x11)

SOURCE: UNITED STATES GEOLOGICAL SURVEY MAP FRAMINGHAM  
MA QUADRANGLE 7.5 MINUTE SERIES (2012)

SITE LOCUS  
RIVER'S EDGE

484 - 490 Boston Post Road  
Wayland, Massachusetts

Date:	04/22/19
Drawn:	KS
Checked:	FC
Job No.:	46047

FIGURE

1






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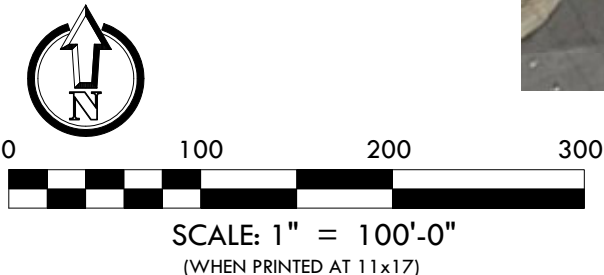


**LEGEND:**

- V-103 (MW)  VERTEX Monitoring Well
- V-113  Soil Boring
- MW-3  Monitoring Well Installed by Others
- V-SG-101  Soil Vapor Sample Point
-  Approximate Site Boundary



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**SITE SCHEMATIC**  
 RIVER'S EDGE  
 484 - 490 BOSTON POST ROAD  
 WAYLAND, MA

File No.:  
 Date: 3/29/19  
 Drawn: KS  
 Checked: FC  
 Job No.: 46047




FIGURE  
**2**

4/22/19	REVISIONS
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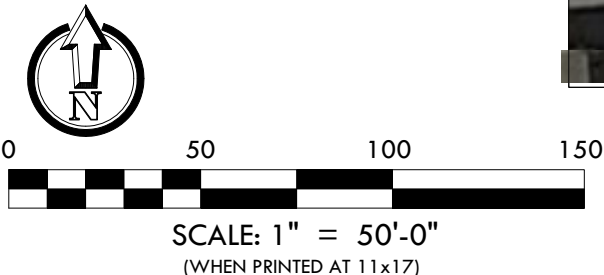


**LEGEND:**

- B3 Test Pit Grid Number
-  Approximate Configuration of 32,000 cy Stockpile
-  4,500 cy Stockpile  
TP-V-101 Test Pit Location
-  Approximate Configuration of 4,500 cy Stockpile



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**STOCKPILE GRID LAYOUT**  
**RIVER'S EDGE**  
 484 - 490 BOSTON POST ROAD  
 WAYLAND, MA

File No.:	FIGURE
Date: 05/07/19	<b>3</b>
Drawn: KS	
Checked: FC	
Job No.: 46047	

REVISIONS

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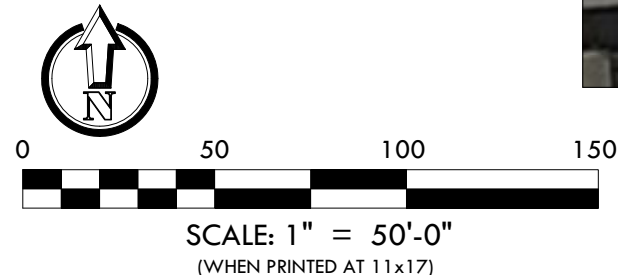
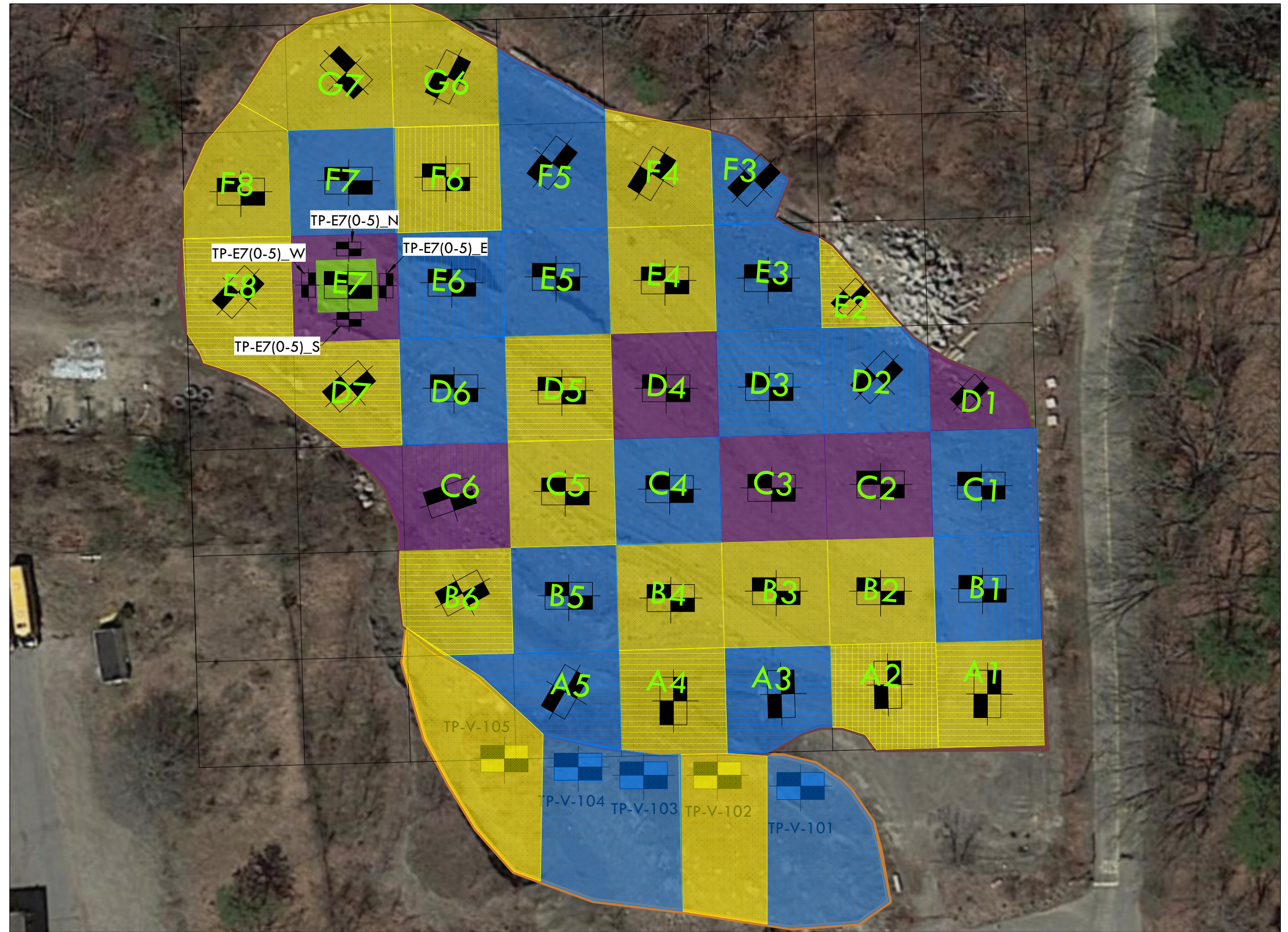
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**LEGEND:**

- B3 Test Pit Grid Number
- <RCS-1 Facility
- <RCS-2 Facility
- Unlined Landfill
- Asphalt Batch Plan
- To be Stabilized & Sent to TREE
- Approximate Configuration of 32,000 cy Stockpile
- Test Pit Location  
TP-V-101
- Approximate Configuration of 4,500 cy Stockpile



**SOIL MANAGEMENT CLASSIFICATION 0-5 FEET**

RIVER'S EDGE  
 484-490 BOSTON POST ROAD  
 WAYLAND, MA  
 RTN 3-36013

Date: 05/07/19  
 Drawn: KS  
 Checked: FC  
 Job No.: 67404

FIGURE  
3A

03/17/2021	03/05/2021	02/08/2021	REVISIONS
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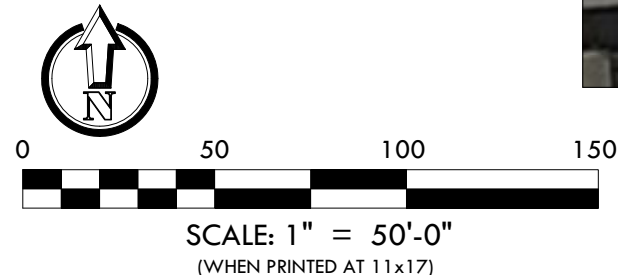
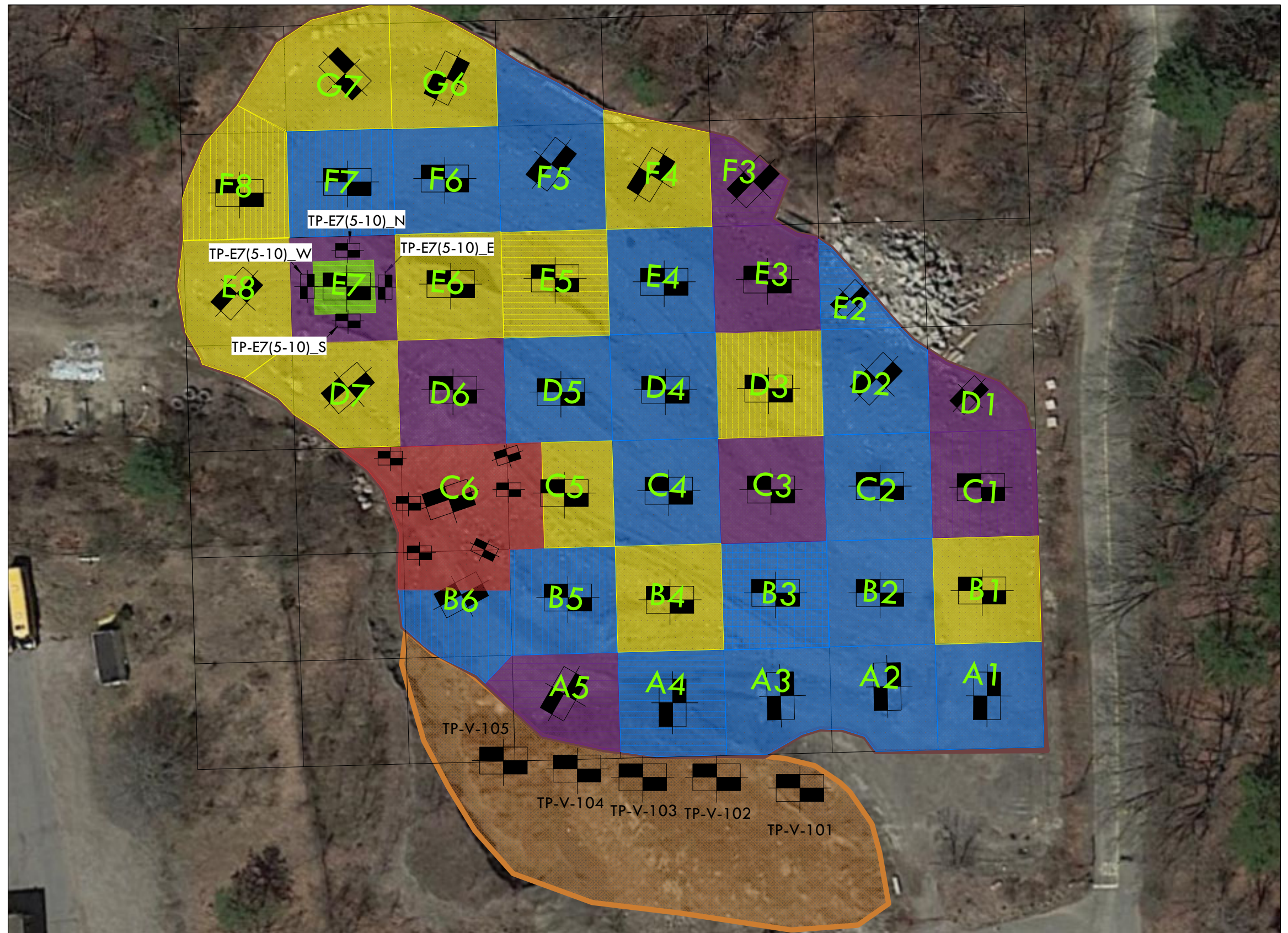
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**LEGEND:**

- B3 Test Pit Grid Number
- <RCS-1 Facility
- <RCS-2 Facility
- Unlined Landfill
- Asphalt Batch Plan
- To be Stabilized & Sent to TREE
- Approximate Configuration of 32,000 cy Stockpile
- Test Pit Location
- Approximate Configuration of 4,500 cy Stockpile



**SOIL MANAGEMENT CLASSIFICATION 5-10 FEET**

RIVER'S EDGE  
 484-490 BOSTON POST ROAD  
 WAYLAND, MA  
 RTN 3-36013

Date: 05/07/19  
 Drawn: KS  
 Checked: FC  
 Job No.: 67404

FIGURE  
3B

03/09/2021	02/08/2021
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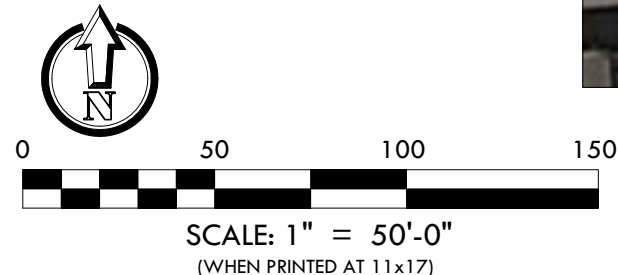
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**LEGEND:**

- B3 Test Pit Grid Number
- <RCS-1 Facility
- <RCS-2 Facility
- Unlined Landfill
- >Massachusetts Comm-97 Criteria
- Approximate Configuration of 32,000 cy Stockpile
- Test Pit Location  
TP-V-101
- Approximate Configuration of 4,500 cy Stockpile



**SOIL MANAGEMENT CLASSIFICATION 10-15 FEET**

RIVER'S EDGE  
 484-490 BOSTON POST ROAD  
 WAYLAND, MA  
 RTN 3-36013

Date: 05/07/19  
 Drawn: KS  
 Checked: FC  
 Job No.: 67404

FIGURE  
3C

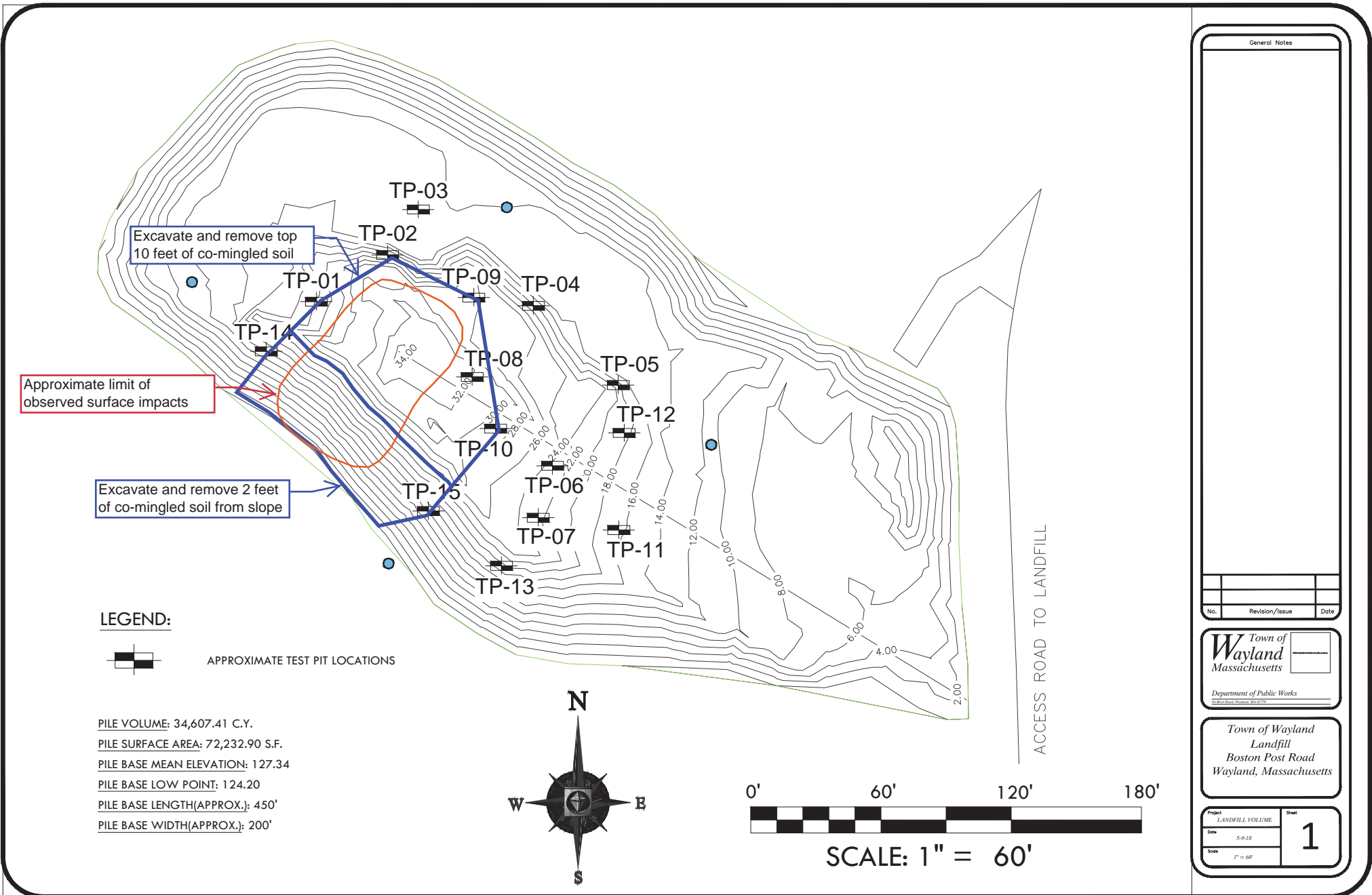
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**FIGURE 4: ACM CONFIRMATORY TEST PIT LOCATIONS**

**Table 1A – Summary of Debris Sample Asbestos Analysis Results**  
**484-490 Boston Post Road, Wayland, MA**  
**VERTEX PROJECT NO. 67404**

<b>TABLE 1 – BULK SAMPLE ANALYTICAL RESULTS</b>				
<b>SAMPLE ID</b>	<b>SAMPLE LOCATION</b>	<b>SAMPLE DESCRIPTION</b>	<b>ESTIMATED VOLUME <sup>1</sup></b>	<b>ASBESTOS CONTENT</b>
B-0716-001A	Test Pit #1, ~2 feet deep	White ceramic tile	--	ND
B-0716-001B	Test Pit #1, ~2 feet deep	White ceramic tile	--	ND
B-0716-002A	Test Pit #1, ~2 feet deep	White thinset	--	ND
B-0716-002B	Test Pit #1, ~2 feet deep	White thinset	--	ND
B-0716-003A	Test Pit #1, ~2 feet deep	Black glue for white ceramic tile	--	ND
B-0716-003B	Test Pit #1, ~2 feet deep	Black glue for white ceramic tile	--	ND
B-0716-004A	Test Pit #1, ~4 feet deep	Brown burlap	--	ND
B-0716-004B	Test Pit #1, ~4 feet deep	Brown burlap	--	ND
B-0716-005A	Test Pit #1, ~2 feet deep	Red ceramic tile	--	ND
B-0716-005B	Test Pit #1, ~2 feet deep	Red ceramic tile	--	ND
B-0716-006A	Test Pit #1, ~2 feet deep	Yellow glue for red ceramic tile	--	ND
B-0716-006B	Test Pit #1, ~2 feet deep	Yellow glue for red ceramic tile	--	ND
B-0716-007A	Test Pit #3, ~1 foot deep	White subway tile	--	ND
B-0716-007B	Test Pit #3, ~1 foot deep	White subway tile	--	ND
B-0716-008A	Test Pit #3, ~1 foot deep	Grey material attached to white subway tile	--	ND
B-0716-008B	Test Pit #3, ~1 foot deep	Grey material attached to white subway tile	--	ND
B-0716-009A	Test Pit #3, ~4 feet deep	Transite counter	--	ND
B-0716-009B	Test Pit #3, ~4 feet deep	Transite counter	--	ND
B-0716-010A	Test Pit #3, ~4 feet deep	Yellow glue adhered to transite counter	--	ND
B-0716-010B	Test Pit #3, ~4 feet deep	Yellow glue adhered to transite counter	--	ND
B-0716-011A	Test Pit #3, throughout upper 5 feet	White ceramic tile with flower patterns	--	ND
B-0716-011B	Test Pit #3, throughout upper 5 feet	White ceramic tile with flower patterns	--	ND

**Table 1A – Summary of Debris Sample Asbestos Analysis Results**  
**484-490 Boston Post Road, Wayland, MA**  
**VERTEX PROJECT NO. 67404**

<b>TABLE 1 – BULK SAMPLE ANALYTICAL RESULTS</b>				
<b>SAMPLE ID</b>	<b>SAMPLE LOCATION</b>	<b>SAMPLE DESCRIPTION</b>	<b>ESTIMATED VOLUME <sup>1</sup></b>	<b>ASBESTOS CONTENT</b>
B-0716-012A	Test Pit #3, throughout upper 5 feet	Grey material adhered to white ceramic tile with flower patterns	--	ND
B-0716-012B	Test Pit #3, throughout upper 5 feet	Grey material adhered to white ceramic tile with flower patterns	--	ND
B-0716-013A	Test Pit #4, ~5 feet deep	Transite shingle	--	ND
B-0716-013B	Test Pit #4, ~5 feet deep	Transite shingle	--	ND
B-0716-014A	Test Pit #4, ~8 feet deep	Black wrapping material	--	ND
B-0716-014B	Test Pit #4, ~8 feet deep	Black wrapping material	--	ND
B-0716-015A	Test Pit #5, upper 2 feet	White ceramic tile	--	ND
B-0716-015B	Test Pit #5, upper 2 feet	White ceramic tile	--	ND
B-0716-016A	Test Pit #5, upper 2 feet	Grey backing material for white ceramic tile	--	ND
B-0716-016B	Test Pit #5, upper 2 feet	Grey backing material for white ceramic tile	--	ND
B-0716-017A	Test Pit #5, ~8 feet deep	Orange/red ceramic tile	--	ND
B-0716-017B	Test Pit #5, ~8 feet deep	Orange/red ceramic tile	--	ND
B-0716-018A	Test Pit #5, ~8 feet deep	White backing material for orange/red ceramic tile	--	ND
B-0716-018B	Test Pit #5, ~8 feet deep	White backing material for orange/red ceramic tile	--	ND
B-0716-019A	Test Pit #6, upper 5 feet	Orange shingle material	--	ND
B-0716-019B	Test Pit #6, upper 5 feet	Orange shingle material	--	ND
B-0716-020A	Test Pit #6, upper 5 feet	White ceramic tile	--	ND
B-0716-020B	Test Pit #6, upper 5 feet	White ceramic tile	--	ND
B-0716-021A	Test Pit #6, upper 5 feet	Black glue for white ceramic tile	--	ND
B-0716-021B	Test Pit #6, upper 5 feet	Black glue for white ceramic tile	--	ND
B-0716-022A	Test Pit #6, upper 5 feet	Grey base material for white ceramic tile	--	ND



**Table 1A – Summary of Debris Sample Asbestos Analysis Results**  
**484-490 Boston Post Road, Wayland, MA**  
**VERTEX PROJECT NO. 67404**

<b>TABLE 1 – BULK SAMPLE ANALYTICAL RESULTS</b>				
<b>SAMPLE ID</b>	<b>SAMPLE LOCATION</b>	<b>SAMPLE DESCRIPTION</b>	<b>ESTIMATED VOLUME <sup>1</sup></b>	<b>ASBESTOS CONTENT</b>
B-0716-022B	Test Pit #6, upper 5 feet	Grey base material for white ceramic tile	--	ND
B-0716-023A	Test Pit #7, upper 5 feet	Orange shingle material	--	ND
B-0716-023B	Test Pit #7, upper 5 feet	Orange shingle material	--	ND
B-0716-024A	Test Pit #7, ~8 feet deep	Thinset material	--	ND
B-0717-024B	Test Pit #7, ~8 feet deep	Thinset material	--	ND
B-0717-025A	Test Pit 8, ~2-3 feet	Rectangular ceramic tile grout	--	ND
B-0717-025B	Test Pit 8, ~2-3 feet	Rectangular ceramic tile grout	--	ND
B-0717-026A	Test Pit 8, ~2-3 feet	Mortar between rectangular and white ceramic tiles	--	ND
B-0717-026B	Test Pit 8, ~2-3 feet	Mortar between rectangular and white ceramic tiles	--	ND
<b>B-0717-027A</b>	<b>Test Pit 8, ~3 feet</b>	<b>Pebble floor tile</b>	<b>1 SF</b>	<b>3% Chrysotile</b>
<b>B-0717-027B</b>	<b>Test Pit 8, ~3 feet</b>	<b>Pebble floor tile</b>	<b>See Sample B-0717-027A</b>	<b>3% Chrysotile</b>
<b>B-0717-028A</b>	<b>Test Pit 8, ~3 feet</b>	<b>Mastic associated with pebble floor tile</b>	<b>1 SF</b>	<b>7% Chrysotile</b>
<b>B-0717-028B</b>	<b>Test Pit 8, ~3 feet</b>	<b>Mastic associated with pebble floor tile</b>	<b>See Sample B-0717-028A</b>	<b>7% Chrysotile</b>
B-0717-029A	Test Pit 8, ~5-10 feet	Transite	--	ND
B-0717-029B	Test Pit 8, ~5-10 feet	Transite	--	ND
B-0717-030A	Test Pit 8, ~6 feet	Cement wallboard	--	ND
B-0717-030B	Test Pit 8, ~6 feet	Cement wallboard	--	ND
<b>B-0717-031A</b>	<b>Test Pit 8, ~7 feet</b>	<b>Green pebble linoleum</b>	<b>1 SF</b>	<b>25% Chrysotile</b>
<b>B-0717-031B</b>	<b>Test Pit 8, ~7 feet</b>	<b>Green pebble linoleum</b>	<b>See Sample B-0717-031A</b>	<b>25% Chrysotile</b>
B-0717-032A	Test Pit 8, ~7 feet	Red sheet flooring	--	ND

**Table 1A – Summary of Debris Sample Asbestos Analysis Results**  
**484-490 Boston Post Road, Wayland, MA**  
**VERTEX PROJECT NO. 67404**

<b>TABLE 1 – BULK SAMPLE ANALYTICAL RESULTS</b>				
<b>SAMPLE ID</b>	<b>SAMPLE LOCATION</b>	<b>SAMPLE DESCRIPTION</b>	<b>ESTIMATED VOLUME <sup>1</sup></b>	<b>ASBESTOS CONTENT</b>
B-0717-032B	Test Pit 8, ~7 feet	Red sheet flooring	--	ND
B-0717-033A	Test Pit 8, ~6 feet	Thinset associated with white honeycomb-back ceramic tile	--	ND
B-0717-033B	Test Pit 8, ~6 feet	Thinset associated with white honeycomb-back ceramic tile	--	ND
B-0717-034A	Test Pit 8, ~4 feet	Square ceramic tile grout	--	ND
B-0717-034B	Test Pit 8, ~4 feet	Square ceramic tile grout	--	ND
B-0717-035A	Test Pit 8, ~5 feet	Speckled ceramic tile thinset	--	ND
B-0717-035B	Test Pit 8, ~5 feet	Speckled ceramic tile thinset	--	ND
B-0717-036A	Test Pit 8, ~3-5 feet	Adhesive associated with white ceramic tile	--	ND
B-0717-036B	Test Pit 8, ~3-5 feet	Adhesive associated with white ceramic tile	--	ND
B-0717-037A	Test Pit 9, ~2 feet	Waterproof paper	--	ND
B-0717-037B	Test Pit 9, ~2 feet	Waterproof paper	--	ND
B-0717-038A	Test Pit 9, ~8 feet	Adhesive associated with speckled ceramic tile	--	ND
B-0717-038B	Test Pit 9, ~8 feet	Adhesive associated with speckled ceramic tile	--	ND
B-0717-039A	Test Pit 9, ~6 feet	Mortar associated with green ceramic tile	--	ND
B-0717-039B	Test Pit 9, ~6 feet	Mortar associated with green ceramic tile	--	ND
B-0717-040A	Test Pit 11, ~7 feet	Mortar associated with white honeycomb-back ceramic tile	--	ND
B-0717-040B	Test Pit 11, ~7 feet	Mortar associated with white honeycomb-back ceramic tile	--	ND
B-0717-041A	Test Pit 11, ~9 feet	Marble ceramic tile thinset	--	ND
B-0717-041B	Test Pit 11, ~9 feet	Marble ceramic tile thinset	--	ND

**Table 1A – Summary of Debris Sample Asbestos Analysis Results**  
**484-490 Boston Post Road, Wayland, MA**  
**VERTEX PROJECT NO. 67404**

<b>TABLE 1 – BULK SAMPLE ANALYTICAL RESULTS</b>				
<b>SAMPLE ID</b>	<b>SAMPLE LOCATION</b>	<b>SAMPLE DESCRIPTION</b>	<b>ESTIMATED VOLUME <sup>1</sup></b>	<b>ASBESTOS CONTENT</b>
B-0717-042A	Test Pit 11, ~8 feet	Beige ceramic tile thinset	--	ND
B-0717-042B	Test Pit 11, ~8 feet	Beige ceramic tile thinset	--	ND
B-0717-043A	Test Pit 11, ~4 feet	Burlap	--	ND
B-0717-043B	Test Pit 11, ~4 feet	Burlap	--	ND
B-0717-044A	Test Pit 11, ~2 feet	Cream ceramic tile thinset	--	ND
B-0717-044B	Test Pit 11, ~2 feet	Cream ceramic tile thinset	--	ND
B-0717-045A	Test Pit 11, ~3-5 feet	Cement	--	ND
B-0717-045B	Test Pit 11, ~3-5 feet	Cement	--	ND
B-0717-046A	Test Pit 11, ~3 feet	Adhesive associated with hex ceramic tile	--	ND
B-0717-046B	Test Pit 11, ~3 feet	Adhesive associated with hex ceramic tile	--	ND
B-0717-047A	Test Pit 12, ~5 feet	Mortar associated with matte ceramic tile	--	ND
B-0717-047B	Test Pit 12, ~5 feet	Mortar associated with matte ceramic tile	--	ND
B-0717-048A	Test Pit 12, ~7 feet	Orange ceramic tile thinset	--	ND
B-0717-048B	Test Pit 12, ~7 feet	Orange ceramic tile thinset	--	ND
B-0717-049A	Test Pit 12, ~6 feet	Mortar associated with red and grey ceramic tile	--	ND
B-0717-049B	Test Pit 12, ~6 feet	Mortar associated with red and grey ceramic tile	--	ND
B-0717-050A	Test Pit 12, ~2-10 feet	Brick mortar	--	ND
B-0717-050B	Test Pit 12, ~2-10 feet	Brick mortar	--	ND
B-0717-051A	Test Pit 12, ~9 feet	White floor tile	--	ND
B-0717-051B	Test Pit 12, ~9 feet	White floor tile	--	ND
B-0717-052A	Test Pit 12, ~6-7 feet	Adhesive associated with cement wallboard	--	ND
B-0717-052B	Test Pit 12, ~6-7 feet	Adhesive associated with cement wallboard	--	ND
B-0717-053A	Test Pit 13, ~3-6 feet	White splattered ceramic tile grout	--	ND



**Table 1A – Summary of Debris Sample Asbestos Analysis Results**  
**484-490 Boston Post Road, Wayland, MA**  
**VERTEX PROJECT NO. 67404**

<b>TABLE 1 – BULK SAMPLE ANALYTICAL RESULTS</b>				
<b>SAMPLE ID</b>	<b>SAMPLE LOCATION</b>	<b>SAMPLE DESCRIPTION</b>	<b>ESTIMATED VOLUME <sup>1</sup></b>	<b>ASBESTOS CONTENT</b>
B-0717-053B	Test Pit 13, ~3-6 feet	White splattered ceramic tile grout	--	ND
B-0717-054A	Test Pit 13, ~8 feet	Blue/Red ceramic tile thinset	--	ND
B-0717-054B	Test Pit 13, ~8 feet	Blue/Red ceramic tile thinset	--	ND
B-0718-055A	Test Pit 14, ~9 feet	Chalky cement	--	ND
B-0718-055B	Test Pit 14, ~9 feet	Chalky cement	--	ND
B-0718-056A	Test Pit 14, ~10 feet	Pink ceramic tile mortar	--	ND
B-0718-056B	Test Pit 14, ~10 feet	Pink ceramic tile mortar	--	ND
B-0718-057A	Test Pit 15, ~9 feet	Black ceramic tile adhesive	--	ND
B-0718-057B	Test Pit 15, ~9 feet	Black ceramic tile adhesive	--	ND

**Notes:**

**Bold** indicates representative bulk sample analyzed positive for Asbestos.  
**ND** indicates representative bulk sample did not contain Asbestos.  
<sup>1</sup> = Material quantities are approximate and were based on what materials were visually present in each test pit. Actual quantity of material, buried with the stockpile, is unknown at the current time.

**Table 1B – Summary of Soil Sample Asbestos Analysis Results**  
**484-490 Boston Post Road, Wayland, MA**  
**VERTEX PROJECT NO. 67404**

<b>SAMPLE ID</b>	<b>SAMPLE LOCATION</b>	<b>ESTIMATED VOLUME</b>	<b>ASBESTOS CONTENT</b>
TP-0716-001	Soil Composite, Test Pit 1	--	ND
TP-0716-002	Soil Composite, Test Pit 2	--	ND
TP-0716-003	Soil Composite, Test Pit 3	--	ND
TP-0716-004	Soil Composite, Test Pit 4	--	ND
TP-0718-005	Soil Composite, Test Pit 5	--	ND
TP-0718-006	Soil Composite, Test Pit 6	--	ND
TP-0718-007	Soil Composite, Test Pit 7	--	ND
TP-0718-008	Soil Composite, Test Pit 8	--	ND
TP-0718-009	Soil Composite, Test Pit 9	--	ND
TP-0718-010	Soil Composite, Test Pit 10	--	ND
TP-0718-011	Soil Composite, Test Pit 11	--	ND
TP-0718-012	Soil Composite, Test Pit 12	--	ND
TP-0718-013	Soil Composite, Test Pit 13	--	ND
TP-0718-014	Soil Composite, Test Pit 14	--	ND
TP-0718-015	Soil Composite, Test Pit 15	--	ND
<b>Notes:</b>			
ND indicates representative bulk sample did not contain Asbestos.			

**Table 2**  
**Summary of Soil Analytical Results - Qualifying Samples**  
**484 - 490 Boston Post Road, Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	MCP METHOD 1 S-3/GW-3	Comm-97 Unlined Landfill	TP-A5 (5-10)	TP-C1 (5-10)	TP-C2 (0-5)	TP-C3 (0-5)	TP-C3 (5-10)	TP-C6 (0-5)	TP-D1 (0-5)	TP-D1 (5-10)	TP-D4 (0-5)	TP-D6 (5-10)	TP-E3 (5-10)	TP-F3 (5-10)
Sample Date			3/11/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/11/2019	3/12/2019	3/12/2019	3/11/2019	3/11/2019	3/12/2019	3/12/2019
Starting Depth			5	5	0	0	5	0	0	5	0	5	5	5
Ending Depth			10	10	5	5	10	5	5	10	5	10	10	10
<b>Asbestos</b>														
CARB 435/USEPA PLM	NSE	NSE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Extractable Petroleum Hydrocarbons (EPH) with target Polynuclear Aromatic Hydrocarbons (PAHs)</b>														
C <sub>9</sub> -C <sub>18</sub> Aliphatic Hydrocarbons	NSE	NSE	ND(23)	ND(55)	ND(21)	ND(53)	ND(55)	--	ND(59)	--	ND(22)	ND(24)	ND(24)	--
C <sub>11</sub> -C <sub>22</sub> Aromatic Hydrocarbons (adjusted)	5000	NSE	300	330	140	250	430	--	250	--	310	210	170	--
C <sub>19</sub> -C <sub>36</sub> Aliphatics	NSE	NSE	190	270	100	210	310	--	190	--	200	160	130	--
Total EPH fractions	NSE	NSE	490	600	240	460	740	--	440	--	510	370	300	--
<b>Total Petroleum Hydrocarbons (TPH)</b>														
TPH	5000	2500	1300	1200	1200	1700	1100	520	1200	910	1000	1000	1100	910
<b>Volatile Organic Compounds (VOCs)</b>														
1,1,1,2-Tetrachloroethane	500	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,1,1-Trichloroethane (1,1,1-TCA)	3000	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,1,2-Trichloroethane	500	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,1-Dichloroethane (1,1-DCA)	1000	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,1-Dichloroethene (1,1-DCE)	3000	NSE	ND(0.0037)	ND(0.0033)	ND(0.0033)	ND(0.0043)	ND(0.0033)	ND(0.0037)	ND(0.0037)	ND(0.0035)	ND(0.0024)	ND(0.0036)	ND(0.0043)	ND(0.0039)
1,1-Dichloropropene	NSE	NSE	ND(0.0037)	ND(0.0017)	ND(0.0017)	ND(0.0043)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,2,3-Trichlorobenzene	NSE	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,2,3-Trichloropropane	NSE	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,2,4-Trichlorobenzene	5000	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,2,4-Trimethylbenzene	NSE	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,2-Dibromo-3-Chloropropane	NSE	NSE	ND(0.0037)	ND(0.0017)	ND(0.0017)	ND(0.0043)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,2-Dibromoethane	40	NSE	ND(0.00094)	ND(0.00084)	ND(0.00083)	ND(0.0011)	ND(0.00082)	ND(0.00094)	ND(0.00093)	ND(0.00087)	ND(0.00060)	ND(0.00089)	ND(0.0011)	ND(0.00096)
1,2-Dichlorobenzene	300	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,2-Dichloroethane (1,2-DCA)	300	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,2-Dichloroethylene, cis (1,2-DCE, cis)	500	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,2-Dichloroethylene, trans (1,2-DCE, trans)	3000	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,2-Dichloropropane	1000	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,3,5-Trimethylbenzene	NSE	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,3-Dichlorobenzene (1,3-DCB)	500	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,3-Dichloropropane	NSE	NSE	ND(0.00094)	ND(0.00084)	ND(0.00083)	ND(0.0011)	ND(0.00082)	ND(0.00094)	ND(0.00093)	ND(0.00087)	ND(0.00060)	ND(0.00089)	ND(0.0011)	ND(0.00096)
1,3-Dichloropropene, cis	NSE	NSE	ND(0.00094)	ND(0.00084)	ND(0.00083)	ND(0.0011)	ND(0.00082)	ND(0.00094)	ND(0.00093)	ND(0.00087)	ND(0.00060)	ND(0.00089)	ND(0.0011)	ND(0.00096)
1,3-Dichloropropene, trans	NSE	NSE	ND(0.00094)	ND(0.00084)	ND(0.00083)	ND(0.0011)	ND(0.00082)	ND(0.00094)	ND(0.00093)	ND(0.00087)	ND(0.00060)	ND(0.00089)	ND(0.0011)	ND(0.00096)
1,4-Dichlorobenzene	2000	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
1,4-Dioxane	500	NSE	ND(0.19)	ND(0.084)	ND(0.083)	ND(0.22)	ND(0.082)	ND(0.094)	ND(0.093)	ND(0.087)	ND(0.12)	ND(0.089)	ND(0.11)	ND(0.096)
2,2-Dichloropropane	NSE	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
2-Hexanone	NSE	NSE	ND(0.019)	ND(0.017)	ND(0.017)	ND(0.022)	ND(0.016)	ND(0.019)	ND(0.019)	ND(0.017)	ND(0.012)	ND(0.018)	ND(0.021)	ND(0.019)
Acetone	400	NSE	ND(0.094)	ND(0.084)	ND(0.083)	ND(0.11)	ND(0.082)	ND(0.094)	ND(0.093)	ND(0.087)	ND(0.060)	ND(0.089)	ND(0.11)	ND(0.096)
Benzene	1000	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Bromobenzene	NSE	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)



**Table 2**  
**Summary of Soil Analytical Results - Qualifying Samples**  
**484 - 490 Boston Post Road, Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	MCP METHOD 1 S-3/GW-3	Comm-97 Unlined Landfill	TP-A5 (5-10)	TP-C1 (5-10)	TP-C2 (0-5)	TP-C3 (0-5)	TP-C3 (5-10)	TP-C6 (0-5)	TP-D1 (0-5)	TP-D1 (5-10)	TP-D4 (0-5)	TP-D6 (5-10)	TP-E3 (5-10)	TP-F3 (5-10)
Sample Date			3/11/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/11/2019	3/12/2019	3/12/2019	3/11/2019	3/11/2019	3/12/2019	3/12/2019
Starting Depth			5	5	0	0	5	0	0	5	0	5	5	5
Ending Depth			10	10	5	5	10	5	5	10	5	10	10	10
Bromochloromethane (Chlorobromomethane)	NSE	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Bromodichloromethane	500	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Bromoform	800	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Bromomethane	30	NSE	ND(0.0094)	ND(0.0084)	ND(0.0083)	ND(0.011)	ND(0.0082)	ND(0.0094)	ND(0.0093)	ND(0.0087)	ND(0.0060)	ND(0.0089)	ND(0.011)	ND(0.0096)
Carbon Disulfide	NSE	NSE	ND(0.0056)	ND(0.0050)	ND(0.0050)	ND(0.0065)	ND(0.0049)	ND(0.0056)	ND(0.0056)	ND(0.0052)	ND(0.0036)	ND(0.0053)	ND(0.0064)	ND(0.0058)
Carbon Tetrachloride	1000	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Chlorobenzene	100	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Chloroethane	NSE	NSE	ND(0.0094)	ND(0.0084)	ND(0.0083)	ND(0.011)	ND(0.0082)	ND(0.0094)	ND(0.0093)	ND(0.0087)	ND(0.0060)	ND(0.0089)	ND(0.011)	ND(0.0096)
Chloroform	1000	NSE	ND(0.0037)	ND(0.0033)	ND(0.0033)	ND(0.0043)	ND(0.0033)	ND(0.0037)	ND(0.0037)	ND(0.0035)	ND(0.0024)	ND(0.0036)	ND(0.0043)	ND(0.0039)
Chloromethane	NSE	NSE	ND(0.0094)	ND(0.0084)	ND(0.0083)	ND(0.011)	ND(0.0082)	ND(0.0094)	ND(0.0093)	ND(0.0087)	ND(0.0060)	ND(0.0089)	ND(0.011)	ND(0.0096)
Dibromochloromethane	500	NSE	ND(0.00094)	ND(0.00084)	ND(0.00083)	ND(0.0011)	ND(0.00082)	ND(0.00094)	ND(0.00093)	ND(0.00087)	ND(0.00060)	ND(0.00089)	ND(0.0011)	ND(0.00096)
Dibromomethane	NSE	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Dichlorodifluoromethane	NSE	NSE	ND(0.0094)	ND(0.0084)	ND(0.0083)	ND(0.011)	ND(0.0082)	ND(0.0094)	ND(0.0093)	ND(0.0087)	ND(0.0060)	ND(0.0089)	ND(0.011)	ND(0.0096)
Ethyl Ether	NSE	NSE	ND(0.0094)	ND(0.0084)	ND(0.0083)	ND(0.011)	ND(0.0082)	ND(0.0094)	ND(0.0093)	ND(0.0087)	ND(0.0060)	ND(0.0089)	ND(0.011)	ND(0.0096)
Ethylbenzene	3000	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Ethyl-Tert-Butyl-Ether (Tert-Butylethyl Ether)	NSE	NSE	ND(0.00094)	ND(0.00084)	ND(0.00083)	ND(0.0011)	ND(0.00082)	ND(0.00094)	ND(0.00093)	ND(0.00087)	ND(0.00060)	ND(0.00089)	ND(0.0011)	ND(0.00096)
Hexachlorobutadiene	100	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Isopropyl Benzene	NSE	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Isopropyl Ether	NSE	NSE	ND(0.00094)	ND(0.00084)	ND(0.00083)	ND(0.0011)	ND(0.00082)	ND(0.00094)	ND(0.00093)	ND(0.00087)	ND(0.00060)	ND(0.00089)	ND(0.0011)	ND(0.00096)
Methyl Ethyl Ketone (MEK)	400	NSE	ND(0.037)	ND(0.033)	ND(0.033)	ND(0.043)	ND(0.033)	ND(0.037)	ND(0.037)	ND(0.035)	ND(0.024)	ND(0.036)	ND(0.043)	ND(0.039)
Methyl Isobutyl Ketone (MIBK)	400	NSE	ND(0.019)	ND(0.017)	ND(0.017)	ND(0.022)	ND(0.016)	ND(0.019)	ND(0.019)	ND(0.017)	ND(0.012)	ND(0.018)	ND(0.021)	ND(0.019)
Methyl Tert-Butyl Ether	500	NSE	ND(0.0037)	ND(0.0033)	ND(0.0033)	ND(0.0043)	ND(0.0033)	ND(0.0037)	ND(0.0037)	ND(0.0035)	ND(0.0024)	ND(0.0036)	ND(0.0043)	ND(0.0039)
Methylene Chloride	700	NSE	ND(0.0094)	ND(0.0084)	ND(0.0083)	ND(0.011)	ND(0.0082)	ND(0.0094)	ND(0.0093)	ND(0.0087)	ND(0.0060)	ND(0.0089)	ND(0.011)	ND(0.0096)
Naphthalene	3000	NSE	ND(0.0037)	ND(0.0033)	ND(0.0033)	ND(0.0043)	ND(0.0033)	ND(0.0037)	ND(0.0037)	ND(0.0035)	ND(0.0024)	ND(0.0036)	ND(0.0043)	ND(0.0039)
n-Butylbenzene	NSE	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
o-Chlorotoluene	NSE	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
o-Xylene	3000	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
p/m-Xylene	3000	NSE	ND(0.0037)	ND(0.0033)	ND(0.0033)	ND(0.0043)	ND(0.0033)	ND(0.0037)	ND(0.0037)	ND(0.0035)	ND(0.0024)	ND(0.0036)	ND(0.0043)	ND(0.0039)
p-Chlorotoluene (4-Chlorotoluene)	NSE	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
p-Cymene	NSE	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Propylbenzene	NSE	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Sec-Butylbenzene	NSE	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Styrene	2000	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Tert-Butylbenzene	NSE	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Tertiary-Amyl Methyl Ether (TAME)	NSE	NSE	ND(0.00094)	ND(0.00084)	ND(0.00083)	ND(0.0011)	ND(0.00082)	ND(0.00094)	ND(0.00093)	ND(0.00087)	ND(0.00060)	ND(0.00089)	ND(0.0011)	ND(0.00096)
Tetrachloroethane	400	NSE	ND(0.00094)	ND(0.00084)	ND(0.00083)	ND(0.0011)	ND(0.00082)	ND(0.00094)	ND(0.00093)	ND(0.00087)	ND(0.00060)	ND(0.00089)	ND(0.0011)	ND(0.00096)
Tetrachloroethylene (PCE)	1000	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Tetrahydrofuran	NSE	NSE	ND(0.0094)	ND(0.0084)	ND(0.0083)	ND(0.011)	ND(0.0082)	ND(0.0094)	ND(0.0093)	ND(0.0087)	ND(0.0060)	ND(0.0089)	ND(0.011)	ND(0.0096)
Toluene	3000	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)

**Table 2**  
**Summary of Soil Analytical Results - Qualifying Samples**  
**484 - 490 Boston Post Road, Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	MCP METHOD 1 S-3/GW-3	Comm-97 Unlined Landfill	TP-A5 (5-10)	TP-C1 (5-10)	TP-C2 (0-5)	TP-C3 (0-5)	TP-C3 (5-10)	TP-C6 (0-5)	TP-D1 (0-5)	TP-D1 (5-10)	TP-D4 (0-5)	TP-D6 (5-10)	TP-E3 (5-10)	TP-F3 (5-10)
Sample Date			3/11/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/11/2019	3/12/2019	3/12/2019	3/11/2019	3/11/2019	3/12/2019	3/12/2019
Starting Depth			5	5	0	0	5	0	0	5	0	5	5	5
Ending Depth			10	10	5	5	10	5	5	10	5	10	10	10
Trichloroethylene (TCE)	60	NSE	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0022)	ND(0.0016)	ND(0.0019)	ND(0.0019)	ND(0.0017)	ND(0.0012)	ND(0.0018)	ND(0.0021)	ND(0.0019)
Trichlorofluoromethane	NSE	NSE	ND(0.0094)	ND(0.0084)	ND(0.0083)	ND(0.011)	ND(0.0082)	ND(0.0094)	ND(0.0093)	ND(0.0087)	ND(0.0060)	ND(0.0089)	ND(0.011)	ND(0.0096)
Vinyl Chloride	60	NSE	ND(0.0094)	ND(0.0084)	ND(0.0083)	ND(0.011)	ND(0.0082)	ND(0.0094)	ND(0.0093)	ND(0.0087)	ND(0.0060)	ND(0.0089)	ND(0.011)	ND(0.0096)
Total VOCs	4		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Semivolatile Organic Compounds (SVOCs)</b>														
1,2,4-Trichlorobenzene	5000	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
1,2-Dichlorobenzene	300	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
1,2-Diphenylhydrazine	NSE	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
1,3-Dichlorobenzene (1,3-DCB)	500	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
1,4-Dichlorobenzene	2000	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
2,4,5-Trichlorophenol	600	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
2,4,6-Trichlorophenol	20	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
2,4-Dichlorophenol	40	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
2,4-Dimethylphenol	1000	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
2,4-Dinitrophenol	100	NSE	ND(3.8)	ND(1.5)	ND(1.5)	ND(7.3)	ND(1.5)	ND(3.7)	ND(1.6)	ND(1.5)	ND(2.8)	ND(3.9)	ND(1.6)	ND(3.2)
2,4-Dinitrotoluene	80	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
2,6-Dinitrotoluene	NSE	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
2-Chloronaphthalene	NSE	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
2-Chlorophenol	300	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
2-Methylnaphthalene	500	NSE	ND(0.98)	ND(0.39)	0.69	ND(1.9)	ND(0.38)	ND(0.96)	ND(0.41)	ND(0.38)	ND(0.73)	ND(1.0)	ND(0.40)	ND(0.82)
2-Methylphenol (o-Cresol)	NSE	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
2-Nitrophenol (o-Nitrophenol)	NSE	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
3,3-Dichlorobenzidine	100	NSE	ND(0.98)	ND(0.39)	ND(0.38)	ND(1.9)	ND(0.38)	ND(0.96)	ND(0.41)	ND(0.38)	ND(0.73)	ND(1.0)	ND(0.40)	ND(0.82)
3-Methylphenol/4-Methylphenol	NSE	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
4-Bromophenyl Phenyl Ether	NSE	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
Acenaphthene	5000	NSE	ND(0.98)	0.54	ND(0.38)	ND(1.9)	ND(0.38)	ND(0.96)	ND(0.41)	ND(0.38)	ND(0.73)	ND(1.0)	ND(0.40)	ND(0.82)
Acenaphthylene	10	NSE	ND(0.98)	ND(0.39)	0.99	ND(1.9)	0.56	ND(0.96)	0.49	ND(0.38)	ND(0.73)	ND(1.0)	ND(0.40)	ND(0.82)
Acetophenone	NSE	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
Aniline	NSE	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
Anthracene	5000	NSE	ND(0.98)	1.4	2.0	ND(1.9)	0.91	ND(0.96)	1.4	0.55	0.89	1.5	1.2	ND(0.82)
Benzo(a)Anthracene	300	NSE	2.1	2.3	3.2	2.3	3.0	2.1	2.8	2.0	2.9	3.5	3.4	ND(0.82)
Benzo(a)Pyrene	30	NSE	2.0	2.2	2.7	2.1	2.9	2.1	2.7	2.2	2.6	3.2	3.1	ND(0.82)
Benzo(b)Fluoranthene	300	NSE	2.5	2.5	3.2	2.4	3.3	2.5	3.2	2.5	3.0	3.8	3.6	ND(0.82)
Benzo(g,h,i)Perylene	5000	NSE	1.2	1.0	1.6	ND(1.9)	1.3	1.0	1.5	1.0	1.5	1.3	1.5	ND(0.82)
Benzo(k)Fluoranthene	3000	NSE	ND(0.98)	0.95	1.2	ND(1.9)	1.3	0.97	1.2	0.88	1.3	1.4	1.4	ND(0.82)
Bis (2-Chloroethyl) Ether	80	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
Bis(2-Ethylhexyl)Phthalate	2000	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
Butyl Benzyl Phthalate	NSE	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
Chrysene	3000	NSE	1.9	2.2	2.9	2.2	2.7	2.2	2.9	1.9	2.6	3.2	3.3	ND(0.82)

**Table 2**  
**Summary of Soil Analytical Results - Qualifying Samples**  
**484 - 490 Boston Post Road, Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	MCP METHOD 1 S-3/GW-3	Comm-97 Unlined Landfill	TP-A5 (5-10)	TP-C1 (5-10)	TP-C2 (0-5)	TP-C3 (0-5)	TP-C3 (5-10)	TP-C6 (0-5)	TP-D1 (0-5)	TP-D1 (5-10)	TP-D4 (0-5)	TP-D6 (5-10)	TP-E3 (5-10)	TP-F3 (5-10)
Sample Date			3/11/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/11/2019	3/12/2019	3/12/2019	3/11/2019	3/11/2019	3/12/2019	3/12/2019
Starting Depth			5	5	0	0	5	0	0	5	0	5	5	5
Ending Depth			10	10	5	5	10	5	5	10	5	10	10	10
Dibenzo(a,h)Anthracene	30	NSE	ND(0.98)	ND(0.39)	0.45	ND(1.9)	ND(0.38)	ND(0.96)	ND(0.41)	ND(0.38)	ND(0.73)	ND(1.0)	ND(0.40)	ND(0.82)
Dibenzofuran	NSE	NSE	ND(2.0)	ND(0.78)	1.2	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
Dichloroisopropyl Ether	SNC8	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
Dichloromethoxy Ethane	NSE	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
Diethyl Phthalate	300	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
Dimethyl Phthalate	600	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
Fluoranthene	5000	NSE	3.8	5.1	7.6	4.8	6.0	3.8	5.7	3.7	6.1	8.4	6.6	0.83
Fluorene	5000	NSE	ND(0.98)	0.70	0.90	ND(1.9)	0.39	ND(0.96)	ND(0.41)	ND(0.38)	ND(0.73)	ND(1.0)	ND(0.40)	ND(0.82)
Hexachlorobenzene	0.8	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
Hexachlorobutadiene	100	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
Hexachloroethane	200	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
Indeno(1,2,3-cd)Pyrene	300	NSE	1.3	1.1	1.8	ND(1.9)	1.5	1.1	1.7	1.1	1.6	1.6	1.7	ND(0.82)
Isophorone	NSE	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
Naphthalene	3000	NSE	ND(0.98)	ND(0.39)	1.2	ND(1.9)	ND(0.38)	ND(0.96)	ND(0.41)	ND(0.38)	ND(0.73)	ND(1.0)	ND(0.40)	ND(0.82)
n-Butyl Phthalate	NSE	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
n-Dioctyl Phthalate	NSE	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
Nitrobenzene	NSE	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
p-Chloroaniline	3	NSE	ND(3.8)	ND(1.5)	ND(1.5)	ND(7.3)	ND(1.5)	ND(3.7)	ND(1.6)	ND(1.5)	ND(2.8)	ND(3.9)	ND(1.6)	ND(3.2)
Pentachlorophenol	10	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
Phenanthrene	3000	NSE	2.3	4.6	8.3	4.5	3.1	3.0	2.4	1.9	3.6	4.8	4.2	ND(0.82)
Phenol	20	NSE	ND(2.0)	ND(0.78)	ND(0.75)	ND(3.7)	ND(0.75)	ND(1.9)	ND(0.82)	ND(0.76)	ND(1.5)	ND(2.0)	ND(0.80)	ND(1.6)
p-Nitrophenol	NSE	NSE	ND(3.8)	ND(1.5)	ND(1.5)	ND(7.3)	ND(1.5)	ND(3.7)	ND(1.6)	ND(1.5)	ND(2.8)	ND(3.9)	ND(1.6)	ND(3.2)
Pyrene	5000	NSE	4.3	5.5	7.1	5.0	6.4	4.5	6.0	4.0	5.7	7.9	7.5	0.90
Total SVOCs	100		21.40	30.09	47.03	23.30	33.36	23.27	31.99	21.73	31.79	40.60	37.50	1.73



**Table 2**  
**Summary of Soil Analytical Results - Qualifying Samples**  
**484 - 490 Boston Post Road, Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	MCP METHOD 1 S-3/GW-3	Comm-97 Unlined Landfill	TP-A5 (5-10)	TP-C1 (5-10)	TP-C2 (0-5)	TP-C3 (0-5)	TP-C3 (5-10)	TP-C6 (0-5)	TP-D1 (0-5)	TP-D1 (5-10)	TP-D4 (0-5)	TP-D6 (5-10)	TP-E3 (5-10)	TP-F3 (5-10)
Sample Date			3/11/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/11/2019	3/12/2019	3/12/2019	3/11/2019	3/11/2019	3/12/2019	3/12/2019
Starting Depth			5	5	0	0	5	0	0	5	0	5	5	5
Ending Depth			10	10	5	5	10	5	5	10	5	10	10	10
<b>Metals</b>														
Antimony	30	NSE	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.8)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.9)	ND(1.8)	ND(2.0)	ND(2.0)	ND(2.0)
Arsenic	50	40	4.5	5.2	5.1	4.5	3.5	5.9	3.4	4.6	3.4	3.9	5.3	4.7
Barium	5000	NSE	34	32	36	30	35	46	32	31	37	32	42	34
Beryllium	200	NSE	0.28	0.36	0.34	0.28	0.34	0.32	0.40	0.33	0.28	0.36	0.42	0.34
Cadmium	100	30	0.41	0.39	0.42	0.29	0.30	0.40	0.29	0.31	0.31	0.30	0.40	0.40
Chromium	200	1000	17	17	14	13	16	23	17	15	14	19	18	13
Lead	600	1000	35	62	50	27	43	79	40	47	56	32	53	26
Mercury	30	10	0.054	0.028	0.073	0.048	0.053	0.064	0.055	0.059	0.28	0.041	0.072	0.030
Nickel	1000	NSE	13	12	12	12	13	10	15	12	12	15	14	12
Selenium	700	NSE	ND(3.8)	ND(3.8)	ND(3.8)	ND(3.6)	ND(3.7)	ND(3.8)	ND(4.1)	ND(3.7)	ND(3.6)	ND(4.0)	ND(4.0)	ND(4.1)
Silver	200	NSE	ND(0.38)	ND(0.38)	ND(0.38)	ND(0.36)	ND(0.37)	ND(0.38)	ND(0.41)	ND(0.37)	ND(0.36)	ND(0.40)	ND(0.40)	ND(0.41)
Thallium	80	NSE	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.8)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.9)	ND(1.8)	ND(2.0)	ND(2.0)	ND(2.0)
Vanadium	700	NSE	24	22	24	32	31	20	27	25	26	32	27	21
Zinc	5000	NSE	44	49	48	36	52	51	52	46	54	45	59	67
<b>Polychlorinated Biphenyls (PCBs)</b>														
Aroclor 1016	4	2	ND(0.089)	ND(0.091)	ND(0.089)	ND(0.088)	ND(0.089)	ND(0.089)	ND(0.098)	ND(0.090)	ND(0.087)	ND(0.091)	ND(0.096)	ND(0.098)
Aroclor 1221	4	2	ND(0.089)	ND(0.091)	ND(0.089)	ND(0.088)	ND(0.089)	ND(0.089)	ND(0.098)	ND(0.090)	ND(0.087)	ND(0.091)	ND(0.096)	ND(0.098)
Aroclor 1232	4	2	ND(0.089)	ND(0.091)	ND(0.089)	ND(0.088)	ND(0.089)	ND(0.089)	ND(0.098)	ND(0.090)	ND(0.087)	ND(0.091)	ND(0.096)	ND(0.098)
Aroclor 1242	4	2	ND(0.089)	ND(0.091)	ND(0.089)	ND(0.088)	ND(0.089)	ND(0.089)	ND(0.098)	ND(0.090)	ND(0.087)	ND(0.091)	ND(0.096)	ND(0.098)
Aroclor 1248	4	2	ND(0.089)	ND(0.091)	ND(0.089)	ND(0.088)	ND(0.089)	ND(0.089)	ND(0.098)	ND(0.090)	ND(0.087)	ND(0.091)	ND(0.096)	ND(0.098)
Aroclor 1254	4	2	ND(0.089)	ND(0.091)	ND(0.089)	ND(0.088)	ND(0.089)	ND(0.089)	ND(0.098)	ND(0.090)	ND(0.087)	ND(0.091)	ND(0.096)	0.21
Aroclor 1260	4	2	ND(0.089)	ND(0.091)	ND(0.089)	ND(0.088)	ND(0.089)	ND(0.089)	ND(0.098)	ND(0.090)	ND(0.087)	ND(0.091)	ND(0.096)	ND(0.098)
Aroclor 1262	4	2	ND(0.089)	ND(0.091)	ND(0.089)	ND(0.088)	ND(0.089)	ND(0.089)	ND(0.098)	ND(0.090)	ND(0.087)	ND(0.091)	ND(0.096)	ND(0.098)
Aroclor 1268	4	2	ND(0.089)	ND(0.091)	ND(0.089)	ND(0.088)	ND(0.089)	ND(0.089)	ND(0.098)	ND(0.090)	ND(0.087)	ND(0.091)	ND(0.096)	ND(0.098)
<b>General Chemistry</b>														
Ignitability	NSE	140	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent
pH	NSE	12.5	7.8	8.3	7.7	8.5	7.9	7.3	7.9	7.9	8.2	7.7	8.1	7.9
Reactivity Cyanide	NSE	250	ND(3.9)	ND(3.9)	ND(3.9)	ND(4.0)	ND(3.9)	ND(4.0)	ND(3.9)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)
Reactivity Sulfide	NSE	500	ND(20)	ND(20)	ND(20)	ND(20)	ND(19)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)
Solids, Total	NSE	NSE	86.4	87.7	89.7	90.9	90.2	87.4	81.8	89.1	91.7	ND(20)	ND(20)	ND(20)
Specific Conductance	NSE	4000	20	16	8.5	20	17	21	13	11	24	23	19	31

Notes:

- mg/kg=milligram per kilogram; uhoms/cm=microohms per centimeter
- MA Unlined Landfill taken from Massachusetts Department of Environmental Protection (MassDEP) Policy COMM-97-001
- ND = Not Detected above laboratory reporting limits shown in parenthesis
- -- = Not Analyzed
- NSE = No Standard Exists
- Highlighted values exceeds the applicable Reportable Concentration
- Full analytical results, including QA/QC information and data flags, are detailed in the laboratory analytical report

**Table 3**  
**Summary of Soil Characterization Analytical Results - Cell E7**  
**Rivers Edge**  
**484 - 490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	MCP METHOD 1 S-3/GW-3	Comm-97 Unlined Landfill	Units	TP-E7 (0-5) 3/1/2019	TP-E7 (5-10) 3/1/2019	TP-E7 (0-5)_N 3/10/2020	TP-E7 (5-10)_N 3/10/2020	TP-E7 (0-5)_E 3/10/2020	TP-E7 (5-10)_E 3/10/2020	TP-E7 (0-5)_W 3/10/2020	TP-E7 (5-10)_W 3/10/2020	TP-E7 (0-5)_S 3/10/2020	TP-E7 (5-10)_S 3/10/2020
Sample Date				0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10
Sample Depth (Ft)													
<b>Asbestos</b>													
CARB 435	NSE	NSE	%	0.00	0.00	--	--	--	--	--	--	--	--
<b>Metals</b>													
Antimony	30	NSE	mg/kg	9.3	ND(1.8)	--	--	--	--	--	--	--	--
Arsenic	50	40	mg/kg	8.7	3.7	--	--	--	--	--	--	--	--
Barium	5000	NSE	mg/kg	34	22	--	--	--	--	--	--	--	--
Beryllium	200	NSE	mg/kg	0.37	0.23	--	--	--	--	--	--	--	--
Cadmium	100	30	mg/kg	0.52	0.22	--	--	--	--	--	--	--	--
Chromium	200	1000	mg/kg	15	8.5	--	--	--	--	--	--	--	--
Lead	600	1000	mg/kg	780	300	76	170	180	25	43	19	29	19
Mercury	30	10	mg/kg	0.030	ND(0.026)	--	--	--	--	--	--	--	--
Nickel	1000	NSE	mg/kg	11	7.2	--	--	--	--	--	--	--	--
Selenium	700	NSE	mg/kg	ND(3.9)	ND(3.5)	--	--	--	--	--	--	--	--
Silver	200	NSE	mg/kg	ND(0.39)	ND(0.35)	--	--	--	--	--	--	--	--
Thallium	80	NSE	mg/kg	ND(1.9)	ND(1.8)	--	--	--	--	--	--	--	--
Vanadium	700	NSE	mg/kg	20	13	--	--	--	--	--	--	--	--
Zinc	5000	NSE	mg/kg	56	44	--	--	--	--	--	--	--	--
<b>Metals, TCLP</b>													
Lead	5*	5*	mg/l	10	12	0.12	4.4	1.0	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
<b>Total Petroleum Hydrocarbons (TPH)</b>													
TPH	5000	2500	mg/kg	430	160	--	--	--	--	--	--	--	--
<b>Volatile Organic Compounds (VOCs)</b>													
1,1,1,2-Tetrachloroethane	500	0.1	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane (1,1,1-TCA)	3000	30	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	500	0.1	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
1,1-Dichloroethane (1,1-DCA)	1000	0.4	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
1,1-Dichloroethene (1,1-DCE)	3000	3	mg/kg	ND(0.0042)	ND(0.0039)	--	--	--	--	--	--	--	--
1,1-Dichloropropene	NSE	NSE	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	NSE	NSE	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	NSE	100	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	5000	2	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	NSE	1000	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
1,2-Dibromo-3-Chloropropane	NSE	10	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
1,2-Dibromoethane	40	0.1	mg/kg	ND(0.0010)	ND(0.00098)	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	300	9	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
1,2-Dichloroethane (1,2-DCA)	300	0.1	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
1,2-Dichloroethylene, trans (1,2-DCE, trans)	500	1	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
1,2-Dichloropropane	3000	0.1	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	1000	10	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene (1,3-DCB)	NSE	3	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
1,3-Dichloropropane	500	500	mg/kg	ND(0.0010)	ND(0.00098)	--	--	--	--	--	--	--	--
1,3-Dichloropropene, cis	NSE	0.01	mg/kg	ND(0.0010)	ND(0.00098)	--	--	--	--	--	--	--	--
1,3-Dichloropropene, trans	NSE	0.01	mg/kg	ND(0.0010)	ND(0.00098)	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	NSE	0.7	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
1,4-Dioxane	2000	0.2	mg/kg	ND(0.10)	ND(0.098)	--	--	--	--	--	--	--	--
2,2-Dichloropropane	500	NSE	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--

**Table 3**  
**Summary of Soil Characterization Analytical Results - Cell E7**  
**Rivers Edge**  
**484 - 490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	MCP METHOD 1 S-3/GW-3	Comm-97 Unlined Landfill	Units	TP-E7	TP-E7	TP-E7	TP-E7	TP-E7	TP-E7	TP-E7	TP-E7	TP-E7	TP-E7
				(0-5)	(5-10)	(0-5)_N	(5-10)_N	(0-5)_E	(5-10)_E	(0-5)_W	(5-10)_W	(0-5)_S	(5-10)_S
				3/1/2019	3/1/2019	3/10/2020	3/10/2020	3/10/2020	3/10/2020	3/10/2020	3/10/2020	3/10/2020	3/10/2020
Sample Date													
Sample Depth (Ft)				0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10
2-Hexanone	NSE	100	mg/kg	ND(0.021)	ND(0.020)	--	--	--	--	--	--	--	--
Acetone	NSE	6	mg/kg	ND(0.10)	ND(0.098)	--	--	--	--	--	--	--	--
Benzene	400	2	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
Bromobenzene	1000	100	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
Bromochloromethane (Chlorobromomethane)	NSE	NSE	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
Bromodichloromethane	NSE	0.1	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
Bromoform	500	0.1	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
Bromomethane	800	0.5	mg/kg	ND(0.010)	ND(0.0098)	--	--	--	--	--	--	--	--
Carbon Disulfide	30	100	mg/kg	ND(0.0063)	ND(0.0059)	--	--	--	--	--	--	--	--
Carbon Tetrachloride	NSE	5	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
Chlorobenzene	1000	1	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
Chloroethane	100	100	mg/kg	ND(0.010)	ND(0.0098)	--	--	--	--	--	--	--	--
Chloroform	NSE	0.2	mg/kg	ND(0.0042)	ND(0.0039)	--	--	--	--	--	--	--	--
Chloromethane	1000	100	mg/kg	ND(0.010)	ND(0.0098)	--	--	--	--	--	--	--	--
Dibromochloromethane	NSE	0.005	mg/kg	ND(0.0010)	ND(0.00098)	--	--	--	--	--	--	--	--
Dibromomethane	500	500	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	NSE	1000	mg/kg	ND(0.010)	ND(0.0098)	--	--	--	--	--	--	--	--
Dichloroethylene, cis 1,2 (cis-1,2 DCE)	NSE	0.1	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
Ethyl Ether	NSE	100	mg/kg	ND(0.010)	ND(0.0098)	--	--	--	--	--	--	--	--
Ethylbenzene	3000	40	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
Ethyl-Tert-Butyl-Ether (Tert-Butylethyl Ether)	NSE	NSE	mg/kg	ND(0.0010)	ND(0.00098)	--	--	--	--	--	--	--	--
Hexachlorobutadiene	100	30	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
Isopropyl Benzene	NSE	1000	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
Isopropyl Ether	NSE	100	mg/kg	ND(0.0010)	ND(0.00098)	--	--	--	--	--	--	--	--
Methyl Ethyl Ketone (MEK)	400	4	mg/kg	ND(0.042)	ND(0.039)	--	--	--	--	--	--	--	--
Methyl Isobutyl Ketone (MIBK)	400	0.4	mg/kg	ND(0.021)	ND(0.020)	--	--	--	--	--	--	--	--
Methyl Tert-Butyl Ether	500	0.1	mg/kg	ND(0.0042)	ND(0.0039)	--	--	--	--	--	--	--	--
Methylene Chloride	700	0.1	mg/kg	ND(0.010)	ND(0.0098)	--	--	--	--	--	--	--	--
Naphthalene	3000	NSE	mg/kg	ND(0.0042)	ND(0.0039)	--	--	--	--	--	--	--	--
n-Butylbenzene	NSE	NSE	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
o-Chlorotoluene	NSE	100	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
o-Xylene	3000	100	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
p/m-Xylene	3000	100	mg/kg	ND(0.0042)	ND(0.0039)	--	--	--	--	--	--	--	--
p-Chlorotoluene (4-Chlorotoluene)	NSE	NSE	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
p-Cymene	NSE	100	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
Propylbenzene	NSE	100	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
Sec-Butylbenzene	NSE	NSE	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
Styrene	2000	3	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
Tert-Butylbenzene	NSE	100	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
Tertiary-Amyl Methyl Ether (TAME)	NSE	NSE	mg/kg	ND(0.0010)	ND(0.00098)	--	--	--	--	--	--	--	--
Tetrachloroethane	400	0.005	mg/kg	ND(0.0010)	ND(0.00098)	--	--	--	--	--	--	--	--
Tetrachloroethylene (PCE)	1000	1	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
Tetrahydrofuran	NSE	500	mg/kg	ND(0.010)	ND(0.0098)	--	--	--	--	--	--	--	--
Toluene	3000	NSE	mg/kg	ND(0.0021)	0.0023	--	--	--	--	--	--	--	--
Trichloroethylene (TCE)	60	0.3	mg/kg	ND(0.0021)	ND(0.0020)	--	--	--	--	--	--	--	--
Trichlorofluoromethane	NSE	1000	mg/kg	ND(0.010)	ND(0.0098)	--	--	--	--	--	--	--	--
Vinyl Chloride	60	0.7	mg/kg	ND(0.010)	ND(0.0098)	--	--	--	--	--	--	--	--
Total VOCs	4	4	mg/kg	ND	0.0023	--	--	--	--	--	--	--	--



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**Summary of Soil Characterization Analytical Results - Cell E7**  
**Rivers Edge**  
**484 - 490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	MCP METHOD 1 S-3/GW-3	Comm-97 Unlined Landfill	Units	TP-E7 (0-5) 3/1/2019	TP-E7 (5-10) 3/1/2019	TP-E7 (0-5)_N 3/10/2020	TP-E7 (5-10)_N 3/10/2020	TP-E7 (0-5)_E 3/10/2020	TP-E7 (5-10)_E 3/10/2020	TP-E7 (0-5)_W 3/10/2020	TP-E7 (5-10)_W 3/10/2020	TP-E7 (0-5)_S 3/10/2020	TP-E7 (5-10)_S 3/10/2020
Sample Date				0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10
Sample Depth (Ft)													
Semivolatiles Organic Compounds (SVOCs)													
1,2,4-Trichlorobenzene	5000	2	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	300	9	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
1,2-Diphenylhydrazine	NSE	50	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene (1,3-DCB)	500	3	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	2000	0.7	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	600	4	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	20	0.7	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	40	0.7	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	1000	0.7	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	100	3	mg/kg	ND(1.5)	ND(1.4)	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	80	0.7	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	NSE	100	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
2-Chloronaphthalene	NSE	1000	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
2-Chlorophenol	300	0.7	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
2-Methylnaphthalene	500	NSE	mg/kg	ND(0.39)	ND(0.36)	--	--	--	--	--	--	--	--
2-Methylphenol (o-Cresol)	NSE	NSE	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
2-Nitrophenol (o-Nitrophenol)	NSE	NSE	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidine	100	NSE	mg/kg	ND(0.39)	ND(0.36)	--	--	--	--	--	--	--	--
3-Methylphenol/4-Methylphenol	NSE	NSE	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
4-Bromophenyl Phenyl Ether	NSE	NSE	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
Acenaphthene	5000	NSE	mg/kg	ND(0.39)	ND(0.36)	--	--	--	--	--	--	--	--
Acenaphthylene	10	NSE	mg/kg	ND(0.39)	ND(0.36)	--	--	--	--	--	--	--	--
Acetophenone	NSE	NSE	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
Aniline	NSE	NSE	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
Anthracene	5000	NSE	mg/kg	ND(0.39)	ND(0.36)	--	--	--	--	--	--	--	--
Benzo(a)Anthracene	300	NSE	mg/kg	0.55	ND(0.36)	--	--	--	--	--	--	--	--
Benzo(a)Pyrene	30	NSE	mg/kg	0.60	ND(0.36)	--	--	--	--	--	--	--	--
Benzo(b)Fluoranthene	300	NSE	mg/kg	0.84	ND(0.36)	--	--	--	--	--	--	--	--
Benzo(g,h,i)Perylene	5000	NSE	mg/kg	ND(0.39)	ND(0.36)	--	--	--	--	--	--	--	--
Benzo(k)Fluoranthene	3000	NSE	mg/kg	ND(0.39)	ND(0.36)	--	--	--	--	--	--	--	--
Bis (2-Chloroethyl) Ether	80	NSE	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
Bis(2-Ethylhexyl)Phthalate	2000	NSE	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
Butyl Benzyl Phthalate	NSE	NSE	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
Chrysene	3000	NSE	mg/kg	0.64	ND(0.36)	--	--	--	--	--	--	--	--
Dibenzo(a,h)Anthracene	30	NSE	mg/kg	ND(0.39)	ND(0.36)	--	--	--	--	--	--	--	--
Dibenzofuran	NSE	NSE	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
Dichloroisopropyl Ether	SNC8	NSE	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
Dichloromethoxy Ethane	NSE	NSE	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
Diethyl Phthalate	300	NSE	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
Dimethyl Phthalate	600	NSE	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
Fluoranthene	5000	NSE	mg/kg	0.92	ND(0.36)	--	--	--	--	--	--	--	--
Fluorene	5000	NSE	mg/kg	ND(0.39)	ND(0.36)	--	--	--	--	--	--	--	--
Hexachlorobenzene	0.8	NSE	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
Hexachlorobutadiene	100	NSE	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
Hexachloroethane	200	NSE	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)Pyrene	300	NSE	mg/kg	0.41	ND(0.36)	--	--	--	--	--	--	--	--
Isophorone	NSE	NSE	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--

**Table 3**  
**Summary of Soil Characterization Analytical Results - Cell E7**  
**Rivers Edge**  
**484 - 490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	MCP METHOD 1 S-3/GW-3	Comm-97 Unlined Landfill	Units	TP-E7 (0-5) 3/1/2019	TP-E7 (5-10) 3/1/2019	TP-E7 (0-5)_N 3/10/2020	TP-E7 (5-10)_N 3/10/2020	TP-E7 (0-5)_E 3/10/2020	TP-E7 (5-10)_E 3/10/2020	TP-E7 (0-5)_W 3/10/2020	TP-E7 (5-10)_W 3/10/2020	TP-E7 (0-5)_S 3/10/2020	TP-E7 (5-10)_S 3/10/2020
Sample Date				0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10
Sample Depth (Ft)													
Naphthalene	3000	NSE	mg/kg	ND(0.39)	ND(0.36)	--	--	--	--	--	--	--	--
n-Butyl Phthalate	NSE	NSE	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
n-Dioctyl Phthalate	NSE	NSE	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
Nitrobenzene	NSE	NSE	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
p-Chloroaniline	3	NSE	mg/kg	ND(1.5)	ND(1.4)	--	--	--	--	--	--	--	--
Pentachlorophenol	10	NSE	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
Phenanthrene	3000	NSE	mg/kg	ND(0.39)	ND(0.36)	--	--	--	--	--	--	--	--
Phenol	20	NSE	mg/kg	ND(0.79)	ND(0.73)	--	--	--	--	--	--	--	--
p-Nitrophenol	NSE	NSE	mg/kg	ND(1.5)	ND(1.4)	--	--	--	--	--	--	--	--
Pyrene	5000	NSE	mg/kg	1.2	ND(0.36)	--	--	--	--	--	--	--	--
Total SVOCs	100	100	mg/kg	4.61	ND	--	--	--	--	--	--	--	--
<b>Polychlorinated Biphenyls (PCBs)</b>													
Total PCBs	4	2	mg/kg	ND(0.090)	ND(0.081)	--	--	--	--	--	--	--	--
<b>General Chemistry</b>													
Ignitability	NSE	140	present/ absent	absent	absent	--	--	--	--	--	--	--	--
pH	NSE	NSE	pH Units	7.2	7.6	--	--	--	--	--	--	--	--
Reactivity Cyanide	NSE	250	mg/kg	ND(4.0)	ND(3.9)	--	--	--	--	--	--	--	--
Reactivity Sulfide	NSE	500	mg/kg	ND(20)	ND(20)	--	--	--	--	--	--	--	--
Specific Conductance	NSE	4000	umhos/cm	10	18	--	--	--	--	--	--	--	--

- Notes:
- mg/kg=milligram per kilogram; mg/l=milligram per liter; uhoms/cm=microohms per centimeter
  - Reportable Concentrations (RCS-1) taken from the Massachusetts Contingency Plan (MCP) 310 CMR 40.0974(2) dated April 2014
  - \* = MCP RCS-1 does not apply. Regulatory concentration taken from the Resource Conservation and Recovery Act (RCRA) hazardous waste regulations 40 CFR Part 261 Subpart C.
  - ND = Not Detected above laboratory reporting limits shown in parenthesis
  - -- = Not Analyzed
  - NSE = No Standard Exists
  - Highlighted values exceeds the applicable Reportable Concentration (\*regulatory concentration)
  - Full analytical results, including QA/QC information and data flags, are detailed in the laboratory analytical report

**Table 4**  
**Summary of Soil Analytical Results - All Samples**  
**Rivers Edge**  
**484 - 490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	MCP RCS-1	MCP RCS-2	Units	TP-A1 (0-5)	TP-A1 (5-10)	TP-A2 (0-5)	TP-A2 (5-10)	TP-A3 (0-5)	TP-A3 (5-10)	TP-A4 (0-5)	TP-A4 (5-10)	TP-A5 (0-5)	TP-A5 (5-10)	TP-B1 (0-5)	TP-B1 (5-10)	TP-B2 (0-5)	TP-B2 (5-10)	TP-B3 (0-5)	TP-B3 (5-10)			
				Sample Date	Sample Date	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/11/2019	3/11/2019
				Depth Interval (ft)	Depth Interval (ft)	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5
<b>Asbestos</b>																						
CARB 435	NSE	NSE	%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
<b>Extractable Petroleum Hydrocarbons (EPH) with target Polynuclear Aromatic Hydrocarbons (PAHs)</b>																						
C09-C18 Aliphatic Hydrocarbons	1000	3000	mg/kg	--	--	--	--	--	--	ND(23)	ND(23)	ND(22)	ND(23)	--	--	--	--	ND(22)	--			
C11-C22 Aromatic Hydrocarbons	1000	3000	mg/kg	--	--	--	--	--	--	190	290	280	300	--	--	--	--	160	--			
C19-C36 Aliphatics	3000	5000	mg/kg	--	--	--	--	--	--	140	210	220	190	--	--	--	--	120	--			
<b>Total Petroleum Hydrocarbons (TPH)</b>																						
TPH	1000	3000	mg/kg	440	530	410	590	790	940	1000	1000	1400	1300	760	480	300	510	1000	690			
<b>Volatile Organic Compounds (VOCs)</b>																						
1,1,1,2-Tetrachloroethane	0.1	0.1	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
1,1,1-Trichloroethane (1,1,1-TCA)	30	30	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
1,1,2-Trichloroethane	0.1	0.1	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
1,1-Dichloroethane (1,1-DCA)	0.4	0.4	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
1,1-Dichloroethene (1,1-DCE)	3	3	mg/kg	ND(0.0034)	ND(0.0036)	ND(0.0035)	ND(0.0033)	ND(0.0036)	ND(0.0033)	ND(0.0032)	ND(0.0038)	ND(0.0042)	ND(0.0037)	ND(0.0037)	ND(0.0034)	ND(0.0034)	ND(0.0037)	ND(0.0037)	ND(0.0063)			
1,1-Dichloropropene	NSE	NSE	mg/kg	ND(0.0034)	ND(0.0036)	ND(0.0035)	ND(0.0033)	ND(0.0036)	ND(0.0033)	ND(0.0032)	ND(0.0038)	ND(0.0042)	ND(0.0037)	ND(0.0018)	ND(0.0034)	ND(0.0034)	ND(0.0037)	ND(0.0037)	ND(0.0063)			
1,2,3-Trichlorobenzene	NSE	NSE	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
1,2,3-Trichloropropane	100	100	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
1,2,4-Trichlorobenzene	2	2	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
1,2,4-Trimethylbenzene	1000	1000	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
1,2-Dibromo-3-Chloropropane	10	10	mg/kg	ND(0.0034)	ND(0.0036)	ND(0.0035)	ND(0.0033)	ND(0.0036)	ND(0.0033)	ND(0.0032)	ND(0.0038)	ND(0.0042)	ND(0.0037)	ND(0.0018)	ND(0.0034)	ND(0.0034)	ND(0.0037)	ND(0.0037)	ND(0.0063)			
1,2-Dibromoethane	0.1	0.1	mg/kg	ND(0.0085)	ND(0.0091)	ND(0.0088)	ND(0.0083)	ND(0.0090)	ND(0.0081)	ND(0.0079)	ND(0.0095)	ND(0.0011)	ND(0.0094)	ND(0.0092)	ND(0.0085)	ND(0.0085)	ND(0.0092)	ND(0.0094)	ND(0.0016)			
1,2-Dichlorobenzene	9	9	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
1,2-Dichloroethane (1,2-DCA)	0.1	0.1	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
1,2-Dichloroethylene, trans (1,2-DCE)	1	1	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
1,2-Dichloropropane	0.1	0.1	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
1,3,5-Trimethylbenzene	10	10	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
1,3-Dichlorobenzene (1,3-DCB)	3	3	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
1,3-Dichloropropane	500	500	mg/kg	ND(0.0085)	ND(0.0091)	ND(0.0088)	ND(0.0083)	ND(0.0090)	ND(0.0081)	ND(0.0079)	ND(0.0095)	ND(0.0011)	ND(0.0094)	ND(0.0092)	ND(0.0085)	ND(0.0085)	ND(0.0092)	ND(0.0094)	ND(0.0016)			
1,3-Dichloropropene, cis	0.01	0.01	mg/kg	ND(0.0085)	ND(0.0091)	ND(0.0088)	ND(0.0083)	ND(0.0090)	ND(0.0081)	ND(0.0079)	ND(0.0095)	ND(0.0011)	ND(0.0094)	ND(0.0092)	ND(0.0085)	ND(0.0085)	ND(0.0092)	ND(0.0094)	ND(0.0016)			
1,3-Dichloropropene, trans	0.01	0.01	mg/kg	ND(0.0085)	ND(0.0091)	ND(0.0088)	ND(0.0083)	ND(0.0090)	ND(0.0081)	ND(0.0079)	ND(0.0095)	ND(0.0011)	ND(0.0094)	ND(0.0092)	ND(0.0085)	ND(0.0085)	ND(0.0092)	ND(0.0094)	ND(0.0016)			
1,4-Dichlorobenzene	0.7	0.7	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
1,4-Dioxane	0.2	0.2	mg/kg	ND(0.17)	ND(0.18)	ND(0.18)	ND(0.17)	ND(0.18)	ND(0.16)	ND(0.16)	ND(0.19)	ND(0.21)	ND(0.19)	ND(0.092)	ND(0.17)	ND(0.17)	ND(0.18)	ND(0.19)	ND(0.31)			
2,2-Dichloropropane	NSE	NSE	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
2-Hexanone	100	100	mg/kg	ND(0.017)	ND(0.018)	ND(0.018)	ND(0.017)	ND(0.018)	ND(0.016)	ND(0.016)	ND(0.019)	ND(0.021)	ND(0.019)	ND(0.018)	ND(0.017)	ND(0.017)	ND(0.018)	ND(0.019)	ND(0.031)			
Acetone	6	6	mg/kg	ND(0.085)	ND(0.091)	ND(0.088)	ND(0.083)	ND(0.090)	ND(0.081)	ND(0.079)	ND(0.095)	ND(0.11)	ND(0.094)	ND(0.092)	ND(0.085)	ND(0.085)	ND(0.092)	ND(0.094)	ND(0.16)			
Benzene	2	2	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
Bromobenzene	100	100	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
Bromochloromethane (Chlorobromor)	NSE	NSE	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
Bromodichloromethane	0.1	0.1	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
Bromoform	0.1	0.1	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
Bromomethane	0.5	0.5	mg/kg	ND(0.0085)	ND(0.0091)	ND(0.0088)	ND(0.0083)	ND(0.0090)	ND(0.0081)	ND(0.0079)	ND(0.0095)	ND(0.011)	ND(0.0094)	ND(0.0092)	ND(0.0085)	ND(0.0085)	ND(0.0092)	ND(0.0094)	ND(0.016)			
Carbon Disulfide	100	100	mg/kg	ND(0.0051)	ND(0.0055)	ND(0.0053)	ND(0.0050)	ND(0.0054)	ND(0.0049)	ND(0.0047)	ND(0.0057)	ND(0.0063)	ND(0.0056)	ND(0.0055)	ND(0.0051)	ND(0.0051)	ND(0.0055)	ND(0.0056)	ND(0.0094)			
Carbon Tetrachloride	5	5	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
Chlorobenzene	1	1	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
Chloroethane	100	100	mg/kg	ND(0.0085)	ND(0.0091)	ND(0.0088)	ND(0.0083)	ND(0.0090)	ND(0.0081)	ND(0.0079)	ND(0.0095)	ND(0.011)	ND(0.0094)	ND(0.0092)	ND(0.0085)	ND(0.0085)	ND(0.0092)	ND(0.0094)	ND(0.016)			
Chloroform	0.2	0.2	mg/kg	ND(0.0034)	ND(0.0036)	ND(0.0035)	ND(0.0033)	ND(0.0036)	ND(0.0033)	ND(0.0032)	ND(0.0038)	ND(0.0042)	ND(0.0037)	ND(0.0037)	ND(0.0034)	ND(0.0034)	ND(0.0037)	ND(0.0037)	ND(0.0063)			
Chloromethane	100	100	mg/kg	ND(0.0085)	ND(0.0091)	ND(0.0088)	ND(0.0083)	ND(0.0090)	ND(0.0081)	ND(0.0079)	ND(0.0095)	ND(0.011)	ND(0.0094)	ND(0.0092)	ND(0.0085)	ND(0.0085)	ND(0.0092)	ND(0.0094)	ND(0.016)			
Dibromochloromethane	0.005	0.005	mg/kg	ND(0.0085)	ND(0.0091)	ND(0.0088)	ND(0.0083)	ND(0.0090)	ND(0.0081)	ND(0.0079)	ND(0.0095)	ND(0.011)	ND(0.0094)	ND(0.0092)	ND(0.0085)	ND(0.0085)	ND(0.0092)	ND(0.0094)</				



**Table 4**  
**Summary of Soil Analytical Results - All Samples**  
**Rivers Edge**  
**484 - 490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	Sample Date	MCP RCS-1	MCP RCS-2	Units	TP-A1 (0-5)	TP-A1 (5-10)	TP-A2 (0-5)	TP-A2 (5-10)	TP-A3 (0-5)	TP-A3 (5-10)	TP-A4 (0-5)	TP-A4 (5-10)	TP-A5 (0-5)	TP-A5 (5-10)	TP-B1 (0-5)	TP-B1 (5-10)	TP-B2 (0-5)	TP-B2 (5-10)	TP-B3 (0-5)	TP-B3 (5-10)			
					3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/11/2019	3/11/2019
					0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5
Ethylbenzene		40	40	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
Ethyl-Tert-Butyl-Ether (Tert-Butylethy		NSE	NSE	mg/kg	ND(0.00085)	ND(0.00091)	ND(0.00088)	ND(0.00083)	ND(0.00090)	ND(0.00081)	ND(0.00079)	ND(0.00095)	ND(0.0011)	ND(0.00094)	ND(0.00092)	ND(0.00085)	ND(0.00085)	ND(0.00092)	ND(0.00094)	ND(0.0016)			
Hexachlorobutadiene		30	30	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
Isopropyl Benzene		1000	1000	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
Isopropyl Ether		100	100	mg/kg	ND(0.00085)	ND(0.00091)	ND(0.00088)	ND(0.00083)	ND(0.00090)	ND(0.00081)	ND(0.00079)	ND(0.00095)	ND(0.0011)	ND(0.00094)	ND(0.00092)	ND(0.00085)	ND(0.00085)	ND(0.00092)	ND(0.00094)	ND(0.0016)			
Methyl Ethyl Ketone (MEK)		4	4	mg/kg	ND(0.034)	ND(0.036)	ND(0.035)	ND(0.033)	ND(0.036)	ND(0.033)	ND(0.032)	ND(0.038)	ND(0.042)	ND(0.037)	ND(0.037)	ND(0.034)	ND(0.034)	ND(0.037)	ND(0.037)	ND(0.063)			
Methyl Isobutyl Ketone (MIBK)		0.4	0.4	mg/kg	ND(0.017)	ND(0.018)	ND(0.018)	ND(0.017)	ND(0.018)	ND(0.016)	ND(0.016)	ND(0.019)	ND(0.021)	ND(0.019)	ND(0.018)	ND(0.017)	ND(0.017)	ND(0.018)	ND(0.019)	ND(0.031)			
Methyl Tert-Butyl Ether		0.1	0.1	mg/kg	ND(0.0034)	ND(0.0036)	ND(0.0035)	ND(0.0033)	ND(0.0036)	ND(0.0033)	ND(0.0032)	ND(0.0038)	ND(0.0042)	ND(0.0037)	ND(0.0037)	ND(0.0034)	ND(0.0034)	ND(0.0037)	ND(0.0037)	ND(0.0063)			
Methylene Chloride		0.1	0.1	mg/kg	ND(0.0085)	ND(0.0091)	ND(0.0088)	ND(0.0083)	ND(0.0090)	ND(0.0081)	ND(0.0079)	ND(0.0095)	ND(0.011)	ND(0.0094)	ND(0.0092)	ND(0.0085)	ND(0.0085)	ND(0.0092)	ND(0.0094)	ND(0.016)			
Naphthalene		4	4	mg/kg	ND(0.0034)	ND(0.0036)	ND(0.0035)	ND(0.0033)	ND(0.0036)	ND(0.0033)	ND(0.0032)	ND(0.0038)	ND(0.0042)	ND(0.0037)	ND(0.0037)	0.0045	ND(0.0034)	ND(0.0037)	ND(0.0037)	ND(0.0063)			
n-Butylbenzene		NSE	NSE	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
o-Chlorotoluene		100	100	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
o-Xylene		100	100	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
p/m-Xylene		100	100	mg/kg	ND(0.0034)	ND(0.0036)	ND(0.0035)	ND(0.0033)	ND(0.0036)	ND(0.0033)	ND(0.0032)	ND(0.0038)	ND(0.0042)	ND(0.0037)	ND(0.0037)	ND(0.0034)	ND(0.0034)	ND(0.0037)	ND(0.0037)	ND(0.0063)			
p-Chlorotoluene (4-Chlorotoluene)		NSE	NSE	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
p-Cymene		100	100	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
Propylbenzene		100	100	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
Sec-Butylbenzene		NSE	NSE	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
Styrene		3	3	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
Tert-Butylbenzene		100	100	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
Tertiary-Amyl Methyl Ether (TAME)		NSE	NSE	mg/kg	ND(0.00085)	ND(0.00091)	ND(0.00088)	ND(0.00083)	ND(0.00090)	ND(0.00081)	ND(0.00079)	ND(0.00095)	ND(0.0011)	ND(0.00094)	ND(0.00092)	ND(0.00085)	ND(0.00085)	ND(0.00092)	ND(0.00094)	ND(0.0016)			
Tetrachloroethane		0.005	0.005	mg/kg	ND(0.00085)	ND(0.00091)	ND(0.00088)	ND(0.00083)	ND(0.00090)	ND(0.00081)	ND(0.00079)	ND(0.00095)	ND(0.0011)	ND(0.00094)	ND(0.00092)	ND(0.00085)	ND(0.00085)	ND(0.00092)	ND(0.00094)	ND(0.0016)			
Tetrachloroethylene (PCE)		1	1	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
Tetrahydrofuran		500	500	mg/kg	ND(0.0085)	ND(0.0091)	ND(0.0088)	ND(0.0083)	ND(0.0090)	ND(0.0081)	ND(0.0079)	ND(0.0095)	ND(0.011)	ND(0.0094)	ND(0.0092)	ND(0.0085)	ND(0.0085)	ND(0.0092)	ND(0.0094)	ND(0.016)			
Toluene		30	30	mg/kg	ND(0.0017)	0.0019	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	0.0022	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
Trichloroethylene (TCE)		0.3	0.3	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0017)	ND(0.0018)	ND(0.0016)	ND(0.0016)	ND(0.0019)	ND(0.0021)	ND(0.0019)	ND(0.0018)	ND(0.0017)	ND(0.0017)	ND(0.0018)	ND(0.0019)	ND(0.0031)			
Trichlorofluoromethane		1000	1000	mg/kg	ND(0.0085)	ND(0.0091)	ND(0.0088)	ND(0.0083)	ND(0.0090)	ND(0.0081)	ND(0.0079)	ND(0.0095)	ND(0.011)	ND(0.0094)	ND(0.0092)	ND(0.0085)	ND(0.0085)	ND(0.0092)	ND(0.0094)	ND(0.016)			
Vinyl Chloride		0.7	0.7	mg/kg	ND(0.0085)	ND(0.0091)	ND(0.0088)	ND(0.0083)	ND(0.0090)	ND(0.0081)	ND(0.0079)	ND(0.0095)	ND(0.011)	ND(0.0094)	ND(0.0092)	ND(0.0085)	ND(0.0085)	ND(0.0092)	ND(0.0094)	ND(0.016)			
Total VOCs		NSE	NSE	mg/kg	ND(0.17)	0.0019	ND(0.18)	ND(0.17)	ND(0.18)	ND(0.16)	ND(0.16)	ND(0.19)	ND(0.21)	ND(0.19)	ND(0.092)	0.0045	ND(0.17)	ND(0.18)	ND(0.19)	ND(0.31)			
<b>Semivolatile Organic Compounds (SVOCs)</b>																							
1,2,4-Trichlorobenzene		2	2	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)			
1,2-Dichlorobenzene		9	9	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)			
1,2-Diphenylhydrazine		50	50	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)			
1,3-Dichlorobenzene (1,3-DCB)		3	3	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)			
1,4-Dichlorobenzene		0.7	0.7	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)			
2,4,5-Trichlorophenol		4	4	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)			
2,4,6-Trichlorophenol		0.7	0.7	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)			
2,4-Dichlorophenol		0.7	0.7	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)			
2,4-Dimethylphenol		0.7	0.7	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)			
2,4-Dinitrophenol		3	3	mg/kg	ND(1.5)	ND(0.76)	ND(2.9)	ND(1.4)	ND(3.0)	ND(3.7)	ND(3.7)	ND(3.8)	ND(3.0)	ND(3.8)	ND(1.5)	ND(3.6)	ND(0.74)	ND(1.4)	ND(2.9)	ND(2.7)			
2,4-Dinitrotoluene		0.7	0.7	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)			
2,6-Dinitrotoluene		100	100	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)			
2-Chloronaphthalene		1000	1000	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)			
2-Chlorophenol		0.7	0.7	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)			
2-Methylnaphthalene		0.7	0.7	mg/kg	ND(0.39)	ND(0.20)	ND(0.76)	ND(0.36)	ND(0.77)	ND(0.96)	ND(0.96)	ND(0.98)	ND(0.78)	ND(0.98)	ND(0.38)	ND(0.92)	ND(0.19)	ND(0.37)	ND(0.76)	ND(0.69)			
2-Methylphenol (o-Cresol)		500	500	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)			
2-Nitrophenol (o-Nitrophenol)		100	100	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)			
3,3-Dichlorobenzidine		3	3	mg/kg	ND(0.39)	ND(0.20)	ND(0.76)	ND(0.36)	ND(0.77)	ND(0.96)	ND(0.96)	ND(0.98)	ND(0.78)	ND(0.98)	ND(0.38)	ND(0.92)	ND(0.19)	ND(0.37)	ND(0.76)	ND(0.69)			
3-Methylphenol/4-Methylphenol		NSE	NSE	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)			
4-Bromophenyl Phenyl Ether		100	100	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND						

**Table 4**  
**Summary of Soil Analytical Results - All Samples**  
**Rivers Edge**  
**484 - 490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	Sample Date	MCP RCS-1	MCP RCS-2	Units	TP-A1 (0-5)	TP-A1 (5-10)	TP-A2 (0-5)	TP-A2 (5-10)	TP-A3 (0-5)	TP-A3 (5-10)	TP-A4 (0-5)	TP-A4 (5-10)	TP-A5 (0-5)	TP-A5 (5-10)	TP-B1 (0-5)	TP-B1 (5-10)	TP-B2 (0-5)	TP-B2 (5-10)	TP-B3 (0-5)	TP-B3 (5-10)			
					3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/11/2019	3/11/2019
					0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5
Acetophenone	1000	1000	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)				
Aniline	1000	1000	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)				
Anthracene	1000	10	mg/kg	ND(0.39)	ND(0.20)	ND(0.76)	ND(0.36)	ND(0.77)	ND(0.96)	ND(0.96)	1.2	ND(0.78)	ND(0.98)	ND(0.38)	ND(0.92)	ND(0.19)	ND(0.37)	0.76	ND(0.69)				
Benzo(a)Anthracene	7	7	mg/kg	0.69	0.36	ND(0.76)	1.3	1.2	1.2	1.4	1.4	1.6	2.1	0.72	1.3	0.68	0.84	1.8	ND(0.69)				
Benzo(a)Pyrene	2	30	mg/kg	0.72	0.40	ND(0.76)	1.4	1.2	1.2	1.5	1.5	1.5	2.0	0.82	1.4	0.72	0.92	1.7	ND(0.69)				
Benzo(b)Fluoranthene	7	300	mg/kg	0.84	0.45	0.77	1.6	1.5	1.3	1.7	1.8	1.8	2.5	1.0	1.6	0.86	1.1	2.0	ND(0.69)				
Benzo(g,h,i)Perylene	1000	3000	mg/kg	0.44	0.26	ND(0.76)	0.76	0.80	ND(0.96)	ND(0.96)	1.1	0.93	1.2	0.43	0.98	0.57	0.70	1.1	ND(0.69)				
Benzo(k)Fluoranthene	70	3000	mg/kg	ND(0.39)	ND(0.20)	ND(0.76)	0.64	ND(0.77)	ND(0.96)	ND(0.96)	ND(0.98)	ND(0.78)	ND(0.98)	0.43	ND(0.92)	0.34	0.40	ND(0.76)	ND(0.69)				
Bis (2-Chloroethyl) Ether	0.7	0.7	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)				
Bis(2-Ethylhexyl)Phthalate	100	700	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)				
Butyl Benzyl Phthalate	100	1000	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)				
Chrysene	70	400	mg/kg	0.66	0.39	ND(0.76)	1.3	1.2	1.2	1.4	1.3	1.4	1.9	0.80	1.4	0.74	0.88	1.7	ND(0.69)				
Dibenzo(a,h)Anthracene	0.7	4	mg/kg	ND(0.39)	ND(0.20)	ND(0.76)	ND(0.36)	ND(0.77)	ND(0.96)	ND(0.96)	ND(0.98)	ND(0.78)	ND(0.98)	ND(0.38)	ND(0.92)	ND(0.19)	ND(0.37)	ND(0.76)	ND(0.69)				
Dibenzofuran	100	1000	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)				
Dichloroisopropyl Ether	0.7	0.7	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)				
Dichloromethoxy Ethane	500	5000	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)				
Diethyl Phthalate	10	200	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)				
Dimethyl Phthalate	0.7	50	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)				
Fluoranthene	1000	3000	mg/kg	1.3	0.62	0.94	2.3	2.4	1.9	2.8	2.5	3.2	3.8	1.1	2.4	1.3	1.6	3.9	ND(0.69)				
Fluorene	1000	3000	mg/kg	ND(0.39)	ND(0.20)	ND(0.76)	ND(0.36)	ND(0.77)	ND(0.96)	ND(0.96)	ND(0.98)	ND(0.78)	ND(0.98)	ND(0.38)	ND(0.92)	ND(0.19)	ND(0.37)	ND(0.76)	ND(0.69)				
Hexachlorobenzene	0.7	0.8	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)				
Hexachlorobutadiene	30	100	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)				
Hexachloroethane	0.7	3	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)				
Indeno(1,2,3-cd)Pyrene	7	40	mg/kg	0.43	0.27	ND(0.76)	0.81	ND(0.77)	ND(0.96)	ND(0.96)	1.1	0.95	1.3	0.45	ND(0.92)	0.55	0.67	1.2	ND(0.69)				
Isophorone	100	1000	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)				
Naphthalene	4	20	mg/kg	ND(0.39)	ND(0.20)	ND(0.76)	ND(0.36)	ND(0.77)	ND(0.96)	ND(0.96)	ND(0.98)	ND(0.78)	ND(0.98)	ND(0.38)	ND(0.92)	ND(0.19)	ND(0.37)	ND(0.76)	ND(0.69)				
n-Butyl Phthalate	50	500	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)				
n-Dioctyl Phthalate	1000	10000	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)				
Nitrobenzene	500	5000	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)				
p-Chloroaniline	1	3	mg/kg	ND(1.5)	ND(0.76)	ND(2.9)	ND(1.4)	ND(3.0)	ND(3.7)	ND(3.7)	ND(3.8)	ND(3.0)	ND(3.8)	ND(1.5)	ND(3.6)	ND(0.74)	ND(1.4)	ND(2.9)	ND(2.7)				
Pentachlorophenol	3	10	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)				
Phenanthrene	10	1000	mg/kg	0.56	0.28	ND(0.76)	1.1	1.3	1.2	1.6	1.3	2.7	2.3	0.49	1.7	0.80	0.79	3.1	ND(0.69)				
Phenol	1	20	mg/kg	ND(0.77)	ND(0.39)	ND(1.5)	ND(0.72)	ND(1.5)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.6)	ND(2.0)	ND(0.76)	ND(1.8)	ND(0.38)	ND(0.74)	ND(1.5)	ND(1.4)				
p-Nitrophenol	100	1000	mg/kg	ND(1.5)	ND(0.76)	ND(2.9)	ND(1.4)	ND(3.0)	ND(3.7)	ND(3.7)	ND(3.8)	ND(3.0)	ND(3.8)	ND(1.5)	ND(3.6)	ND(0.74)	ND(1.4)	ND(2.9)	ND(2.7)				
Pyrene	1000	3000	mg/kg	1.4	0.75	1.3	2.5	2.2	2.4	3.2	2.8	3.2	4.3	1.3	3.1	1.4	1.7	3.8	0.82				
Total SVOCs	NSE	NSE	mg/kg	6.35	3.42	3.01	12.41	10.60	9.20	12.20	13.40	15.68	19.30	6.82	12.58	7.28	8.76	18.50	0.82				
<b>Metals</b>																							
Antimony	20	30	mg/kg	ND(1.8)	ND(1.9)	ND(1.8)	ND(1.7)	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.8)	ND(1.8)	ND(1.8)	ND(1.8)	ND(1.8)	ND(3.4)				
Arsenic	20	20	mg/kg	6.8	5.8	7.6	3.9	7.0	5.7	5.4	4.0	5.7	4.5	9.6	5.4	5.6	5.3	6.0	19				
Barium	1000	3000	mg/kg	37	31	34	37	36	30	33	34	40	34	34	31	32	30	32	58				
Beryllium	90	200	mg/kg	0.33	0.38	0.38	0.33	0.26	0.26	0.29	0.28	0.28	0.28	0.36	0.35	0.32	0.30	0.32	0.44				
Cadmium	70	100	mg/kg	0.51	0.38	0.47	0.29	0.45	0.38	0.39	0.30	0.45	0.41	0.50	0.33	0.41	0.54	0.41	1.2				
Chromium	100	200	mg/kg	15	15	15	17	13	15	14	17	14	17	17	14	13	15	15	24				
Lead	200	600	mg/kg	44	25	58	43	69	48	44	36	43	35	34	23	62	53	60	87				
Mercury	20	30	mg/kg	0.051	0.029	0.048	0.032	0.042	0.039	0.095	0.044	0.055	0.054	0.034	ND(0.026)	0.054	0.040	0.036	ND(0.049)				
Nickel	600	1000	mg/kg	12	12	11	13	9.8	12	11	13	11	13	13	12	9.4	12	12	19				
Selenium	400	700	mg/kg	ND(3.7)	ND(3.8)	ND(3.7)	ND(3.5)	ND(3.8)	ND(3.8)	ND(3.8)	ND(3.8)	ND(3.8)	ND(3.8)	ND(3.6)	ND(3.6)	ND(3.7)	ND(3.7)	ND(3.7)	ND(6.8)				
Silver	100	200	mg/kg	ND(0.37)	ND(0.38)	ND(0.37)	ND(0.35)	ND(0.38)	ND(0.38)	ND(0.38)	ND(0.38)	ND(0.38)	ND(0.38)	ND(0.36)	ND(0.36)	ND(0.37)	ND(0.37)	ND(0.37)	ND(0.68)				
Thallium	8	60	mg/kg	ND(1.8)	ND(1.9)	ND(1.8)	ND(1.7)	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.8)	ND(1.8)	ND(1.8)	ND(1.8)	ND(1.8)	ND(3.4)				
Vanadium	400	700	mg/kg	25	26	21	30	18	23	21	28	29	24	23	22	19	22	21	38				
Zinc	1000	3000	mg/kg	49	39	49	50	49	43	48	42	52	44	46	34	48	46	51	82				

**Table 4**  
**Summary of Soil Analytical Results - All Samples**  
**Rivers Edge**  
**484 - 490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	MCP RCS-1	MCP RCS-2	Units	TP-A1 (0-5)	TP-A1 (5-10)	TP-A2 (0-5)	TP-A2 (5-10)	TP-A3 (0-5)	TP-A3 (5-10)	TP-A4 (0-5)	TP-A4 (5-10)	TP-A5 (0-5)	TP-A5 (5-10)	TP-B1 (0-5)	TP-B1 (5-10)	TP-B2 (0-5)	TP-B2 (5-10)	TP-B3 (0-5)	TP-B3 (5-10)
Sample Date				3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/11/2019	3/11/2019
Depth Interval (ft)				0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10
<b>Polychlorinated Biphenyls (PCBs)</b>																			
Aroclor 1016	1	4	mg/kg	ND(0.091)	ND(0.093)	ND(0.091)	ND(0.085)	ND(0.090)	ND(0.086)	ND(0.087)	ND(0.091)	ND(0.090)	ND(0.089)	ND(0.089)	ND(0.087)	ND(0.090)	ND(0.089)	ND(0.083)	ND(0.16)
Aroclor 1221	1	4	mg/kg	ND(0.091)	ND(0.093)	ND(0.091)	ND(0.085)	ND(0.090)	ND(0.086)	ND(0.087)	ND(0.091)	ND(0.090)	ND(0.089)	ND(0.089)	ND(0.087)	ND(0.090)	ND(0.089)	ND(0.083)	ND(0.16)
Aroclor 1232	1	4	mg/kg	ND(0.091)	ND(0.093)	ND(0.091)	ND(0.085)	ND(0.090)	ND(0.086)	ND(0.087)	ND(0.091)	ND(0.090)	ND(0.089)	ND(0.089)	ND(0.087)	ND(0.090)	ND(0.089)	ND(0.083)	ND(0.16)
Aroclor 1242	1	4	mg/kg	ND(0.091)	ND(0.093)	ND(0.091)	ND(0.085)	ND(0.090)	ND(0.086)	ND(0.087)	ND(0.091)	ND(0.090)	ND(0.089)	ND(0.089)	ND(0.087)	ND(0.090)	ND(0.089)	ND(0.083)	ND(0.16)
Aroclor 1248	1	4	mg/kg	ND(0.091)	ND(0.093)	ND(0.091)	ND(0.085)	ND(0.090)	ND(0.086)	ND(0.087)	ND(0.091)	ND(0.090)	ND(0.089)	ND(0.089)	ND(0.087)	ND(0.090)	ND(0.089)	ND(0.083)	ND(0.16)
Aroclor 1254	1	4	mg/kg	ND(0.091)	ND(0.093)	ND(0.091)	ND(0.085)	ND(0.090)	ND(0.086)	ND(0.087)	ND(0.091)	ND(0.090)	ND(0.089)	ND(0.089)	ND(0.087)	ND(0.090)	ND(0.089)	ND(0.083)	ND(0.16)
Aroclor 1260	1	4	mg/kg	ND(0.091)	ND(0.093)	ND(0.091)	ND(0.085)	ND(0.090)	ND(0.086)	ND(0.087)	ND(0.091)	ND(0.090)	ND(0.089)	ND(0.089)	ND(0.087)	ND(0.090)	ND(0.089)	ND(0.083)	ND(0.16)
Aroclor 1262	1	4	mg/kg	ND(0.091)	ND(0.093)	ND(0.091)	ND(0.085)	ND(0.090)	ND(0.086)	ND(0.087)	ND(0.091)	ND(0.090)	ND(0.089)	ND(0.089)	ND(0.087)	ND(0.090)	ND(0.089)	ND(0.083)	ND(0.16)
Aroclor 1268	1	4	mg/kg	ND(0.091)	ND(0.093)	ND(0.091)	ND(0.085)	ND(0.090)	ND(0.086)	ND(0.087)	ND(0.091)	ND(0.090)	ND(0.089)	ND(0.089)	ND(0.087)	ND(0.090)	ND(0.089)	ND(0.083)	ND(0.16)
Total PCBs	1	4	mg/kg	ND(0.091)	ND(0.093)	ND(0.091)	ND(0.085)	ND(0.090)	ND(0.086)	ND(0.087)	ND(0.091)	ND(0.090)	ND(0.089)	ND(0.089)	ND(0.087)	ND(0.090)	ND(0.089)	ND(0.083)	ND(0.16)
<b>General Chemistry</b>																			
Ignitability	NSE	NSE	present/absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent
pH	NSE	NSE	pH Units	7.8	7.6	7.9	8.7	7.9	8.1	7.9	8.2	7.7	7.8	7.9	7.2	7.4	7.8	7.8	7.1
Reactivity Cyanide	NSE	NSE	mg/kg	ND(3.9)	ND(3.9)	ND(3.9)	ND(3.9)	ND(3.9)	ND(4.0)	ND(3.9)	ND(4.0)	ND(3.9)	ND(3.9)	ND(3.9)	ND(4.0)	ND(3.9)	ND(4.0)	ND(4.0)	ND(4.0)
Reactivity Sulfide	NSE	NSE	mg/kg	ND(20)	ND(19)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(19)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)
Solids, Total	NSE	NSE	%	ND(20)	ND(19)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(19)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)
Specific Conductance	2000	2000	umhos/cm	12	13	13	37	14	21	20	24	23	20	16	9.0	11	16	17	17

- Notes:
- mg/kg=milligram per kilogram; uhoms/cm=microohms per centimeter
  - Reportable Concentrations (RCS-1 & RCS-2) taken from the Massachusetts Contingency Plan (MCP) 310 CMR 40.0974(2) dated April 2014
  - Shaded out columns are not proposed for import to Facility.
  - ND = Not Detected above laboratory reporting limits shown in parenthesis
  - -- = Not Analyzed
  - NSE = No Standard Exists
  - Bolded values exceed applicable MCP RCS-1 Reportable Concentration
  - Underlined values exceed applicable MCP RCS-2 Reportable Concentration
  - Full analytical results are detailed in the laboratory analytical report



**Table 4**  
**Summary of Soil Analytical Results - All Samples**  
**Rivers Edge**  
**484 - 490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	Sample Date	MCP RCS-1	MCP RCS-2	Units	TP-B4 (0-5)	TP-B4 (5-10)	TP-B5 (0-5)	TP-B5 (5-10)	TP-B6 (0-5)	TP-B6 (5-10)	TP-C1 (0-5)	TP-C1 (5-10)	TP-C2 (0-5)	TP-C2 (5-10)	TP-C3 (0-5)	TP-C3 (5-10)	TP-C4 (0-5)	TP-C4 (5-10)	TP-C5 (0-5)	TP-C5 (5-10)			
					3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019
					0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5
<b>Asbestos</b>																							
CARB 435		NSE	NSE	%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
<b>Extractable Petroleum Hydrocarbons (EPH) with target Polynuclear Aromatic H</b>																							
C09-C18 Aliphatic Hydrocarbons	1000	3000	mg/kg	--	--	--	--	ND(23)	--	--	ND(55)	ND(21)	--	ND(53)	ND(55)	--	--	--	--	--			
C11-C22 Aromatic Hydrocarbons	1000	3000	mg/kg	--	--	--	--	290	--	--	330	140	--	250	430	--	--	--	--	--			
C19-C36 Aliphatics	3000	5000	mg/kg	--	--	--	--	200	--	--	270	100	--	210	310	--	--	--	--	--			
<b>Total Petroleum Hydrocarbons (TPH)</b>																							
TPH	1000	3000	mg/kg	400	390	540	640	1100	660	900	1200	1200	930	1700	1100	700	530	320	70				
<b>Volatile Organic Compounds (VOCs)</b>																							
1,1,1,2-Tetrachloroethane	0.1	0.1	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)				
1,1,1-Trichloroethane (1,1,1-TCA)	30	30	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)				
1,1,2-Trichloroethane	0.1	0.1	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)				
1,1-Dichloroethane (1,1-DCA)	0.4	0.4	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)				
1,1-Dichloroethene (1,1-DCE)	3	3	mg/kg	ND(0.0034)	ND(0.0035)	ND(0.0041)	ND(0.0034)	ND(0.0037)	ND(0.0040)	ND(0.0040)	ND(0.0033)	ND(0.0033)	ND(0.0030)	ND(0.0043)	ND(0.0033)	ND(0.0033)	ND(0.0048)	ND(0.0037)	ND(0.0037)				
1,1-Dichloropropene	NSE	NSE	mg/kg	ND(0.0034)	ND(0.0035)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0043)	ND(0.0016)	ND(0.0033)	ND(0.0048)	ND(0.0018)	ND(0.0037)				
1,2,3-Trichlorobenzene	NSE	NSE	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)				
1,2,3-Trichloropropane	100	100	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)				
1,2,4-Trichlorobenzene	2	2	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)				
1,2,4-Trimethylbenzene	1000	1000	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)				
1,2-Dibromo-3-Chloropropane	10	10	mg/kg	ND(0.0034)	ND(0.0035)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0043)	ND(0.0016)	ND(0.0033)	ND(0.0048)	ND(0.0018)	ND(0.0037)				
1,2-Dibromoethane	0.1	0.1	mg/kg	ND(0.00086)	ND(0.00088)	ND(0.0010)	ND(0.00086)	ND(0.00092)	ND(0.0010)	ND(0.0010)	ND(0.00084)	ND(0.00083)	ND(0.00075)	ND(0.0011)	ND(0.00082)	ND(0.00081)	ND(0.0012)	ND(0.00092)	ND(0.00094)				
1,2-Dichlorobenzene	9	9	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)				
1,2-Dichloroethane (1,2-DCA)	0.1	0.1	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)				
1,2-Dichloroethylene, trans (1,2-DCE)	1	1	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)				
1,2-Dichloropropane	0.1	0.1	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)				
1,3,5-Trimethylbenzene	10	10	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)				
1,3-Dichlorobenzene (1,3-DCB)	3	3	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)				
1,3-Dichloropropane	500	500	mg/kg	ND(0.00086)	ND(0.00088)	ND(0.0010)	ND(0.00086)	ND(0.00092)	ND(0.0010)	ND(0.0010)	ND(0.00084)	ND(0.00083)	ND(0.00075)	ND(0.0011)	ND(0.00082)	ND(0.00081)	ND(0.0012)	ND(0.00092)	ND(0.00094)				
1,3-Dichloropropene, cis	0.01	0.01	mg/kg	ND(0.00086)	ND(0.00088)	ND(0.0010)	ND(0.00086)	ND(0.00092)	ND(0.0010)	ND(0.0010)	ND(0.00084)	ND(0.00083)	ND(0.00075)	ND(0.0011)	ND(0.00082)	ND(0.00081)	ND(0.0012)	ND(0.00092)	ND(0.00094)				
1,3-Dichloropropene, trans	0.01	0.01	mg/kg	ND(0.00086)	ND(0.00088)	ND(0.0010)	ND(0.00086)	ND(0.00092)	ND(0.0010)	ND(0.0010)	ND(0.00084)	ND(0.00083)	ND(0.00075)	ND(0.0011)	ND(0.00082)	ND(0.00081)	ND(0.0012)	ND(0.00092)	ND(0.00094)				
1,4-Dichlorobenzene	0.7	0.7	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)				
1,4-Dioxane	0.2	0.2	mg/kg	ND(0.17)	ND(0.18)	ND(0.10)	ND(0.086)	ND(0.092)	ND(0.10)	ND(0.10)	ND(0.084)	ND(0.083)	ND(0.075)	ND(0.22)	ND(0.082)	ND(0.16)	ND(0.24)	ND(0.092)	ND(0.19)				
2,2-Dichloropropane	NSE	NSE	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)				
2-Hexanone	100	100	mg/kg	ND(0.017)	ND(0.018)	ND(0.020)	ND(0.017)	ND(0.018)	ND(0.020)	ND(0.020)	ND(0.017)	ND(0.017)	ND(0.015)	ND(0.022)	ND(0.016)	ND(0.016)	ND(0.024)	ND(0.018)	ND(0.019)				
Acetone	6	6	mg/kg	ND(0.086)	ND(0.088)	ND(0.10)	ND(0.086)	ND(0.092)	ND(0.10)	ND(0.10)	ND(0.084)	ND(0.083)	ND(0.075)	ND(0.11)	ND(0.082)	ND(0.081)	ND(0.12)	ND(0.092)	ND(0.094)				
Benzene	2	2	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)				
Bromobenzene	100	100	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)				
Bromochloromethane (Chlorobromor)	NSE	NSE	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)				
Bromodichloromethane	0.1	0.1	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)				
Bromoform	0.1	0.1	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)				
Bromomethane	0.5	0.5	mg/kg	ND(0.0086)	ND(0.0088)	ND(0.010)	ND(0.0086)	ND(0.0092)	ND(0.010)	ND(0.010)	ND(0.0084)	ND(0.0083)	ND(0.0075)	ND(0.011)	ND(0.0082)	ND(0.0081)	ND(0.012)	ND(0.0092)	ND(0.0094)				
Carbon Disulfide	100	100	mg/kg	ND(0.0051)	ND(0.0053)	ND(0.0061)	ND(0.0051)	ND(0.0055)	ND(0.0060)	ND(0.0060)	ND(0.0050)	ND(0.0050)	ND(0.0045)	ND(0.0065)	ND(0.0049)	ND(0.0049)	ND(0.0072)	ND(0.0055)	ND(0.0056)				
Carbon Tetrachloride	5	5	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)				
Chlorobenzene	1	1	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)				
Chloroethane	100	100	mg/kg	ND(0.0086)	ND(0.0088)	ND(0.010)	ND(0.0086)	ND(0.0092)	ND(0.010)	ND(0.010)	ND(0.0084)	ND(0.0083)	ND(0.0075)	ND(0.011)	ND(0.0082)	ND(0.0081)	ND(0.012)	ND(0.0092)	ND(0.0094)				
Chloroform	0.2	0.2	mg/kg	ND(0.0034)	ND(0.0035)	ND(0.0041)	ND(0.0034)	ND(0.0037)	ND(0.0040)	ND(0.0040)	ND(0.0033)	ND(0.0033)	ND(0.0030)	ND(0.0043)	ND(0.0033)	ND(0.0033)	ND(0.0048)	ND(0.0037)	ND(0.0037)				
Chloromethane	100	100	mg/kg	ND(0.0086)	ND(0.0088)	ND(0.010)	ND(0.0086)	ND(0.0092)	ND(0.010)	ND(0.010)	ND(0.0084)	ND(0.0083)	ND(0.0075)	ND(0.011)	ND(0.0082)	ND(0.0081)	ND(0.012)	ND(0.0092)					

**Table 4**  
**Summary of Soil Analytical Results - All Samples**  
**Rivers Edge**  
**484 - 490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	Sample Date	MCP RCS-1	MCP RCS-2	Units	TP-B4 (0-5)	TP-B4 (5-10)	TP-B5 (0-5)	TP-B5 (5-10)	TP-B6 (0-5)	TP-B6 (5-10)	TP-C1 (0-5)	TP-C1 (5-10)	TP-C2 (0-5)	TP-C2 (5-10)	TP-C3 (0-5)	TP-C3 (5-10)	TP-C4 (0-5)	TP-C4 (5-10)	TP-C5 (0-5)	TP-C5 (5-10)		
					3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019
					0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10
Ethylbenzene	40	40	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)			
Ethyl-Tert-Butyl-Ether (Tert-Butylethy	NSE	NSE	mg/kg	ND(0.00086)	ND(0.00088)	ND(0.0010)	ND(0.00086)	ND(0.00092)	ND(0.0010)	ND(0.0010)	ND(0.00084)	ND(0.00083)	ND(0.00075)	ND(0.0011)	ND(0.00082)	ND(0.00081)	ND(0.0012)	ND(0.00092)	ND(0.00094)			
Hexachlorobutadiene	30	30	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)			
Isopropyl Benzene	1000	1000	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)			
Isopropyl Ether	100	100	mg/kg	ND(0.00086)	ND(0.00088)	ND(0.0010)	ND(0.00086)	ND(0.00092)	ND(0.0010)	ND(0.0010)	ND(0.00084)	ND(0.00083)	ND(0.00075)	ND(0.0011)	ND(0.00082)	ND(0.00081)	ND(0.0012)	ND(0.00092)	ND(0.00094)			
Methyl Ethyl Ketone (MEK)	4	4	mg/kg	ND(0.034)	ND(0.035)	ND(0.041)	ND(0.034)	ND(0.037)	ND(0.040)	ND(0.040)	ND(0.033)	ND(0.033)	ND(0.030)	ND(0.043)	ND(0.033)	ND(0.033)	ND(0.048)	ND(0.037)	ND(0.037)			
Methyl Isobutyl Ketone (MIBK)	0.4	0.4	mg/kg	ND(0.017)	ND(0.018)	ND(0.020)	ND(0.017)	ND(0.018)	ND(0.020)	ND(0.020)	ND(0.017)	ND(0.017)	ND(0.015)	ND(0.022)	ND(0.016)	ND(0.016)	ND(0.024)	ND(0.018)	ND(0.019)			
Methyl Tert-Butyl Ether	0.1	0.1	mg/kg	ND(0.0034)	ND(0.0035)	ND(0.0041)	ND(0.0034)	ND(0.0037)	ND(0.0040)	ND(0.0040)	ND(0.0033)	ND(0.0033)	ND(0.0030)	ND(0.0043)	ND(0.0033)	ND(0.0033)	ND(0.0048)	ND(0.0037)	ND(0.0037)			
Methylene Chloride	0.1	0.1	mg/kg	ND(0.0086)	ND(0.0088)	ND(0.010)	ND(0.0086)	ND(0.0092)	ND(0.010)	ND(0.010)	ND(0.0084)	ND(0.0083)	ND(0.0075)	ND(0.011)	ND(0.0082)	ND(0.0081)	ND(0.012)	ND(0.0092)	ND(0.0094)			
Naphthalene	4	4	mg/kg	ND(0.0034)	ND(0.0035)	ND(0.0041)	ND(0.0034)	ND(0.0037)	ND(0.0040)	ND(0.0040)	ND(0.0033)	ND(0.0033)	ND(0.0030)	ND(0.0043)	ND(0.0033)	ND(0.0033)	ND(0.0048)	ND(0.0037)	ND(0.0037)			
n-Butylbenzene	NSE	NSE	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)			
o-Chlorotoluene	100	100	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)			
o-Xylene	100	100	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)			
p/m-Xylene	100	100	mg/kg	ND(0.0034)	ND(0.0035)	ND(0.0041)	ND(0.0034)	ND(0.0037)	ND(0.0040)	ND(0.0040)	ND(0.0033)	ND(0.0033)	ND(0.0030)	ND(0.0043)	ND(0.0033)	ND(0.0033)	ND(0.0048)	ND(0.0037)	ND(0.0037)			
p-Chlorotoluene (4-Chlorotoluene)	NSE	NSE	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)			
p-Cymene	100	100	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)			
Propylbenzene	100	100	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)			
Sec-Butylbenzene	NSE	NSE	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)			
Styrene	3	3	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)			
Tert-Butylbenzene	100	100	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)			
Tertiary-Amyl Methyl Ether (TAME)	NSE	NSE	mg/kg	ND(0.00086)	ND(0.00088)	ND(0.0010)	ND(0.00086)	ND(0.00092)	ND(0.0010)	ND(0.0010)	ND(0.00084)	ND(0.00083)	ND(0.00075)	ND(0.0011)	ND(0.00082)	ND(0.00081)	ND(0.0012)	ND(0.00092)	ND(0.00094)			
Tetrachloroethane	0.005	0.005	mg/kg	ND(0.00086)	ND(0.00088)	ND(0.0010)	ND(0.00086)	ND(0.00092)	ND(0.0010)	ND(0.0010)	ND(0.00084)	ND(0.00083)	ND(0.00075)	ND(0.0011)	ND(0.00082)	ND(0.00081)	ND(0.0012)	ND(0.00092)	ND(0.00094)			
Tetrachloroethylene (PCE)	1	1	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)			
Tetrahydrofuran	500	500	mg/kg	ND(0.0086)	ND(0.0088)	ND(0.010)	ND(0.0086)	ND(0.0092)	ND(0.010)	ND(0.010)	ND(0.0084)	ND(0.0083)	ND(0.0075)	ND(0.011)	ND(0.0082)	ND(0.0081)	ND(0.012)	ND(0.0092)	ND(0.0094)			
Toluene	30	30	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)			
Trichloroethylene (TCE)	0.3	0.3	mg/kg	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0017)	ND(0.0015)	ND(0.0022)	ND(0.0016)	ND(0.0016)	ND(0.0024)	ND(0.0018)	ND(0.0019)			
Trichlorofluoromethane	1000	1000	mg/kg	ND(0.0086)	ND(0.0088)	ND(0.010)	ND(0.0086)	ND(0.0092)	ND(0.010)	ND(0.010)	ND(0.0084)	ND(0.0083)	ND(0.0075)	ND(0.011)	ND(0.0082)	ND(0.0081)	ND(0.012)	ND(0.0092)	ND(0.0094)			
Vinyl Chloride	0.7	0.7	mg/kg	ND(0.0086)	ND(0.0088)	ND(0.010)	ND(0.0086)	ND(0.0092)	ND(0.010)	ND(0.010)	ND(0.0084)	ND(0.0083)	ND(0.0075)	ND(0.011)	ND(0.0082)	ND(0.0081)	ND(0.012)	ND(0.0092)	ND(0.0094)			
Total VOCs	NSE	NSE	mg/kg	ND(0.17)	ND(0.18)	ND(0.10)	ND(0.086)	ND(0.092)	ND(0.10)	ND(0.10)	ND(0.084)	ND(0.083)	ND(0.075)	ND(0.22)	ND(0.082)	ND(0.16)	ND(0.24)	ND(0.092)	ND(0.19)			
<b>Semivolatile Organic Compounds (SVOCs)</b>																						
1,2,4-Trichlorobenzene	2	2	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
1,2-Dichlorobenzene	9	9	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
1,2-Diphenylhydrazine	50	50	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
1,3-Dichlorobenzene (1,3-DCB)	3	3	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
1,4-Dichlorobenzene	0.7	0.7	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
2,4,5-Trichlorophenol	4	4	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
2,4,6-Trichlorophenol	0.7	0.7	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
2,4-Dichlorophenol	0.7	0.7	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
2,4-Dimethylphenol	0.7	0.7	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
2,4-Dinitrophenol	3	3	mg/kg	ND(3.6)	ND(0.78)	ND(1.5)	ND(3.7)	ND(3.8)	ND(3.6)	ND(1.5)	ND(1.5)	ND(1.5)	ND(1.5)	ND(7.3)	ND(1.5)	ND(1.5)	ND(1.6)	ND(0.81)	ND(0.83)			
2,4-Dinitrotoluene	0.7	0.7	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
2,6-Dinitrotoluene	100	100	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
2-Chloronaphthalene	1000	1000	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
2-Chlorophenol	0.7	0.7	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
2-Methylnaphthalene	0.7	0.7	mg/kg	ND(0.92)	ND(0.20)	ND(0.38)	ND(0.95)	ND(0.98)	ND(0.93)	ND(0.39)	ND(0.39)	0.69	ND(0.39)	ND(1.9)	ND(0.38)	ND(0.38)	ND(0.41)	ND(0.21)	ND(0.21)			
2-Methylphenol (o-Cresol)	500	500	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
2-Nitrophenol (o-Nitrophenol)	100	100	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
3,3-Dichlorobenzidine	3	3	mg/kg	ND(0.92)	ND(0.20)	ND(0.38)	ND(0.95)	ND(0.98)	ND(0.93)	ND(0.39)	ND(0.39)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.38)	ND(0.38)	ND(0.41)	ND(0.21)	ND(0.21)			
3-Methylphenol/4-Methylphenol	NSE	NSE	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
4-Bromophenyl Phenyl Ether	100	100	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
Acenaphthene	4	4	mg/kg	ND(0.92)	ND(0.20)	ND(0.38)	ND(0.95)	ND(0.98)	ND(0.93)													



**Table 4**  
**Summary of Soil Analytical Results - All Samples**  
**Rivers Edge**  
**484 - 490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	Sample Date	MCP RCS-1	MCP RCS-2	Units	TP-B4 (0-5)	TP-B4 (5-10)	TP-B5 (0-5)	TP-B5 (5-10)	TP-B6 (0-5)	TP-B6 (5-10)	TP-C1 (0-5)	TP-C1 (5-10)	TP-C2 (0-5)	TP-C2 (5-10)	TP-C3 (0-5)	TP-C3 (5-10)	TP-C4 (0-5)	TP-C4 (5-10)	TP-C5 (0-5)	TP-C5 (5-10)		
					3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019
					0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10
Acetophenone	1000	1000	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
Aniline	1000	1000	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
Anthracene	1000	10	mg/kg	ND(0.92)	ND(0.20)	ND(0.38)	ND(0.95)	ND(0.98)	ND(0.93)	ND(0.39)	1.4	2.0	ND(0.39)	ND(1.9)	0.91	ND(0.38)	ND(0.41)	ND(0.21)	ND(0.21)			
Benzo(a)Anthracene	7	7	mg/kg	ND(0.92)	1.1	0.97	1.9	ND(0.98)	1.5	1.1	2.3	3.2	0.96	2.3	3.0	0.65	0.75	ND(0.21)	ND(0.21)			
Benzo(a)Pyrene	2	30	mg/kg	ND(0.92)	1.1	1.1	1.9	ND(0.98)	1.7	1.3	2.2	2.7	1.1	2.1	2.9	0.73	0.84	ND(0.21)	ND(0.21)			
Benzo(b)Fluoranthene	7	300	mg/kg	ND(0.92)	1.5	1.4	2.6	1.0	2.2	1.5	2.5	3.2	1.1	2.4	3.3	0.88	1.0	ND(0.21)	ND(0.21)			
Benzo(g,h,i)Perylene	1000	3000	mg/kg	ND(0.92)	0.65	0.61	1.4	ND(0.98)	0.94	0.72	1.0	1.6	0.76	ND(1.9)	1.3	0.56	0.61	ND(0.21)	ND(0.21)			
Benzo(k)Fluoranthene	70	3000	mg/kg	ND(0.92)	0.59	0.51	ND(0.95)	ND(0.98)	ND(0.93)	0.57	0.95	1.2	0.42	ND(1.9)	1.3	ND(0.38)	ND(0.41)	ND(0.21)	ND(0.21)			
Bis (2-Chloroethyl) Ether	0.7	0.7	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
Bis(2-Ethylhexyl)Phthalate	100	700	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
Butyl Benzyl Phthalate	100	1000	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
Chrysene	70	400	mg/kg	ND(0.92)	1.2	1.1	2.2	ND(0.98)	1.4	1.2	2.2	2.9	1.1	2.2	2.7	0.71	0.83	ND(0.21)	ND(0.21)			
Dibenzo(a,h)Anthracene	0.7	4	mg/kg	ND(0.92)	ND(0.20)	ND(0.38)	ND(0.95)	ND(0.98)	ND(0.93)	ND(0.39)	ND(0.39)	0.45	ND(0.39)	ND(1.9)	ND(0.38)	ND(0.38)	ND(0.41)	ND(0.21)	ND(0.21)			
Dibenzofuran	100	1000	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	1.2	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
Dichloroisopropyl Ether	0.7	0.7	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
Dichloromethoxy Ethane	500	5000	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
Diethyl Phthalate	10	200	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
Dimethyl Phthalate	0.7	50	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
Fluoranthene	1000	3000	mg/kg	1.0	1.8	1.7	4.9	1.5	2.6	1.9	5.1	7.6	1.5	4.8	6.0	1.2	1.6	0.24	ND(0.21)			
Fluorene	1000	3000	mg/kg	ND(0.92)	ND(0.20)	ND(0.38)	ND(0.95)	ND(0.98)	ND(0.93)	ND(0.39)	0.70	0.90	ND(0.39)	ND(1.9)	0.39	ND(0.38)	ND(0.41)	ND(0.21)	ND(0.21)			
Hexachlorobenzene	0.7	0.8	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
Hexachlorobutadiene	30	100	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
Hexachloroethane	0.7	3	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
Indeno(1,2,3-cd)Pyrene	7	40	mg/kg	ND(0.92)	0.73	0.71	1.4	ND(0.98)	1.0	0.67	1.1	1.8	0.73	ND(1.9)	1.5	0.53	0.60	ND(0.21)	ND(0.21)			
Isophorone	100	1000	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
Naphthalene	4	20	mg/kg	ND(0.92)	ND(0.20)	ND(0.38)	ND(0.95)	ND(0.98)	ND(0.93)	ND(0.39)	ND(0.39)	1.2	ND(0.39)	ND(1.9)	ND(0.38)	ND(0.38)	ND(0.41)	ND(0.21)	ND(0.21)			
n-Butyl Phthalate	50	500	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
n-Dioctyl Phthalate	1000	10000	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
Nitrobenzene	500	5000	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
p-Chloroaniline	1	3	mg/kg	ND(3.6)	ND(0.78)	ND(1.5)	ND(3.7)	ND(3.8)	ND(3.6)	ND(1.5)	ND(1.5)	ND(1.5)	ND(1.5)	ND(7.3)	ND(1.5)	ND(1.5)	ND(1.6)	ND(0.81)	ND(0.83)			
Pentachlorophenol	3	10	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
Phenanthrene	10	1000	mg/kg	ND(0.92)	0.81	0.97	2.9	1.1	1.1	0.99	4.6	8.3	0.65	4.5	3.1	0.62	0.76	ND(0.21)	ND(0.21)			
Phenol	1	20	mg/kg	ND(1.8)	ND(0.40)	ND(0.75)	ND(1.9)	ND(2.0)	ND(1.9)	ND(0.78)	ND(0.78)	ND(0.75)	ND(0.77)	ND(3.7)	ND(0.75)	ND(0.76)	ND(0.81)	ND(0.42)	ND(0.43)			
p-Nitrophenol	100	1000	mg/kg	ND(3.6)	ND(0.78)	ND(1.5)	ND(3.7)	ND(3.8)	ND(3.6)	ND(1.5)	ND(1.5)	ND(1.5)	ND(1.5)	ND(7.3)	ND(1.5)	ND(1.5)	ND(1.6)	ND(0.81)	ND(0.83)			
Pyrene	1000	3000	mg/kg	1.0	2.2	2.2	4.3	ND(0.98)	3.0	2.4	5.5	7.1	2.2	5.0	6.4	1.3	1.5	0.28	ND(0.21)			
Total SVOCs	NSE	NSE	mg/kg	2.00	30.80	30.34	53.00	3.60	13.94	11.25	25.15	40.15	9.56	21.00	28.50	6.53	7.74	0.52	ND			
<b>Metals</b>																						
Antimony	20	30	mg/kg	ND(1.8)	ND(2.0)	ND(1.8)	ND(1.8)	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.8)	ND(1.9)	ND(1.8)	ND(2.0)	ND(2.1)	ND(2.1)			
Arsenic	20	20	mg/kg	4.7	11	5.0	5.7	4.7	4.1	4.9	5.2	5.1	5.5	4.5	3.5	7.7	4.0	6.5	6.6			
Barium	1000	3000	mg/kg	24	41	31	30	36	33	33	32	36	31	30	35	32	31	35	38			
Beryllium	90	200	mg/kg	0.22	0.35	0.26	0.27	0.27	0.29	0.37	0.36	0.34	0.32	0.28	0.34	0.25	0.24	0.44	0.50			
Cadmium	70	100	mg/kg	0.30	0.61	0.41	0.40	0.39	0.32	0.37	0.39	0.42	0.42	0.29	0.30	0.50	0.34	0.33	0.32			
Chromium	100	200	mg/kg	12	16	14	14	14	14	16	17	14	17	13	16	12	14	15	18			
Lead	200	600	mg/kg	70	120	50	30	46	26	63	62	50	37	27	43	79	65	16	11			
Mercury	20	30	mg/kg	ND(0.026)	0.084	0.035	0.050	0.059	ND(0.027)	0.057	0.028	0.073	0.033	0.048	0.053	0.049	0.095	0.037	ND(0.030)			
Nickel	600	1000	mg/kg	8.9	11	11	11	11	11	12	12	12	11	12	13	9.2	8.9	10	12			
Selenium	400	700	mg/kg	ND(3.5)	ND(4.0)	ND(3.7)	ND(3.7)	ND(3.8)	ND(3.7)	ND(3.8)	ND(3.8)	ND(3.8)	ND(3.7)	ND(3.6)	ND(3.7)	ND(3.7)	ND(3.9)	ND(4.1)	ND(4.3)			
Silver	100	200	mg/kg	ND(0.35)	ND(0.40)	ND(0.37)	ND(0.37)	ND(0.38)	ND(0.37)	0.84	ND(0.38)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.37)	ND(0.37)	ND(0.39)	ND(0.41)	ND(0.43)			
Thallium	8	60	mg/kg	3.4	4.2	ND(1.8)	ND(1.8)	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.8)	ND(1.9)	ND(1.8)	ND(2.0)	ND(2.1)	ND(2.1)			
Vanadium	400	700	mg/kg	16	20	19	22	24	22	23	22	24	20	32	31	16	18	18	21			
Zinc	1000	3000	mg/kg	31	69	48	42	48	38	52	49	48	46	36	52	48	58	27	28			



**Table 4**  
**Summary of Soil Analytical Results - All Samples**  
**Rivers Edge**  
**484 - 490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	MCP RCS-1	MCP RCS-2	Units	TP-B4 (0-5)	TP-B4 (5-10)	TP-B5 (0-5)	TP-B5 (5-10)	TP-B6 (0-5)	TP-B6 (5-10)	TP-C1 (0-5)	TP-C1 (5-10)	TP-C2 (0-5)	TP-C2 (5-10)	TP-C3 (0-5)	TP-C3 (5-10)	TP-C4 (0-5)	TP-C4 (5-10)	TP-C5 (0-5)	TP-C5 (5-10)
Sample Date				3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019
Depth Interval (ft)				0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10
<b>Polychlorinated Biphenyls (PCBs)</b>																			
Aroclor 1016	1	4	mg/kg	ND(0.085)	ND(0.093)	ND(0.086)	ND(0.086)	ND(0.086)	ND(0.087)	ND(0.092)	ND(0.091)	ND(0.089)	ND(0.090)	ND(0.088)	ND(0.089)	ND(0.091)	ND(0.096)	ND(0.096)	ND(0.10)
Aroclor 1221	1	4	mg/kg	ND(0.085)	ND(0.093)	ND(0.086)	ND(0.086)	ND(0.086)	ND(0.087)	ND(0.092)	ND(0.091)	ND(0.089)	ND(0.090)	ND(0.088)	ND(0.089)	ND(0.091)	ND(0.096)	ND(0.096)	ND(0.10)
Aroclor 1232	1	4	mg/kg	ND(0.085)	ND(0.093)	ND(0.086)	ND(0.086)	ND(0.086)	ND(0.087)	ND(0.092)	ND(0.091)	ND(0.089)	ND(0.090)	ND(0.088)	ND(0.089)	ND(0.091)	ND(0.096)	ND(0.096)	ND(0.10)
Aroclor 1242	1	4	mg/kg	ND(0.085)	ND(0.093)	ND(0.086)	ND(0.086)	ND(0.086)	ND(0.087)	ND(0.092)	ND(0.091)	ND(0.089)	ND(0.090)	ND(0.088)	ND(0.089)	ND(0.091)	ND(0.096)	ND(0.096)	ND(0.10)
Aroclor 1248	1	4	mg/kg	ND(0.085)	ND(0.093)	ND(0.086)	ND(0.086)	ND(0.086)	ND(0.087)	ND(0.092)	ND(0.091)	ND(0.089)	ND(0.090)	ND(0.088)	ND(0.089)	ND(0.091)	ND(0.096)	ND(0.096)	ND(0.10)
Aroclor 1254	1	4	mg/kg	ND(0.085)	ND(0.093)	ND(0.086)	ND(0.086)	ND(0.086)	ND(0.087)	ND(0.092)	ND(0.091)	ND(0.089)	ND(0.090)	ND(0.088)	ND(0.089)	ND(0.091)	ND(0.096)	ND(0.096)	ND(0.10)
Aroclor 1260	1	4	mg/kg	ND(0.085)	ND(0.093)	ND(0.086)	ND(0.086)	ND(0.086)	ND(0.087)	ND(0.092)	ND(0.091)	ND(0.089)	ND(0.090)	ND(0.088)	ND(0.089)	ND(0.091)	ND(0.096)	ND(0.096)	ND(0.10)
Aroclor 1262	1	4	mg/kg	ND(0.085)	ND(0.093)	ND(0.086)	ND(0.086)	ND(0.086)	ND(0.087)	ND(0.092)	ND(0.091)	ND(0.089)	ND(0.090)	ND(0.088)	ND(0.089)	ND(0.091)	ND(0.096)	ND(0.096)	ND(0.10)
Aroclor 1268	1	4	mg/kg	ND(0.085)	ND(0.093)	ND(0.086)	ND(0.086)	ND(0.086)	ND(0.087)	ND(0.092)	ND(0.091)	ND(0.089)	ND(0.090)	ND(0.088)	ND(0.089)	ND(0.091)	ND(0.096)	ND(0.096)	ND(0.10)
Total PCBs	1	4	mg/kg	ND(0.085)	ND(0.093)	ND(0.086)	ND(0.086)	ND(0.086)	ND(0.087)	ND(0.092)	ND(0.091)	ND(0.089)	ND(0.090)	ND(0.088)	ND(0.089)	ND(0.091)	ND(0.096)	ND(0.096)	ND(0.10)
<b>General Chemistry</b>																			
Ignitability	NSE	NSE	present/absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent
pH	NSE	NSE	pH Units	8.2	7.6	7.9	8.0	8.1	7.9	7.5	8.3	7.7	7.3	8.5	7.9	8.0	7.9	7.1	8.0
Reactivity Cyanide	NSE	NSE	mg/kg	ND(4.0)	ND(3.9)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(3.9)	ND(3.9)	ND(3.9)	ND(3.9)	ND(4.0)	ND(3.9)	ND(3.9)	ND(3.9)	ND(4.0)	ND(3.9)
Reactivity Sulfide	NSE	NSE	mg/kg	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(19)	ND(20)	ND(20)	ND(20)	ND(20)
Solids, Total	NSE	NSE	%	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(19)	ND(20)	ND(20)	ND(20)	ND(20)
Specific Conductance	2000	2000	umhos/cm	24	7.2	7.8	13	20	5.8	12	16	8.5	9.8	20	17	9.1	17	21	18

- Notes:
- mg/kg=milligram per kilogram; uhoms/cm=microohms per centimeter
  - Reportable Concentrations (RCS-1 & RCS-2) taken from the Massachusetts Contingency Plan (MCP) 310 CMR 40.0974(2) dated April 2014
  - Shaded out columns are not proposed for import to Facility.
  - ND = Not Detected above laboratory reporting limits shown in parenthesis
  - -- = Not Analyzed
  - NSE = No Standard Exists
  - Bolded values exceed applicable MCP RCS-1 Reportable Concentration
  - Underlined values exceed applicable MCP RCS-2 Reportable Concentration
  - Full analytical results are detailed in the laboratory analytical report

**Table 4**  
**Summary of Soil Analytical Results - All Samples**  
**Rivers Edge**  
**484 - 490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	MCP RCS-1	MCP RCS-2	Units	TP-C6 (0-5)	TP-C6 (5-10)	TP-D1 (0-5)	TP-D1 (5-10)	TP-D2 (0-5)	TP-D2 (5-10)	TP-D3 (0-5)	TP-D3 (5-10)	TP-D3 (10-15)	TP-D4 (0-5)	TP-D4 (5-10)	TP-D5 (0-5)	TP-D5 (5-10)	TP-D6 (0-5)	TP-D6 (5-10)	TP-D7 (0-5)			
				Sample Date	Sample Date	3/11/2019	3/11/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019
				Depth Interval (ft)	Depth Interval (ft)	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	10-15	0-5	5-10	0-5	5-10	0-5	5-10
<b>Asbestos</b>																						
CARB 435	NSE	NSE	%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
<b>Extractable Petroleum Hydrocarbons (EPH) with target Polynuclear Aromatic H</b>																						
C09-C18 Aliphatic Hydrocarbons	1000	3000	mg/kg	--	ND(23)	ND(59)	--	--	--	--	ND(23)	ND(53)	ND(22)	--	ND(25)	--	--	ND(24)	--			
C11-C22 Aromatic Hydrocarbons	1000	3000	mg/kg	--	210	250	--	--	--	--	170	360	310	--	230	--	--	210	--			
C19-C36 Aliphatics	3000	5000	mg/kg	--	140	190	--	--	--	--	180	240	200	--	220	--	--	160	--			
<b>Total Petroleum Hydrocarbons (TPH)</b>																						
TPH	1000	3000	mg/kg	520	1100	1200	910	860	770	840	1100	1200	1000	960	1100	510	590	1000	330			
<b>Volatile Organic Compounds (VOCs)</b>																						
1,1,1,2-Tetrachloroethane	0.1	0.1	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)			
1,1,1-Trichloroethane (1,1,1-TCA)	30	30	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)			
1,1,2-Trichloroethane	0.1	0.1	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)			
1,1-Dichloroethane (1,1-DCA)	0.4	0.4	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)			
1,1-Dichloroethene (1,1-DCE)	3	3	mg/kg	ND(0.0037)	ND(0.0036)	ND(0.0037)	ND(0.0035)	ND(0.0035)	ND(0.0041)	ND(0.0041)	ND(0.0036)	ND(0.0042)	ND(0.0024)	ND(0.0034)	ND(0.0048)	ND(0.0030)	ND(0.0034)	ND(0.0036)	ND(0.0035)			
1,1-Dichloropropene	NSE	NSE	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0024)	ND(0.0034)	ND(0.0048)	ND(0.0030)	ND(0.0017)	ND(0.0018)	ND(0.0018)			
1,2,3-Trichlorobenzene	NSE	NSE	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)			
1,2,3-Trichloropropane	100	100	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)			
1,2,4-Trichlorobenzene	2	2	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)			
1,2,4-Trimethylbenzene	1000	1000	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)			
1,2-Dibromo-3-Chloropropane	10	10	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0024)	ND(0.0034)	ND(0.0048)	ND(0.0030)	ND(0.0017)	ND(0.0018)	ND(0.0018)			
1,2-Dibromoethane	0.1	0.1	mg/kg	ND(0.00094)	ND(0.00089)	ND(0.00093)	ND(0.00087)	ND(0.00088)	ND(0.0010)	ND(0.0010)	ND(0.00090)	ND(0.0010)	ND(0.00060)	ND(0.00084)	ND(0.0012)	ND(0.00076)	ND(0.00085)	ND(0.00089)	ND(0.00089)			
1,2-Dichlorobenzene	9	9	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)			
1,2-Dichloroethane (1,2-DCA)	0.1	0.1	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)			
1,2-Dichloroethylene, trans (1,2-DCE)	1	1	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)			
1,2-Dichloropropane	0.1	0.1	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)			
1,3,5-Trimethylbenzene	10	10	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)			
1,3-Dichlorobenzene (1,3-DCB)	3	3	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)			
1,3-Dichloropropane	500	500	mg/kg	ND(0.00094)	ND(0.00089)	ND(0.00093)	ND(0.00087)	ND(0.00088)	ND(0.0010)	ND(0.0010)	ND(0.00090)	ND(0.0010)	ND(0.00060)	ND(0.00084)	ND(0.0012)	ND(0.00076)	ND(0.00085)	ND(0.00089)	ND(0.00089)			
1,3-Dichloropropene, cis	0.01	0.01	mg/kg	ND(0.00094)	ND(0.00089)	ND(0.00093)	ND(0.00087)	ND(0.00088)	ND(0.0010)	ND(0.0010)	ND(0.00090)	ND(0.0010)	ND(0.00060)	ND(0.00084)	ND(0.0012)	ND(0.00076)	ND(0.00085)	ND(0.00089)	ND(0.00089)			
1,3-Dichloropropene, trans	0.01	0.01	mg/kg	ND(0.00094)	ND(0.00089)	ND(0.00093)	ND(0.00087)	ND(0.00088)	ND(0.0010)	ND(0.0010)	ND(0.00090)	ND(0.0010)	ND(0.00060)	ND(0.00084)	ND(0.0012)	ND(0.00076)	ND(0.00085)	ND(0.00089)	ND(0.00089)			
1,4-Dichlorobenzene	0.7	0.7	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)			
1,4-Dioxane	0.2	0.2	mg/kg	ND(0.094)	ND(0.089)	ND(0.093)	ND(0.087)	ND(0.088)	ND(0.10)	ND(0.10)	ND(0.090)	ND(0.10)	ND(0.12)	ND(0.17)	ND(0.24)	ND(0.15)	ND(0.085)	ND(0.089)	ND(0.089)			
2,2-Dichloropropane	NSE	NSE	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)			
2-Hexanone	100	100	mg/kg	ND(0.019)	ND(0.018)	ND(0.019)	ND(0.017)	ND(0.018)	ND(0.020)	ND(0.020)	ND(0.018)	ND(0.021)	ND(0.012)	ND(0.017)	ND(0.024)	ND(0.015)	ND(0.017)	ND(0.018)	ND(0.018)			
Acetone	6	6	mg/kg	ND(0.094)	ND(0.089)	ND(0.093)	ND(0.087)	ND(0.088)	ND(0.10)	ND(0.10)	ND(0.090)	ND(0.10)	ND(0.060)	ND(0.084)	ND(0.12)	ND(0.076)	ND(0.085)	ND(0.089)	ND(0.089)			
Benzene	2	2	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)			
Bromobenzene	100	100	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)			
Bromochloromethane (Chlorobromor)	NSE	NSE	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)			
Bromodichloromethane	0.1	0.1	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)			
Bromoform	0.1	0.1	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)			
Bromomethane	0.5	0.5	mg/kg	ND(0.0094)	ND(0.0089)	ND(0.0093)	ND(0.0087)	ND(0.0088)	ND(0.010)	ND(0.010)	ND(0.0090)	ND(0.010)	ND(0.0060)	ND(0.0084)	ND(0.012)	ND(0.0076)	ND(0.0085)	ND(0.0089)	ND(0.0089)			
Carbon Disulfide	100	100	mg/kg	ND(0.0056)	ND(0.0054)	ND(0.0056)	ND(0.0052)	ND(0.0053)	ND(0.0061)	ND(0.0061)	ND(0.0054)	ND(0.0063)	ND(0.0036)	ND(0.0050)	ND(0.0072)	ND(0.0046)	ND(0.0051)	ND(0.0053)	ND(0.0053)			
Carbon Tetrachloride	5	5	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)			
Chlorobenzene	1	1	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)			
Chloroethane	100	100	mg/kg	ND(0.0094)	ND(0.0089)	ND(0.0093)	ND(0.0087)	ND(0.0088)	ND(0.010)	ND(0.010)	ND(0.0090)	ND(0.010)	ND(0.0060)	ND(0.0084)	ND(0.012)	ND(0.0076)	ND(0.0085)	ND(0.0089)	ND(0.0089)			
Chloroform	0.2	0.2	mg/kg	ND(0.0037)	ND(0.0036)	ND(0.0037)	ND(0.0035)	ND(0.0035)	ND(0.0041)	ND(0.0041)	ND(0.0036)	ND(0.0042)	ND(0.0024)	ND(0.0034)	ND(0.0048)	ND(0.0030)	ND(0.0034)	ND(0.0036)	ND(0.0035)			
Chloromethane	100	100	mg/kg	ND(0.0094)	ND(0.0089)	ND(0.0093)	ND(0.0087)	ND(0.0088)	ND(0.010)	ND(0.010)	ND(0.0090)	ND(0.010)	ND(0.0060)	ND(0.0084)	ND(0.012)	ND(0.0076)	ND(0.0085)	ND(0.0089)	ND(0.0089)			
Dibromochloromethane	0.005	0.005	mg/kg	ND(0.00094)	ND(0.00089)	ND(																



**Table 4**  
**Summary of Soil Analytical Results - All Samples**  
**Rivers Edge**  
**484 - 490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	Sample Date	MCP RCS-1	MCP RCS-2	Units	TP-C6 (0-5)	TP-C6 (5-10)	TP-D1 (0-5)	TP-D1 (5-10)	TP-D2 (0-5)	TP-D2 (5-10)	TP-D3 (0-5)	TP-D3 (5-10)	TP-D3 (10-15)	TP-D4 (0-5)	TP-D4 (5-10)	TP-D5 (0-5)	TP-D5 (5-10)	TP-D6 (0-5)	TP-D6 (5-10)	TP-D7 (0-5)				
					3/11/2019	3/11/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019
					0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	10-15	0-5	5-10	0-5	5-10	0-5	5-10	0-5
Ethylbenzene		40	40	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0018)			
Ethyl-Tert-Butyl-Ether (Tert-Butylethy		NSE	NSE	mg/kg	ND(0.00094)	ND(0.00089)	ND(0.00093)	ND(0.00087)	ND(0.00088)	ND(0.0010)	ND(0.0010)	ND(0.00090)	ND(0.0010)	ND(0.00060)	ND(0.00084)	ND(0.0012)	ND(0.00076)	ND(0.00085)	ND(0.00089)	ND(0.00089)	ND(0.00089)			
Hexachlorobutadiene		30	30	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0018)			
Isopropyl Benzene		1000	1000	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0018)			
Isopropyl Ether		100	100	mg/kg	ND(0.00094)	ND(0.00089)	ND(0.00093)	ND(0.00087)	ND(0.00088)	ND(0.0010)	ND(0.0010)	ND(0.00090)	ND(0.0010)	ND(0.00060)	ND(0.00084)	ND(0.0012)	ND(0.00076)	ND(0.00085)	ND(0.00089)	ND(0.00089)	ND(0.00089)			
Methyl Ethyl Ketone (MEK)		4	4	mg/kg	ND(0.0037)	ND(0.0036)	ND(0.0037)	ND(0.0035)	ND(0.0035)	ND(0.0041)	ND(0.0041)	ND(0.0036)	ND(0.0042)	ND(0.0024)	ND(0.0034)	ND(0.0048)	ND(0.0030)	ND(0.0034)	ND(0.0036)	ND(0.0035)	ND(0.0035)			
Methyl Isobutyl Ketone (MIBK)		0.4	0.4	mg/kg	ND(0.019)	ND(0.018)	ND(0.019)	ND(0.017)	ND(0.018)	ND(0.020)	ND(0.020)	ND(0.018)	ND(0.021)	ND(0.012)	ND(0.017)	ND(0.024)	ND(0.015)	ND(0.017)	ND(0.018)	ND(0.018)	ND(0.018)			
Methyl Tert-Butyl Ether		0.1	0.1	mg/kg	ND(0.0037)	ND(0.0036)	ND(0.0037)	ND(0.0035)	ND(0.0035)	ND(0.0041)	ND(0.0041)	ND(0.0036)	ND(0.0042)	ND(0.0024)	ND(0.0034)	ND(0.0048)	ND(0.0030)	ND(0.0034)	ND(0.0036)	ND(0.0035)	ND(0.0035)			
Methylene Chloride		0.1	0.1	mg/kg	ND(0.0094)	ND(0.0089)	ND(0.0093)	ND(0.0087)	ND(0.0088)	ND(0.010)	ND(0.010)	ND(0.0090)	ND(0.010)	ND(0.0060)	ND(0.0084)	ND(0.012)	ND(0.0076)	ND(0.0085)	ND(0.0089)	ND(0.0089)	ND(0.0089)			
Naphthalene		4	4	mg/kg	ND(0.0037)	ND(0.0036)	ND(0.0037)	ND(0.0035)	ND(0.0035)	ND(0.0041)	ND(0.0041)	ND(0.0036)	ND(0.0042)	ND(0.0024)	ND(0.0034)	ND(0.0048)	ND(0.0030)	ND(0.0034)	ND(0.0036)	ND(0.0035)	ND(0.0035)			
n-Butylbenzene		NSE	NSE	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0018)			
o-Chlorotoluene		100	100	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0018)			
o-Xylene		100	100	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0018)			
p/m-Xylene		100	100	mg/kg	ND(0.0037)	ND(0.0036)	ND(0.0037)	ND(0.0035)	ND(0.0035)	ND(0.0041)	ND(0.0041)	ND(0.0036)	ND(0.0042)	ND(0.0024)	ND(0.0034)	ND(0.0048)	ND(0.0030)	ND(0.0034)	ND(0.0036)	ND(0.0035)	ND(0.0035)			
p-Chlorotoluene (4-Chlorotoluene)		NSE	NSE	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0018)			
p-Cymene		100	100	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0018)			
Propylbenzene		100	100	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0018)			
Sec-Butylbenzene		NSE	NSE	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0018)			
Styrene		3	3	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0018)			
Tert-Butylbenzene		100	100	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0018)			
Tertiary-Amyl Methyl Ether (TAME)		NSE	NSE	mg/kg	ND(0.00094)	ND(0.00089)	ND(0.00093)	ND(0.00087)	ND(0.00088)	ND(0.0010)	ND(0.0010)	ND(0.00090)	ND(0.0010)	ND(0.00060)	ND(0.00084)	ND(0.0012)	ND(0.00076)	ND(0.00085)	ND(0.00089)	ND(0.00089)	ND(0.00089)			
Tetrachloroethane		0.005	0.005	mg/kg	ND(0.00094)	ND(0.00089)	ND(0.00093)	ND(0.00087)	ND(0.00088)	ND(0.0010)	ND(0.0010)	ND(0.00090)	ND(0.0010)	ND(0.00060)	ND(0.00084)	ND(0.0012)	ND(0.00076)	ND(0.00085)	ND(0.00089)	ND(0.00089)	ND(0.00089)			
Tetrachloroethylene (PCE)		1	1	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0018)			
Tetrahydrofuran		500	500	mg/kg	ND(0.0094)	ND(0.0089)	ND(0.0093)	ND(0.0087)	ND(0.0088)	ND(0.010)	ND(0.010)	ND(0.0090)	ND(0.010)	ND(0.0060)	ND(0.0084)	ND(0.012)	ND(0.0076)	ND(0.0085)	ND(0.0089)	ND(0.0089)	ND(0.0089)			
Toluene		30	30	mg/kg	ND(0.0019)	0.0027	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	0.0022	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	0.0019	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0018)			
Trichloroethylene (TCE)		0.3	0.3	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0018)	ND(0.0020)	ND(0.0020)	ND(0.0018)	ND(0.0021)	ND(0.0012)	ND(0.0017)	ND(0.0024)	ND(0.0015)	ND(0.0017)	ND(0.0018)	ND(0.0018)	ND(0.0018)			
Trichlorofluoromethane		1000	1000	mg/kg	ND(0.0094)	ND(0.0089)	ND(0.0093)	ND(0.0087)	ND(0.0088)	ND(0.010)	ND(0.010)	ND(0.0090)	ND(0.010)	ND(0.0060)	ND(0.0084)	ND(0.012)	ND(0.0076)	ND(0.0085)	ND(0.0089)	ND(0.0089)	ND(0.0089)			
Vinyl Chloride		0.7	0.7	mg/kg	ND(0.0094)	ND(0.0089)	ND(0.0093)	ND(0.0087)	ND(0.0088)	ND(0.010)	ND(0.010)	ND(0.0090)	ND(0.010)	ND(0.0060)	ND(0.0084)	ND(0.012)	ND(0.0076)	ND(0.0085)	ND(0.0089)	ND(0.0089)	ND(0.0089)			
Total VOCs		NSE	NSE	mg/kg	ND(0.094)	0.0027	ND(0.093)	ND(0.087)	ND(0.088)	ND(0.10)	0.0022	ND(0.090)	ND(0.10)	ND(0.12)	ND(0.17)	ND(0.24)	ND(0.15)	ND(0.085)	ND(0.089)	ND(0.089)	ND(0.089)			
<b>Semivolatile Organic Compounds (SVOCs)</b>																								
1,2,4-Trichlorobenzene		2	2	mg/kg	ND(1.9)	ND(1.9)	ND(0.82)	ND(0.76)	ND(0.76)	ND(0.78)	ND(0.82)	ND(0.78)	ND(0.74)	ND(1.5)	ND(1.8)	ND(1.7)	ND(0.38)	ND(1.9)	ND(2.0)	ND(0.76)	ND(0.76)			
1,2-Dichlorobenzene		9	9	mg/kg	ND(1.9)	ND(1.9)	ND(0.82)	ND(0.76)	ND(0.76)	ND(0.78)	ND(0.82)	ND(0.78)	ND(0.74)	ND(1.5)	ND(1.8)	ND(1.7)	ND(0.38)	ND(1.9)	ND(2.0)	ND(0.76)	ND(0.76)			
1,2-Diphenylhydrazine		50	50	mg/kg	ND(1.9)	ND(1.9)	ND(0.82)	ND(0.76)	ND(0.76)	ND(0.78)	ND(0.82)	ND(0.78)	ND(0.74)	ND(1.5)	ND(1.8)	ND(1.7)	ND(0.38)	ND(1.9)	ND(2.0)	ND(0.76)	ND(0.76)			
1,3-Dichlorobenzene (1,3-DCB)		3	3	mg/kg	ND(1.9)	ND(1.9)	ND(0.82)	ND(0.76)	ND(0.76)	ND(0.78)	ND(0.82)	ND(0.78)	ND(0.74)	ND(1.5)	ND(1.8)	ND(1.7)	ND(0.38)	ND(1.9)	ND(2.0)	ND(0.76)	ND(0.76)			
1,4-Dichlorobenzene		0.7	0.7	mg/kg	ND(1.9)	ND(1.9)	ND(0.82)	ND(0.76)	ND(0.76)	ND(0.78)	ND(0.82)	ND(0.78)	ND(0.74)	ND(1.5)	ND(1.8)	ND(1.7)	ND(0.38)	ND(1.9)	ND(2.0)	ND(0.76)	ND(0.76)			
2,4,5-Trichlorophenol		4	4	mg/kg	ND(1.9)	ND(1.9)	ND(0.82)	ND(0.76)	ND(0.76)	ND(0.78)	ND(0.82)	ND(0.78)	ND(0.74)	ND(1.5)	ND(1.8)	ND(1.7)	ND(0.38)	ND(1.9)	ND(2.0)	ND(0.76)	ND(0.76)			
2,4,6-Trichlorophenol		0.7	0.7	mg/kg	ND(1.9)	ND(1.9)	ND(0.82)	ND(0.76)	ND(0.76)	ND(0.78)	ND(0.82)	ND(0.78)	ND(0.74)	ND(1.5)	ND(1.8)	ND(1.7)	ND(0.38)	ND(1.9)	ND(2.0)	ND(0.76)	ND(0.76)			
2,4-Dichlorophenol		0.7	0.7	mg/kg	ND(1.9)	ND(1.9)	ND(0.82)	ND(0.76)	ND(0.76)	ND(0.78)	ND(0.82)	ND(0.78)	ND(0.74)	ND(1.5)	ND(1.8)	ND(1.7)	ND(0.38)	ND(1.9)	ND(2.0)	ND(0.76)	ND(0.76)			
2,4-Dimethylphenol		0.7	0.7	mg/kg	ND(1.9)	ND(1.9)	ND(0.82)	ND(0.76)	ND(0.76)	ND(0.78)	ND(0.82)	ND(0.78)	ND(0.74)	ND(1.5)	ND(1.8)	ND(1.7)	ND(0.38)	ND(1.9)	ND(2.0)	ND(0.76)	ND(0.76)			
2,4-Dinitrophenol		3	3	mg/kg	ND(3.7)	ND(3.8)	ND(1.6)	ND(1.5)	ND(1.5)	ND(1.5)	ND(1.6)	ND(1.5)	ND(1.4)	ND(2.8)	ND(3.6)	ND(3.3)	ND(0.73)	ND(3.8)	ND(3.9)	ND(1.5)	ND(1.5)			
2,4-Dinitrotoluene		0.7	0.7	mg/kg	ND(1.9)	ND(1.9)	ND(0.82)	ND(0.76)	ND(0.76)	ND(0.78)	ND(0.82)	ND(0.78)	ND(0.74)	ND(1.5)	ND(1.8)	ND(1.7)	ND(0.38)	ND(1.9)	ND(2.0)	ND(0.76)	ND(0.76)			
2,6-Dinitrotoluene		100	100	mg/kg	ND(1.9)	ND(1.9)	ND(0.82)	ND(0.76)	ND(0.76)	ND(0.78)	ND(0.82)	ND(0.78)	ND(0.74)	ND(1.5)	ND(1.8)	ND(1.7)	ND(0.38)	ND(1.9)	ND(2.0)	ND(0.76)	ND(0.76)			
2-Chloronaphthalene		1000	1000	mg/kg	ND(1.9)	ND(1.9)	ND(0.82)	ND(0.76)	ND(0.76)	ND(0.78)	ND(0.82)	ND(0.78)	ND(0.74)	ND(1.5)	ND(1.8)	ND(1.7)	ND(0.38)	ND(1.9)	ND(2.0)	ND(0.76)	ND(0.76)			
2-Chlorophenol		0.7	0.7	mg/kg	ND(1.9)	ND(1.9)	ND(0.82)	ND(0.76)	ND(0.76)	ND(0.78)	ND(0.82)	ND(0.78)	ND(0.74)	ND(1.5)	ND(1.8)	ND(1.7)	ND(0.38)	ND(1.9)	ND(2.0)	ND(0.76)	ND(0.76)			
2-Methylnaphthalene		0.7	0.7	mg/kg	ND(0.96)	ND(0.97)	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.39)	ND(0.41)	ND(0.39)	ND(0.37)	ND(0.73)	ND(0.92)	ND(0.84)	ND(0.19)	ND(0.97)	ND(1.0)	ND(0.38)	ND(0.38)			
2-Methylphenol (o-Cresol)		500	500	mg/kg	ND(1.9)	ND(1.9)	ND(0.82)	ND(0.76)	ND(0.76)	ND(0.78)	ND(0.82)	ND(0.78)	ND(0.74)	ND(1.5)	ND(1.8)	ND(1.7)	ND(0.38)	ND(1.9)	ND(2.0)	ND(0.76)	ND(0.76)			
2-Nitrophenol (o-Nitrophenol)		100	100	mg/kg	ND(1.9)	ND(1.9)	ND(0.82)	ND(0.76)	ND(0.76)	ND(0.78)	ND(0.82)	ND(0.78)	ND(0.74)	ND(1.5)	ND(1.8)	ND(1.7)	ND(0.38)							



**Table 4**  
**Summary of Soil Analytical Results - All Samples**  
**Rivers Edge**  
**484 - 490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	Sample Date	MCP RCS-1	MCP RCS-2	Units	TP-C6 (0-5)	TP-C6 (5-10)	TP-D1 (0-5)	TP-D1 (5-10)	TP-D2 (0-5)	TP-D2 (5-10)	TP-D3 (0-5)	TP-D3 (5-10)	TP-D3 (10-15)	TP-D4 (0-5)	TP-D4 (5-10)	TP-D5 (0-5)	TP-D5 (5-10)	TP-D6 (0-5)	TP-D6 (5-10)	TP-D7 (0-5)				
					3/11/2019	3/11/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019
					0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	10-15	0-5	5-10	0-5	5-10	0-5	5-10	0-5
Acetophenone	1000	1000	mg/kg	ND(1.9)	ND(1.9)	ND(0.82)	ND(0.76)	ND(0.76)	ND(0.78)	ND(0.82)	ND(0.78)	ND(0.74)	ND(1.5)	ND(1.8)	ND(1.7)	ND(0.38)	ND(1.9)	ND(2.0)	ND(0.76)					
Aniline	1000	1000	mg/kg	ND(1.9)	ND(1.9)	ND(0.82)	ND(0.76)	ND(0.76)	ND(0.78)	ND(0.82)	ND(0.78)	ND(0.74)	ND(1.5)	ND(1.8)	ND(1.7)	ND(0.38)	ND(1.9)	ND(2.0)	ND(0.76)					
Anthracene	1000	10	mg/kg	ND(0.96)	9.0	1.4	0.55	ND(0.38)	0.44	ND(0.41)	0.40	0.56	0.89	ND(0.92)	ND(0.84)	ND(0.19)	ND(0.97)	1.5	ND(0.38)					
Benzo(a)Anthracene	7	7	mg/kg	2.1	13	2.8	2.0	1.5	1.2	0.82	1.1	1.8	2.9	ND(0.92)	1.5	0.37	ND(0.97)	3.5	1.0					
Benzo(a)Pyrene	2	30	mg/kg	2.1	12	2.7	2.2	1.6	1.4	0.88	1.3	1.8	2.6	ND(0.92)	1.7	0.43	ND(0.97)	3.2	1.0					
Benzo(b)Fluoranthene	7	300	mg/kg	2.5	13	3.2	2.5	1.9	1.5	1.0	1.4	2.2	3.0	ND(0.92)	2.4	0.53	ND(0.97)	3.8	1.1					
Benzo(g,h,i)Perylene	1000	3000	mg/kg	1.0	5.6	1.5	1.0	1.0	1.0	0.64	0.82	0.83	1.5	ND(0.92)	1.3	0.28	ND(0.97)	1.3	0.58					
Benzo(k)Fluoranthene	70	3000	mg/kg	0.97	4.8	1.2	0.88	0.71	0.50	ND(0.41)	0.59	0.85	1.3	ND(0.92)	0.89	0.23	ND(0.97)	1.4	0.44					
Bis (2-Chloroethyl) Ether	0.7	0.7	mg/kg	ND(1.9)	ND(1.9)	ND(0.82)	ND(0.76)	ND(0.76)	ND(0.78)	ND(0.82)	ND(0.78)	ND(0.74)	ND(1.5)	ND(1.8)	ND(1.7)	ND(0.38)	ND(1.9)	ND(2.0)	ND(0.76)					
Bis(2-Ethylhexyl)Phthalate	100	700	mg/kg	ND(1.9)	ND(1.9)	ND(0.82)	ND(0.76)	ND(0.76)	ND(0.78)	ND(0.82)	ND(0.78)	ND(0.74)	ND(1.5)	ND(1.8)	ND(1.7)	ND(0.38)	ND(1.9)	ND(2.0)	ND(0.76)					
Butyl Benzyl Phthalate	100	1000	mg/kg	ND(1.9)	ND(1.9)	ND(0.82)	ND(0.76)	ND(0.76)	ND(0.78)	ND(0.82)	ND(0.78)	ND(0.74)	ND(1.5)	ND(1.8)	ND(1.7)	ND(0.38)	ND(1.9)	ND(2.0)	ND(0.76)					
Chrysene	70	400	mg/kg	2.2	12	2.9	1.9	1.4	1.3	0.83	1.2	1.8	2.6	ND(0.92)	2.0	0.41	ND(0.97)	3.2	1.1					
Dibenzo(a,h)Anthracene	0.7	4	mg/kg	ND(0.96)	1.5	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.39)	ND(0.41)	ND(0.39)	ND(0.37)	ND(0.73)	ND(0.92)	ND(0.84)	ND(0.19)	ND(0.97)	ND(1.0)	ND(0.38)					
Dibenzofuran	100	1000	mg/kg	ND(1.9)	ND(1.9)	ND(0.82)	ND(0.76)	ND(0.76)	ND(0.78)	ND(0.82)	ND(0.78)	ND(0.74)	ND(1.5)	ND(1.8)	ND(1.7)	ND(0.38)	ND(1.9)	ND(2.0)	ND(0.76)					
Dichloroisopropyl Ether	0.7	0.7	mg/kg	ND(1.9)	ND(1.9)	ND(0.82)	ND(0.76)	ND(0.76)	ND(0.78)	ND(0.82)	ND(0.78)	ND(0.74)	ND(1.5)	ND(1.8)	ND(1.7)	ND(0.38)	ND(1.9)	ND(2.0)	ND(0.76)					
Dichloromethoxy Ethane	500	5000	mg/kg	ND(1.9)	ND(1.9)	ND(0.82)	ND(0.76)	ND(0.76)	ND(0.78)	ND(0.82)	ND(0.78)	ND(0.74)	ND(1.5)	ND(1.8)	ND(1.7)	ND(0.38)	ND(1.9)	ND(2.0)	ND(0.76)					
Diethyl Phthalate	10	200	mg/kg	ND(1.9)	ND(1.9)	ND(0.82)	ND(0.76)	ND(0.76)	ND(0.78)	ND(0.82)	ND(0.78)	ND(0.74)	ND(1.5)	ND(1.8)	ND(1.7)	ND(0.38)	ND(1.9)	ND(2.0)	ND(0.76)					
Dimethyl Phthalate	0.7	50	mg/kg	ND(1.9)	ND(1.9)	ND(0.82)	ND(0.76)	ND(0.76)	ND(0.78)	ND(0.82)	ND(0.78)	ND(0.74)	ND(1.5)	ND(1.8)	ND(1.7)	ND(0.38)	ND(1.9)	ND(2.0)	ND(0.76)					
Fluoranthene	1000	3000	mg/kg	3.8	23	5.7	3.7	2.6	2.3	1.7	2.2	3.3	6.1	0.95	4.3	0.70	ND(0.97)	8.4	2.0					
Fluorene	1000	3000	mg/kg	ND(0.96)	4.2	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.39)	ND(0.41)	ND(0.39)	0.38	ND(0.73)	ND(0.92)	ND(0.84)	ND(0.19)	ND(0.97)	ND(1.0)	ND(0.38)					
Hexachlorobenzene	0.7	0.8	mg/kg	ND(1.9)	ND(1.9)	ND(0.82)	ND(0.76)	ND(0.76)	ND(0.78)	ND(0.82)	ND(0.78)	ND(0.74)	ND(1.5)	ND(1.8)	ND(1.7)	ND(0.38)	ND(1.9)	ND(2.0)	ND(0.76)					
Hexachlorobutadiene	30	100	mg/kg	ND(1.9)	ND(1.9)	ND(0.82)	ND(0.76)	ND(0.76)	ND(0.78)	ND(0.82)	ND(0.78)	ND(0.74)	ND(1.5)	ND(1.8)	ND(1.7)	ND(0.38)	ND(1.9)	ND(2.0)	ND(0.76)					
Hexachloroethane	0.7	3	mg/kg	ND(1.9)	ND(1.9)	ND(0.82)	ND(0.76)	ND(0.76)	ND(0.78)	ND(0.82)	ND(0.78)	ND(0.74)	ND(1.5)	ND(1.8)	ND(1.7)	ND(0.38)	ND(1.9)	ND(2.0)	ND(0.76)					
Indeno(1,2,3-cd)Pyrene	7	40	mg/kg	1.1	6.4	1.7	1.1	1.0	1.1	0.61	0.80	0.93	1.6	ND(0.92)	1.2	0.29	ND(0.97)	1.6	0.67					
Isophorone	100	1000	mg/kg	ND(1.9)	ND(1.9)	ND(0.82)	ND(0.76)	ND(0.76)	ND(0.78)	ND(0.82)	ND(0.78)	ND(0.74)	ND(1.5)	ND(1.8)	ND(1.7)	ND(0.38)	ND(1.9)	ND(2.0)	ND(0.76)					
Naphthalene	4	20	mg/kg	ND(0.96)	ND(0.97)	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.39)	ND(0.41)	ND(0.39)	ND(0.37)	ND(0.73)	ND(0.92)	ND(0.84)	ND(0.19)	ND(0.97)	ND(1.0)	ND(0.38)					
n-Butyl Phthalate	50	500	mg/kg	ND(1.9)	ND(1.9)	ND(0.82)	ND(0.76)	ND(0.76)	ND(0.78)	ND(0.82)	ND(0.78)	ND(0.74)	ND(1.5)	ND(1.8)	ND(1.7)	ND(0.38)	ND(1.9)	ND(2.0)	ND(0.76)					
n-Dioctyl Phthalate	1000	10000	mg/kg	ND(1.9)	ND(1.9)	ND(0.82)	ND(0.76)	ND(0.76)	ND(0.78)	ND(0.82)	ND(0.78)	ND(0.74)	ND(1.5)	ND(1.8)	ND(1.7)	ND(0.38)	ND(1.9)	ND(2.0)	ND(0.76)					
Nitrobenzene	500	5000	mg/kg	ND(1.9)	ND(1.9)	ND(0.82)	ND(0.76)	ND(0.76)	ND(0.78)	ND(0.82)	ND(0.78)	ND(0.74)	ND(1.5)	ND(1.8)	ND(1.7)	ND(0.38)	ND(1.9)	ND(2.0)	ND(0.76)					
p-Chloroaniline	1	3	mg/kg	ND(3.7)	ND(3.8)	ND(1.6)	ND(1.5)	ND(1.5)	ND(1.5)	ND(1.6)	ND(1.5)	ND(1.4)	ND(2.8)	ND(3.6)	ND(3.3)	ND(0.73)	ND(3.8)	ND(3.9)	ND(1.5)					
Pentachlorophenol	3	10	mg/kg	ND(1.9)	ND(1.9)	ND(0.82)	ND(0.76)	ND(0.76)	ND(0.78)	ND(0.82)	ND(0.78)	ND(0.74)	ND(1.5)	ND(1.8)	ND(1.7)	ND(0.38)	ND(1.9)	ND(2.0)	ND(0.76)					
Phenanthrene	10	1000	mg/kg	3.0	19	2.4	1.9	1.4	1.1	1.1	1.4	2.4	3.6	ND(0.92)	2.3	0.28	ND(0.97)	4.8	1.3					
Phenol	1	20	mg/kg	ND(1.9)	ND(1.9)	ND(0.82)	ND(0.76)	ND(0.76)	ND(0.78)	ND(0.82)	ND(0.78)	ND(0.74)	ND(1.5)	ND(1.8)	ND(1.7)	ND(0.38)	ND(1.9)	ND(2.0)	ND(0.76)					
p-Nitrophenol	100	1000	mg/kg	ND(3.7)	ND(3.8)	ND(1.6)	ND(1.5)	ND(1.5)	ND(1.5)	ND(1.6)	ND(1.5)	ND(1.4)	ND(2.8)	ND(3.6)	ND(3.3)	ND(0.73)	ND(3.8)	ND(3.9)	ND(1.5)					
Pyrene	1000	3000	mg/kg	4.5	19	6.0	4.0	2.9	2.4	1.7	2.5	3.8	5.7	1.1	3.7	0.75	ND(0.97)	7.9	2.2					
Total SVOCs	NSE	NSE	mg/kg	21.17	120.50	27.30	19.18	14.51	12.60	8.46	12.21	17.91	28.00	2.05	19.79	3.90	ND	35.60	10.39					
<b>Metals</b>																								
Antimony	20	30	mg/kg	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.9)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.9)	ND(1.8)	ND(1.8)	ND(1.8)	ND(2.1)	ND(1.8)	ND(2.0)	ND(2.0)	ND(1.9)					
Arsenic	20	20	mg/kg	5.9	5.3	3.4	4.6	4.7	4.6	6.2	9.1	5.7	3.4	3.7	4.2	4.6	6.8	3.9	6.1					
Barium	1000	3000	mg/kg	46	33	32	31	30	34	38	30	29	37	27	25	27	46	32	34					
Beryllium	90	200	mg/kg	0.32	0.27	0.40	0.33	0.34	0.35	0.40	0.32	0.33	0.28	0.27	0.24	0.32	0.34	0.36	0.32					
Cadmium	70	100	mg/kg	0.40	0.36	0.29	0.31	0.33	0.35	0.42	0.57	0.35	0.31	0.27	0.65	0.34	0.44	0.30	0.41					
Chromium	100	200	mg/kg	23	15	17	15	15	17	18	14	15	14	15	14	15	13	19	15					
Lead	200	600	mg/kg	79	30	40	47	53	51	45	110	46	56	25	25	20	110	32	71					
Mercury	20	30	mg/kg	0.064	ND(0.029)	0.055	0.059	0.061	0.045	0.086	0.071	0.031	0.28	ND(0.027)	ND(0.032)	ND(0.028)	0.11	0.041	0.079					
Nickel	600	1000	mg/kg	10	12	15	12	12	13	13	10	13	12	13	10	13	9.9	15	10					
Selenium	400	700	mg/kg	ND(3.8)	ND(3.8)	ND(4.1)	ND(3.7)	ND(3.7)	ND(3.8)	ND(3.9)	ND(3.9)	ND(3.7)	ND(3.6)	ND(3.7)	ND(4.2)	ND(3.7)	ND(3.9)	ND(4.0)	ND(3.8)					
Silver	100	200	mg/kg	ND(0.38)	ND(0.38)	ND(0.41)	ND(0.37)	ND(0.37)	ND(0.38)	ND(0.39)	ND(0.39)	ND(0.37)	ND(0.36)	ND(0.37)	ND(0.42)	ND(0.37)	ND(0.39)	ND(0.40)	ND(0.38)					
Thallium	8	60	mg/kg	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.9)	ND(1.9)	ND(1.9)	ND(2.0)	ND(1.9)	ND(1.8)	ND(1.8)	ND(1.8)	ND(2.1)	ND(1.8)	ND(2.0)	ND(2.0)	ND(1.9)					
Vanadium	400	700	mg/kg	20	21	27	25	24	24	26	21	26	26	29	20	23	19	32	20					
Zinc	1000	3000	mg/kg	51	39	52	46	50	50	82	68	49	54	37	52	36	56	45	54					

**Table 4**  
**Summary of Soil Analytical Results - All Samples**  
**Rivers Edge**  
**484 - 490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	MCP RCS-1	MCP RCS-2	Units	TP-C6 (0-5)	TP-C6 (5-10)	TP-D1 (0-5)	TP-D1 (5-10)	TP-D2 (0-5)	TP-D2 (5-10)	TP-D3 (0-5)	TP-D3 (5-10)	TP-D3 (10-15)	TP-D4 (0-5)	TP-D4 (5-10)	TP-D5 (0-5)	TP-D5 (5-10)	TP-D6 (0-5)	TP-D6 (5-10)	TP-D7 (0-5)
Sample Date				3/11/2019	3/11/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019	3/11/2019
Depth Interval (ft)				0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	10-15	0-5	5-10	0-5	5-10	0-5	5-10	0-5
<b>Polychlorinated Biphenyls (PCBs)</b>																			
Aroclor 1016	1	4	mg/kg	ND(0.089)	ND(0.088)	ND(0.098)	ND(0.090)	ND(0.090)	ND(0.092)	ND(0.097)	ND(0.093)	ND(0.088)	ND(0.087)	ND(0.088)	ND(0.095)	ND(0.085)	ND(0.093)	ND(0.091)	ND(0.088)
Aroclor 1221	1	4	mg/kg	ND(0.089)	ND(0.088)	ND(0.098)	ND(0.090)	ND(0.090)	ND(0.092)	ND(0.097)	ND(0.093)	ND(0.088)	ND(0.087)	ND(0.088)	ND(0.095)	ND(0.085)	ND(0.093)	ND(0.091)	ND(0.088)
Aroclor 1232	1	4	mg/kg	ND(0.089)	ND(0.088)	ND(0.098)	ND(0.090)	ND(0.090)	ND(0.092)	ND(0.097)	ND(0.093)	ND(0.088)	ND(0.087)	ND(0.088)	ND(0.095)	ND(0.085)	ND(0.093)	ND(0.091)	ND(0.088)
Aroclor 1242	1	4	mg/kg	ND(0.089)	ND(0.088)	ND(0.098)	ND(0.090)	ND(0.090)	ND(0.092)	ND(0.097)	ND(0.093)	ND(0.088)	ND(0.087)	ND(0.088)	ND(0.095)	ND(0.085)	ND(0.093)	ND(0.091)	ND(0.088)
Aroclor 1248	1	4	mg/kg	ND(0.089)	ND(0.088)	ND(0.098)	ND(0.090)	ND(0.090)	ND(0.092)	ND(0.097)	ND(0.093)	ND(0.088)	ND(0.087)	ND(0.088)	ND(0.095)	ND(0.085)	ND(0.093)	ND(0.091)	ND(0.088)
Aroclor 1254	1	4	mg/kg	ND(0.089)	ND(0.088)	ND(0.098)	ND(0.090)	ND(0.090)	ND(0.092)	ND(0.097)	ND(0.093)	ND(0.088)	ND(0.087)	ND(0.088)	ND(0.095)	ND(0.085)	ND(0.093)	ND(0.091)	ND(0.088)
Aroclor 1260	1	4	mg/kg	ND(0.089)	ND(0.088)	ND(0.098)	ND(0.090)	ND(0.090)	ND(0.092)	ND(0.097)	ND(0.093)	ND(0.088)	ND(0.087)	ND(0.088)	ND(0.095)	ND(0.085)	ND(0.093)	ND(0.091)	ND(0.088)
Aroclor 1262	1	4	mg/kg	ND(0.089)	ND(0.088)	ND(0.098)	ND(0.090)	ND(0.090)	ND(0.092)	ND(0.097)	ND(0.093)	ND(0.088)	ND(0.087)	ND(0.088)	ND(0.095)	ND(0.085)	ND(0.093)	ND(0.091)	ND(0.088)
Aroclor 1268	1	4	mg/kg	ND(0.089)	ND(0.088)	ND(0.098)	ND(0.090)	ND(0.090)	ND(0.092)	ND(0.097)	ND(0.093)	ND(0.088)	ND(0.087)	ND(0.088)	ND(0.095)	ND(0.085)	ND(0.093)	ND(0.091)	ND(0.088)
Total PCBs	1	4	mg/kg	ND(0.089)	ND(0.088)	ND(0.098)	ND(0.090)	ND(0.090)	ND(0.092)	ND(0.097)	ND(0.093)	ND(0.088)	ND(0.087)	ND(0.088)	ND(0.095)	ND(0.085)	ND(0.093)	ND(0.091)	ND(0.088)
<b>General Chemistry</b>																			
Ignitability	NSE	NSE	present/absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent
pH	NSE	NSE	pH Units	7.3	7.6	7.9	7.9	7.8	7.7	7.7	7.7	8.2	8.2	7.8	8.2	8.5	7.7	7.7	7.7
Reactivity Cyanide	NSE	NSE	mg/kg	ND(4.0)	ND(4.0)	ND(3.9)	ND(4.0)	ND(4.0)	ND(3.9)	ND(3.9)	ND(4.0)	ND(3.9)	ND(4.0)	ND(3.9)	ND(4.0)	ND(4.0)	ND(3.9)	ND(4.0)	ND(4.0)
Reactivity Sulfide	NSE	NSE	mg/kg	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(19)	ND(19)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)
Solids, Total	NSE	NSE	%	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(19)	ND(19)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)
Specific Conductance	2000	2000	umhos/cm	21	17	13	11	8.8	8.7	11	8.0	22	24	6.2	17	11	9.0	23	11

- Notes:
- mg/kg=milligram per kilogram; uhoms/cm=microohms per centimeter
  - Reportable Concentrations (RCS-1 & RCS-2) taken from the Massachusetts Contingency Plan (MCP) 310 CMR 40.0974(2) dated April 2014
  - Shaded out columns are not proposed for import to Facility.
  - ND = Not Detected above laboratory reporting limits shown in parenthesis
  - -- = Not Analyzed
  - NSE = No Standard Exists
  - Bolded values exceed applicable MCP RCS-1 Reportable Concentration
  - Underlined values exceed applicable MCP RCS-2 Reportable Concentration
  - Full analytical results are detailed in the laboratory analytical report

**Table 4**  
**Summary of Soil Analytical Results - All Samples**  
**Rivers Edge**  
**484 - 490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	Sample Date	MCP RCS-1	MCP RCS-2	Units	TP-D7 (5-10)	TP-E2 (0-5)	TP-E2 (5-10)	TP-E3 (0-5)	TP-E3 (5-10)	TP-E4 (0-5)	TP-E4 (5-10)	TP-E5 (0-5)	TP-E5 (5-10)	TP-E5 (10-15)	TP-E6 (0-5)	TP-E6 (5-10)	TP-E7 (0-5)	TP-E7 (5-10)	TP-E8 (0-5)	TP-E8 (5-10)				
					3/11/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019
					5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	10-15	0-5	5-10	0-5	5-10	0-5	5-10
<b>Asbestos</b>																								
CARB 435		NSE	NSE	%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
<b>Extractable Petroleum Hydrocarbons (EPH) with target Polynuclear Aromatic H</b>																								
C09-C18 Aliphatic Hydrocarbons		1000	3000	mg/kg	ND(22)	ND(55)	--	--	ND(24)	--	--	--	--	--	--	--	--	--	--	--				
C11-C22 Aromatic Hydrocarbons		1000	3000	mg/kg	220	210	--	--	170	--	--	--	--	--	--	--	--	--	--	--				
C19-C36 Aliphatics		3000	5000	mg/kg	140	150	--	--	130	--	--	--	--	--	--	--	--	--	--	--				
<b>Total Petroleum Hydrocarbons (TPH)</b>																								
TPH		1000	3000	mg/kg	1000	1100	870	780	1100	430	680	590	470	110	980	54	430	160	370	300				
<b>Volatile Organic Compounds (VOCs)</b>																								
1,1,1,2-Tetrachloroethane		0.1	0.1	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)				
1,1,1-Trichloroethane (1,1,1-TCA)		30	30	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)				
1,1,2-Trichloroethane		0.1	0.1	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)				
1,1-Dichloroethane (1,1-DCA)		0.4	0.4	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)				
1,1-Dichloroethene (1,1-DCE)		3	3	mg/kg	ND(0.0030)	ND(0.0030)	ND(0.0038)	ND(0.0031)	ND(0.0043)	ND(0.0040)	ND(0.0041)	ND(0.0034)	ND(0.0048)	ND(0.0036)	ND(0.0037)	ND(0.0039)	ND(0.0042)	ND(0.0039)	ND(0.0034)	ND(0.0051)				
1,1-Dichloropropene		NSE	NSE	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0040)	ND(0.0041)	ND(0.0034)	ND(0.0048)	ND(0.0036)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)				
1,2,3-Trichlorobenzene		NSE	NSE	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0040)	ND(0.0041)	ND(0.0034)	ND(0.0048)	ND(0.0036)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)				
1,2,3-Trichloropropane		100	100	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)				
1,2,4-Trichlorobenzene		2	2	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)				
1,2,4-Trimethylbenzene		1000	1000	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)				
1,2-Dibromo-3-Chloropropane		10	10	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0040)	ND(0.0041)	ND(0.0034)	ND(0.0048)	ND(0.0036)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)				
1,2-Dibromoethane		0.1	0.1	mg/kg	ND(0.0075)	ND(0.0076)	ND(0.0096)	ND(0.0077)	ND(0.011)	ND(0.010)	ND(0.010)	ND(0.0086)	ND(0.012)	ND(0.0091)	ND(0.0093)	ND(0.0097)	ND(0.010)	ND(0.0098)	ND(0.0086)	ND(0.013)				
1,2-Dichlorobenzene		9	9	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)				
1,2-Dichloroethane (1,2-DCA)		0.1	0.1	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)				
1,2-Dichloroethylene, trans (1,2-DCE)		1	1	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)				
1,2-Dichloropropane		0.1	0.1	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)				
1,3,5-Trimethylbenzene		10	10	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)				
1,3-Dichlorobenzene (1,3-DCB)		3	3	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)				
1,3-Dichloropropane		500	500	mg/kg	ND(0.0075)	ND(0.0076)	ND(0.0096)	ND(0.0077)	ND(0.011)	ND(0.010)	ND(0.010)	ND(0.0086)	ND(0.012)	ND(0.0091)	ND(0.0093)	ND(0.0097)	ND(0.010)	ND(0.0098)	ND(0.0086)	ND(0.013)				
1,3-Dichloropropene, cis		0.01	0.01	mg/kg	ND(0.0075)	ND(0.0076)	ND(0.0096)	ND(0.0077)	ND(0.011)	ND(0.010)	ND(0.010)	ND(0.0086)	ND(0.012)	ND(0.0091)	ND(0.0093)	ND(0.0097)	ND(0.010)	ND(0.0098)	ND(0.0086)	ND(0.013)				
1,3-Dichloropropene, trans		0.01	0.01	mg/kg	ND(0.0075)	ND(0.0076)	ND(0.0096)	ND(0.0077)	ND(0.011)	ND(0.010)	ND(0.010)	ND(0.0086)	ND(0.012)	ND(0.0091)	ND(0.0093)	ND(0.0097)	ND(0.010)	ND(0.0098)	ND(0.0086)	ND(0.013)				
1,4-Dichlorobenzene		0.7	0.7	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)				
1,4-Dioxane		0.2	0.2	mg/kg	ND(0.075)	ND(0.076)	ND(0.096)	ND(0.077)	ND(0.11)	ND(0.20)	ND(0.20)	ND(0.17)	ND(0.24)	ND(0.18)	ND(0.093)	ND(0.097)	ND(0.10)	ND(0.098)	ND(0.086)	ND(0.13)				
2,2-Dichloropropane		NSE	NSE	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)				
2-Hexanone		100	100	mg/kg	ND(0.015)	ND(0.015)	ND(0.019)	ND(0.015)	ND(0.021)	ND(0.020)	ND(0.020)	ND(0.017)	ND(0.024)	ND(0.018)	ND(0.019)	ND(0.019)	ND(0.021)	ND(0.020)	ND(0.017)	ND(0.026)				
Acetone		6	6	mg/kg	ND(0.075)	ND(0.076)	ND(0.096)	ND(0.077)	ND(0.11)	ND(0.10)	ND(0.10)	ND(0.086)	ND(0.12)	ND(0.091)	ND(0.093)	ND(0.097)	ND(0.10)	ND(0.098)	ND(0.086)	ND(0.13)				
Benzene		2	2	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)				
Bromobenzene		100	100	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)				
Bromochloromethane (Chlorobromor)		NSE	NSE	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)				
Bromodichloromethane		0.1	0.1	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)				
Bromoform		0.1	0.1	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)				
Bromomethane		0.5	0.5	mg/kg	ND(0.0075)	ND(0.0076)	ND(0.0096)	ND(0.0077)	ND(0.011)	ND(0.010)	ND(0.010)	ND(0.0086)	ND(0.012)	ND(0.0091)	ND(0.0093)	ND(0.0097)	ND(0.010)	ND(0.0098)	ND(0.0086)	ND(0.013)				
Carbon Disulfide		100	100	mg/kg	ND(0.0045)	ND(0.0046)	ND(0.0058)	ND(0.0046)	ND(0.0064)	ND(0.0061)	ND(0.0061)	ND(0.0051)	ND(0.0072)	ND(0.0055)	ND(0.0056)	ND(0.0058)	ND(0.0063)	ND(0.0059)	ND(0.0052)	ND(0.0077)				
Carbon Tetrachloride		5	5	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)				
Chlorobenzene		1	1	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)				
Chloroethane		100	100	mg/kg	ND(0.0075)	ND(0.0076)	ND(0.0096)	ND(0.0077)	ND(0.011)	ND(0.010)	ND(0.010)	ND(0.0086)	ND(0.012)	ND(0.0091)	ND(0.0093)	ND(0.0097)	ND(0.010)	ND(0.0098)	ND(0.0086)	ND(0.013)				
Chloroform		0.2	0.2	mg/kg	ND(0.0030)	ND(0.0030)	ND(0.0038)	ND(0.0031)	ND(0.0043)	ND(0.0040)	ND(0.0041)	ND(0.0034)	ND(0.0048)	ND(0.0036)	ND(0.0037)	ND(0.0039)	ND(0.0042)	ND(0.0039)	ND(0.0034)	ND(0.0051)				
Chloromethane		100	100	mg/kg	ND(0.0075)	ND(0.0076)	ND(0.0096)	ND(0.0077)	ND(0.011)	ND(0.010)	ND(0.010)	ND(0.0086)	ND(0.012)	ND(0.0091)	ND(0.0093)	ND(0.0097)	ND(0.010)	ND(0.0098)	ND(0.0086)	ND(0.013)				
Dibromochloromethane		0.005	0.005	mg/kg	ND(0																			



**Table 4**  
**Summary of Soil Analytical Results - All Samples**  
**Rivers Edge**  
**484 - 490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	Sample Date	MCP RCS-1	MCP RCS-2	Units	TP-D7 (5-10)	TP-E2 (0-5)	TP-E2 (5-10)	TP-E3 (0-5)	TP-E3 (5-10)	TP-E4 (0-5)	TP-E4 (5-10)	TP-E5 (0-5)	TP-E5 (5-10)	TP-E5 (10-15)	TP-E6 (0-5)	TP-E6 (5-10)	TP-E7 (0-5)	TP-E7 (5-10)	TP-E8 (0-5)	TP-E8 (5-10)				
					3/11/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019
					5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	10-15	0-5	5-10	0-5	5-10	0-5	5-10
Ethylbenzene	40	40	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)					
Ethyl-Tert-Butyl-Ether (Tert-Butylethy	NSE	NSE	mg/kg	ND(0.00075)	ND(0.00076)	ND(0.00096)	ND(0.00077)	ND(0.0011)	ND(0.0010)	ND(0.0010)	ND(0.00086)	ND(0.0012)	ND(0.00091)	ND(0.00093)	ND(0.00097)	ND(0.0010)	ND(0.00098)	ND(0.00086)	ND(0.0013)					
Hexachlorobutadiene	30	30	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)					
Isopropyl Benzene	1000	1000	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)					
Isopropyl Ether	100	100	mg/kg	ND(0.00075)	ND(0.00076)	ND(0.00096)	ND(0.00077)	ND(0.0011)	ND(0.0010)	ND(0.0010)	ND(0.00086)	ND(0.0012)	ND(0.00091)	ND(0.00093)	ND(0.00097)	ND(0.0010)	ND(0.00098)	ND(0.00086)	ND(0.0013)					
Methyl Ethyl Ketone (MEK)	4	4	mg/kg	ND(0.030)	ND(0.030)	ND(0.038)	ND(0.031)	ND(0.043)	ND(0.040)	ND(0.041)	ND(0.034)	ND(0.048)	ND(0.036)	ND(0.037)	ND(0.039)	ND(0.042)	ND(0.039)	ND(0.034)	ND(0.051)					
Methyl Isobutyl Ketone (MIBK)	0.4	0.4	mg/kg	ND(0.015)	ND(0.015)	ND(0.019)	ND(0.015)	ND(0.021)	ND(0.020)	ND(0.020)	ND(0.017)	ND(0.024)	ND(0.018)	ND(0.019)	ND(0.019)	ND(0.021)	ND(0.020)	ND(0.017)	ND(0.026)					
Methyl Tert-Butyl Ether	0.1	0.1	mg/kg	ND(0.0030)	ND(0.0030)	ND(0.0038)	ND(0.0031)	ND(0.0043)	ND(0.0040)	ND(0.0041)	ND(0.0034)	ND(0.0048)	ND(0.0036)	ND(0.0037)	ND(0.0039)	ND(0.0042)	ND(0.0039)	ND(0.0034)	ND(0.0051)					
Methylene Chloride	0.1	0.1	mg/kg	ND(0.0075)	ND(0.0076)	ND(0.0096)	ND(0.0077)	ND(0.011)	ND(0.010)	ND(0.010)	ND(0.0086)	ND(0.012)	ND(0.0091)	ND(0.0093)	ND(0.0097)	ND(0.010)	ND(0.0098)	ND(0.0086)	ND(0.013)					
Naphthalene	4	4	mg/kg	ND(0.0030)	ND(0.0030)	ND(0.0038)	ND(0.0031)	ND(0.0043)	ND(0.0040)	ND(0.0041)	ND(0.0034)	ND(0.0048)	ND(0.0036)	ND(0.0037)	ND(0.0039)	ND(0.0042)	ND(0.0039)	ND(0.0034)	ND(0.0051)					
n-Butylbenzene	NSE	NSE	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)					
o-Chlorotoluene	100	100	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)					
o-Xylene	100	100	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)					
p/m-Xylene	100	100	mg/kg	ND(0.0030)	ND(0.0030)	ND(0.0038)	ND(0.0031)	ND(0.0043)	ND(0.0040)	ND(0.0041)	ND(0.0034)	ND(0.0048)	ND(0.0036)	ND(0.0037)	ND(0.0039)	ND(0.0042)	ND(0.0039)	ND(0.0034)	ND(0.0051)					
p-Chlorotoluene (4-Chlorotoluene)	NSE	NSE	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)					
p-Cymene	100	100	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)					
Propylbenzene	100	100	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)					
Sec-Butylbenzene	NSE	NSE	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)					
Styrene	3	3	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)					
Tert-Butylbenzene	100	100	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)					
Tertiary-Amyl Methyl Ether (TAME)	NSE	NSE	mg/kg	ND(0.00075)	ND(0.00076)	ND(0.00096)	ND(0.00077)	ND(0.0011)	ND(0.0010)	ND(0.0010)	ND(0.00086)	ND(0.0012)	ND(0.00091)	ND(0.00093)	ND(0.00097)	ND(0.0010)	ND(0.00098)	ND(0.00086)	ND(0.0013)					
Tetrachloroethane	0.005	0.005	mg/kg	ND(0.00075)	ND(0.00076)	ND(0.00096)	ND(0.00077)	ND(0.0011)	ND(0.0010)	ND(0.0010)	ND(0.00086)	ND(0.0012)	ND(0.00091)	ND(0.00093)	ND(0.00097)	ND(0.0010)	ND(0.00098)	ND(0.00086)	ND(0.0013)					
Tetrachloroethylene (PCE)	1	1	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)					
Tetrahydrofuran	500	500	mg/kg	ND(0.0075)	ND(0.0076)	ND(0.0096)	ND(0.0077)	ND(0.011)	ND(0.010)	ND(0.010)	ND(0.0086)	ND(0.012)	ND(0.0091)	ND(0.0093)	ND(0.0097)	ND(0.010)	ND(0.0098)	ND(0.0086)	ND(0.013)					
Toluene	30	30	mg/kg	ND(0.0015)	ND(0.0015)	0.0023	ND(0.0015)	ND(0.0021)	ND(0.0020)	0.0052	0.0026	0.0028	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	0.0023	0.0021	0.0036					
Trichloroethylene (TCE)	0.3	0.3	mg/kg	ND(0.0015)	ND(0.0015)	ND(0.0019)	ND(0.0015)	ND(0.0021)	ND(0.0020)	ND(0.0020)	ND(0.0017)	ND(0.0024)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)	ND(0.0020)	ND(0.0017)	ND(0.0026)					
Trichlorofluoromethane	1000	1000	mg/kg	ND(0.0075)	ND(0.0076)	ND(0.0096)	ND(0.0077)	ND(0.011)	ND(0.010)	ND(0.010)	ND(0.0086)	ND(0.012)	ND(0.0091)	ND(0.0093)	ND(0.0097)	ND(0.010)	ND(0.0098)	ND(0.0086)	ND(0.013)					
Vinyl Chloride	0.7	0.7	mg/kg	ND(0.0075)	ND(0.0076)	ND(0.0096)	ND(0.0077)	ND(0.011)	ND(0.010)	ND(0.010)	ND(0.0086)	ND(0.012)	ND(0.0091)	ND(0.0093)	ND(0.0097)	ND(0.010)	ND(0.0098)	ND(0.0086)	ND(0.013)					
Total VOCs	NSE	NSE	mg/kg	ND(0.075)	ND(0.076)	0.0023	ND(0.077)	ND(0.11)	ND(0.20)	0.0052	0.0026	0.0028	ND(0.18)	ND(0.093)	ND(0.097)	ND(0.10)	ND(0.098)	0.0021	0.0036					
<b>Semivolatile Organic Compounds (SVOCs)</b>																								
1,2,4-Trichlorobenzene	2	2	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)					
1,2-Dichlorobenzene	9	9	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)					
1,2-Diphenylhydrazine	50	50	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)					
1,3-Dichlorobenzene (1,3-DCB)	3	3	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)					
1,4-Dichlorobenzene	0.7	0.7	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)					
2,4,5-Trichlorophenol	4	4	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)					
2,4,6-Trichlorophenol	0.7	0.7	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)					
2,4-Dichlorophenol	0.7	0.7	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)					
2,4-Dimethylphenol	0.7	0.7	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)					
2,4-Dinitrophenol	3	3	mg/kg	ND(7.2)	ND(2.9)	ND(3.1)	ND(1.4)	ND(1.6)	ND(0.73)	ND(0.76)	ND(3.6)	ND(1.5)	ND(0.74)	ND(3.7)	ND(1.4)	ND(1.5)	ND(1.4)	ND(1.5)	ND(1.5)					
2,4-Dinitrotoluene	0.7	0.7	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)					
2,6-Dinitrotoluene	100	100	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)					
2-Chloronaphthalene	1000	1000	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)					
2-Chlorophenol	0.7	0.7	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)					
2-Methylnaphthalene	0.7	0.7	mg/kg	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.37)	ND(0.40)	ND(0.19)	ND(0.19)	ND(0.94)	ND(0.37)	ND(0.19)	ND(0.94)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.38)	ND(0.39)					
2-Methylphenol (o-Cresol)	500	500	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)					
2-Nitrophenol (o-Nitrophenol)	100	100	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)					
3,3-Dichlorobenzidine	3	3	mg/kg	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.37)	ND(0.40)	ND(0.19)	ND(0.19)	ND(0.94)	ND(0.37)	ND(0.19)	ND(0.94)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.38)	ND(0.39)					
3-Methylphenol/4-Methylphenol	NSE	NSE	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)					
4-Bromophenyl Phenyl Ether	100	100	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)					
Acenaphthene	4	4	mg/kg	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.37)	ND(0.40)																

**Table 4**  
**Summary of Soil Analytical Results - All Samples**  
**Rivers Edge**  
**484 - 490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	Sample Date	MCP RCS-1	MCP RCS-2	Units	TP-D7 (5-10)	TP-E2 (0-5)	TP-E2 (5-10)	TP-E3 (0-5)	TP-E3 (5-10)	TP-E4 (0-5)	TP-E4 (5-10)	TP-E5 (0-5)	TP-E5 (5-10)	TP-E5 (10-15)	TP-E6 (0-5)	TP-E6 (5-10)	TP-E7 (0-5)	TP-E7 (5-10)	TP-E8 (0-5)	TP-E8 (5-10)			
					3/11/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019
					5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	10-15	0-5	5-10	0-5	5-10	0-5	5-10	0-5
Acetophenone	1000	1000	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)				
Aniline	1000	1000	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)				
Anthracene	1000	10	mg/kg	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.37)	1.2	0.55	ND(0.19)	ND(0.94)	ND(0.37)	ND(0.19)	ND(0.94)	ND(0.37)	ND(0.39)	ND(0.36)	0.90	ND(0.39)				
Benzo(a)Anthracene	7	7	mg/kg	ND(1.9)	1.8	1.4	0.42	3.4	1.7	0.45	ND(0.94)	ND(0.37)	ND(0.19)	1.6	ND(0.37)	0.55	ND(0.36)	1.6	0.45				
Benzo(a)Pyrene	2	30	mg/kg	ND(1.9)	1.7	1.5	0.56	3.1	1.6	0.49	ND(0.94)	ND(0.37)	ND(0.19)	1.7	ND(0.37)	0.60	ND(0.36)	1.5	0.53				
Benzo(b)Fluoranthene	7	300	mg/kg	ND(1.9)	1.9	1.7	0.67	3.6	1.9	0.57	0.98	ND(0.37)	ND(0.19)	2.0	ND(0.37)	0.84	ND(0.36)	1.7	0.60				
Benzo(g,h,i)Perylene	1000	3000	mg/kg	ND(1.9)	1.2	0.99	ND(0.37)	1.5	0.71	0.37	ND(0.94)	ND(0.37)	ND(0.19)	ND(0.94)	ND(0.37)	ND(0.39)	ND(0.36)	0.89	ND(0.39)				
Benzo(k)Fluoranthene	70	3000	mg/kg	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.37)	1.4	0.72	0.21	ND(0.94)	ND(0.37)	ND(0.19)	ND(0.94)	ND(0.37)	ND(0.39)	ND(0.36)	0.62	ND(0.39)				
Bis (2-Chloroethyl) Ether	0.7	0.7	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)				
Bis(2-Ethylhexyl)Phthalate	100	700	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)				
Butyl Benzyl Phthalate	100	1000	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)				
Chrysene	70	400	mg/kg	ND(1.9)	1.8	1.3	0.48	3.3	1.5	0.46	ND(0.94)	ND(0.37)	ND(0.19)	1.9	ND(0.37)	0.64	ND(0.36)	1.5	0.48				
Dibenzo(a,h)Anthracene	0.7	4	mg/kg	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.37)	ND(0.40)	ND(0.19)	ND(0.19)	ND(0.94)	ND(0.37)	ND(0.19)	ND(0.94)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.38)	ND(0.39)				
Dibenzofuran	100	1000	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)				
Dichloroisopropyl Ether	0.7	0.7	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)				
Dichloromethoxy Ethane	500	5000	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)				
Diethyl Phthalate	10	200	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)				
Dimethyl Phthalate	0.7	50	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)				
Fluoranthene	1000	3000	mg/kg	2.9	3.1	2.5	0.70	6.6	3.0	0.84	1.4	ND(0.37)	ND(0.19)	2.9	ND(0.37)	0.92	ND(0.36)	3.7	0.75				
Fluorene	1000	3000	mg/kg	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.37)	ND(0.40)	0.21	ND(0.19)	ND(0.94)	ND(0.37)	ND(0.19)	ND(0.94)	ND(0.37)	ND(0.39)	ND(0.36)	0.47	ND(0.39)				
Hexachlorobenzene	0.7	0.8	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)				
Hexachlorobutadiene	30	100	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)				
Hexachloroethane	0.7	3	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)				
Indeno(1,2,3-cd)Pyrene	7	40	mg/kg	ND(1.9)	1.1	1.0	ND(0.37)	1.7	0.87	0.34	ND(0.94)	ND(0.37)	ND(0.19)	0.96	ND(0.37)	0.41	ND(0.36)	1.0	ND(0.39)				
Isophorone	100	1000	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)				
Naphthalene	4	20	mg/kg	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.37)	ND(0.40)	ND(0.19)	ND(0.19)	ND(0.94)	ND(0.37)	ND(0.19)	ND(0.94)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.38)	ND(0.39)				
n-Butyl Phthalate	50	500	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)				
n-Dioctyl Phthalate	1000	10000	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)				
Nitrobenzene	500	5000	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)				
p-Chloroaniline	1	3	mg/kg	ND(7.2)	ND(2.9)	ND(3.1)	ND(1.4)	ND(1.6)	ND(0.73)	ND(0.76)	ND(3.6)	ND(1.5)	ND(0.74)	ND(3.7)	ND(1.4)	ND(1.5)	ND(1.4)	ND(1.5)	ND(1.5)				
Pentachlorophenol	3	10	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)				
Phenanthrene	10	1000	mg/kg	2.2	2.2	1.3	ND(0.37)	4.2	2.0	0.43	ND(0.94)	ND(0.37)	ND(0.19)	1.4	ND(0.37)	ND(0.39)	ND(0.36)	3.3	ND(0.39)				
Phenol	1	20	mg/kg	ND(3.7)	ND(1.5)	ND(1.6)	ND(0.75)	ND(0.80)	ND(0.38)	ND(0.39)	ND(1.9)	ND(0.75)	ND(0.38)	ND(1.9)	ND(0.74)	ND(0.79)	ND(0.73)	ND(0.76)	ND(0.78)				
p-Nitrophenol	100	1000	mg/kg	ND(7.2)	ND(2.9)	ND(3.1)	ND(1.4)	ND(1.6)	ND(0.73)	ND(0.76)	ND(3.6)	ND(1.5)	ND(0.74)	ND(3.7)	ND(1.4)	ND(1.5)	ND(1.4)	ND(1.5)	ND(1.5)				
Pyrene	1000	3000	mg/kg	3.0	3.6	2.6	0.81	7.5	3.4	1.0	1.4	0.40	ND(0.19)	3.4	ND(0.37)	1.2	ND(0.36)	3.6	0.95				
Total SVOCs	NSE	NSE	mg/kg	8.10	16.60	12.89	3.22	32.90	15.91	4.71	3.78	0.40	ND	14.26	ND	4.61	ND	18.28	3.31				
<b>Metals</b>																							
Antimony	20	30	mg/kg	ND(1.9)	ND(1.8)	ND(1.9)	ND(1.8)	ND(2.0)	ND(1.9)	ND(1.9)	ND(1.8)	ND(1.8)	ND(1.9)	ND(1.9)	ND(1.9)	9.3	ND(1.8)	ND(1.9)	ND(1.9)				
Arsenic	20	20	mg/kg	4.8	4.8	3.9	5.2	5.3	3.7	4.9	4.4	5.9	4.3	5.1	4.4	8.7	3.7	6.4	6.6				
Barium	1000	3000	mg/kg	34	33	38	33	42	37	34	38	26	29	28	27	34	22	31	32				
Beryllium	90	200	mg/kg	0.29	0.37	0.37	0.38	0.42	0.34	0.34	0.33	0.38	0.30	0.32	0.33	0.37	0.23	0.33	0.34				
Cadmium	70	100	mg/kg	0.39	0.37	0.40	0.34	0.40	0.31	0.36	0.35	0.33	0.31	0.41	0.29	0.52	0.22	0.42	0.43				
Chromium	100	200	mg/kg	17	15	16	17	18	14	16	15	15	14	14	15	15	8.5	15	16				
Lead	200	600	mg/kg	40	41	53	25	53	74	23	26	19	37	48	8.9	<b>780</b>	<b>300</b>	59	41				
Mercury	20	30	mg/kg	0.038	0.046	0.045	0.031	0.072	0.075	ND(0.028)	ND(0.026)	ND(0.026)	ND(0.028)	ND(0.029)	ND(0.026)	0.030	ND(0.026)	0.040	0.036				
Nickel	600	1000	mg/kg	13	13	13	14	14	12	13	12	13	11	11	10	11	7.2	12	12				
Selenium	400	700	mg/kg	ND(3.8)	ND(3.7)	ND(3.9)	ND(3.6)	ND(4.0)	ND(3.7)	ND(3.7)	ND(3.6)	ND(3.6)	ND(3.8)	ND(3.7)	ND(3.7)	ND(3.9)	ND(3.5)	ND(3.8)	ND(3.8)				
Silver	100	200	mg/kg	ND(0.38)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.40)	ND(0.37)	ND(0.37)	ND(0.36)	ND(0.36)	ND(0.38)	ND(0.37)	ND(0.37)	ND(0.39)	ND(0.35)	ND(0.38)	ND(0.38)				
Thallium	8	60	mg/kg	ND(1.9)	ND(1.8)	ND(1.9)	ND(1.8)	ND(2.0)	ND(1.9)	ND(1.9)	ND(1.8)	ND(1.8)	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.8)	ND(1.9)	ND(1.9)				
Vanadium	400	700	mg/kg	25	29	28	25	27	27	25	26	24	17	22	17	20	13	22	24				
Zinc	1000	3000	mg/kg	51	53	51	44	59	50	36	39	33	48	48	26	56	44	51	48				

**Table 4**  
**Summary of Soil Analytical Results - All Samples**  
**Rivers Edge**  
**484 - 490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	MCP RCS-1	MCP RCS-2	Units	TP-D7 (5-10)	TP-E2 (0-5)	TP-E2 (5-10)	TP-E3 (0-5)	TP-E3 (5-10)	TP-E4 (0-5)	TP-E4 (5-10)	TP-E5 (0-5)	TP-E5 (5-10)	TP-E5 (10-15)	TP-E6 (0-5)	TP-E6 (5-10)	TP-E7 (0-5)	TP-E7 (5-10)	TP-E8 (0-5)	TP-E8 (5-10)
Sample Date				3/11/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019
Depth Interval (ft)				5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	10-15	0-5	5-10	0-5	5-10	0-5	5-10
<b>Polychlorinated Biphenyls (PCBs)</b>																			
Aroclor 1016	1	4	mg/kg	ND(0.090)	ND(0.088)	ND(0.093)	ND(0.089)	ND(0.096)	ND(0.083)	ND(0.088)	ND(0.085)	ND(0.082)	ND(0.085)	ND(0.085)	ND(0.083)	ND(0.090)	ND(0.081)	ND(0.090)	ND(0.089)
Aroclor 1221	1	4	mg/kg	ND(0.090)	ND(0.088)	ND(0.093)	ND(0.089)	ND(0.096)	ND(0.083)	ND(0.088)	ND(0.085)	ND(0.082)	ND(0.085)	ND(0.085)	ND(0.083)	ND(0.090)	ND(0.081)	ND(0.090)	ND(0.089)
Aroclor 1232	1	4	mg/kg	ND(0.090)	ND(0.088)	ND(0.093)	ND(0.089)	ND(0.096)	ND(0.083)	ND(0.088)	ND(0.085)	ND(0.082)	ND(0.085)	ND(0.085)	ND(0.083)	ND(0.090)	ND(0.081)	ND(0.090)	ND(0.089)
Aroclor 1242	1	4	mg/kg	ND(0.090)	ND(0.088)	ND(0.093)	ND(0.089)	ND(0.096)	ND(0.083)	ND(0.088)	ND(0.085)	ND(0.082)	ND(0.085)	ND(0.085)	ND(0.083)	ND(0.090)	ND(0.081)	ND(0.090)	ND(0.089)
Aroclor 1248	1	4	mg/kg	ND(0.090)	ND(0.088)	ND(0.093)	ND(0.089)	ND(0.096)	ND(0.083)	ND(0.088)	ND(0.085)	ND(0.082)	ND(0.085)	ND(0.085)	ND(0.083)	ND(0.090)	ND(0.081)	ND(0.090)	ND(0.089)
Aroclor 1254	1	4	mg/kg	ND(0.090)	ND(0.088)	ND(0.093)	ND(0.089)	ND(0.096)	ND(0.083)	ND(0.088)	ND(0.085)	ND(0.082)	ND(0.085)	ND(0.085)	ND(0.083)	ND(0.090)	ND(0.081)	ND(0.090)	ND(0.089)
Aroclor 1260	1	4	mg/kg	ND(0.090)	ND(0.088)	ND(0.093)	ND(0.089)	ND(0.096)	ND(0.083)	ND(0.088)	ND(0.085)	ND(0.082)	ND(0.085)	ND(0.085)	ND(0.083)	ND(0.090)	ND(0.081)	ND(0.090)	ND(0.089)
Aroclor 1262	1	4	mg/kg	ND(0.090)	ND(0.088)	ND(0.093)	ND(0.089)	ND(0.096)	ND(0.083)	ND(0.088)	ND(0.085)	ND(0.082)	ND(0.085)	ND(0.085)	ND(0.083)	ND(0.090)	ND(0.081)	ND(0.090)	ND(0.089)
Aroclor 1268	1	4	mg/kg	ND(0.090)	ND(0.088)	ND(0.093)	ND(0.089)	ND(0.096)	ND(0.083)	ND(0.088)	ND(0.085)	ND(0.082)	ND(0.085)	ND(0.085)	ND(0.083)	ND(0.090)	ND(0.081)	ND(0.090)	ND(0.089)
Total PCBs	1	4	mg/kg	ND(0.090)	ND(0.088)	ND(0.093)	ND(0.089)	ND(0.096)	ND(0.083)	ND(0.088)	ND(0.085)	ND(0.082)	ND(0.085)	ND(0.085)	ND(0.083)	ND(0.090)	ND(0.081)	ND(0.090)	ND(0.089)
<b>General Chemistry</b>																			
Ignitability	NSE	NSE	present/absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent
pH	NSE	NSE	pH Units	8.2	7.7	8.0	8.2	8.1	8.5	7.9	7.9	8.6	7.7	8.1	8.3	7.2	7.6	8.2	8.3
Reactivity Cyanide	NSE	NSE	mg/kg	ND(4.0)	ND(3.9)	ND(3.9)	ND(3.9)	ND(4.0)	ND(3.9)	ND(3.9)	ND(3.9)	ND(3.9)	ND(3.9)	ND(3.9)	ND(3.9)	ND(4.0)	ND(3.9)	ND(3.9)	ND(4.0)
Reactivity Sulfide	NSE	NSE	mg/kg	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(19)	ND(19)	ND(19)	ND(20)	ND(19)	ND(19)	ND(20)	ND(20)	ND(20)	ND(19)	ND(20)
Solids, Total	NSE	NSE	%	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(19)	ND(19)	ND(19)	ND(20)	ND(19)	ND(19)	ND(20)	ND(20)	ND(20)	ND(19)	ND(20)
Specific Conductance	2000	2000	umhos/cm	18	18	15	13	19	10	10	12	11	7.0	9.3	9.3	10	18	11	9.8

- Notes:
- mg/kg=milligram per kilogram; uhoms/cm=microohms per centimeter
  - Reportable Concentrations (RCS-1 & RCS-2) taken from the Massachusetts Contingency Plan (MCP) 310 CMR 40.0974(2) dated April 2014
  - Shaded out columns are not proposed for import to Facility.
  - ND = Not Detected above laboratory reporting limits shown in parenthesis
  - -- = Not Analyzed
  - NSE = No Standard Exists
  - Bolded values exceed applicable MCP RCS-1 Reportable Concentration
  - Underlined values exceed applicable MCP RCS-2 Reportable Concentration
  - Full analytical results are detailed in the laboratory analytical report



**Table 4**  
**Summary of Soil Analytical Results - All Samples**  
**Rivers Edge**  
**484 - 490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	Sample Date	MCP RCS-1	MCP RCS-2	Units	TP-F3 (0-5)	TP-F3 (5-10)	TP-F4 (0-5)	TP-F4 (5-10)	TP-F5 (0-5)	TP-F5 (5-10)	TP-F6 (0-5)	TP-F6 (5-10)	TP-F7 (0-5)	TP-F7 (5-10)	TP-F8 (0-5)	TP-F8 (5-10)	TP-G6 (0-5)	TP-G6 (5-10)	TP-G7 (0-5)	TP-G7 (5-10)				
					3/12/2019	3/12/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019
					0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10
<b>Asbestos</b>																								
CARB 435		NSE	NSE	%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
<b>Extractable Petroleum Hydrocarbons (EPH) with target Polynuclear Aromatic H</b>																								
C09-C18 Aliphatic Hydrocarbons		1000	3000	mg/kg	ND(55)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
C11-C22 Aromatic Hydrocarbons		1000	3000	mg/kg	280	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
C19-C36 Aliphatics		3000	5000	mg/kg	220	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
<b>Total Petroleum Hydrocarbons (TPH)</b>																								
TPH		1000	3000	mg/kg	1300	910	390	310	640	680	420	510	580	560	250	380	400	430	360	430				
<b>Volatile Organic Compounds (VOCs)</b>																								
1,1,1,2-Tetrachloroethane		0.1	0.1	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
1,1,1-Trichloroethane (1,1,1-TCA)		30	30	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
1,1,2-Trichloroethane		0.1	0.1	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
1,1-Dichloroethane (1,1-DCA)		0.4	0.4	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
1,1-Dichloroethene (1,1-DCE)		3	3	mg/kg	ND(0.0034)	ND(0.0039)	ND(0.0032)	ND(0.0049)	ND(0.0041)	ND(0.0037)	ND(0.0032)	ND(0.0048)	ND(0.0042)	ND(0.0033)	ND(0.0045)	ND(0.0036)	ND(0.0049)	ND(0.0046)	ND(0.0043)	ND(0.0040)				
1,1-Dichloropropene		NSE	NSE	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0032)	ND(0.0049)	ND(0.0041)	ND(0.0037)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
1,2,3-Trichlorobenzene		NSE	NSE	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0032)	ND(0.0049)	ND(0.0041)	ND(0.0037)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
1,2,3-Trichloropropane		100	100	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
1,2,4-Trichlorobenzene		2	2	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
1,2,4-Trimethylbenzene		1000	1000	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
1,2-Dibromo-3-Chloropropane		10	10	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0032)	ND(0.0049)	ND(0.0041)	ND(0.0037)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
1,2-Dibromoethane		0.1	0.1	mg/kg	ND(0.00086)	ND(0.00096)	ND(0.00081)	ND(0.0012)	ND(0.0010)	ND(0.00092)	ND(0.00081)	ND(0.0012)	ND(0.0011)	ND(0.00082)	ND(0.0011)	ND(0.00089)	ND(0.0012)	ND(0.0012)	ND(0.0011)	ND(0.00099)				
1,2-Dichlorobenzene		9	9	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
1,2-Dichloroethane (1,2-DCA)		0.1	0.1	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
1,2-Dichloroethylene, trans (1,2-DCE)		1	1	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
1,2-Dichloropropane		0.1	0.1	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
1,3,5-Trimethylbenzene		10	10	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
1,3-Dichlorobenzene (1,3-DCB)		3	3	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
1,3-Dichloropropane		500	500	mg/kg	ND(0.00086)	ND(0.00096)	ND(0.00081)	ND(0.0012)	ND(0.0010)	ND(0.00092)	ND(0.00081)	ND(0.0012)	ND(0.0011)	ND(0.00082)	ND(0.0011)	ND(0.00089)	ND(0.0012)	ND(0.0012)	ND(0.0011)	ND(0.00099)				
1,3-Dichloropropene, cis		0.01	0.01	mg/kg	ND(0.00086)	ND(0.00096)	ND(0.00081)	ND(0.0012)	ND(0.0010)	ND(0.00092)	ND(0.00081)	ND(0.0012)	ND(0.0011)	ND(0.00082)	ND(0.0011)	ND(0.00089)	ND(0.0012)	ND(0.0012)	ND(0.0011)	ND(0.00099)				
1,3-Dichloropropene, trans		0.01	0.01	mg/kg	ND(0.00086)	ND(0.00096)	ND(0.00081)	ND(0.0012)	ND(0.0010)	ND(0.00092)	ND(0.00081)	ND(0.0012)	ND(0.0011)	ND(0.00082)	ND(0.0011)	ND(0.00089)	ND(0.0012)	ND(0.0012)	ND(0.0011)	ND(0.00099)				
1,4-Dichlorobenzene		0.7	0.7	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
1,4-Dioxane		0.2	0.2	mg/kg	ND(0.086)	ND(0.096)	ND(0.16)	ND(0.25)	ND(0.20)	ND(0.18)	ND(0.081)	ND(0.12)	ND(0.11)	ND(0.082)	ND(0.11)	ND(0.089)	ND(0.12)	ND(0.12)	ND(0.11)	ND(0.099)				
2,2-Dichloropropane		NSE	NSE	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
2-Hexanone		100	100	mg/kg	ND(0.017)	ND(0.019)	ND(0.016)	ND(0.025)	ND(0.020)	ND(0.018)	ND(0.016)	ND(0.024)	ND(0.021)	ND(0.016)	ND(0.023)	ND(0.018)	ND(0.025)	ND(0.023)	ND(0.022)	ND(0.020)				
Acetone		6	6	mg/kg	ND(0.086)	ND(0.096)	ND(0.081)	ND(0.12)	ND(0.10)	ND(0.092)	ND(0.081)	ND(0.12)	ND(0.11)	ND(0.082)	ND(0.11)	ND(0.089)	ND(0.12)	ND(0.12)	ND(0.11)	ND(0.099)				
Benzene		2	2	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
Bromobenzene		100	100	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
Bromochloromethane (Chlorobromor)		NSE	NSE	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
Bromodichloromethane		0.1	0.1	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
Bromoform		0.1	0.1	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
Bromomethane		0.5	0.5	mg/kg	ND(0.0086)	ND(0.0096)	ND(0.0081)	ND(0.012)	ND(0.010)	ND(0.0092)	ND(0.0081)	ND(0.012)	ND(0.011)	ND(0.0082)	ND(0.011)	ND(0.0089)	ND(0.012)	ND(0.012)	ND(0.011)	ND(0.0099)				
Carbon Disulfide		100	100	mg/kg	ND(0.0052)	ND(0.0058)	ND(0.0048)	ND(0.0074)	ND(0.0061)	ND(0.0055)	ND(0.0048)	ND(0.0072)	ND(0.0063)	ND(0.0049)	ND(0.0068)	ND(0.0053)	ND(0.0074)	ND(0.0069)	ND(0.0065)	ND(0.0059)				
Carbon Tetrachloride		5	5	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
Chlorobenzene		1	1	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
Chloroethane		100	100	mg/kg	ND(0.0086)	ND(0.0096)	ND(0.0081)	ND(0.012)	ND(0.010)	ND(0.0092)	ND(0.0081)	ND(0.012)	ND(0.011)	ND(0.0082)	ND(0.011)	ND(0.0089)	ND(0.012)	ND(0.012)	ND(0.011)	ND(0.0099)				
Chloroform		0.2	0.2	mg/kg	ND(0.0034)	ND(0.0039)	ND(0.0032)	ND(0.0049)	ND(0.0041)	ND(0.0037)	ND(0.0032)	ND(0.0048)	ND(0.0042)	ND(0.0033)	ND(0.0045)	ND(0.0036)	ND(0.0049)	ND(0.0046)	ND(0.0043)	ND(0.0040)				
Chloromethane		100	100	mg/kg	ND(0.0086)	ND(0.0096)	ND(0.0081)	ND(0.012)	ND(0.010)	ND(0.0092)	ND(0.0081)	ND(0.012)	ND(0.011)	ND(0.0082)	ND(0.011)	ND(0.0089)	ND(0.012)	ND(0.012)	ND(0.011)	ND(0.0099)				
Dibromochloromethane		0.005	0.005	mg/kg																				

**Table 4**  
**Summary of Soil Analytical Results - All Samples**  
**Rivers Edge**  
**484 - 490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	Sample Date	MCP RCS-1	MCP RCS-2	Units	TP-F3 (0-5)	TP-F3 (5-10)	TP-F4 (0-5)	TP-F4 (5-10)	TP-F5 (0-5)	TP-F5 (5-10)	TP-F6 (0-5)	TP-F6 (5-10)	TP-F7 (0-5)	TP-F7 (5-10)	TP-F8 (0-5)	TP-F8 (5-10)	TP-G6 (0-5)	TP-G6 (5-10)	TP-G7 (0-5)	TP-G7 (5-10)				
					3/12/2019	3/12/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019
					0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10
Ethylbenzene		40	40	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
Ethyl-Tert-Butyl-Ether (Tert-Butylethy		NSE	NSE	mg/kg	ND(0.00086)	ND(0.00096)	ND(0.00081)	ND(0.0012)	ND(0.0010)	ND(0.00092)	ND(0.00081)	ND(0.0012)	ND(0.0011)	ND(0.00082)	ND(0.0011)	ND(0.00089)	ND(0.0012)	ND(0.0012)	ND(0.0011)	ND(0.00099)				
Hexachlorobutadiene		30	30	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
Isopropyl Benzene		1000	1000	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
Isopropyl Ether		100	100	mg/kg	ND(0.00086)	ND(0.00096)	ND(0.00081)	ND(0.0012)	ND(0.0010)	ND(0.00092)	ND(0.00081)	ND(0.0012)	ND(0.0011)	ND(0.00082)	ND(0.0011)	ND(0.00089)	ND(0.0012)	ND(0.0012)	ND(0.0011)	ND(0.00099)				
Methyl Ethyl Ketone (MEK)		4	4	mg/kg	ND(0.034)	ND(0.039)	ND(0.032)	ND(0.049)	ND(0.041)	ND(0.037)	ND(0.032)	ND(0.048)	ND(0.042)	ND(0.033)	ND(0.045)	ND(0.036)	ND(0.049)	ND(0.046)	ND(0.043)	ND(0.040)				
Methyl Isobutyl Ketone (MIBK)		0.4	0.4	mg/kg	ND(0.017)	ND(0.019)	ND(0.016)	ND(0.025)	ND(0.020)	ND(0.018)	ND(0.016)	ND(0.024)	ND(0.021)	ND(0.016)	ND(0.023)	ND(0.018)	ND(0.025)	ND(0.023)	ND(0.022)	ND(0.020)				
Methyl Tert-Butyl Ether		0.1	0.1	mg/kg	ND(0.0034)	ND(0.0039)	ND(0.0032)	ND(0.0049)	ND(0.0041)	ND(0.0037)	ND(0.0032)	ND(0.0048)	ND(0.0042)	ND(0.0033)	ND(0.0045)	ND(0.0036)	ND(0.0049)	ND(0.0046)	ND(0.0043)	ND(0.0040)				
Methylene Chloride		0.1	0.1	mg/kg	ND(0.0086)	ND(0.0096)	ND(0.0081)	ND(0.012)	ND(0.010)	ND(0.0092)	ND(0.0081)	ND(0.012)	ND(0.011)	ND(0.0082)	ND(0.011)	ND(0.0089)	ND(0.012)	ND(0.012)	ND(0.011)	ND(0.0099)				
Naphthalene		4	4	mg/kg	ND(0.0034)	ND(0.0039)	ND(0.0032)	ND(0.0049)	ND(0.0041)	ND(0.0037)	ND(0.0032)	ND(0.0048)	ND(0.0042)	ND(0.0033)	ND(0.0045)	ND(0.0036)	ND(0.0049)	ND(0.0046)	ND(0.0043)	ND(0.0040)				
n-Butylbenzene		NSE	NSE	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
o-Chlorotoluene		100	100	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
o-Xylene		100	100	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
p/m-Xylene		100	100	mg/kg	ND(0.0034)	ND(0.0039)	ND(0.0032)	ND(0.0049)	ND(0.0041)	ND(0.0037)	ND(0.0032)	ND(0.0048)	ND(0.0042)	ND(0.0033)	ND(0.0045)	ND(0.0036)	ND(0.0049)	ND(0.0046)	ND(0.0043)	ND(0.0040)				
p-Chlorotoluene (4-Chlorotoluene)		NSE	NSE	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
p-Cymene		100	100	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
Propylbenzene		100	100	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
Sec-Butylbenzene		NSE	NSE	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
Styrene		3	3	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
Tert-Butylbenzene		100	100	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
Tertiary-Amyl Methyl Ether (TAME)		NSE	NSE	mg/kg	ND(0.00086)	ND(0.00096)	ND(0.00081)	ND(0.0012)	ND(0.0010)	ND(0.00092)	ND(0.00081)	ND(0.0012)	ND(0.0011)	ND(0.00082)	ND(0.0011)	ND(0.00089)	ND(0.0012)	ND(0.0012)	ND(0.0011)	ND(0.00099)				
Tetrachloroethane		0.005	0.005	mg/kg	ND(0.00086)	ND(0.00096)	ND(0.00081)	ND(0.0012)	ND(0.0010)	ND(0.00092)	ND(0.00081)	ND(0.0012)	ND(0.0011)	ND(0.00082)	ND(0.0011)	ND(0.00089)	ND(0.0012)	ND(0.0012)	ND(0.0011)	ND(0.00099)				
Tetrachloroethylene (PCE)		1	1	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
Tetrahydrofuran		500	500	mg/kg	ND(0.0086)	ND(0.0096)	ND(0.0081)	ND(0.012)	ND(0.010)	ND(0.0092)	ND(0.0081)	ND(0.012)	ND(0.011)	ND(0.0082)	ND(0.011)	ND(0.0089)	ND(0.012)	ND(0.012)	ND(0.011)	ND(0.0099)				
Toluene		30	30	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	0.0049	ND(0.0020)	0.0040	0.0026	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	0.0026				
Trichloroethylene (TCE)		0.3	0.3	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0016)	ND(0.0025)	ND(0.0020)	ND(0.0018)	ND(0.0016)	ND(0.0024)	ND(0.0021)	ND(0.0016)	ND(0.0023)	ND(0.0018)	ND(0.0025)	ND(0.0023)	ND(0.0022)	ND(0.0020)				
Trichlorofluoromethane		1000	1000	mg/kg	ND(0.0086)	ND(0.0096)	ND(0.0081)	ND(0.012)	ND(0.010)	ND(0.0092)	ND(0.0081)	ND(0.012)	ND(0.011)	ND(0.0082)	ND(0.011)	ND(0.0089)	ND(0.012)	ND(0.012)	ND(0.011)	ND(0.0099)				
Vinyl Chloride		0.7	0.7	mg/kg	ND(0.0086)	ND(0.0096)	ND(0.0081)	ND(0.012)	ND(0.010)	ND(0.0092)	ND(0.0081)	ND(0.012)	ND(0.011)	ND(0.0082)	ND(0.011)	ND(0.0089)	ND(0.012)	ND(0.012)	ND(0.011)	ND(0.0099)				
Total VOCs		NSE	NSE	mg/kg	ND(0.086)	ND(0.096)	ND(0.16)	0.0049	ND(0.20)	0.004	0.0026	ND(0.12)	ND(0.11)	ND(0.082)	ND(0.11)	ND(0.089)	ND(0.12)	ND(0.12)	ND(0.11)	0.0026				
<b>Semivolatile Organic Compounds (SVOCs)</b>																								
1,2,4-Trichlorobenzene		2	2	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)				
1,2-Dichlorobenzene		9	9	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)				
1,2-Diphenylhydrazine		50	50	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)				
1,3-Dichlorobenzene (1,3-DCB)		3	3	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)				
1,4-Dichlorobenzene		0.7	0.7	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)				
2,4,5-Trichlorophenol		4	4	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)				
2,4,6-Trichlorophenol		0.7	0.7	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)				
2,4-Dichlorophenol		0.7	0.7	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)				
2,4-Dimethylphenol		0.7	0.7	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)				
2,4-Dinitrophenol		3	3	mg/kg	ND(2.9)	ND(3.2)	ND(0.77)	ND(0.74)	ND(3.8)	ND(3.7)	ND(1.5)	ND(1.5)	ND(1.4)	ND(3.8)	ND(1.5)	ND(1.5)	ND(1.5)	ND(1.5)	ND(1.5)	ND(1.5)				
2,4-Dinitrotoluene		0.7	0.7	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)				
2,6-Dinitrotoluene		100	100	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)				
2-Chloronaphthalene		1000	1000	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)				
2-Chlorophenol		0.7	0.7	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)				
2-Methylnaphthalene		0.7	0.7	mg/kg	ND(0.76)	ND(0.82)	ND(0.20)	ND(0.19)	ND(0.97)	ND(0.96)	ND(0.37)	ND(0.40)	ND(0.37)	ND(0.97)	ND(0.38)	ND(0.38)	ND(0.38)	ND(0.39)	ND(0.39)	ND(0.38)				
2-Methylphenol (o-Cresol)		500	500	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)				
2-Nitrophenol (o-Nitrophenol)		100	100	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)				
3,3-Dichlorobenzidine		3	3	mg/kg	ND(0.76)	ND(0.82)	ND(0.20)	ND(0.19)	ND(0.97)	ND(0.96)	ND(0.37)	ND(0.40)	ND(0.37)	ND(0.97)	ND(0.38)	ND(0.38)	ND(0.38)	ND(0.39)	ND(0.39)	ND(0.38)				
3-Methylphenol/4-Methylphenol		NSE	NSE	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)				
4-Bromophenyl Phenyl Ether		100	100	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND										



**Table 4**  
**Summary of Soil Analytical Results - All Samples**  
**Rivers Edge**  
**484 - 490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	Sample Date	MCP RCS-1	MCP RCS-2	Units	TP-F3 (0-5)	TP-F3 (5-10)	TP-F4 (0-5)	TP-F4 (5-10)	TP-F5 (0-5)	TP-F5 (5-10)	TP-F6 (0-5)	TP-F6 (5-10)	TP-F7 (0-5)	TP-F7 (5-10)	TP-F8 (0-5)	TP-F8 (5-10)	TP-G6 (0-5)	TP-G6 (5-10)	TP-G7 (0-5)	TP-G7 (5-10)				
					3/12/2019	3/12/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019
					0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10
Acetophenone	1000	1000	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)	ND(0.77)				
Aniline	1000	1000	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)	ND(0.77)				
Anthracene	1000	10	mg/kg	ND(0.76)	ND(0.82)	ND(0.20)	ND(0.19)	ND(0.97)	ND(0.96)	ND(0.37)	ND(0.40)	ND(0.37)	ND(0.97)	0.46	ND(0.38)	ND(0.38)	ND(0.39)	ND(0.39)	ND(0.39)	ND(0.38)				
Benzo(a)Anthracene	7	7	mg/kg	1.5	ND(0.82)	0.49	0.39	1.0	ND(0.96)	1.1	1.2	0.81	ND(0.97)	1.3	0.50	0.95	0.64	0.57	0.57	0.57				
Benzo(a)Pyrene	2	30	mg/kg	1.6	ND(0.82)	0.53	0.42	1.1	ND(0.96)	1.2	1.3	0.90	ND(0.97)	1.3	0.58	0.98	0.73	0.58	0.58	0.58				
Benzo(b)Fluoranthene	7	300	mg/kg	1.8	ND(0.82)	0.60	0.45	1.5	1.1	1.4	1.6	1.1	ND(0.97)	1.4	0.67	1.2	0.86	0.71	0.68	0.68				
Benzo(g,h,i)Perylene	1000	3000	mg/kg	0.93	ND(0.82)	0.25	0.22	ND(0.97)	ND(0.96)	0.65	0.68	0.45	ND(0.97)	0.85	0.43	0.57	ND(0.39)	ND(0.39)	ND(0.38)	ND(0.38)				
Benzo(k)Fluoranthene	70	3000	mg/kg	ND(0.76)	ND(0.82)	0.26	ND(0.19)	ND(0.97)	ND(0.96)	0.53	0.66	0.46	ND(0.97)	0.51	ND(0.38)	0.49	ND(0.39)	ND(0.39)	ND(0.38)	ND(0.38)				
Bis (2-Chloroethyl) Ether	0.7	0.7	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)	ND(0.77)				
Bis(2-Ethylhexyl)Phthalate	100	700	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)	ND(0.77)				
Butyl Benzyl Phthalate	100	1000	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)	ND(0.77)				
Chrysene	70	400	mg/kg	1.5	ND(0.82)	0.56	0.44	1.1	ND(0.96)	1.2	1.4	0.92	ND(0.97)	1.4	0.57	0.95	0.72	0.60	0.58	0.58				
Dibenzo(a,h)Anthracene	0.7	4	mg/kg	ND(0.76)	ND(0.82)	ND(0.20)	ND(0.19)	ND(0.97)	ND(0.96)	ND(0.37)	ND(0.40)	ND(0.37)	ND(0.97)	ND(0.38)	ND(0.38)	ND(0.38)	ND(0.39)	ND(0.39)	ND(0.38)	ND(0.38)				
Dibenzofuran	100	1000	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)	ND(0.77)				
Dichloroisopropyl Ether	0.7	0.7	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)	ND(0.77)				
Dichloromethoxy Ethane	500	5000	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)	ND(0.77)				
Diethyl Phthalate	10	200	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)	ND(0.77)				
Dimethyl Phthalate	0.7	50	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)	ND(0.77)				
Fluoranthene	1000	3000	mg/kg	2.9	0.83	0.80	0.54	1.8	1.2	2.2	2.7	1.5	ND(0.97)	2.7	0.89	1.6	1.1	0.96	1.1	1.1				
Fluorene	1000	3000	mg/kg	ND(0.76)	ND(0.82)	ND(0.20)	ND(0.19)	ND(0.97)	ND(0.96)	ND(0.37)	ND(0.40)	ND(0.37)	ND(0.97)	ND(0.38)	ND(0.38)	ND(0.38)	ND(0.39)	ND(0.39)	ND(0.38)	ND(0.38)				
Hexachlorobenzene	0.7	0.8	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)	ND(0.77)				
Hexachlorobutadiene	30	100	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)	ND(0.77)				
Hexachloroethane	0.7	3	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)	ND(0.77)				
Indeno(1,2,3-cd)Pyrene	7	40	mg/kg	0.95	ND(0.82)	0.25	0.23	ND(0.97)	ND(0.96)	0.69	0.75	0.54	ND(0.97)	0.96	0.44	0.65	0.47	ND(0.39)	ND(0.38)	ND(0.38)				
Isophorone	100	1000	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)	ND(0.77)				
Naphthalene	4	20	mg/kg	ND(0.76)	ND(0.82)	ND(0.20)	ND(0.19)	ND(0.97)	ND(0.96)	ND(0.37)	ND(0.40)	ND(0.37)	ND(0.97)	ND(0.38)	ND(0.38)	ND(0.38)	ND(0.39)	ND(0.39)	ND(0.38)	ND(0.38)				
n-Butyl Phthalate	50	500	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)	ND(0.77)				
n-Dioctyl Phthalate	1000	10000	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)	ND(0.77)				
Nitrobenzene	500	5000	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)	ND(0.77)				
p-Chloroaniline	1	3	mg/kg	ND(2.9)	ND(3.2)	ND(0.77)	ND(0.74)	ND(3.8)	ND(3.7)	ND(1.5)	ND(1.5)	ND(1.4)	ND(3.8)	ND(1.5)	ND(1.5)	ND(1.5)	ND(1.5)	ND(1.5)	ND(1.5)	ND(1.5)				
Pentachlorophenol	3	10	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)	ND(0.77)				
Phenanthrene	10	1000	mg/kg	1.5	ND(0.82)	0.62	0.31	ND(0.97)	ND(0.96)	1.1	1.6	0.97	ND(0.97)	2.2	0.40	0.93	0.62	0.58	0.82	0.82				
Phenol	1	20	mg/kg	ND(1.5)	ND(1.6)	ND(0.39)	ND(0.38)	ND(1.9)	ND(1.9)	ND(0.75)	ND(0.79)	ND(0.75)	ND(1.9)	ND(0.76)	ND(0.76)	ND(0.75)	ND(0.79)	ND(0.77)	ND(0.77)	ND(0.77)				
p-Nitrophenol	100	1000	mg/kg	ND(2.9)	ND(3.2)	ND(0.77)	ND(0.74)	ND(3.8)	ND(3.7)	ND(1.5)	ND(1.5)	ND(1.4)	ND(3.8)	ND(1.5)	ND(1.5)	ND(1.5)	ND(1.5)	ND(1.5)	ND(1.5)	ND(1.5)				
Pyrene	1000	3000	mg/kg	3.0	0.90	1.1	0.82	2.2	1.5	2.3	2.8	1.7	ND(0.97)	3.1	1.1	1.9	1.3	1.2	1.2	1.2				
Total SVOCs	NSE	NSE	mg/kg	14.18	1.73	4.97	3.43	7.70	3.80	11.27	13.49	8.54	ND	14.42	5.08	9.27	5.80	4.63	4.96	4.96				
<b>Metals</b>																								
Antimony	20	30	mg/kg	ND(1.9)	ND(2.0)	ND(2.0)	ND(1.8)	ND(2.0)	ND(1.9)	ND(1.8)	ND(1.9)	ND(1.8)	ND(1.9)	ND(1.8)	ND(1.8)	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.9)				
Arsenic	20	20	mg/kg	4.0	4.7	7.0	5.8	4.8	4.4	4.1	4.5	6.7	5.9	6.4	6.9	5.3	5.3	5.0	11	11				
Barium	1000	3000	mg/kg	32	34	31	28	29	28	46	37	30	30	38	34	31	28	37	38	38				
Beryllium	90	200	mg/kg	0.35	0.34	0.37	0.37	0.28	0.31	0.31	0.32	0.35	0.35	0.35	0.35	0.35	0.30	0.39	0.40	0.40				
Cadmium	70	100	mg/kg	0.34	0.40	0.44	0.39	0.56	0.49	0.37	0.55	0.51	0.41	0.43	0.45	0.42	0.50	0.36	0.56	0.56				
Chromium	100	200	mg/kg	17	13	16	16	21	15	18	16	15	15	14	15	16	15	16	15	15				
Lead	200	600	mg/kg	39	26	34	32	25	26	63	51	57	34	74	69	56	49	53	50	50				
Mercury	20	30	mg/kg	0.045	0.030	ND(0.029)	0.028	ND(0.028)	ND(0.027)	0.039	0.048	0.038	0.032	0.050	0.041	0.040	0.35	0.043	0.031	0.031				
Nickel	600	1000	mg/kg	14	12	12	11	12	11	13	14	12	12	11	12	11	10	13	12	12				
Selenium	400	700	mg/kg	ND(3.7)	ND(4.1)	ND(3.9)	ND(3.7)	ND(3.9)	ND(3.7)	ND(3.7)	ND(3.8)	ND(3.6)	ND(3.7)	ND(3.6)	ND(3.7)	ND(3.7)	ND(3.8)	ND(3.8)	ND(3.8)	ND(3.8)				
Silver	100	200	mg/kg	ND(0.37)	ND(0.41)	ND(0.39)	ND(0.37)	ND(0.39)	ND(0.37)	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.37)	ND(0.36)	ND(0.37)	ND(0.37)	ND(0.38)	ND(0.38)	ND(0.38)	ND(0.38)				
Thallium	8	60	mg/kg	ND(1.9)	ND(2.0)	ND(2.0)	ND(1.8)	ND(2.0)	ND(1.9)	ND(1.8)	ND(1.9)	ND(1.8)	ND(1.9)	ND(1.8)	ND(1.8)	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.9)	ND(1.9)				
Vanadium	400	700	mg/kg	26	21	21	19	20	21	26	25	21	23	20	21	21	18	25	24	24				
Zinc	1000	3000	mg/kg	47	67	38	38	67	49	60	66	46	41	52	55	50	57	51	46	46				



**Table 4**  
**Summary of Soil Analytical Results - All Samples**  
**Rivers Edge**  
**484 - 490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	MCP RCS-1	MCP RCS-2	Units	TP-F3 (0-5)	TP-F3 (5-10)	TP-F4 (0-5)	TP-F4 (5-10)	TP-F5 (0-5)	TP-F5 (5-10)	TP-F6 (0-5)	TP-F6 (5-10)	TP-F7 (0-5)	TP-F7 (5-10)	TP-F8 (0-5)	TP-F8 (5-10)	TP-G6 (0-5)	TP-G6 (5-10)	TP-G7 (0-5)	TP-G7 (5-10)	
Sample Date				3/12/2019	3/12/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019	3/1/2019
Depth Interval (ft)				0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10	0-5
<b>Polychlorinated Biphenyls (PCBs)</b>																				
Aroclor 1016	1	4	mg/kg	ND(0.089)	ND(0.098)	ND(0.088)	ND(0.086)	ND(0.092)	ND(0.087)	ND(0.087)	ND(0.090)	ND(0.084)	ND(0.089)	ND(0.086)	ND(0.084)	ND(0.088)	ND(0.094)	ND(0.087)	ND(0.089)	
Aroclor 1221	1	4	mg/kg	ND(0.089)	ND(0.098)	ND(0.088)	ND(0.086)	ND(0.092)	ND(0.087)	ND(0.087)	ND(0.090)	ND(0.084)	ND(0.089)	ND(0.086)	ND(0.084)	ND(0.088)	ND(0.094)	ND(0.087)	ND(0.089)	
Aroclor 1232	1	4	mg/kg	ND(0.089)	ND(0.098)	ND(0.088)	ND(0.086)	ND(0.092)	ND(0.087)	ND(0.087)	ND(0.090)	ND(0.084)	ND(0.089)	ND(0.086)	ND(0.084)	ND(0.088)	ND(0.094)	ND(0.087)	ND(0.089)	
Aroclor 1242	1	4	mg/kg	ND(0.089)	ND(0.098)	ND(0.088)	ND(0.086)	ND(0.092)	ND(0.087)	ND(0.087)	ND(0.090)	ND(0.084)	ND(0.089)	ND(0.086)	ND(0.084)	ND(0.088)	ND(0.094)	ND(0.087)	ND(0.089)	
Aroclor 1248	1	4	mg/kg	ND(0.089)	ND(0.098)	ND(0.088)	ND(0.086)	ND(0.092)	ND(0.087)	ND(0.087)	ND(0.090)	ND(0.084)	ND(0.089)	ND(0.086)	ND(0.084)	ND(0.088)	ND(0.094)	ND(0.087)	ND(0.089)	
Aroclor 1254	1	4	mg/kg	ND(0.089)	0.21	ND(0.088)	ND(0.086)	ND(0.092)	ND(0.087)	ND(0.087)	ND(0.090)	ND(0.084)	ND(0.089)	ND(0.086)	ND(0.084)	ND(0.088)	ND(0.094)	ND(0.087)	ND(0.089)	
Aroclor 1260	1	4	mg/kg	ND(0.089)	ND(0.098)	ND(0.088)	ND(0.086)	ND(0.092)	ND(0.087)	ND(0.087)	ND(0.090)	ND(0.084)	ND(0.089)	ND(0.086)	ND(0.084)	ND(0.088)	ND(0.094)	ND(0.087)	ND(0.089)	
Aroclor 1262	1	4	mg/kg	ND(0.089)	ND(0.098)	ND(0.088)	ND(0.086)	ND(0.092)	ND(0.087)	ND(0.087)	ND(0.090)	ND(0.084)	ND(0.089)	ND(0.086)	ND(0.084)	ND(0.088)	ND(0.094)	ND(0.087)	ND(0.089)	
Aroclor 1268	1	4	mg/kg	ND(0.089)	ND(0.098)	ND(0.088)	ND(0.086)	ND(0.092)	ND(0.087)	ND(0.087)	ND(0.090)	ND(0.084)	ND(0.089)	ND(0.086)	ND(0.084)	ND(0.088)	ND(0.094)	ND(0.087)	ND(0.089)	
Total PCBs	1	4	mg/kg	ND(0.089)	ND(0.098)	ND(0.088)	ND(0.086)	ND(0.092)	ND(0.087)	ND(0.087)	ND(0.090)	ND(0.084)	ND(0.089)	ND(0.086)	ND(0.084)	ND(0.088)	ND(0.094)	ND(0.087)	ND(0.089)	
<b>General Chemistry</b>																				
Ignitability	NSE	NSE	present/absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	
pH	NSE	NSE	pH Units	7.7	7.9	7.7	7.6	7.9	8.0	8.4	8.6	7.7	7.9	7.9	8.0	8.0	7.8	8.0	7.7	
Reactivity Cyanide	NSE	NSE	mg/kg	ND(3.9)	ND(4.0)	ND(3.9)	ND(3.9)	ND(3.9)	ND(4.0)	ND(4.0)	ND(3.9)	ND(3.9)	ND(4.0)	ND(3.9)	ND(3.9)	ND(3.9)	ND(4.0)	ND(3.9)	ND(3.9)	
Reactivity Sulfide	NSE	NSE	mg/kg	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(19)	ND(19)	ND(20)	ND(20)	ND(19)	
Solids, Total	NSE	NSE	%	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(19)	ND(19)	ND(20)	ND(20)	ND(19)	
Specific Conductance	2000	2000	umhos/cm	17	31	11	16	9.0	6.7	19	21	15	11	8.1	16	7.5	15	13	11	

- Notes:
- mg/kg=milligram per kilogram; uhoms/cm=microohms per centimeter
  - Reportable Concentrations (RCS-1 & RCS-2) taken from the Massachusetts Contingency Plan (MCP) 310 CMR 40.0974(2) dated April 2014
  - Shaded out columns are not proposed for import to Facility.
  - ND = Not Detected above laboratory reporting limits shown in parenthesis
  - -- = Not Analyzed
  - NSE = No Standard Exists
  - Bolded values exceed applicable MCP RCS-1 Reportable Concentration
  - Underlined values exceed applicable MCP RCS-2 Reportable Concentration
  - Full analytical results are detailed in the laboratory analytical report

**Table 4**  
**Summary of Soil Analytical Results - All Samples**  
**Rivers Edge**  
**484 - 490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	MCP RCS-1	MCP RCS-2	Units	TP-V-101	TP-V-102	TP-V-103	TP-V-104	TP-V-105
Sample Date				3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019
Depth Interval (ft)				-	-	-	-	-
<b>Asbestos</b>								
CARB 435	NSE	NSE	%	--	--	--	--	--
<b>Extractable Petroleum Hydrocarbons (EPH) with target Polynuclear Aromatic H</b>								
C09-C18 Aliphatic Hydrocarbons	1000	3000	mg/kg	--	ND(22)	--	--	--
C11-C22 Aromatic Hydrocarbons	1000	3000	mg/kg	--	110	--	--	--
C19-C36 Aliphatics	3000	5000	mg/kg	--	81	--	--	--
<b>Total Petroleum Hydrocarbons (TPH)</b>								
TPH	1000	3000	mg/kg	500	<b>3100</b>	530	960	180
<b>Volatile Organic Compounds (VOCs)</b>								
1,1,1,2-Tetrachloroethane	0.1	0.1	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
1,1,1-Trichloroethane (1,1,1-TCA)	30	30	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
1,1,2-Trichloroethane	0.1	0.1	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
1,1-Dichloroethane (1,1-DCA)	0.4	0.4	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
1,1-Dichloroethene (1,1-DCE)	3	3	mg/kg	ND(0.0032)	ND(0.0034)	ND(0.0056)	ND(0.0037)	ND(0.0046)
1,1-Dichloropropene	NSE	NSE	mg/kg	ND(0.0032)	ND(0.0034)	ND(0.0056)	ND(0.0037)	ND(0.0046)
1,2,3-Trichlorobenzene	NSE	NSE	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
1,2,3-Trichloropropane	100	100	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
1,2,4-Trichlorobenzene	2	2	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
1,2,4-Trimethylbenzene	1000	1000	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
1,2-Dibromo-3-Chloropropane	10	10	mg/kg	ND(0.0032)	ND(0.0034)	ND(0.0056)	ND(0.0037)	ND(0.0046)
1,2-Dibromoethane	0.1	0.1	mg/kg	ND(0.00080)	ND(0.00086)	ND(0.0014)	ND(0.00091)	ND(0.0012)
1,2-Dichlorobenzene	9	9	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
1,2-Dichloroethane (1,2-DCA)	0.1	0.1	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
1,2-Dichloroethylene, trans (1,2-DCE,	1	1	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
1,2-Dichloropropane	0.1	0.1	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
1,3,5-Trimethylbenzene	10	10	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
1,3-Dichlorobenzene (1,3-DCB)	3	3	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
1,3-Dichloropropane	500	500	mg/kg	ND(0.00080)	ND(0.00086)	ND(0.0014)	ND(0.00091)	ND(0.0012)
1,3-Dichloropropene, cis	0.01	0.01	mg/kg	ND(0.00080)	ND(0.00086)	ND(0.0014)	ND(0.00091)	ND(0.0012)
1,3-Dichloropropene, trans	0.01	0.01	mg/kg	ND(0.00080)	ND(0.00086)	ND(0.0014)	ND(0.00091)	ND(0.0012)
1,4-Dichlorobenzene	0.7	0.7	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
1,4-Dioxane	0.2	0.2	mg/kg	ND(0.16)	ND(0.17)	ND(0.28)	ND(0.18)	ND(0.23)
2,2-Dichloropropane	NSE	NSE	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
2-Hexanone	100	100	mg/kg	ND(0.016)	ND(0.017)	ND(0.028)	ND(0.018)	ND(0.023)
Acetone	6	6	mg/kg	ND(0.080)	ND(0.086)	ND(0.14)	ND(0.091)	ND(0.12)
Benzene	2	2	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
Bromobenzene	100	100	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
Bromochloromethane (Chlorobromor	NSE	NSE	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
Bromodichloromethane	0.1	0.1	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
Bromoform	0.1	0.1	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
Bromomethane	0.5	0.5	mg/kg	ND(0.0080)	ND(0.0086)	ND(0.014)	ND(0.0091)	ND(0.012)
Carbon Disulfide	100	100	mg/kg	ND(0.0048)	ND(0.0052)	ND(0.0084)	ND(0.0055)	ND(0.0069)
Carbon Tetrachloride	5	5	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
Chlorobenzene	1	1	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
Chloroethane	100	100	mg/kg	ND(0.0080)	ND(0.0086)	ND(0.014)	ND(0.0091)	ND(0.012)
Chloroform	0.2	0.2	mg/kg	ND(0.0032)	ND(0.0034)	ND(0.0056)	ND(0.0037)	ND(0.0046)
Chloromethane	100	100	mg/kg	ND(0.0080)	ND(0.0086)	ND(0.014)	ND(0.0091)	ND(0.012)
Dibromochloromethane	0.005	0.005	mg/kg	ND(0.00080)	ND(0.00086)	ND(0.0014)	ND(0.00091)	ND(0.0012)
Dibromomethane	500	500	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
Dichlorodifluoromethane	1000	1000	mg/kg	ND(0.0080)	ND(0.0086)	ND(0.014)	ND(0.0091)	ND(0.012)
Dichloroethylene, cis 1,2 (cis-1,2 DCE)	0.1	0.1	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
Ethyl Ether	100	100	mg/kg	ND(0.0080)	ND(0.0086)	ND(0.014)	ND(0.0091)	ND(0.012)

**Table 4**  
**Summary of Soil Analytical Results - All Samples**  
**Rivers Edge**  
**484 - 490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	MCP RCS-1	MCP RCS-2	Units	TP-V-101	TP-V-102	TP-V-103	TP-V-104	TP-V-105
Sample Date				3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019
Depth Interval (ft)				-	-	-	-	-
Ethylbenzene	40	40	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
Ethyl-Tert-Butyl-Ether (Tert-Butylethy	NSE	NSE	mg/kg	ND(0.00080)	ND(0.00086)	ND(0.0014)	ND(0.00091)	ND(0.0012)
Hexachlorobutadiene	30	30	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
Isopropyl Benzene	1000	1000	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
Isopropyl Ether	100	100	mg/kg	ND(0.00080)	ND(0.00086)	ND(0.0014)	ND(0.00091)	ND(0.0012)
Methyl Ethyl Ketone (MEK)	4	4	mg/kg	ND(0.032)	ND(0.034)	ND(0.056)	ND(0.037)	ND(0.046)
Methyl Isobutyl Ketone (MIBK)	0.4	0.4	mg/kg	ND(0.016)	ND(0.017)	ND(0.028)	ND(0.018)	ND(0.023)
Methyl Tert-Butyl Ether	0.1	0.1	mg/kg	ND(0.0032)	ND(0.0034)	ND(0.0056)	ND(0.0037)	ND(0.0046)
Methylene Chloride	0.1	0.1	mg/kg	ND(0.0080)	ND(0.0086)	ND(0.014)	ND(0.0091)	ND(0.012)
Naphthalene	4	4	mg/kg	ND(0.0032)	ND(0.0034)	ND(0.0056)	ND(0.0037)	ND(0.0046)
n-Butylbenzene	NSE	NSE	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
o-Chlorotoluene	100	100	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
o-Xylene	100	100	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
p/m-Xylene	100	100	mg/kg	ND(0.0032)	ND(0.0034)	ND(0.0056)	ND(0.0037)	ND(0.0046)
p-Chlorotoluene (4-Chlorotoluene)	NSE	NSE	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
p-Cymene	100	100	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
Propylbenzene	100	100	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
Sec-Butylbenzene	NSE	NSE	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
Styrene	3	3	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
Tert-Butylbenzene	100	100	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
Tertiary-Amyl Methyl Ether (TAME)	NSE	NSE	mg/kg	ND(0.00080)	ND(0.00086)	ND(0.0014)	ND(0.00091)	ND(0.0012)
Tetrachloroethane	0.005	0.005	mg/kg	ND(0.00080)	ND(0.00086)	ND(0.0014)	ND(0.00091)	ND(0.0012)
Tetrachloroethylene (PCE)	1	1	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
Tetrahydrofuran	500	500	mg/kg	ND(0.0080)	ND(0.0086)	ND(0.014)	ND(0.0091)	ND(0.012)
Toluene	30	30	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
Trichloroethylene (TCE)	0.3	0.3	mg/kg	ND(0.0016)	ND(0.0017)	ND(0.0028)	ND(0.0018)	ND(0.0023)
Trichlorofluoromethane	1000	1000	mg/kg	ND(0.0080)	ND(0.0086)	ND(0.014)	ND(0.0091)	ND(0.012)
Vinyl Chloride	0.7	0.7	mg/kg	ND(0.0080)	ND(0.0086)	ND(0.014)	ND(0.0091)	ND(0.012)
Total VOCs	NSE	NSE	mg/kg	ND(0.16)	ND(0.17)	ND(0.28)	ND(0.18)	ND(0.23)
<b>Semivolatile Organic Compounds (SVOCs)</b>								
1,2,4-Trichlorobenzene	2	2	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
1,2-Dichlorobenzene	9	9	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
1,2-Diphenylhydrazine	50	50	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
1,3-Dichlorobenzene (1,3-DCB)	3	3	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
1,4-Dichlorobenzene	0.7	0.7	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
2,4,5-Trichlorophenol	4	4	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
2,4,6-Trichlorophenol	0.7	0.7	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
2,4-Dichlorophenol	0.7	0.7	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
2,4-Dimethylphenol	0.7	0.7	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
2,4-Dinitrophenol	3	3	mg/kg	ND(2.9)	ND(3.6)	ND(0.79)	ND(1.5)	ND(0.79)
2,4-Dinitrotoluene	0.7	0.7	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
2,6-Dinitrotoluene	100	100	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
2-Chloronaphthalene	1000	1000	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
2-Chlorophenol	0.7	0.7	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
2-Methylnaphthalene	0.7	0.7	mg/kg	ND(0.75)	ND(0.93)	ND(0.20)	ND(0.38)	ND(0.20)
2-Methylphenol (o-Cresol)	500	500	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
2-Nitrophenol (o-Nitrophenol)	100	100	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
3,3-Dichlorobenzidine	3	3	mg/kg	ND(0.75)	ND(0.93)	ND(0.20)	ND(0.38)	ND(0.20)
3-Methylphenol/4-Methylphenol	NSE	NSE	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
4-Bromophenyl Phenyl Ether	100	100	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
Acenaphthene	4	4	mg/kg	ND(0.75)	ND(0.93)	ND(0.20)	ND(0.38)	ND(0.20)
Acenaphthylene	1	1	mg/kg	ND(0.75)	ND(0.93)	ND(0.20)	ND(0.38)	ND(0.20)



**Table 4**  
**Summary of Soil Analytical Results - All Samples**  
**Rivers Edge**  
**484 - 490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	MCP RCS-1	MCP RCS-2	Units	TP-V-101	TP-V-102	TP-V-103	TP-V-104	TP-V-105
Sample Date				3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019
Depth Interval (ft)				-	-	-	-	-
Acetophenone	1000	1000	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
Aniline	1000	1000	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
Anthracene	1000	10	mg/kg	ND(0.75)	ND(0.93)	ND(0.20)	ND(0.38)	ND(0.20)
Benzo(a)Anthracene	7	7	mg/kg	1.2	1.3	0.22	ND(0.38)	0.37
Benzo(a)Pyrene	2	30	mg/kg	1.3	1.2	0.24	ND(0.38)	0.32
Benzo(b)Fluoranthene	7	300	mg/kg	1.4	1.4	0.26	0.42	0.36
Benzo(g,h,i)Perylene	1000	3000	mg/kg	ND(0.75)	ND(0.93)	ND(0.20)	ND(0.38)	ND(0.20)
Benzo(k)Fluoranthene	70	3000	mg/kg	ND(0.75)	ND(0.93)	ND(0.20)	ND(0.38)	ND(0.20)
Bis (2-Chloroethyl) Ether	0.7	0.7	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
Bis(2-Ethylhexyl)Phthalate	100	700	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
Butyl Benzyl Phthalate	100	1000	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
Chrysene	70	400	mg/kg	1.1	1.2	ND(0.20)	ND(0.38)	0.33
Dibenzo(a,h)Anthracene	0.7	4	mg/kg	ND(0.75)	ND(0.93)	ND(0.20)	ND(0.38)	ND(0.20)
Dibenzofuran	100	1000	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
Dichloroisopropyl Ether	0.7	0.7	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
Dichloromethoxy Ethane	500	5000	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
Diethyl Phthalate	10	200	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
Dimethyl Phthalate	0.7	50	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
Fluoranthene	1000	3000	mg/kg	2.0	2.2	0.41	ND(0.38)	0.77
Fluorene	1000	3000	mg/kg	ND(0.75)	ND(0.93)	ND(0.20)	ND(0.38)	ND(0.20)
Hexachlorobenzene	0.7	0.8	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
Hexachlorobutadiene	30	100	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
Hexachloroethane	0.7	3	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
Indeno(1,2,3-cd)Pyrene	7	40	mg/kg	0.86	ND(0.93)	ND(0.20)	ND(0.38)	0.21
Isophorone	100	1000	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
Naphthalene	4	20	mg/kg	ND(0.75)	ND(0.93)	ND(0.20)	ND(0.38)	ND(0.20)
n-Butyl Phthalate	50	500	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
n-Dioctyl Phthalate	1000	10000	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
Nitrobenzene	500	5000	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
p-Chloroaniline	1	3	mg/kg	ND(2.9)	ND(3.6)	ND(0.79)	ND(1.5)	ND(0.79)
Pentachlorophenol	3	10	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
Phenanthrene	10	1000	mg/kg	1.1	ND(0.93)	0.21	ND(0.38)	0.76
Phenol	1	20	mg/kg	ND(1.5)	ND(1.9)	ND(0.41)	ND(0.77)	ND(0.41)
p-Nitrophenol	100	1000	mg/kg	ND(2.9)	ND(3.6)	ND(0.79)	ND(1.5)	ND(0.79)
Pyrene	1000	3000	mg/kg	2.2	2.5	0.42	0.53	0.87
Total SVOCs	NSE	NSE	mg/kg	9.96	8.50	1.54	0.95	3.62
<b>Metals</b>								
Antimony	20	30	mg/kg	ND(1.8)	ND(1.8)	ND(2.0)	ND(1.9)	ND(2.0)
Arsenic	20	20	mg/kg	4.3	5.3	6.9	4.7	4.3
Barium	1000	3000	mg/kg	25	42	56	37	39
Beryllium	90	200	mg/kg	0.31	0.33	0.54	0.28	0.35
Cadmium	70	100	mg/kg	0.26	0.38	0.39	0.30	0.26
Chromium	100	200	mg/kg	13	17	25	16	18
Lead	200	600	mg/kg	18	31	20	24	15
Mercury	20	30	mg/kg	ND(0.027)	0.034	0.040	0.073	ND(0.031)
Nickel	600	1000	mg/kg	11	14	18	11	13
Selenium	400	700	mg/kg	ND(3.6)	ND(3.7)	ND(4.0)	ND(3.8)	ND(3.9)
Silver	100	200	mg/kg	ND(0.36)	ND(0.37)	ND(0.40)	ND(0.38)	ND(0.39)
Thallium	8	60	mg/kg	ND(1.8)	ND(1.8)	ND(2.0)	ND(1.9)	ND(2.0)
Vanadium	400	700	mg/kg	22	26	32	19	23
Zinc	1000	3000	mg/kg	32	42	48	48	37

**Table 4**  
**Summary of Soil Analytical Results - All Samples**  
**Rivers Edge**  
**484 - 490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	MCP RCS-1	MCP RCS-2	Units	TP-V-101	TP-V-102	TP-V-103	TP-V-104	TP-V-105
Sample Date				3/12/2019	3/12/2019	3/12/2019	3/12/2019	3/12/2019
Depth Interval (ft)				-	-	-	-	-
<b>Polychlorinated Biphenyls (PCBs)</b>								
Aroclor 1016	1	4	mg/kg	ND(0.083)	ND(0.088)	ND(0.094)	ND(0.085)	ND(0.094)
Aroclor 1221	1	4	mg/kg	ND(0.083)	ND(0.088)	ND(0.094)	ND(0.085)	ND(0.094)
Aroclor 1232	1	4	mg/kg	ND(0.083)	ND(0.088)	ND(0.094)	ND(0.085)	ND(0.094)
Aroclor 1242	1	4	mg/kg	ND(0.083)	ND(0.088)	ND(0.094)	ND(0.085)	ND(0.094)
Aroclor 1248	1	4	mg/kg	ND(0.083)	ND(0.088)	ND(0.094)	ND(0.085)	ND(0.094)
Aroclor 1254	1	4	mg/kg	ND(0.083)	ND(0.088)	ND(0.094)	ND(0.085)	ND(0.094)
Aroclor 1260	1	4	mg/kg	ND(0.083)	ND(0.088)	ND(0.094)	ND(0.085)	ND(0.094)
Aroclor 1262	1	4	mg/kg	ND(0.083)	ND(0.088)	ND(0.094)	ND(0.085)	ND(0.094)
Aroclor 1268	1	4	mg/kg	ND(0.083)	ND(0.088)	ND(0.094)	ND(0.085)	ND(0.094)
Total PCBs	1	4	mg/kg	ND(0.083)	ND(0.088)	ND(0.094)	ND(0.085)	ND(0.094)
<b>General Chemistry</b>								
Ignitability	NSE	NSE	present/absent	absent	absent	absent	absent	absent
pH	NSE	NSE	pH Units	7.7	8.1	7.8	7.3	7.7
Reactivity Cyanide	NSE	NSE	mg/kg	ND(4.0)	ND(3.9)	ND(4.0)	ND(4.0)	ND(4.0)
Reactivity Sulfide	NSE	NSE	mg/kg	ND(20)	ND(19)	ND(20)	ND(20)	ND(20)
Solids, Total	NSE	NSE	%	ND(20)	ND(19)	82.4	88.1	82.2
Specific Conductance	2000	2000	umhos/cm	14	23	16	9.3	17

Notes:

- mg/kg=milligram per kilogram; uhoms/cm=microohms per centimeter
- Reportable Concentrations (RCS-1 & RCS-2) taken from the Massachusetts Contingency Plan (MCP) 310 CMR 40.0974(2) dated April 2014
- Shaded out columns are not proposed for import to Facility.
- ND = Not Detected above laboratory reporting limits shown in parenthesis
- -- = Not Analyzed
- NSE = No Standard Exists
- Bolded values exceed applicable MCP RCS-1 Reportable Concentration
- Underlined values exceed applicable MCP RCS-2 Reportable Concentration
- Full analytical results are detailed in the laboratory analytical report

**TEST PIT LOG**

**DESIGNATION:**  
**PROJECT NO.:**  
**EXCAVATOR:**  
**INSPECTOR:**  
**DATE:**

**TP-E7**  
 46047  
 The Greener Group, LLC  
 Kristen Sarson  
 3/1/2019



**Project:** Wayland  
**Location:** Wayland, MA

DEPTH ELEVATION	NO.	SOIL DESCRIPTION	PID (PPM)
		0-5' Tan fine to coarse SAND, trace fine to coarse gravel and debris (asphalt, metal, plastic).	<1.0
1			
2			
3			
4			
5		5-10' Tan fine to coarse SAND and fine to coarse GRAVEL, some cobbles, trace debris (asphalt, plastic, metal, fabric).	<1.0
6			
7			
8			
9			
10		Test pit terminated at 10 feet bgs. Refusal not encountered.	
11			
12			
13			
14			
15			

Test Pit Sketch



NORTH

See Figure 1 for test pit locations.

**NOTES:**

1. Soil are visually classified in general accordance with the Modified Burmister Soil Classification System.



**TEST PIT LOG**

**DESIGNATION:**

**TP-C6**

**PROJECT NO.:**

46047

**EXCAVATOR:**

The Greener Group, LLC

**INSPECTOR:**

Kristen Sarson

**DATE:**

3/11/2019



Project: Wayland  
Location: Wayland, MA

DEPTH ELEVATION	NO.	SOIL DESCRIPTION	PID (PPM)
		0-5' Dark brown fine to coarse GRAVEL and fine to coarse SAND, trace clay and debris (asphalt, plastic, metal, wood, concrete).	<1.0
1			
2			
3			
4			
5		5-10' Dark brown fine to coarse GRAVEL and fine to coarse SAND, trace debris (asphalt, plastic, metal, wood, concrete).	<1.0
6			
7			
8			
9			
10		Test pit terminated at 10 feet bgs. Refusal not encountered.	
11			
12			
13			
14			
15			

Test Pit Sketch



NORTH

See Figure 1 for test pit locations.

**NOTES:**

1. Soil are visually classified in general accordance with the Modified Burmister Soil Classification System.

**TEST PIT LOG**

**DESIGNATION:**  
**PROJECT NO.:**  
**EXCAVATOR:**  
**INSPECTOR:**  
**DATE:**

**TP-D4**  
 46047  
 The Greener Group, LLC  
 Kristen Sarson  
 3/11/2019



**Project:** Wayland  
**Location:** Wayland, MA

DEPTH ELEVATION	NO.	SOIL DESCRIPTION	PID (PPM)
		0-5' Brown fine to coarse GRAVEL, some fine to coarse sand, trace cobbles, clay, and debris (brick, asphalt, concrete, plastic).	<1.0
1			
2			
3			
4			
5		5-10' Brown fine to coarse GRAVEL grading to fine to coarse SAND, some asphalt/coal patch, trace cobbles and debris (brick, concrete, plastic).	<1.0
6			
7			
8			
9			
10		Test pit terminated at 10 feet bgs. Refusal not encountered.	
11			
12			
13			
14			
15			

Test Pit Sketch



NORTH

See Figure 1 for test pit locations.

**NOTES:**

1. Soil are visually classified in general accordance with the Modified Burmister Soil Classification System.

**TEST PIT LOG**

**DESIGNATION:**

**TP-A5**

**PROJECT NO.:**

46047

**EXCAVATOR:**

The Greener Group, LLC

**INSPECTOR:**

Kristen Sarson

**DATE:**

3/11/2019



Project: Wayland  
Location: Wayland, MA

DEPTH ELEVATION	NO.	SOIL DESCRIPTION	PID (PPM)
		0-5' Brown fine to coarse SAND, little fine to coarse gravel, trace cobbles and debris (metal, asphalt, plastic, concrete, glass, wood).	<1.0
1			
2			
3			
4			
5		5-10' Brown fine to coarse SAND, little fine to coarse gravel, trace cobbles and debris (metal, asphalt, plastic, concrete, glass, wood).	<1.0
6			
7			
8			
9			
10		Test pit terminated at 10 feet bgs. Refusal not encountered.	
11			
12			
13			
14			
15			

Test Pit Sketch



NORTH

See Figure 1 for test pit locations.

**NOTES:**

1. Soil are visually classified in general accordance with the Modified Burmister Soil Classification System.



**TEST PIT LOG**

**DESIGNATION:**  
**PROJECT NO.:**  
**EXCAVATOR:**  
**INSPECTOR:**  
**DATE:**

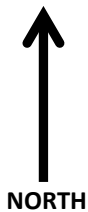
**TP-C3**  
 46047  
 The Greener Group, LLC  
 Kristen Sarson  
 3/12/2019



**Project:** Wayland  
**Location:** Wayland, MA

DEPTH ELEVATION	NO.	SOIL DESCRIPTION	PID (PPM)
		0-5' Dark brown fine to coarse GRAVEL and fine to coarse SAND, trace cobbles and debris (metal, asphalt, concrete, plastic).	<1.0
1			
2			
3			
4			
5		5-10' Dark brown fine to coarse GRAVEL and fine to coarse SAND, trace cobbles, silt, and debris (metal, asphalt, concrete, plastic).	1.2
6			
7			
8			
9			
10		Test pit terminated at 10 feet bgs. Refusal not encountered.	
11			
12			
13			
14			
15			

Test Pit Sketch



See Figure 1 for test pit locations.

**NOTES:**

1. Soil are visually classified in general accordance with the Modified Burmister Soil Classification System.

**TEST PIT LOG**

**DESIGNATION:**

**TP-C2**

**PROJECT NO.:**

46047

**EXCAVATOR:**

The Greener Group, LLC

**INSPECTOR:**

Kristen Sarson

**DATE:**

3/12/2019



Project: Wayland  
Location: Wayland, MA

DEPTH ELEVATION	NO.	SOIL DESCRIPTION	PID (PPM)
		0-5' Brown fine to coarse SAND and fine to coarse GRAVEL, trace cobbles, silt, and debris (concrete, metal, brick, glass, ceramic, asphalt).	<1.0
1			
2			
3			
4			
5		5-10' Brown fine to coarse SAND and fine to coarse GRAVEL, trace cobbles, silt, and debris (concrete, metal, brick, glass, ceramic, asphalt).	<1.0
6			
7			
8			
9			
10		Test pit terminated at 10 feet bgs. Refusal not encountered.	
11			
12			
13			
14			
15			

Test Pit Sketch



NORTH

See Figure 1 for test pit locations.

**NOTES:**

1. Soil are visually classified in general accordance with the Modified Burmister Soil Classification System.

**TEST PIT LOG**

**DESIGNATION:**  
**PROJECT NO.:**  
**EXCAVATOR:**  
**INSPECTOR:**  
**DATE:**

**TP-D1**  
 46047  
 The Greener Group, LLC  
 Kristen Sarson  
 3/12/2019



**Project:** Wayland  
**Location:** Wayland, MA

DEPTH ELEVATION	NO.	SOIL DESCRIPTION	PID (PPM)
		0-5' Dark brown and black fine to coarse SAND, some silt and fine to coarse gravel, trace debris (concrete, asphalt, wood, metal) and cobbles.	1.1
1			
2			
3			
4			
5		5-10' Dark brown and black fine to coarse SAND, some silt and fine to coarse gravel, trace debris (concrete, asphalt, wood, metal) and cobbles.	<1.0
6			
7			
8			
9			
10		Test pit terminated at 10 feet bgs. Refusal not encountered.	
11			
12			
13			
14			
15			

Test Pit Sketch



NORTH

See Figure 1 for test pit locations.

**NOTES:**

1. Soil are visually classified in general accordance with the Modified Burmister Soil Classification System.



**TEST PIT LOG**

**DESIGNATION:**

**TP-C1**

**PROJECT NO.:**

46047

**EXCAVATOR:**

The Greener Group, LLC

**INSPECTOR:**

Kristen Sarson

**DATE:**

3/12/2019



Project: Wayland  
Location: Wayland, MA

DEPTH ELEVATION	NO.	SOIL DESCRIPTION	PID (PPM)
		0-5' Dark brown and black fine to coarse SAND and fine to coarse GRAVEL, some silt, trace cobbles and debris (plastic, metal, asphalt, concrete).	1.3
1			
2			
3			
4			
5		5-10' Dark brown and black fine to coarse SAND and fine to coarse GRAVEL, some silt, trace cobbles and debris (plastic, metal, asphalt, concrete).	<1.0
6			
7			
8			
9			
10		Test pit terminated at 10 feet bgs. Refusal not encountered.	
11			
12			
13			
14			
15			

Test Pit Sketch



NORTH

See Figure 1 for test pit locations.

**NOTES:**

1. Soil are visually classified in general accordance with the Modified Burmister Soil Classification System.



**BILL OF LADING (pursuant to 310 CMR 40.0030)**

**A. LOCATION OF SITE OR DISPOSAL SITE WHERE REMEDIATION WASTE WAS GENERATED:**

- 1. Release Name/Location Aid: PLANNED RIVERS EDGE DEVELOPMENT
- 2. Street Address: 484-490 BOSTON POST ROAD
- 3. City/Town: WAYLAND 4. Zip Code: 017781831
- 5. Check here if the disposal site that is the source of the release is Tier Classified. Check the current Tier Classification Category.
  - a. Tier I  b. Tier ID  c. Tier II

**B. THIS FORM IS BEING USED TO:** (check one: B1-B4):

- 1. Submit a **Bill of Lading (BOL)** to transport Remediation Waste to Temporary Storage or a Receiving Facility.  
Response Actions associated with this BOL (check all that apply):
  - a. Immediate Response Action (IRA)  e. Comprehensive Response Actions
  - b. Release Abatement Measure (RAM)  f. Limited Removal Action (LRA): (must be retained pursuant to 310 CMR 40.0034(6); can't be submitted via eDEP)
  - c. Downgradient Property Status (DPS)  g. Other \_\_\_\_\_
  - d. Utility Release Abatement Measure (URAM)
- 2. Submit an Attestation of Completion of **Shipment to Temporary Storage** (Sections C, F and J are not required):
- 3. Submit an Attestation of **Completion of Shipment to a Receiving Facility** (Sections C, F and J are not required):
- 4. Certify that Remediation Waste Was **Not Shipped, and the Bill of Lading is Void**. (Sections C, D, E, and F are not required)
- 5. Date Bill of Lading submitted to the Department: 04/30/2021 b. eDEP Transaction ID: 1266684  
(mm/dd/yyyy)
- 6. Period of Generation Associated with this Bill of Lading 4/23/2021 to 8/15/2021  
(mm/dd/yyyy) (mm/dd/yyyy)

(All sections of this transmittal form must be filled out unless otherwise noted above)

The Bill of Lading is not considered complete until the Attestation of Completion of Shipment is received by the Department.

**C. DESCRIPTION OF WASTE AND WASTE SOURCE:**

- 1. Contaminated Media/Debris (check all that apply):
  - a. Soil  b. Groundwater  c. Surface Water  d. Sediment  e. Vegetation or Organic Debris
  - f. Demolition/Construction Waste  g. Inorganic Absorbent Materials  h. Other: \_\_\_\_\_
- 2. Uncontainerized Waste (check all that apply):
  - a. Inorganic Absorbent Materials  b. Other: \_\_\_\_\_



**BILL OF LADING (pursuant to 310 CMR 40.0030)**

**C. DESCRIPTION OF WASTE AND WASTE SOURCE (cont.):**

3. Containerized Waste (check all that apply):

- a. Tank Bottoms/Sludges
- b. Containers
- c. Drums
- d. Engineered Impoundments
- e. Other: \_\_\_\_\_

4. Estimated Quantity: 600  Tons  Cu. Yds.  Gallons

5. Contaminant Source (check one):

- a. Transportation Accident
- b. Underground Storage Tank
- c. Brownfields Redevelopment
- d. Other: \_\_\_\_\_

6. Type of Contaminant (check all that apply):

- a. Gasoline
- b. Diesel Fuel
- c. #2 Fuel Oil
- d. #4 Fuel Oil
- e. #6 Fuel Oil
- f. Jet Fuel
- g. Waste Oil
- h. Kerosene
- i. Chlorinated Solvents
- j. Urban Fill
- k. Other: \_\_\_\_\_

7. Constituents of Concern (check all that apply):

- a. As
- b. Cd
- c. Cr
- d. Pb
- e. Hg
- f. EPH/TPH
- g. VPH
- h. PCBs
- i. VOCs
- j. SVOCs
- k. Other: ANTIMONY & COPPER

8. If applicable, check the box for the Reportable Concentration Category of the site:

- a. RCS-1
- b. RCS-2
- c. RCGW-1
- d. RCGW-2

9. Remediation Waste Characterization Documentation (check at least one):

- a. Site History Information
- b. Sampling Analytical Methods and Procedures
- c. Laboratory Data
- d. Field Screening Data
- e. Characterization Documentation previously submitted to the Department

i. Date submitted: \_\_\_\_\_ ii. Type of Documentation: \_\_\_\_\_  
(mm/dd/yyyy)

**D. TRANSPORTER OR COMMON CARRIER INFORMATION:**

1. Transporter/Common Carrier Name: BOSTON ENVIRONMENTAL CORP

2. Contact First Name: JOHN 3. Last Name: COLE

4. Street: 338 HOWARD STREET 5. Title: DIRECTOR OF OPERATIONS

6. City/Town: BROCKTON 7. State: MA 8. Zip Code: 023020000

9. Telephone: 5088978025 10. Ext: \_\_\_\_\_ 11. Email: jcole@bostonenvcorp.com





**BILL OF LADING (pursuant to 310 CMR 40.0030)**

**E. RECEIVING FACILITY/TEMPORARY STORAGE LOCATION:**

1. Operator/Facility Name: WASTE MANAGEMENT OF NH (TREE)

2. Contact First Name: ELLEN 3. Last Name: BELLIO

4. Street: 176 ROCHESTER NECK ROAD 5. Title: SR. MGR. WASTE APPROVALS

6. City/Town: ROCHESTER 7. State: NH 8. Zip Code: 038390000

9. Telephone: 8009634476 10. Ext: \_\_\_\_\_ 11. Email: ebellio@wm.com

12. Type of facility: (check one)

a. Temporary Storage i. Period of Temporary Storage \_\_\_\_\_ to \_\_\_\_\_  
(mm/dd/yyyy) (mm/dd/yyyy)

ii. Reason for Temporary Storage: \_\_\_\_\_

b. Asphalt Batch/Hot Mix  c. Landfill/Disposal  d. Landfill/Structural Fill  e. Landfill/Daily Cover

f. Asphalt Batch/Cold Mix  g. Thermal Processing  h. Incinerator  i. Other: \_\_\_\_\_

13. Division of Hazardous Waste/Class A Permit Number: \_\_\_\_\_

14. Division of Solid Waste Permit Number: DES-SW-SP-90-001

15. EPA Identification Number: \_\_\_\_\_

**F. LSP SIGNATURE AND STAMP:**

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this submittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and 309 CMR 4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief, the assessment action(s) undertaken to characterize the Remediation Waste which is (are) the subject of this submittal for acceptance at the facility identified in this submittal comply with applicable provisions of 310 CMR 40.0000, and such facility is permitted to accept Remediation Waste having the characteristics described in this submittal.

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

1. LSP #: 5217

2. First Name: WILLIAM J 3. Last Name: GIBBONS

4. Telephone: 7816987654 5. Ext: \_\_\_\_\_ 6. Email: bgibbons@vertexeng.com

7. Signature: WILLIAM J GIBBONS

8. Date: 4/28/2021  
(mm/dd/yyyy)

9. LSP Stamp:







**BILL OF LADING (pursuant to 310 CMR 40.0030)**

**J. CERTIFICATION OF PERSON SUBMITTING BILL OF LADING (cont.) :**

6. Check here if the address of the person providing certification is different from address recorded in Section G.

7. Street: \_\_\_\_\_

8. City/Town: \_\_\_\_\_ 9. State: \_\_\_\_\_ 10. Zip Code: \_\_\_\_\_

11. Telephone: \_\_\_\_\_ 12. Ext: \_\_\_\_\_ 13. Email: \_\_\_\_\_

**YOU ARE SUBJECT TO AN ANNUAL COMPLIANCE ASSURANCE FEE OF UP TO \$10,000 PER BILLABLE YEAR FOR THIS DISPOSAL SITE. YOU MUST LEGIBLY COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.**

Date Stamp (MassDEP USE ONLY):

Received by DEP on 4/30/2021 1:05:47 PM







April 23, 2021

Turnkey Recycling and Environmental Enterprises (TREE)  
90 Rochester Neck Road  
Rochester, New Hampshire  
Attn: Ms. Ellen Bellio, Waste Approvals Manager

**RE: LSP Opinion Letter– Treated TCLP Soil for Direct Disposal Conditional Approval  
Firing Range Soil**  
Alta at River’s Edge, LLC  
484-490 Boston Post Road  
Wayland, Massachusetts  
VERTEX Project No. 67404  
Release Tracking Number (RTN) 3-36013

Dear Ms. Bellio:

The Vertex Companies, Inc. (VERTEX) is pleased to submit this Licensed Site Professional (LSP) (LSP) Opinion Letter on behalf of Alta River’s Edge, LLC, for the proposed transport of up to 600 tons of soil for direct disposal at the above referenced facility (the Facility). The soil has been stabilized and is scheduled to be live loaded from the property identified as River’s Edge located at 484-490 Boston Post Road in Wayland, Massachusetts (the “Property”) and is being removed to support Property redevelopment.

The approximately 7-acre Property is currently being redeveloped by Alta River’s Edge, LLC as a multi-unit residential development. The general Property locus is shown on Figure 1, and the general layout of the Property is shown on Figure 2.

A portion of the Property is a Disposal Site listed by the Massachusetts Department of Environmental Protection (MassDEP) under Release Tracking Number (RTN) 3-36013 for the reported releases of oil and hazardous materials (OHM) attributed to urban fill materials originating from off-site locations and historical uses of that portion of the Property. The majority of the soil proposed for disposal at the Facility is associated the historical use of the northwestern portion of the Property as a former small-arms firing range. Lead in soil resulting from this historical use was reported to the MassDEP and is included under RTN 3-36013. Additional information regarding the lead in the firing range soil and historical Property RTNs is included below.

The information provided in this LSP Opinion letter includes a general Property history and summary of investigation activities and demonstrates that the soil proposed to be transported for disposal at the Facility meets the Facility's acceptance criteria.

### **General Property History**

Based on a review of readily available historical information, a portion of the Property was utilized as a firing range since at least the mid-1970s until 2017 and the remainder of the Property historically consisted of undeveloped cleared land prior to construction of a municipal wastewater treatment plant (WWTP) in 1983. The WWTP treatment plant operated until 2009.

After 1983 and according to representatives of the Town of Wayland, it appears that the Wayland Department of Public Works (DPW) began storing soils, waste asphalt, masonry, concrete, and other debris which originated from off-site locations, in the eastern portion of the Property. Transportation of DPW material to the Property for storage continued until 2017.

The soil proposed to be transported for disposal at the Facility is located within the historical firing range in an area of the Property that is separate from the DPW-stockpiled materials.

### **Disposal Site Release History**

Based on the available information, three releases of OHM have occurred at the Property. The information below summarizes the identified OHM releases at the Property and the locations of the releases are shown on Figure 2.

#### RTN 3-001724 (Septage Facility)

This RTN was assigned in 1987 following MassDEP notification of the discharge of an estimated 3-gallons of unknown oil "ostensibly from a restaurant grease trap" into the WWTP's receiving tanks. Based on available documentation, the plant operator identified this wrongful discharge shortly following the release and responded by closing valves to isolate the discharged material to the "Raw Well" and to restrict pathways that would have resulted in a release to the environment. A sample of the oil was collected for laboratory analysis of polychlorinated biphenyls (PCBs) and PCBs were not detected above the laboratory detection limit. The oil was removed and disposed of off-site under Hazardous Waste Manifest documentation.

After additional investigations by the MassDEP in 1993 and based on available documentation, the MassDEP determined the release was no longer considered a "Disposal Site" under the Massachusetts Contingency Plan (MCP) and classified the release as DEPNDs (MassDEP Not a Disposal Site). Soil proposed for reuse at the Facility was not impacted by the RTN 3-001724 release.



RTN 3-34474

RTN 3-34474 is associated with the discovery of asbestos at the Property in August 2017 during pre-purchase due-diligence activities undertaken for Alta River's Edge, LLC. On August 8, 2017, during regrading of the large stockpile of DPW soil to enable it to be sampled for characterization analyses, VERTEX identified suspect asbestos-containing waste materials (ACWM) including potential transite pipe and floor tiles, all located within a small area of the stockpile. Six samples of suspect ACWM were collected and submitted for polarized light microscopy (PLM) analysis.

Based on the analytical results, five of the six samples contained greater than 1% asbestos. On August 14, 2017, following discussions between VERTEX, the Town of Wayland and their consultant, and the MassDEP Bureau of Air and Waste, it was determined that greater than 1 pound of asbestos was present, triggering a 2-hour reportable condition under the MCP. The Town of Wayland notified the MassDEP of the release, and the release was subsequently assigned RTN 3-34474.

From July to December 2018, VERTEX collected and analyzed 95 soil samples from the stockpile and confirmed the absence of detectable asbestos in the stockpile soil. The ACWM was abated in accordance with a MassDEP-approved Non-Traditional Asbestos Work Plan (NTAWP) and under an Immediate Response Action (IRA).

The extent of the ACWM was confirmed based on the visual observations by a Massachusetts-licensed asbestos inspector and test results, and VERTEX oversaw the excavation and off-site transport of approximately 2,000 cubic yards of commingled soil and ACWM from the stockpile. VERTEX's oversight during the ACWM remediation included continuous air monitoring and continuous Massachusetts-licensed Asbestos Inspector observation of the excavated materials and excavation sidewalls and base to confirm the full extent of ACWM was excavated and disposed of off-site. No additional ACWM was observed in the excavation sidewalls and/or base during the remediation and as noted above, analysis of soil samples did not detect asbestos fibers in any sample.

On January 26, 2021 this RTN was closed with a Permanent Solution Statement with No Conditions under the MCP.

RTN 3-36013

In March 2019, during the collection of soil characterization samples at the Property, semi-volatile organic compounds (SVOCs) and lead were detected at concentrations exceeding applicable MCP RCS-1 Reportable Concentrations in soil samples collected from the large on-site stockpile. Additionally, lead, copper, and antimony were detected at concentrations exceeding applicable MCP RCS-1 Reportable Concentrations in soils at the former firing range, and dissolved arsenic, nickel, and ammonia were detected in groundwater at concentrations exceeding applicable MCP RCGW-1 Reportable Concentrations. On December 2, 2019, the Town of Wayland notified the MassDEP of the release, and the release was subsequently assigned RTN 3-36013.

Soil proposed for disposal at the Facility include lead impacted soils within the former firing range. If soils outside this area are proposed for disposal at the Facility, an additional disposal package will be provided.

### **Sampling Activities – Firing Range**

On April 11, 2019, VERTEX created a sampling grid across the firing range area to assist with the characterization of the soils within this part of the Property. The firing range consisted of an approximately 80-foot long by 40-foot wide area terminating at approximately 60-foot long by 20-foot high soil berms at the western end of the range. The grid consisted of approximately 10-foot by 10-foot cells within the eastern portion of the range. The sampling grid cells along the two sand and gravel berms consisted of 10-foot long by 5-foot wide cells. The grid layout is shown on Figure 3.

VERTEX collected discrete samples from approximately 0 to 2 feet below ground surface (bgs) within the center of each grid cell and screened the samples for total lead content using a handheld Delta Environmental handheld x-ray fluorescence (XRF) analyzer. XRF analyzer readings are equivalent to lead concentrations that would be determined by laboratory extraction and analysis of soil samples using standard United States Environmental Protection Agency (USEPA) methods but are useful indicators of relative lead concentrations between locations. Total lead was identified in screened soil samples at concentrations ranging up to 8,568 parts per million (ppm) in the sample collected from grid J3, with the average concentration throughout the area measuring approximately 1,050 ppm.

VERTEX collected one discrete soil sample from approximately 0 to 2 feet bgs for laboratory analysis from each of the six grid cells that yielded the highest XRF readings. Soil samples V-201 (collected from cell K4), V-202 (collected from cell K1), V-203 (collected from cell E4), V-204 (collected from cell N1), V-205 (collected from cell M3), and V-206 (collected from cell J3) were collected in laboratory-supplied pre-cleaned containers, stored on ice, and transferred under chain-of custody to Con-Test Analytical Laboratory of East Longmeadow, Massachusetts (Con-Test) for the following laboratory analyses:

- Lead, antimony, copper, and zinc by USEPA Method 6010;
- Tungsten by USEPA Method Tungsten 200.7; and
- Toxicity Characteristic Leaching Procedure (TCLP) extraction and lead analysis by USEPA Methods 1311 and 6010, respectively.

An additional composite sample was collected, consisting of approximately equal volume aliquots, from the six cells mentioned above. The six aliquots were mixed in an air-tight plastic bag to create the composite sample representative of the soil in the six cells, which was then placed in laboratory supplied containers. Soil samples collected for analysis of volatile organic compounds (VOCs) were collected by placing approximately equal aliquots from the six cells

directly into the sample containers. The sample containers were stored on ice and transferred under chain-of-custody to Con-Test for the following laboratory analyses:

- VOCs USEPA Method 8260;
- SVOCs by USEPA Method 8270;
- Total petroleum hydrocarbons (TPH) by USEPA Method 8100;
- MCP 14 metals by USEPA Method series 6000 and 7000;
- PCBs by USEPA Method 8082 with Soxhlet extraction;
- Ignitability;
- Corrosivity;
- Reactivity (cyanide/sulfide); and
- Specific conductance.

Based on the laboratory analytical results, total lead was detected in five out of the six samples collected from the firing range at concentrations exceeding the MCP RCS-1 Reportable Concentration of 200 milligrams per kilogram (mg/kg). Additionally, antimony and copper were detected at concentrations exceeding the applicable MCP RCS-1 Reportable Concentrations in three of the six samples and in four of the six samples, respectively. VERTEX also submitted each of the samples for TCLP lead analysis. TCLP lead was detected at concentrations between 7.5 milligrams per liter (mg/L) and 830 mg/L in the six samples, each exceeding the Resource Conservation and Recovery Act (RCRA) regulatory threshold concentration of 5 mg/L for classification as a characteristic hazardous waste.

Antimony and lead were also detected at concentrations exceeding the applicable MCP RCS-1 Reportable Concentrations in the six-point composite soil sample collected from the firing range. Arsenic, barium, cadmium, chromium, nickel, silver, vanadium, zinc, and TPH were detected at concentrations exceeding the laboratory detection limit but not exceeding the MCP RCS-1 Reportable Concentrations. VOCs, SVOCs, and PCBs were not detected at concentrations exceeding the laboratory detection limit. The locations of the lead-impacted samples are shown on Figure 3. A summary of the firing range soil analytical results is presented on Table 1, and a copy of the laboratory analytical report is included in Attachment 1.

#### Lead Delineation Sampling

On May 8, 2019, VERTEX oversaw the advancement of 11 test pits within impacted areas of the firing range to assess the vertical depth of metals impacts within the firing range. The test pits were advanced by ECO Environmental Contracting (ECO) of Methuen, Massachusetts using an excavator. An additional three borings were advanced by VERTEX using a hand auger in the westernmost portion of the firing range, beyond the firing range berm.

Eight of the 11 test pits were advanced in the area east of the firing-range berm; each was advanced to a total depth of 6 feet bgs. VERTEX collected one sample from each of the eight test pits from depths of 2 to 4 feet bgs (samples identified as V-301 through V-308). The remaining

three test pits were advanced through the berm to depths 2-feet below the base of the berm into the underlying native soil. One sample was collected from each test pit (identified as samples V-309 through V-311), from the underlying native soil. Using a hand auger, VERTEX advanced three soil borings to depths of 4 feet bgs in the western edge of the firing range, beyond the firing range berm. VERTEX collected one sample from each boring from 2 to 4 feet bgs (V-312 through V-314). Following sampling activities, excavated soils were returned to their original location.

Soil samples were collected in laboratory-supplied pre-cleaned containers, stored on ice, and transferred under chain-of-custody to Con-Test for the following laboratory analyses:

- Antimony, copper, and lead by USEPA Method 6010.

Antimony, copper, and lead were not detected at concentrations exceeding the applicable MCP RCS-1 Reportable Concentrations in samples V-301 through V-314. However, lead was detected at concentrations exceeding 100 mg/kg in samples V-310 and V-312, therefore, these samples were also analyzed for TCLP lead. Based on the laboratory analytical results, TCLP lead was detected in sample V-310 at 20 mg/L. TCLP lead was detected at a concentration exceeding the laboratory detection limit in sample V-312, but less than the RCRA threshold concentration for characteristic hazardous waste.

To meet Facility acceptance criteria, on February 26, 2021, VERTEX collected an additional three composite samples from 15 test pits advanced within the firing range, with five test pits completed in each of the western, central, or eastern portions of the range. Each composite sample consisted of approximately equal-volume aliquots collected from the five test pits advanced either within the western, central, or eastern portion of the firing range. Figure 3A shows the location of the discrete samples, and which discrete samples were combined to create the three composite samples. The five aliquots were mixed in an air-tight plastic bag to create the representative composite sample for each cell, which was then placed in laboratory supplied containers. Soil samples collected for analysis of volatile organic compounds (VOCs) were collected by placing approximately equal aliquots from the five test pits directly into the sample containers. The sample containers were stored on ice and transferred under chain-of-custody to Con-Test for the following laboratory analyses:

- VOCs USEPA Method 8260;
- SVOCs by USEPA Method 8270;
- TPH by USEPA Method 8100;
- MCP 14 metals by USEPA Method series 6000 and 7000;
- PCBs by USEPA Method 8082 with Soxhlet extraction;
- Ignitability;
- Corrosivity;
- Reactivity (cyanide/sulfide); and
- Specific conductance.



A summary of the firing range soil analytical results is presented on Table 1, and a copy of the laboratory analytical report is included as an attachment.

### **Soil Physical Characteristics**

The soil encountered during sampling activities was described using a modified Burmister soil classification system. The soil was generally described as light brown fine to coarse sand and gravel with trace silt and clay. Bullets and bullet casings were identified in the soil. Soil shipped for disposal at the Facility will be screened and observed bullets and casings will be removed from the soil.

### **Soil Stabilization and Confirmatory Sampling**

On April 12, 2021, the soil within the firing range was stabilized using a 75% phosphoric acid solution (Phos-75) at a dose rate of 0.5% by volume. The Phos-75 was applied as a spray from a wand applicator and mixed with the soil with an excavator. A copy of the Safety Data Sheet for Phos-75 is attached. Following in-situ stabilization, six post-stabilization confirmatory samples were collected from the stabilized TCLP soil at the Facility-required frequency of one sample per 100 tons of treated soil. The samples were submitted to ESS Laboratories of Cranston, Rhode Island for TCLP-lead analysis. A summary of soil sample analytical results is provided on Table 3, and a copy of the laboratory analytical report is included in Attachment 1. At no time was the soil placed in containers, placed in trucks, or transported outside of the lead-contaminated firing range area.

### **Soil Disposal**

VERTEX proposes to transport the approximately 400 cubic yards (approximately 600 tons using a conversion factor of 1.5 tons per cubic yard) of stabilized soil from the TCLP-lead area in the firing range for direct disposal at the Facility. Based on the laboratory analytical results and the Facility's sampling frequency of one sample per 200 tons of soil and pending post-stabilization confirmatory sampling and analysis of 1 sample per 100 tons of stabilized soil showing successful stabilization, the soil data will support the proposed disposal of the approximately 600 tons of soil at the Facility.

Figure 3 shows the soil sampling characterization cells and indicates the location of the TCLP-lead area proposed for stabilization and direct disposal under this LSP Opinion Letter. It is the opinion of the LSP that the soil analytical results are representative of the soil proposed for disposal, and upon confirmation of successful stabilization the analytical results will meet the Facility's acceptance criteria.

Soil will not be shipped from uncharacterized locations or at greater quantities than the quantity requested without prior Facility approval. If needed or where specifically requested, additional

samples and analytical data will be collected and provided to the Facility for approval of additional volume prior to transport to the Facility.

Please do not hesitate to contact us should you have any questions or require additional information.

Sincerely,

**The Vertex Companies, Inc.**



Kristen Sarson  
Project Manager

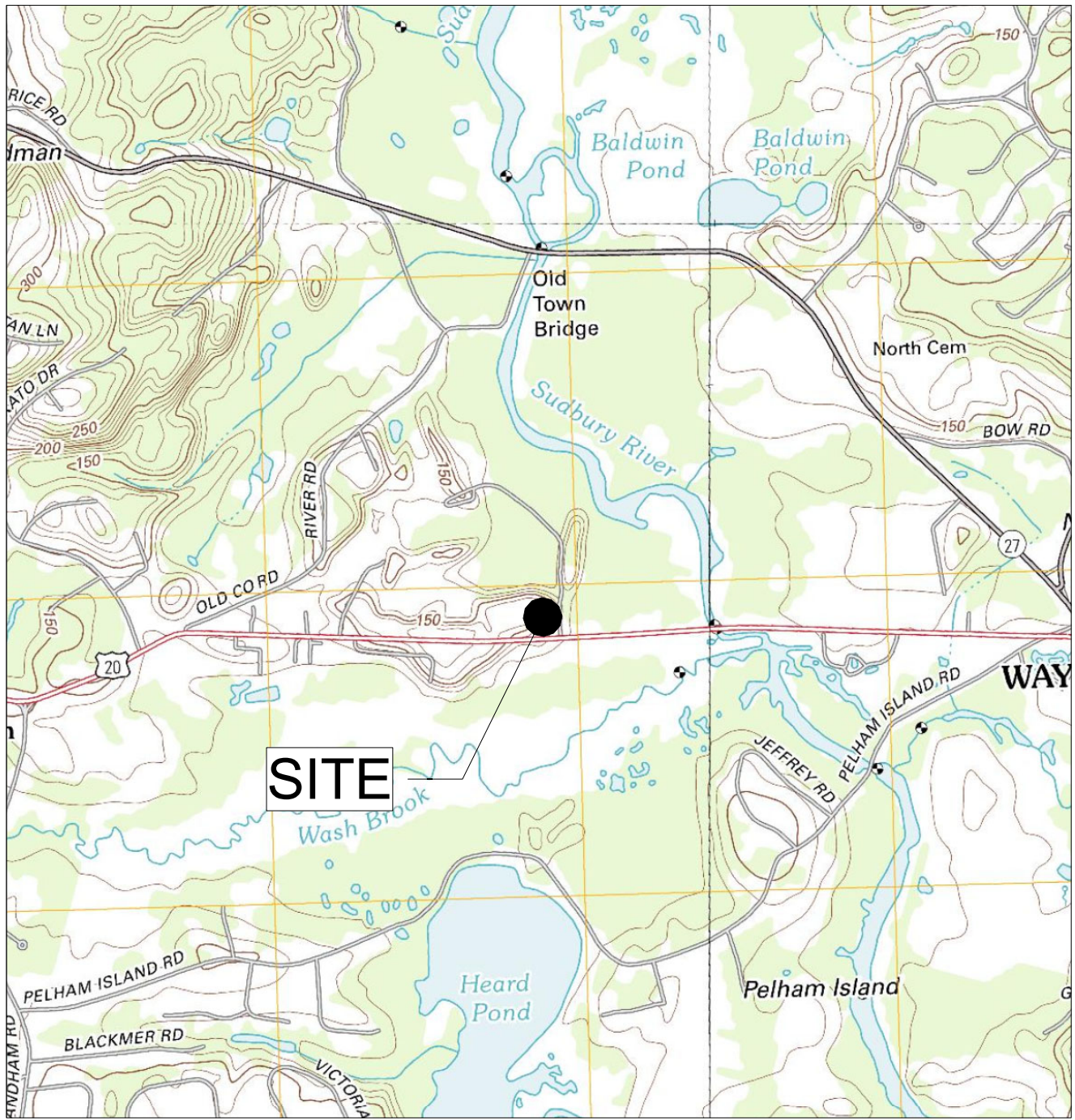


William J. Gibbons, PG, LSP  
Licensed Site Professional

**ATTACHMENTS**

- |              |  |
|--------------|--|
| Figure 1     | Site Locus   |
| Figure 2     | Site General Layout  |
| Figure 3     | Firing Range Assessment  |
| Figure 3A    | Firing Range Additional Characterization Sample Locations                |
| Table 1      | Summary of Soil Characterization Analytical Results – Qualifying Samples |
| Table 2      | Summary of Vertical Lead Delineation Analytical Results                  |
| Table 3      | Summary of Post-Stabilization Confirmatory Samples                       |
| Attachment 1 | Laboratory Analytical Report   |

## FIGURES



SCALE: 1" = 0.5 miles  
(WHEN PRINTED AT 8x11)

SOURCE: UNITED STATES GEOLOGICAL SURVEY MAP FRAMINGHAM  
MA QUADRANGLE 7.5 MINUTE SERIES (2012)

**SITE LOCUS**  
**RIVER'S EDGE**

484 - 490 Boston Post Road  
Wayland, Massachusetts

Date:	04/22/19
Drawn:	KS
Checked:	FC
Job No.:	46047

FIGURE

**1**






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617.275.5407



**LEGEND:**

- V-103 (MW)  VERTEX Monitoring Well
- V-113  Soil Boring
- MW-3  Monitoring Well Installed by Others
- V-SG-101  Soil Vapor Sample Point
-  Approximate Site Boundary



C:\Users\lhperry\Documents\2014 CAD standards\VERTEX symbols & standards\_for\_TurbCAD.dwg  
 Friday, March 07, 2014 11:59:37 AM  
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SCALE: 1" = 100'-0"  
(WHEN PRINTED AT 11x17)

**SITE GENERAL LAYOUT**

RIVER'S EDGE

484 - 490 BOSTON POST ROAD  
WAYLAND, MA

File No.:  
Date: 3/29/19  
Drawn: KS  
Checked: FC  
Job No.: 46047

FIGURE  
**2**

4/22/19

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**VERTEX**

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BOSTON, MA 02114  
617.275.5407



**LEGEND:**

45.5 XRF Reading (ppm)

V-201 Grid Sampled (April 11, 2019)

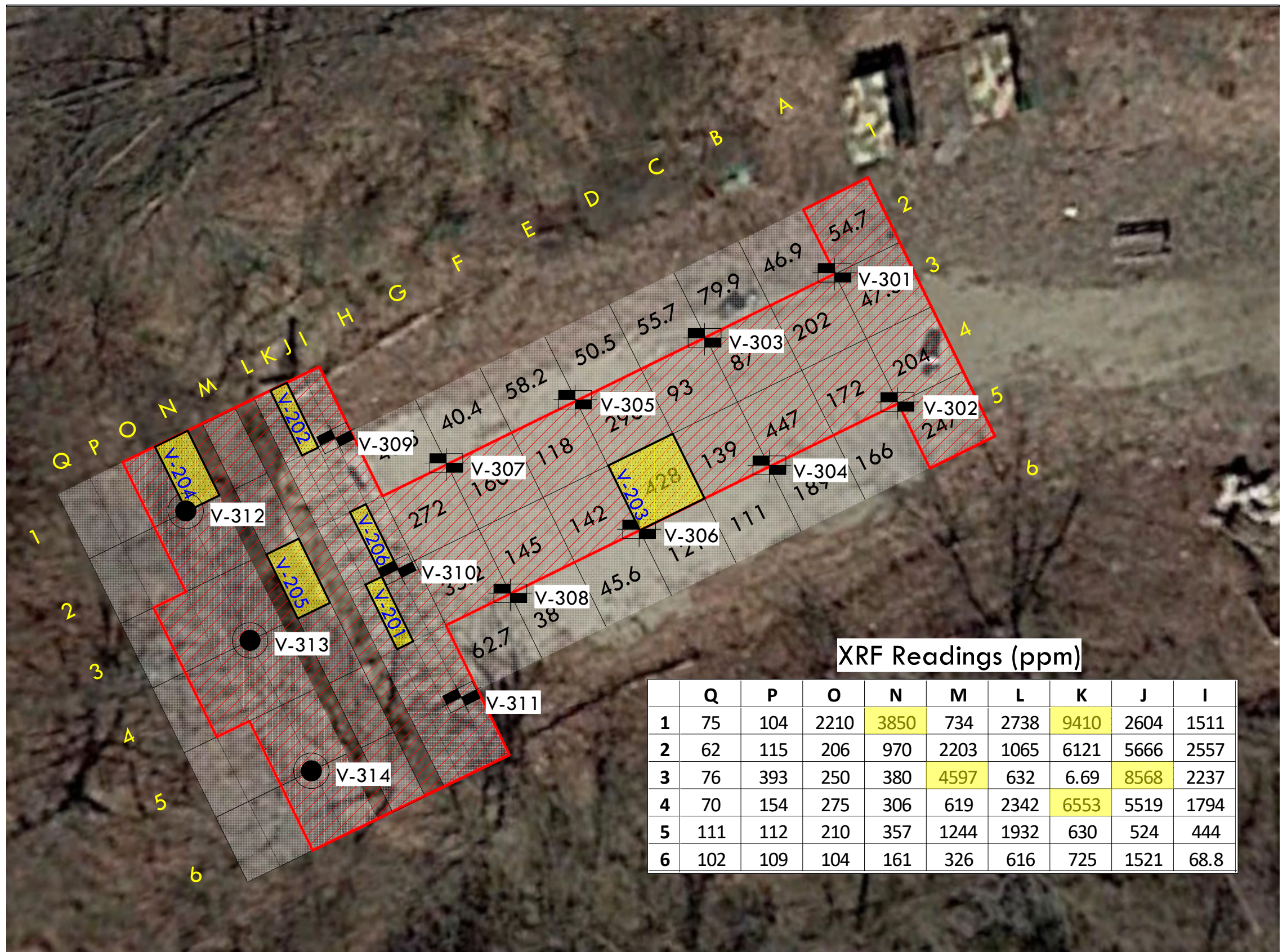
**Lead Vertical Delineation Sample**

● V-311 (Soil Boring)  
 ■ V-301 (Test Pit)

V-301 through V-308 (2-4 feet bgs)  
 V-309 through V-311 (0-2 feet bgs)  
 V-312 through V-314 (2-4 feet bgs)

Approximate Area Proposed For Stabilization and Disposal at TREE

\*MCP RCS-1 = Massachusetts Contingency Plan reportable concentrations for soil.



**XRF Readings (ppm)**

	Q	P	O	N	M	L	K	J	I
1	75	104	2210	3850	734	2738	9410	2604	1511
2	62	115	206	970	2203	1065	6121	5666	2557
3	76	393	250	380	4597	632	6.69	8568	2237
4	70	154	275	306	619	2342	6553	5519	1794
5	111	112	210	357	1244	1932	630	524	444
6	102	109	104	161	326	616	725	1521	68.8



SCALE: 1" = 15'-0"  
 (WHEN PRINTED AT 11x17)

**FIRING RANGE ASSESSMENT**

RIVER'S EDGE

484 BOSTON POST ROAD  
 WAYLAND, MA

File No.: DRAFT  
 Date: 10/08/20  
 Drawn: KS  
 Checked: FC  
 Job No.: 46047

FIGURE

**3**

REVISIONS




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**VERTEX**

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 617.275.5407

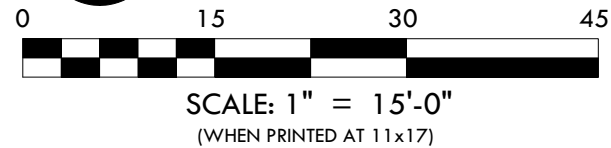


**LEGEND:**

-  Discrete Sample Combined to Create Composite Sample V-301-DISP-FR
-  Discrete Sample Combined to Create Composite Sample V-302-DISP-FR
-  Discrete Sample Combined to Create Composite Sample V-303-DISP-FR



C:\Users\lweaver\Documents\2014 CAD Standards\VERTEX symbols & standards\_for\_TurboCAD.dwg  
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**FIRING RANGE ADDITIONAL CHARACTERIZATION SAMPLE LOCATIONS**

RIVER'S EDGE  
 484-490 BOSTON POST ROAD  
 WAYLAND, MA

File No.:  
 Date: 03/18/21  
 Drawn: KS  
 Checked: FC  
 Job No.: 67404

FIGURE  
**3A**

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## **TABLES**



**Table 1**  
**Summary of Soil Characterization Analytical Results - Qualifying Samples**  
**Rivers Edge**  
**484 - 490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Area of Site	RCS-1	Units	FIRING RANGE									
			V-201	V-202	V-203	V-204	V-205	V-206	FIRING RANGE	V-301-DISP-FR	V-302-DISP-FR	V-303-DISP-FR
			4/11/2019	4/11/2019	4/11/2019	4/11/2019	4/11/2019	4/11/2019	4/11/2019	2/26/2021	2/26/2021	2/26/2021
Laboratory ID												
<b>Asbestos</b>												
CARB 435	NSE	%	--	--	--	--	--	--	--	--	--	--
<b>Metals</b>												
Antimony	20	mg/kg	41	140	ND(1.7)	3.3	5.1	140	290	ND(1.8)	ND(1.8)	ND(1.9)
Arsenic	20	mg/kg	--	--	--	--	--	--	9.2	5.8	6.3	5.9
Barium	1000	mg/kg	--	--	--	--	--	--	13	22	37	23
Beryllium	90	mg/kg	--	--	--	--	--	--	ND(0.17)	0.24	0.24	0.23
Cadmium	70	mg/kg	--	--	--	--	--	--	0.40	ND(0.36)	ND(0.36)	ND(0.37)
Chromium	100	mg/kg	--	--	--	--	--	--	4.3	13	14	15
Copper	1000	mg/kg	4200	4200	120	74	1000	7100	--	--	--	--
Lead	200	mg/kg	4000	13000	46	290	630	24000	24000	17	23	38
Mercury	20	mg/kg	--	--	--	--	--	--	ND(0.025)	ND(0.028)	ND(0.028)	ND(0.028)
Nickel	600	mg/kg	--	--	--	--	--	--	3.6	9.4	10	9.6
Selenium	400	mg/kg	--	--	--	--	--	--	ND(3.3)	ND(3.6)	ND(3.6)	ND(3.7)
Silver	100	mg/kg	--	--	--	--	--	--	1.2	ND(0.36)	ND(0.36)	ND(0.37)
Thallium	8	mg/kg	--	--	--	--	--	--	ND(1.7)	ND(1.8)	ND(1.8)	ND(1.9)
Tungsten	NSE	mg/kg	ND(0.4)	14	5	ND(0.4)	ND(0.4)	ND(0.3)	--	--	--	--
Vanadium	400	mg/kg	--	--	--	--	--	--	7.7	18	18	19
Zinc	1000	mg/kg	18	29	27	37	23	69	46	27	31	42
<b>Metals, TCLP</b>												
Lead	5*	mg/l	180	360	7.5	8.3	48	830	--	--	--	--
<b>Total Petroleum Hydrocarbons (TPH)</b>												
TPH	1000	mg/kg	--	--	--	--	--	--	27	680	660	690
<b>Volatile Organic Compounds (VOCs)</b>												
Total VOCs	NSE	mg/kg	--	--	--	--	--	--	ND	ND	ND	ND
<b>Semivolatile Organic Compounds (SVOCs)</b>												
Anthracene	1000	mg/kg	--	--	--	--	--	--	ND(0.17)	0.21	0.28	ND(0.37)
Benzo(a)Anthracene	7	mg/kg	--	--	--	--	--	--	ND(0.17)	0.73	0.82	0.38
Benzo(a)Pyrene	2	mg/kg	--	--	--	--	--	--	ND(0.17)	0.71	0.83	0.44
Benzo(b)Fluoranthene	7	mg/kg	--	--	--	--	--	--	ND(0.17)	0.77	0.86	0.5
Benzo(g,h,i)Perylene	1000	mg/kg	--	--	--	--	--	--	ND(0.17)	0.47	0.4	0.25
Benzo(k)Fluoranthene	70	mg/kg	--	--	--	--	--	--	ND(0.17)	0.27	0.35	ND(0.37)
Chrysene	70	mg/kg	--	--	--	--	--	--	ND(0.17)	0.8	0.89	0.45
Fluoranthene	1000	mg/kg	--	--	--	--	--	--	ND(0.17)	1.2	1.3	0.5
Indeno(1,2,3-cd)Pyrene	7	mg/kg	--	--	--	--	--	--	ND(0.17)	0.42	0.41	ND(0.37)
Phenanthrene	10	mg/kg	--	--	--	--	--	--	ND(0.17)	0.95	1.2	0.27
Pyrene	1000	mg/kg	--	--	--	--	--	--	ND(0.17)	1.8	2.1	0.85
Total SVOCs	NSE	mg/kg	--	--	--	--	--	--	ND(0.68)	8.33	9.44	3.64

**Table 1**  
**Summary of Soil Characterization Analytical Results - Qualifying Samples**  
**Rivers Edge**  
**484 - 490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	RCS-1	Units	V-201	V-202	V-203	V-204	V-205	V-206	FIRING RANGE	V-301-DISP-FR	V-302-DISP-FR	V-303-DISP-FR
Sample Date			4/11/2019	4/11/2019	4/11/2019	4/11/2019	4/11/2019	4/11/2019	4/11/2019	4/11/2019	2/26/2021	2/26/2021
Laboratory ID			19D0736-01	19D0736-02	19D0736-03	19D0736-04	19D0736-05	19D0736-06	19D0736-07	21B1162-01	21B1162-02	21B1162-03
<b>Polychlorinated Biphenyls (PCBs)</b>												
Aroclor 1016	1	mg/kg	--	--	--	--	--	--	ND(0.081)	ND(0.084)	ND(0.082)	ND(0.087)
Aroclor 1221	1	mg/kg	--	--	--	--	--	--	ND(0.081)	ND(0.084)	ND(0.082)	ND(0.087)
Aroclor 1232	1	mg/kg	--	--	--	--	--	--	ND(0.081)	ND(0.084)	ND(0.082)	ND(0.087)
Aroclor 1242	1	mg/kg	--	--	--	--	--	--	ND(0.081)	ND(0.084)	ND(0.082)	ND(0.087)
Aroclor 1248	1	mg/kg	--	--	--	--	--	--	ND(0.081)	ND(0.084)	ND(0.082)	ND(0.087)
Aroclor 1254	1	mg/kg	--	--	--	--	--	--	ND(0.081)	ND(0.084)	ND(0.082)	ND(0.087)
Aroclor 1260	1	mg/kg	--	--	--	--	--	--	ND(0.081)	ND(0.084)	ND(0.082)	ND(0.087)
Aroclor 1262	1	mg/kg	--	--	--	--	--	--	ND(0.081)	ND(0.084)	ND(0.082)	ND(0.087)
Aroclor 1268	1	mg/kg	--	--	--	--	--	--	ND(0.081)	ND(0.084)	ND(0.082)	ND(0.087)
Total PCBs	1	mg/kg	--	--	--	--	--	--	ND(0.081)	ND(0.084)	ND(0.082)	ND(0.087)
<b>General Chemistry</b>												
Ignitability	NSE	present/absent	--	--	--	--	--	--	absent	absent	absent	absent
pH	5-9	pH Units	--	--	--	--	--	--	6.6	7.4	8.1	8.0
Reactivity Cyanide	NSE	mg/kg	--	--	--	--	--	--	ND(3.9)	ND(4.0)	ND(3.9)	ND(3.9)
Reactivity Sulfide	NSE	mg/kg	--	--	--	--	--	--	20	ND(20)	ND(20)	ND(20)
Specific Conductance	2000	umhos/cm	--	--	--	--	--	--	2.0	6.6	6.4	4.9

Notes:

- mg/kg=milligram per kilogram; mg/l=milligram per liter; uhoms/cm=microohms per centimeter
- Reportable Concentrations (RCS-1) taken from the Massachusetts Contingency Plan (MCP) 310 CMR 40.0974(2) dated April 2014
- \* = MCP RCS-1 does not apply. Regulatory concentration taken from the Resource Conservation and Recovery Act (RCRA) hazardous waste regulations 40 CFR Part 261 Subpart C.
- ND = Not Detected above laboratory reporting limits shown in parenthesis
- -- = Not Analyzed
- NSE = No Standard Exists
- Highlighted values exceeds the applicable Reportable Concentration (\*regulatory concentration)
- Full analytical results, including QA/QC information and data flags, are detailed in the laboratory analytical report

**Table 2**  
**Summary of Vertical Lead Delineation Analytical Results**  
**Rivers Edge**  
**484-490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	MCP RCS-1	Units	V-301 (2-4)	V-302 (2-4)	V-303 (2-4)	V-304 (2-4)	V-305 (2-4)	V-306 (2-4)	V-307 (2-4)	V-308 (2-4)	V-309 (0-2)	V-310 (0-2)	V-311 (0-2)	V-312 (2-4)	V-313 (2-4)	V-314 (2-4)	
Sample Date			5/8/2019	5/8/2019	5/8/2019	5/8/2019	5/8/2019	5/8/2019	5/8/2019	5/8/2019	5/8/2019	5/8/2019	5/8/2019	5/8/2019	5/8/2019	5/8/2019	5/8/2019
Laboratory ID			19E0566-01	19E0566-02	19E0566-03	19E0566-04	19E0566-05	19E0566-06	19E0566-07	19E0566-08	19E0566-09	19E0566-10	19E0566-11	19E0566-12	19E0566-13	19E0566-14	
<b>Metals</b>																	
Antimony	20	mg/kg	ND(1.7)	ND(1.8)	ND(1.8)	ND(1.7)	ND(1.7)	ND(1.8)	ND(1.8)	ND(1.7)	ND(1.7)	ND(1.7)	ND(1.7)	ND(1.9)	ND(1.8)	ND(1.8)	
Copper	1000	mg/kg	13	22	45	13	37	31	28	43	4.2	400	5.9	20	24	32	
Lead	200	mg/kg	5.0	31	28	12	22	25	57	22	5.9	140	8.8	150	86	55	
<b>General Chemistry</b>																	
Solids, Total	NSE	% by wt	93.9	91.5	93.3	94.1	93.5	92.6	93.2	93.6	96.2	96.4	96.0	89.5	89.1	91.3	

Notes:

- mg/kg=milligram per kilogram; uhoms/cm=microohms per centimeter
- Reportable Concentrations (RCS-1) taken from the Massachusetts Contingency Plan (MCP) 310 CMR 40.0974(2) dated April 2014
- ND = Not Detected above laboratory reporting limits shown in parenthesis
- -- = Not Analyzed
- NSE = No Standard Exists
- Highlighted values exceeds the applicable Reportable Concentration
- Full analytical results, including QA/QC information and data flags, are detailed in the laboratory analytical report



**Table 3**  
**Summary of Post-Stabilization Confirmatory Analytical Results**  
**Rivers Edge**  
**484 - 490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	RCRA	Units	#1 Firing Range	#2 Firing Range	#3 Firing Range	#4 Firing Range	#5 Firing Range	#6 Firing Range
Sample Date			4/12/2021	4/12/2021	4/12/2021	4/12/2021	4/12/2021	4/12/2021
Lab ID			21D0381-01	21D0381-02	21D0381-03	21D0381-04	21D0381-05	21D0381-06
Metals, TCLP								
Lead	5	mg/L	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)

Notes:

- mg/kg=milligram per kilogram; uhoms/cm=microohms per centimeter; mg/L=milligram per Liter
- Regulatory Concentration taken from the Resource Conservation and Recovery Act (RCRA) hazardous waste regulations 40 CFR Part 261 Subpart C.
- ND = Not Detected above laboratory reporting limits shown in parenthesis
- -- = Not Analyzed
- NSE = No Standard Exists
- Highlighted values exceeds the applicable Reportable Concentration
- Full analytical results, including QA/QC information and data flags, are detailed in the laboratory analytical report

**ATTACHMENT 1:  
LABORATORY ANALYTICAL  
REPORTS**

April 19, 2019

Kristen Sarson  
Vertex Engineering - Boston  
100 North Washington St. Suite 302  
Boston, MA 02114

Project Location: Wayland, MA  
Client Job Number:  
Project Number: 46047  
Laboratory Work Order Number: 19D0736

Enclosed are results of analyses for samples received by the laboratory on April 12, 2019. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Jessica Hoffman", is displayed on a light blue rectangular background. The signature is written in a cursive, flowing style.

Jessica L. Hoffman  
Project Manager



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39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Vertex Engineering - Boston  
 100 North Washington St. Suite 302  
 Boston, MA 02114  
 ATTN: Kristen Sarson

REPORT DATE: 4/19/2019

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 46047

**ANALYTICAL SUMMARY**

WORK ORDER NUMBER: 19D0736

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Wayland, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
V-201	19D0736-01	Soil		- SM 2540G SW-846 6010D	MA M-CT007/CT PH-0618/NY11301
V-202	19D0736-02	Soil		- SM 2540G SW-846 6010D	MA M-CT007/CT PH-0618/NY11301
V-203	19D0736-03	Soil		- SM 2540G SW-846 6010D	MA M-CT007/CT PH-0618/NY11301
V-204	19D0736-04	Soil		- SM 2540G SW-846 6010D	MA M-CT007/CT PH-0618/NY11301
V-205	19D0736-05	Soil		- SM 2540G SW-846 6010D	MA M-CT007/CT PH-0618/NY11301
V-206	19D0736-06	Soil		- SM 2540G SW-846 6010D	MA M-CT007/CT PH-0618/NY11301
Firing Range	19D0736-07	Soil		SM 2540G SM21-22 2510B Modified SW-846 1030 SW-846 6010D SW-846 7471B SW-846 8082A SW-846 8100 Modified SW-846 8260C SW-846 8270D SW-846 9014 SW-846 9030A SW-846 9045C	



**CASE NARRATIVE SUMMARY**

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

For method 6010, only a select list of metals was requested and reported.

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332  
SW-846 6010D

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**Qualifications:****MS-19**

Sample to spike ratio is greater than or equal to 4:1. Spiked amount is not representative of the native amount in the sample. Appropriate or meaningful recoveries cannot be calculated.

**Analyte & Samples(s) Qualified:****Lead**

19D0736-01[V-201], B228378-MS1

SW-846 8082A

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**Qualifications:****O-32**

A dilution was performed as part of the standard analytical procedure.

**Analyte & Samples(s) Qualified:**

19D0736-07[Firing Range]

SW-846 8260C

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**Qualifications:****L-02**

Laboratory fortified blank/laboratory control sample recovery and duplicate recoveries outside of control limits. Data validation is not affected since all results are "not detected" for associated samples in this batch and bias is on the high side.

**Analyte & Samples(s) Qualified:****1,1-Dichloroethylene**

B228262-BS1, B228262-BSD1

**Carbon Disulfide**

B228262-BS1, B228262-BSD1

**Chloroethane**

B228262-BS1, B228262-BSD1

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**L-07**

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

**Analyte & Samples(s) Qualified:****Trichlorofluoromethane (Freon 11)**

B228262-BSD1

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**V-05**

Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.

**Analyte & Samples(s) Qualified:****1,2-Dibromo-3-chloropropane (DBP)**

19D0736-07[Firing Range], B228262-BLK1, B228262-BS1, B228262-BSD1, S034704-CCV1

**1,4-Dioxane (SIM)**

B228262-BS1, B228262-BSD1, S034704-CCV1

**2,2-Dichloropropane**

19D0736-07[Firing Range], B228262-BLK1, B228262-BS1, B228262-BSD1, S034704-CCV1

**Dichlorodifluoromethane (Freon 12)**

19D0736-07[Firing Range], B228262-BLK1, B228262-BS1, B228262-BSD1, S034704-CCV1

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**V-16**

Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

**Analyte & Samples(s) Qualified:****1,4-Dioxane**

19D0736-07[Firing Range], B228262-BLK1, B228262-BS1, B228262-BSD1

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**V-20**

Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

**Analyte & Samples(s) Qualified:****Diethyl Ether**

B228262-BS1, B228262-BSD1, S034704-CCV1

**V-34**

Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

**Analyte & Samples(s) Qualified:**

**Bromomethane**

19D0736-07[Firing Range], B228262-BLK1, B228262-BS1, B228262-BSD1, S034704-CCV1

**SW-846 8270D**

**Qualifications:**

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**V-05**

Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.

**Analyte & Samples(s) Qualified:**

**2-Methylphenol**

19D0736-07[Firing Range], S034774-CCV1

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**V-06**

Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side for this compound.

**Analyte & Samples(s) Qualified:**

**Bis(2-Ethylhexyl)phthalate**

19D0736-07[Firing Range], S034774-CCV1

**Butylbenzylphthalate**

19D0736-07[Firing Range], S034774-CCV1

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**V-34**

Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

**Analyte & Samples(s) Qualified:**

**4-Chloroaniline**

B228235-BLK1, B228235-BS1, B228235-BSD1, S034781-CCV1

**Aniline**

B228235-BLK1, B228235-BS1, B228235-BSD1, S034781-CCV1

**SW-846 9045C**

**Qualifications:**

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**H-03**

Sample received after recommended holding time was exceeded.

**Analyte & Samples(s) Qualified:**

**pH**

19D0736-07[Firing Range]

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**SW-846 8100 Modified**

TPH (C9-C36) is quantitated against a calibration made with a diesel standard.

**SW-846 8260C**

Laboratory control sample recoveries for required MCP Data Enhancement 8260 compounds were all within limits specified by the method except for "difficult analytes" where recovery control limits of 40-160% are used and/or unless otherwise listed in this narrative. Difficult analytes: MIBK, MEK, acetone, 1,4-dioxane, chloromethane, dichlorodifluoromethane, 2-hexanone, and bromomethane.

**SW-846 8270D**

Laboratory control sample recoveries for required MCP Data Enhancement 8270 compounds were all within control limits specified by the method, 40-140% for base/neutrals and 30-130% for acids except for "difficult analytes" listed below and/or otherwise listed in this narrative. Difficult analytes limits are 15 and 140%: 2,4-dinitrophenol, 4-chloroaniline, 4-nitrophenol, and phenol.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

A handwritten signature in black ink, appearing to read "Tod Kopyscinski".

Tod E. Kopyscinski  
Laboratory Director



39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Wayland, MA

Sample Description:

Work Order: 19D0736

Date Received: 4/12/2019

Sampled: 4/11/2019 13:30

Field Sample #: V-201

Sample ID: 19D0736-01

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	41	1.7	mg/Kg dry	1		SW-846 6010D	4/17/19	4/18/19 18:13	EJB
Copper	4200	1.7	mg/Kg dry	5		SW-846 6010D	4/17/19	4/19/19 9:56	EJB
Lead	4000	2.6	mg/Kg dry	5		SW-846 6010D	4/17/19	4/19/19 9:56	EJB
Zinc	18	0.69	mg/Kg dry	1		SW-846 6010D	4/17/19	4/18/19 18:13	EJB

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Wayland, MA

Sample Description:

Work Order: 19D0736

Date Received: 4/12/2019

Sampled: 4/11/2019 13:30

Field Sample #: V-201

Sample ID: 19D0736-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/PHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	93.3		% Wt	1		SM 2540G	4/14/19	4/15/19 12:39	CJT

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Wayland, MA

Sample Description:

Work Order: 19D0736

Date Received: 4/12/2019

Sampled: 4/11/2019 13:30

Field Sample #: V-201

Sample ID: 19D0736-01

Sample Matrix: Soil

TCLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	180	0.050	mg/L	5	MS-19	SW-846 6010D	4/16/19	4/17/19 16:33	EJB

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Wayland, MA

Sample Description:

Work Order: 19D0736

Date Received: 4/12/2019

Sampled: 4/11/2019 13:30

Field Sample #: V-201

Sample ID: 19D0736-01

Sample Matrix: Soil

**Tungsten 200.7**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Tungsten 200.7	<0.4	0.4	mg/Kg	1		Tungsten 200.7		4/17/19 0:00	PEL



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Project Location: Wayland, MA

Sample Description:

Work Order: 19D0736

Date Received: 4/12/2019

Sampled: 4/11/2019 13:35

Field Sample #: V-202

Sample ID: 19D0736-02

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	140	1.7	mg/Kg dry	1		SW-846 6010D	4/17/19	4/18/19 18:18	EJB
Copper	4200	1.7	mg/Kg dry	5		SW-846 6010D	4/17/19	4/19/19 10:01	EJB
Lead	13000	2.6	mg/Kg dry	5		SW-846 6010D	4/17/19	4/19/19 10:01	EJB
Zinc	29	0.68	mg/Kg dry	1		SW-846 6010D	4/17/19	4/18/19 18:18	EJB

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Wayland, MA

Sample Description:

Work Order: 19D0736

Date Received: 4/12/2019

Sampled: 4/11/2019 13:35

Field Sample #: V-202

Sample ID: 19D0736-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	95.4		% Wt	1		SM 2540G	4/14/19	4/15/19 12:39	CJT

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Project Location: Wayland, MA

Sample Description:

Work Order: 19D0736

Date Received: 4/12/2019

Sampled: 4/11/2019 13:35

Field Sample #: V-202

Sample ID: 19D0736-02

Sample Matrix: Soil

TCLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	360	0.10	mg/L	10		SW-846 6010D	4/16/19	4/17/19 16:39	EJB

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Project Location: Wayland, MA

Sample Description:

Work Order: 19D0736

Date Received: 4/12/2019

Sampled: 4/11/2019 13:35

Field Sample #: V-202

Sample ID: 19D0736-02

Sample Matrix: Soil

**Tungsten 200.7**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Tungsten 200.7	14	0.3	mg/Kg	1		Tungsten 200.7		4/17/19 0:00	PEL



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Project Location: Wayland, MA

Sample Description:

Work Order: 19D0736

Date Received: 4/12/2019

Sampled: 4/11/2019 13:40

Field Sample #: V-203

Sample ID: 19D0736-03

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.7	mg/Kg dry	1		SW-846 6010D	4/17/19	4/18/19 18:23	EJB
Copper	120	0.34	mg/Kg dry	1		SW-846 6010D	4/17/19	4/18/19 18:23	EJB
Lead	46	0.52	mg/Kg dry	1		SW-846 6010D	4/17/19	4/18/19 18:23	EJB
Zinc	27	0.69	mg/Kg dry	1		SW-846 6010D	4/17/19	4/18/19 18:23	EJB

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Project Location: Wayland, MA

Sample Description:

Work Order: 19D0736

Date Received: 4/12/2019

Sampled: 4/11/2019 13:40

Field Sample #: V-203

Sample ID: 19D0736-03

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/PHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	95.3		% Wt	1		SM 2540G	4/14/19	4/15/19 12:39	CJT

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Wayland, MA

Sample Description:

Work Order: 19D0736

Date Received: 4/12/2019

Sampled: 4/11/2019 13:40

Field Sample #: V-203

Sample ID: 19D0736-03

Sample Matrix: Soil

TCLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	7.5	0.010	mg/L	1		SW-846 6010D	4/16/19	4/17/19 16:46	EJB

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Wayland, MA

Sample Description:

Work Order: 19D0736

Date Received: 4/12/2019

Sampled: 4/11/2019 13:40

Field Sample #: V-203

Sample ID: 19D0736-03

Sample Matrix: Soil

**Tungsten 200.7**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Tungsten 200.7	5	0.3	mg/Kg	1		Tungsten 200.7		4/17/19 0:00	PEL



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Project Location: Wayland, MA

Sample Description:

Work Order: 19D0736

Date Received: 4/12/2019

Sampled: 4/11/2019 13:45

Field Sample #: V-204

Sample ID: 19D0736-04

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	3.3	1.8	mg/Kg dry	1		SW-846 6010D	4/17/19	4/18/19 18:39	EJB
Copper	74	0.36	mg/Kg dry	1		SW-846 6010D	4/17/19	4/18/19 18:39	EJB
Lead	290	0.54	mg/Kg dry	1		SW-846 6010D	4/17/19	4/18/19 18:39	EJB
Zinc	37	0.72	mg/Kg dry	1		SW-846 6010D	4/17/19	4/18/19 18:39	EJB

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Wayland, MA

Sample Description:

Work Order: 19D0736

Date Received: 4/12/2019

Sampled: 4/11/2019 13:45

Field Sample #: V-204

Sample ID: 19D0736-04

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/PHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	92.1		% Wt	1		SM 2540G	4/14/19	4/15/19 12:39	CJT

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Wayland, MA

Sample Description:

Work Order: 19D0736

Date Received: 4/12/2019

Sampled: 4/11/2019 13:45

Field Sample #: V-204

Sample ID: 19D0736-04

Sample Matrix: Soil

TCLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	8.3	0.010	mg/L	1		SW-846 6010D	4/16/19	4/17/19 16:53	EJB

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Wayland, MA

Sample Description:

Work Order: 19D0736

Date Received: 4/12/2019

Sampled: 4/11/2019 13:45

Field Sample #: V-204

Sample ID: 19D0736-04

Sample Matrix: Soil

**Tungsten 200.7**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Tungsten 200.7	<0.4	0.4	mg/Kg	1		Tungsten 200.7		4/17/19 0:00	PEL



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Project Location: Wayland, MA

Sample Description:

Work Order: 19D0736

Date Received: 4/12/2019

Sampled: 4/11/2019 13:50

Field Sample #: V-205

Sample ID: 19D0736-05

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	5.1	1.8	mg/Kg dry	1		SW-846 6010D	4/17/19	4/18/19 18:44	EJB
Copper	1000	0.35	mg/Kg dry	1		SW-846 6010D	4/17/19	4/18/19 18:44	EJB
Lead	630	0.53	mg/Kg dry	1		SW-846 6010D	4/17/19	4/18/19 18:44	EJB
Zinc	23	0.71	mg/Kg dry	1		SW-846 6010D	4/17/19	4/18/19 18:44	EJB

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Wayland, MA

Sample Description:

Work Order: 19D0736

Date Received: 4/12/2019

Sampled: 4/11/2019 13:50

Field Sample #: V-205

Sample ID: 19D0736-05

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/PHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	92.3		% Wt	1		SM 2540G	4/14/19	4/15/19 12:40	CJT

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Wayland, MA

Sample Description:

Work Order: 19D0736

Date Received: 4/12/2019

Sampled: 4/11/2019 13:50

Field Sample #: V-205

Sample ID: 19D0736-05

Sample Matrix: Soil

TCLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	48	0.010	mg/L	1		SW-846 6010D	4/16/19	4/17/19 17:00	EJB

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Wayland, MA

Sample Description:

Work Order: 19D0736

Date Received: 4/12/2019

Field Sample #: V-205

Sampled: 4/11/2019 13:50

Sample ID: 19D0736-05

Sample Matrix: Soil

**Tungsten 200.7**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Tungsten 200.7	<0.4	0.4	mg/Kg	1		Tungsten 200.7		4/17/19 0:00	PEL



39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Wayland, MA

Sample Description:

Work Order: 19D0736

Date Received: 4/12/2019

Sampled: 4/11/2019 13:55

Field Sample #: V-206

Sample ID: 19D0736-06

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	140	1.8	mg/Kg dry	1		SW-846 6010D	4/17/19	4/18/19 18:49	EJB
Copper	7100	3.5	mg/Kg dry	10		SW-846 6010D	4/17/19	4/19/19 10:06	EJB
Lead	24000	5.3	mg/Kg dry	10		SW-846 6010D	4/17/19	4/19/19 10:06	EJB
Zinc	69	0.70	mg/Kg dry	1		SW-846 6010D	4/17/19	4/18/19 18:49	EJB

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Wayland, MA

Sample Description:

Work Order: 19D0736

Date Received: 4/12/2019

Sampled: 4/11/2019 13:55

Field Sample #: V-206

Sample ID: 19D0736-06

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/PHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	92.9		% Wt	1		SM 2540G	4/14/19	4/15/19 12:40	CJT

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Wayland, MA

Sample Description:

Work Order: 19D0736

Date Received: 4/12/2019

Sampled: 4/11/2019 13:55

Field Sample #: V-206

Sample ID: 19D0736-06

Sample Matrix: Soil

TCLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	830	0.10	mg/L	10		SW-846 6010D	4/16/19	4/17/19 17:07	EJB

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Wayland, MA

Sample Description:

Work Order: 19D0736

Date Received: 4/12/2019

Sampled: 4/11/2019 13:55

Field Sample #: V-206

Sample ID: 19D0736-06

Sample Matrix: Soil

**Tungsten 200.7**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Tungsten 200.7	<0.3	0.3	mg/Kg	1		Tungsten 200.7		4/17/19 0:00	PEL



39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Wayland, MA

Sample Description:

Work Order: 19D0736

Date Received: 4/12/2019

Field Sample #: Firing Range

Sampled: 4/11/2019 14:00

Sample ID: 19D0736-07

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.083	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00083	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
Benzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
Bromobenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
Bromochloromethane	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
Bromodichloromethane	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
Bromoform	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
Bromomethane	ND	0.0083	mg/Kg dry	1	V-34	SW-846 8260C	4/15/19	4/15/19 11:29	MFF
2-Butanone (MEK)	ND	0.033	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
n-Butylbenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
sec-Butylbenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
tert-Butylbenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00083	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
Carbon Disulfide	ND	0.0050	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
Carbon Tetrachloride	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
Chlorobenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
Chlorodibromomethane	ND	0.00083	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
Chloroethane	ND	0.0083	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
Chloroform	ND	0.0033	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
Chloromethane	ND	0.0083	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
2-Chlorotoluene	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
4-Chlorotoluene	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0033	mg/Kg dry	1	V-05	SW-846 8260C	4/15/19	4/15/19 11:29	MFF
1,2-Dibromoethane (EDB)	ND	0.00083	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
Dibromomethane	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
1,2-Dichlorobenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
1,3-Dichlorobenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
1,4-Dichlorobenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.0083	mg/Kg dry	1	V-05	SW-846 8260C	4/15/19	4/15/19 11:29	MFF
1,1-Dichloroethane	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
1,2-Dichloroethane	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
1,1-Dichloroethylene	ND	0.0033	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
cis-1,2-Dichloroethylene	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
trans-1,2-Dichloroethylene	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
1,2-Dichloropropane	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
1,3-Dichloropropane	ND	0.00083	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
2,2-Dichloropropane	ND	0.0017	mg/Kg dry	1	V-05	SW-846 8260C	4/15/19	4/15/19 11:29	MFF
1,1-Dichloropropene	ND	0.0033	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
cis-1,3-Dichloropropene	ND	0.00083	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
trans-1,3-Dichloropropene	ND	0.00083	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
Diethyl Ether	ND	0.0083	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
Diisopropyl Ether (DIPE)	ND	0.00083	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
1,4-Dioxane	ND	0.17	mg/Kg dry	1	V-16	SW-846 8260C	4/15/19	4/15/19 11:29	MFF
Ethylbenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Wayland, MA

Sample Description:

Work Order: 19D0736

Date Received: 4/12/2019

Field Sample #: Firing Range

Sampled: 4/11/2019 14:00

Sample ID: 19D0736-07

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
2-Hexanone (MBK)	ND	0.017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
Isopropylbenzene (Cumene)	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0033	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
Methylene Chloride	ND	0.0083	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
Naphthalene	ND	0.0033	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
n-Propylbenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
Styrene	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
1,1,1,2-Tetrachloroethane	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
1,1,2,2-Tetrachloroethane	ND	0.00083	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
Tetrachloroethylene	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
Tetrahydrofuran	ND	0.0083	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
Toluene	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
1,2,3-Trichlorobenzene	ND	0.0033	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
1,2,4-Trichlorobenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
1,1,1-Trichloroethane	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
1,1,2-Trichloroethane	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
Trichloroethylene	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0083	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
1,2,3-Trichloropropane	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
1,2,4-Trimethylbenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
1,3,5-Trimethylbenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
Vinyl Chloride	ND	0.0083	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
m+p Xylene	ND	0.0033	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF
o-Xylene	ND	0.0017	mg/Kg dry	1		SW-846 8260C	4/15/19	4/15/19 11:29	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	93.8	70-130	4/15/19 11:29
Toluene-d8	101	70-130	4/15/19 11:29
4-Bromofluorobenzene	98.2	70-130	4/15/19 11:29

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Wayland, MA

Sample Description:

Work Order: 19D0736

Date Received: 4/12/2019

Field Sample #: Firing Range

Sampled: 4/11/2019 14:00

Sample ID: 19D0736-07

Sample Matrix: Soil

Semivolatle Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.17	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
Acenaphthylene	ND	0.17	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
Acetophenone	ND	0.35	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
Aniline	ND	0.35	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
Anthracene	ND	0.17	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
Benzo(a)anthracene	ND	0.17	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
Benzo(a)pyrene	ND	0.17	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
Benzo(b)fluoranthene	ND	0.17	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
Benzo(g,h,i)perylene	ND	0.17	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
Benzo(k)fluoranthene	ND	0.17	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
Bis(2-chloroethoxy)methane	ND	0.35	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
Bis(2-chloroethyl)ether	ND	0.35	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
Bis(2-chloroisopropyl)ether	ND	0.35	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
Bis(2-Ethylhexyl)phthalate	ND	0.35	mg/Kg dry	1	V-06	SW-846 8270D	4/15/19	4/17/19 13:58	BGL
4-Bromophenylphenylether	ND	0.35	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
Butylbenzylphthalate	ND	0.35	mg/Kg dry	1	V-06	SW-846 8270D	4/15/19	4/17/19 13:58	BGL
4-Chloroaniline	ND	0.68	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
2-Chloronaphthalene	ND	0.35	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
2-Chlorophenol	ND	0.35	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
Chrysene	ND	0.17	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
Dibenz(a,h)anthracene	ND	0.17	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
Dibenzofuran	ND	0.35	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
Di-n-butylphthalate	ND	0.35	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
1,2-Dichlorobenzene	ND	0.35	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
1,3-Dichlorobenzene	ND	0.35	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
1,4-Dichlorobenzene	ND	0.35	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
3,3-Dichlorobenzidine	ND	0.17	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
2,4-Dichlorophenol	ND	0.35	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
Diethylphthalate	ND	0.35	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
2,4-Dimethylphenol	ND	0.35	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
Dimethylphthalate	ND	0.35	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
2,4-Dinitrophenol	ND	0.68	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
2,4-Dinitrotoluene	ND	0.35	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
2,6-Dinitrotoluene	ND	0.35	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
Di-n-octylphthalate	ND	0.35	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
1,2-Diphenylhydrazine/Azobenzene	ND	0.35	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
Fluoranthene	ND	0.17	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
Fluorene	ND	0.17	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
Hexachlorobenzene	ND	0.35	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
Hexachlorobutadiene	ND	0.35	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
Hexachloroethane	ND	0.35	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
Indeno(1,2,3-cd)pyrene	ND	0.17	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
Isophorone	ND	0.35	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
2-Methylnaphthalene	ND	0.17	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL

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Project Location: Wayland, MA

Sample Description:

Work Order: 19D0736

Date Received: 4/12/2019

Field Sample #: Firing Range

Sampled: 4/11/2019 14:00

Sample ID: 19D0736-07

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2-Methylphenol	ND	0.35	mg/Kg dry	1	V-05	SW-846 8270D	4/15/19	4/17/19 13:58	BGL
3/4-Methylphenol	ND	0.35	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
Naphthalene	ND	0.17	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
Nitrobenzene	ND	0.35	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
2-Nitrophenol	ND	0.35	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
4-Nitrophenol	ND	0.68	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
Pentachlorophenol	ND	0.35	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
Phenanthrene	ND	0.17	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
Phenol	ND	0.35	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
Pyrene	ND	0.17	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
1,2,4-Trichlorobenzene	ND	0.35	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
2,4,5-Trichlorophenol	ND	0.35	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL
2,4,6-Trichlorophenol	ND	0.35	mg/Kg dry	1		SW-846 8270D	4/15/19	4/17/19 13:58	BGL

Surrogates	% Recovery	Recovery Limits	Flag/Qual
2-Fluorophenol	64.6	30-130	4/17/19 13:58
Phenol-d6	78.1	30-130	4/17/19 13:58
Nitrobenzene-d5	77.0	30-130	4/17/19 13:58
2-Fluorobiphenyl	83.8	30-130	4/17/19 13:58
2,4,6-Tribromophenol	64.4	30-130	4/17/19 13:58
p-Terphenyl-d14	95.5	30-130	4/17/19 13:58



39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Wayland, MA

Sample Description:

Work Order: 19D0736

Date Received: 4/12/2019

Field Sample #: Firing Range

Sampled: 4/11/2019 14:00

Sample ID: 19D0736-07

Sample Matrix: Soil

Sample Flags: O-32

**Polychlorinated Biphenyls with 3540 Soxhlet Extraction**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	4/15/19	4/16/19 17:02	JMB
Aroclor-1221 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	4/15/19	4/16/19 17:02	JMB
Aroclor-1232 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	4/15/19	4/16/19 17:02	JMB
Aroclor-1242 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	4/15/19	4/16/19 17:02	JMB
Aroclor-1248 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	4/15/19	4/16/19 17:02	JMB
Aroclor-1254 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	4/15/19	4/16/19 17:02	JMB
Aroclor-1260 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	4/15/19	4/16/19 17:02	JMB
Aroclor-1262 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	4/15/19	4/16/19 17:02	JMB
Aroclor-1268 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	4/15/19	4/16/19 17:02	JMB
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Decachlorobiphenyl [1]		97.2	30-150					4/16/19 17:02	
Decachlorobiphenyl [2]		97.5	30-150					4/16/19 17:02	
Tetrachloro-m-xylene [1]		94.6	30-150					4/16/19 17:02	
Tetrachloro-m-xylene [2]		99.9	30-150					4/16/19 17:02	

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Project Location: Wayland, MA

Sample Description:

Work Order: 19D0736

Date Received: 4/12/2019

Field Sample #: Firing Range

Sampled: 4/11/2019 14:00

Sample ID: 19D0736-07

Sample Matrix: Soil

**Petroleum Hydrocarbons Analyses**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	27	8.6	mg/Kg dry	1		SW-846 8100 Modified	4/15/19	4/19/19 5:15	KLB
Surrogates	% Recovery		Recovery Limits		Flag/Qual				
2-Fluorobiphenyl	82.1		40-140					4/19/19 5:15	

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Project Location: Wayland, MA

Sample Description:

Work Order: 19D0736

Date Received: 4/12/2019

Field Sample #: Firing Range

Sampled: 4/11/2019 14:00

Sample ID: 19D0736-07

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	290	1.7	mg/Kg dry	1		SW-846 6010D	4/17/19	4/18/19 18:55	EJB
Arsenic	9.2	1.7	mg/Kg dry	1		SW-846 6010D	4/17/19	4/18/19 18:55	EJB
Barium	13	1.7	mg/Kg dry	1		SW-846 6010D	4/17/19	4/18/19 18:55	EJB
Beryllium	ND	0.17	mg/Kg dry	1		SW-846 6010D	4/17/19	4/18/19 18:55	EJB
Cadmium	0.40	0.17	mg/Kg dry	1		SW-846 6010D	4/17/19	4/18/19 18:55	EJB
Chromium	4.3	0.33	mg/Kg dry	1		SW-846 6010D	4/17/19	4/18/19 18:55	EJB
Lead	24000	5.0	mg/Kg dry	10		SW-846 6010D	4/17/19	4/19/19 10:11	EJB
Mercury	ND	0.025	mg/Kg dry	1		SW-846 7471B	4/18/19	4/19/19 12:23	AJL
Nickel	3.6	0.33	mg/Kg dry	1		SW-846 6010D	4/17/19	4/18/19 18:55	EJB
Selenium	ND	3.3	mg/Kg dry	1		SW-846 6010D	4/17/19	4/18/19 18:55	EJB
Silver	1.2	0.33	mg/Kg dry	1		SW-846 6010D	4/17/19	4/18/19 18:55	EJB
Thallium	ND	1.7	mg/Kg dry	1		SW-846 6010D	4/17/19	4/18/19 18:55	EJB
Vanadium	7.7	0.67	mg/Kg dry	1		SW-846 6010D	4/17/19	4/18/19 18:55	EJB
Zinc	46	0.67	mg/Kg dry	1		SW-846 6010D	4/17/19	4/18/19 18:55	EJB

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Project Location: Wayland, MA

Sample Description:

Work Order: 19D0736

Date Received: 4/12/2019

Field Sample #: Firing Range

Sampled: 4/11/2019 14:00

Sample ID: 19D0736-07

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	96.4		% Wt	1		SM 2540G	4/14/19	4/15/19 12:40	CJT
Ignitability	Absent		present/absent	1		SW-846 1030	4/18/19	4/18/19 16:16	KMV
pH @21.2°C	6.6		pH Units	1	H-03	SW-846 9045C	4/13/19	4/13/19 14:54	AIA
Reactive Cyanide	ND	3.9	mg/Kg	1		SW-846 9014	4/17/19	4/18/19 13:15	KMV
Reactive Sulfide	20	20	mg/Kg	1		SW-846 9030A	4/17/19	4/18/19 12:51	KMV
Specific conductance	2.0	2.0	µmhos/cm	1		SM21-22 2510B Modified	4/18/19	4/18/19 16:30	EC



**Sample Extraction Data**

**Prep Method: % Solids-SM 2540G**

Lab Number [Field ID]	Batch	Date
19D0736-01 [V-201]	B228183	04/14/19
19D0736-02 [V-202]	B228183	04/14/19
19D0736-03 [V-203]	B228183	04/14/19
19D0736-04 [V-204]	B228183	04/14/19
19D0736-05 [V-205]	B228183	04/14/19
19D0736-06 [V-206]	B228183	04/14/19
19D0736-07 [Firing Range]	B228183	04/14/19

**SM21-22 2510B Modified**

Lab Number [Field ID]	Batch	Initial [g]	Date
19D0736-07 [Firing Range]	B228560	1.00	04/18/19

**SW-846 1030**

Lab Number [Field ID]	Batch	Initial [g]	Date
19D0736-07 [Firing Range]	B228597	50.0	04/18/19

**Prep Method: SW-846 3050B-SW-846 6010D**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19D0736-01 [V-201]	B228464	1.55	50.0	04/17/19
19D0736-02 [V-202]	B228464	1.54	50.0	04/17/19
19D0736-03 [V-203]	B228464	1.53	50.0	04/17/19
19D0736-04 [V-204]	B228464	1.50	50.0	04/17/19
19D0736-05 [V-205]	B228464	1.53	50.0	04/17/19
19D0736-06 [V-206]	B228464	1.54	50.0	04/17/19
19D0736-07 [Firing Range]	B228464	1.55	50.0	04/17/19

**Prep Method: SW-846 3010A-SW-846 6010D**

Leachates were extracted on 4/15/2019 per SW-846 1311 in Batch B228239

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
19D0736-01 [V-201]	B228378	50.0	50.0	04/16/19
19D0736-02 [V-202]	B228378	50.0	50.0	04/16/19
19D0736-03 [V-203]	B228378	50.0	50.0	04/16/19
19D0736-04 [V-204]	B228378	50.0	50.0	04/16/19
19D0736-05 [V-205]	B228378	50.0	50.0	04/16/19
19D0736-06 [V-206]	B228378	50.0	50.0	04/16/19

**Prep Method: SW-846 7471-SW-846 7471B**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19D0736-07 [Firing Range]	B228326	0.630	50.0	04/18/19

**Prep Method: SW-846 3540C-SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
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**Sample Extraction Data**

**Prep Method: SW-846 3540C-SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19D0736-07 [Firing Range]	B228231	10.3	10.0	04/15/19

**Prep Method: SW-846 3546-SW-846 8100 Modified**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19D0736-07 [Firing Range]	B228233	30.0	1.00	04/15/19

**Prep Method: SW-846 5035-SW-846 8260C**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19D0736-07 [Firing Range]	B228262	6.25	10.0	04/15/19

**Prep Method: SW-846 3546-SW-846 8270D**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19D0736-07 [Firing Range]	B228235	30.4	1.00	04/15/19

**SW-846 9014**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19D0736-07 [Firing Range]	B228496	25.5	250	04/17/19

**SW-846 9030A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19D0736-07 [Firing Range]	B228498	25.5	250	04/17/19

**SW-846 9045C**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19D0736-07 [Firing Range]	B228169	20.0		04/13/19

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**QUALITY CONTROL**

**Volatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B228262 - SW-846 5035**

**Blank (B228262-BLK1)**

Prepared: 04/05/19 Analyzed: 04/15/19

Acetone	ND	0.10	mg/Kg wet							
tert-Amyl Methyl Ether (TAME)	ND	0.0010	mg/Kg wet							
Benzene	ND	0.0020	mg/Kg wet							
Bromobenzene	ND	0.0020	mg/Kg wet							
Bromochloromethane	ND	0.0020	mg/Kg wet							
Bromodichloromethane	ND	0.0020	mg/Kg wet							
Bromoform	ND	0.0020	mg/Kg wet							
Bromomethane	ND	0.010	mg/Kg wet							V-34
2-Butanone (MEK)	ND	0.040	mg/Kg wet							
n-Butylbenzene	ND	0.0020	mg/Kg wet							
sec-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butyl Ethyl Ether (TBEE)	ND	0.0010	mg/Kg wet							
Carbon Disulfide	ND	0.0060	mg/Kg wet							
Carbon Tetrachloride	ND	0.0020	mg/Kg wet							
Chlorobenzene	ND	0.0020	mg/Kg wet							
Chlorodibromomethane	ND	0.0010	mg/Kg wet							
Chloroethane	ND	0.010	mg/Kg wet							
Chloroform	ND	0.0040	mg/Kg wet							
Chloromethane	ND	0.010	mg/Kg wet							
2-Chlorotoluene	ND	0.0020	mg/Kg wet							
4-Chlorotoluene	ND	0.0020	mg/Kg wet							
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0020	mg/Kg wet							V-05
1,2-Dibromoethane (EDB)	ND	0.0010	mg/Kg wet							
Dibromomethane	ND	0.0020	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,4-Dichlorobenzene	ND	0.0020	mg/Kg wet							
Dichlorodifluoromethane (Freon 12)	ND	0.010	mg/Kg wet							V-05
1,1-Dichloroethane	ND	0.0020	mg/Kg wet							
1,2-Dichloroethane	ND	0.0020	mg/Kg wet							
1,1-Dichloroethylene	ND	0.0040	mg/Kg wet							
cis-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
trans-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
1,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,3-Dichloropropane	ND	0.0010	mg/Kg wet							
2,2-Dichloropropane	ND	0.0020	mg/Kg wet							V-05
1,1-Dichloropropene	ND	0.0020	mg/Kg wet							
cis-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
trans-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
Diethyl Ether	ND	0.010	mg/Kg wet							
Diisopropyl Ether (DIPE)	ND	0.0010	mg/Kg wet							
1,4-Dioxane	ND	0.10	mg/Kg wet							V-16
Ethylbenzene	ND	0.0020	mg/Kg wet							
Hexachlorobutadiene	ND	0.0020	mg/Kg wet							
2-Hexanone (MBK)	ND	0.020	mg/Kg wet							
Isopropylbenzene (Cumene)	ND	0.0020	mg/Kg wet							
p-Isopropyltoluene (p-Cymene)	ND	0.0020	mg/Kg wet							
Methyl tert-Butyl Ether (MTBE)	ND	0.0040	mg/Kg wet							
Methylene Chloride	ND	0.010	mg/Kg wet							
4-Methyl-2-pentanone (MIBK)	ND	0.020	mg/Kg wet							
Naphthalene	ND	0.0040	mg/Kg wet							

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**QUALITY CONTROL**

**Volatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B228262 - SW-846 5035**

**Blank (B228262-BLK1)**

Prepared: 04/05/19 Analyzed: 04/15/19

n-Propylbenzene	ND	0.0020	mg/Kg wet							
Styrene	ND	0.0020	mg/Kg wet							
1,1,1,2-Tetrachloroethane	ND	0.0020	mg/Kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0010	mg/Kg wet							
Tetrachloroethylene	ND	0.0020	mg/Kg wet							
Tetrahydrofuran	ND	0.010	mg/Kg wet							
Toluene	ND	0.0020	mg/Kg wet							
1,2,3-Trichlorobenzene	ND	0.0020	mg/Kg wet							
1,2,4-Trichlorobenzene	ND	0.0020	mg/Kg wet							
1,1,1-Trichloroethane	ND	0.0020	mg/Kg wet							
1,1,2-Trichloroethane	ND	0.0020	mg/Kg wet							
Trichloroethylene	ND	0.0020	mg/Kg wet							
Trichlorofluoromethane (Freon 11)	ND	0.010	mg/Kg wet							
1,2,3-Trichloropropane	ND	0.0020	mg/Kg wet							
1,2,4-Trimethylbenzene	ND	0.0020	mg/Kg wet							
1,3,5-Trimethylbenzene	ND	0.0020	mg/Kg wet							
Vinyl Chloride	ND	0.010	mg/Kg wet							
m+p Xylene	ND	0.0040	mg/Kg wet							
o-Xylene	ND	0.0020	mg/Kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0486		mg/Kg wet	0.0500		97.2	70-130			
Surrogate: Toluene-d8	0.0504		mg/Kg wet	0.0500		101	70-130			
Surrogate: 4-Bromofluorobenzene	0.0497		mg/Kg wet	0.0500		99.4	70-130			

**LCS (B228262-BS1)**

Prepared: 04/05/19 Analyzed: 04/15/19

Acetone	0.226	0.10	mg/Kg wet	0.200		113	40-160			†
tert-Amyl Methyl Ether (TAME)	0.0197	0.0010	mg/Kg wet	0.0200		98.3	70-130			
Benzene	0.0198	0.0020	mg/Kg wet	0.0200		98.8	70-130			
Bromobenzene	0.0187	0.0020	mg/Kg wet	0.0200		93.7	70-130			
Bromochloromethane	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130			
Bromodichloromethane	0.0203	0.0020	mg/Kg wet	0.0200		102	70-130			
Bromoform	0.0191	0.0020	mg/Kg wet	0.0200		95.6	70-130			
Bromomethane	0.0194	0.010	mg/Kg wet	0.0200		97.0	40-160		V-34	†
2-Butanone (MEK)	0.162	0.040	mg/Kg wet	0.200		80.9	40-160			†
n-Butylbenzene	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130			
sec-Butylbenzene	0.0215	0.0020	mg/Kg wet	0.0200		108	70-130			
tert-Butylbenzene	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130			
tert-Butyl Ethyl Ether (TBEE)	0.0179	0.0010	mg/Kg wet	0.0200		89.4	70-130			
<b>Carbon Disulfide</b>	0.0317	0.0060	mg/Kg wet	0.0200		<b>159</b> *	70-130			L-02
Carbon Tetrachloride	0.0227	0.0020	mg/Kg wet	0.0200		114	70-130			
Chlorobenzene	0.0203	0.0020	mg/Kg wet	0.0200		102	70-130			
Chlorodibromomethane	0.0213	0.0010	mg/Kg wet	0.0200		106	70-130			
<b>Chloroethane</b>	0.0263	0.010	mg/Kg wet	0.0200		<b>132</b> *	70-130			L-02
Chloroform	0.0203	0.0040	mg/Kg wet	0.0200		101	70-130			
Chloromethane	0.0221	0.010	mg/Kg wet	0.0200		111	40-160			†
2-Chlorotoluene	0.0186	0.0020	mg/Kg wet	0.0200		92.8	70-130			
4-Chlorotoluene	0.0197	0.0020	mg/Kg wet	0.0200		98.5	70-130			
1,2-Dibromo-3-chloropropane (DBCP)	0.0153	0.0020	mg/Kg wet	0.0200		76.3	70-130			V-05
1,2-Dibromoethane (EDB)	0.0196	0.0010	mg/Kg wet	0.0200		98.2	70-130			
Dibromomethane	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130			
1,2-Dichlorobenzene	0.0211	0.0020	mg/Kg wet	0.0200		105	70-130			
1,3-Dichlorobenzene	0.0214	0.0020	mg/Kg wet	0.0200		107	70-130			
1,4-Dichlorobenzene	0.0210	0.0020	mg/Kg wet	0.0200		105	70-130			



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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B228262 - SW-846 5035</b>										
<b>LCS (B228262-BS1)</b>										
					Prepared: 04/05/19 Analyzed: 04/15/19					
Dichlorodifluoromethane (Freon 12)	0.0188	0.010	mg/Kg wet	0.0200		93.9	40-160			V-05 †
1,1-Dichloroethane	0.0207	0.0020	mg/Kg wet	0.0200		104	70-130			
1,2-Dichloroethane	0.0196	0.0020	mg/Kg wet	0.0200		98.1	70-130			
<b>1,1-Dichloroethylene</b>	0.0284	0.0040	mg/Kg wet	0.0200		<b>142 *</b>	70-130			L-02
cis-1,2-Dichloroethylene	0.0210	0.0020	mg/Kg wet	0.0200		105	70-130			
trans-1,2-Dichloroethylene	0.0209	0.0020	mg/Kg wet	0.0200		105	70-130			
1,2-Dichloropropane	0.0192	0.0020	mg/Kg wet	0.0200		96.2	70-130			
1,3-Dichloropropane	0.0182	0.0010	mg/Kg wet	0.0200		91.0	70-130			
2,2-Dichloropropane	0.0194	0.0020	mg/Kg wet	0.0200		97.0	70-130			V-05
1,1-Dichloropropene	0.0201	0.0020	mg/Kg wet	0.0200		100	70-130			
cis-1,3-Dichloropropene	0.0199	0.0010	mg/Kg wet	0.0200		99.4	70-130			
trans-1,3-Dichloropropene	0.0183	0.0010	mg/Kg wet	0.0200		91.5	70-130			
Diethyl Ether	0.0254	0.010	mg/Kg wet	0.0200		127	70-130			V-20
Diisopropyl Ether (DIPE)	0.0194	0.0010	mg/Kg wet	0.0200		96.8	70-130			
1,4-Dioxane	0.150	0.10	mg/Kg wet	0.200		75.2	40-160			V-16 †
1,4-Dioxane (SIM)	0.159	0.040	mg/Kg wet	0.200		79.4	40-160			V-05 †
Ethylbenzene	0.0188	0.0020	mg/Kg wet	0.0200		94.1	70-130			
Hexachlorobutadiene	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130			
2-Hexanone (MBK)	0.173	0.020	mg/Kg wet	0.200		86.3	40-160			†
Isopropylbenzene (Cumene)	0.0203	0.0020	mg/Kg wet	0.0200		101	70-130			
p-Isopropyltoluene (p-Cymene)	0.0205	0.0020	mg/Kg wet	0.0200		103	70-130			
Methyl tert-Butyl Ether (MTBE)	0.0190	0.0040	mg/Kg wet	0.0200		95.1	70-130			
Methylene Chloride	0.0203	0.010	mg/Kg wet	0.0200		102	70-130			
4-Methyl-2-pentanone (MIBK)	0.178	0.020	mg/Kg wet	0.200		89.1	40-160			†
Naphthalene	0.0184	0.0040	mg/Kg wet	0.0200		91.8	70-130			
n-Propylbenzene	0.0210	0.0020	mg/Kg wet	0.0200		105	70-130			
Styrene	0.0201	0.0020	mg/Kg wet	0.0200		100	70-130			
1,1,1,2-Tetrachloroethane	0.0203	0.0020	mg/Kg wet	0.0200		102	70-130			
1,1,2,2-Tetrachloroethane	0.0183	0.0010	mg/Kg wet	0.0200		91.4	70-130			
Tetrachloroethylene	0.0214	0.0020	mg/Kg wet	0.0200		107	70-130			
Tetrahydrofuran	0.0182	0.010	mg/Kg wet	0.0200		90.9	70-130			
Toluene	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130			
1,2,3-Trichlorobenzene	0.0191	0.0020	mg/Kg wet	0.0200		95.4	70-130			
1,2,4-Trichlorobenzene	0.0196	0.0020	mg/Kg wet	0.0200		97.9	70-130			
1,1,1-Trichloroethane	0.0196	0.0020	mg/Kg wet	0.0200		97.8	70-130			
1,1,2-Trichloroethane	0.0197	0.0020	mg/Kg wet	0.0200		98.3	70-130			
Trichloroethylene	0.0201	0.0020	mg/Kg wet	0.0200		100	70-130			
Trichlorofluoromethane (Freon 11)	0.0258	0.010	mg/Kg wet	0.0200		129	70-130			
1,2,3-Trichloropropane	0.0175	0.0020	mg/Kg wet	0.0200		87.4	70-130			
1,2,4-Trimethylbenzene	0.0187	0.0020	mg/Kg wet	0.0200		93.4	70-130			
1,3,5-Trimethylbenzene	0.0191	0.0020	mg/Kg wet	0.0200		95.7	70-130			
Vinyl Chloride	0.0242	0.010	mg/Kg wet	0.0200		121	70-130			
m+p Xylene	0.0378	0.0040	mg/Kg wet	0.0400		94.5	70-130			
o-Xylene	0.0191	0.0020	mg/Kg wet	0.0200		95.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0478		mg/Kg wet	0.0500		95.6	70-130			
Surrogate: Toluene-d8	0.0522		mg/Kg wet	0.0500		104	70-130			
Surrogate: 4-Bromofluorobenzene	0.0498		mg/Kg wet	0.0500		99.6	70-130			

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B228262 - SW-846 5035</b>										
<b>LCS Dup (B228262-BSD1)</b>										
					Prepared: 04/05/19 Analyzed: 04/15/19					
Acetone	0.230	0.10	mg/Kg wet	0.200		115	40-160	1.90	20	†
tert-Amyl Methyl Ether (TAME)	0.0201	0.0010	mg/Kg wet	0.0200		100	70-130	2.11	20	
Benzene	0.0200	0.0020	mg/Kg wet	0.0200		99.8	70-130	1.01	20	
Bromobenzene	0.0187	0.0020	mg/Kg wet	0.0200		93.6	70-130	0.107	20	
Bromochloromethane	0.0209	0.0020	mg/Kg wet	0.0200		104	70-130	1.25	20	
Bromodichloromethane	0.0211	0.0020	mg/Kg wet	0.0200		106	70-130	4.05	20	
Bromoform	0.0189	0.0020	mg/Kg wet	0.0200		94.5	70-130	1.16	20	
Bromomethane	0.0226	0.010	mg/Kg wet	0.0200		113	40-160	15.4	20	V-34 †
2-Butanone (MEK)	0.165	0.040	mg/Kg wet	0.200		82.5	40-160	1.97	20	†
n-Butylbenzene	0.0209	0.0020	mg/Kg wet	0.0200		104	70-130	1.06	20	
sec-Butylbenzene	0.0217	0.0020	mg/Kg wet	0.0200		109	70-130	0.925	20	
tert-Butylbenzene	0.0213	0.0020	mg/Kg wet	0.0200		106	70-130	3.54	20	
tert-Butyl Ethyl Ether (TBEE)	0.0187	0.0010	mg/Kg wet	0.0200		93.7	70-130	4.70	20	
<b>Carbon Disulfide</b>	0.0317	0.0060	mg/Kg wet	0.0200		<b>158</b> *	70-130	0.252	20	L-02
Carbon Tetrachloride	0.0221	0.0020	mg/Kg wet	0.0200		110	70-130	2.77	20	
Chlorobenzene	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130	1.47	20	
Chlorodibromomethane	0.0230	0.0010	mg/Kg wet	0.0200		115	70-130	7.86	20	
<b>Chloroethane</b>	0.0284	0.010	mg/Kg wet	0.0200		<b>142</b> *	70-130	7.60	20	L-02
Chloroform	0.0203	0.0040	mg/Kg wet	0.0200		102	70-130	0.197	20	
Chloromethane	0.0227	0.010	mg/Kg wet	0.0200		113	40-160	2.41	20	†
2-Chlorotoluene	0.0190	0.0020	mg/Kg wet	0.0200		95.0	70-130	2.34	20	
4-Chlorotoluene	0.0201	0.0020	mg/Kg wet	0.0200		100	70-130	1.91	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.0165	0.0020	mg/Kg wet	0.0200		82.7	70-130	8.05	20	V-05
1,2-Dibromoethane (EDB)	0.0194	0.0010	mg/Kg wet	0.0200		96.8	70-130	1.44	20	
Dibromomethane	0.0203	0.0020	mg/Kg wet	0.0200		101	70-130	0.197	20	
1,2-Dichlorobenzene	0.0209	0.0020	mg/Kg wet	0.0200		104	70-130	1.05	20	
1,3-Dichlorobenzene	0.0223	0.0020	mg/Kg wet	0.0200		111	70-130	3.84	20	
1,4-Dichlorobenzene	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130	3.09	20	
Dichlorodifluoromethane (Freon 12)	0.0199	0.010	mg/Kg wet	0.0200		99.5	40-160	5.79	20	V-05 †
1,1-Dichloroethane	0.0205	0.0020	mg/Kg wet	0.0200		103	70-130	0.873	20	
1,2-Dichloroethane	0.0199	0.0020	mg/Kg wet	0.0200		99.5	70-130	1.42	20	
<b>1,1-Dichloroethylene</b>	0.0285	0.0040	mg/Kg wet	0.0200		<b>142</b> *	70-130	0.352	20	L-02
cis-1,2-Dichloroethylene	0.0212	0.0020	mg/Kg wet	0.0200		106	70-130	0.853	20	
trans-1,2-Dichloroethylene	0.0217	0.0020	mg/Kg wet	0.0200		109	70-130	3.84	20	
1,2-Dichloropropane	0.0192	0.0020	mg/Kg wet	0.0200		96.2	70-130	0.00	20	
1,3-Dichloropropane	0.0195	0.0010	mg/Kg wet	0.0200		97.6	70-130	7.00	20	
2,2-Dichloropropane	0.0197	0.0020	mg/Kg wet	0.0200		98.3	70-130	1.33	20	V-05
1,1-Dichloropropene	0.0201	0.0020	mg/Kg wet	0.0200		101	70-130	0.299	20	
cis-1,3-Dichloropropene	0.0209	0.0010	mg/Kg wet	0.0200		104	70-130	4.91	20	
trans-1,3-Dichloropropene	0.0189	0.0010	mg/Kg wet	0.0200		94.4	70-130	3.12	20	
Diethyl Ether	0.0252	0.010	mg/Kg wet	0.0200		126	70-130	0.789	20	V-20
Diisopropyl Ether (DIPE)	0.0197	0.0010	mg/Kg wet	0.0200		98.7	70-130	1.94	20	
1,4-Dioxane	0.138	0.10	mg/Kg wet	0.200		69.0	40-160	8.68	20	L-14, V-16 †
1,4-Dioxane (SIM)	0.158	0.040	mg/Kg wet	0.200		79.2	40-160	0.202	20	V-05 † ‡
Ethylbenzene	0.0198	0.0020	mg/Kg wet	0.0200		98.9	70-130	4.97	20	
Hexachlorobutadiene	0.0205	0.0020	mg/Kg wet	0.0200		102	70-130	0.488	20	
2-Hexanone (MBK)	0.166	0.020	mg/Kg wet	0.200		83.2	40-160	3.61	20	†
Isopropylbenzene (Cumene)	0.0211	0.0020	mg/Kg wet	0.0200		106	70-130	4.06	20	
p-Isopropyltoluene (p-Cymene)	0.0211	0.0020	mg/Kg wet	0.0200		106	70-130	2.88	20	
Methyl tert-Butyl Ether (MTBE)	0.0189	0.0040	mg/Kg wet	0.0200		94.6	70-130	0.527	20	
Methylene Chloride	0.0203	0.010	mg/Kg wet	0.0200		101	70-130	0.295	20	
4-Methyl-2-pentanone (MIBK)	0.175	0.020	mg/Kg wet	0.200		87.4	40-160	1.90	20	†

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**QUALITY CONTROL**

**Volatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B228262 - SW-846 5035</b>										
<b>LCS Dup (B228262-BSD1)</b>										
					Prepared: 04/05/19 Analyzed: 04/15/19					
Naphthalene	0.0178	0.0040	mg/Kg wet	0.0200		88.9	70-130	3.21	20	
n-Propylbenzene	0.0212	0.0020	mg/Kg wet	0.0200		106	70-130	1.14	20	
Styrene	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130	1.58	20	
1,1,1,2-Tetrachloroethane	0.0220	0.0020	mg/Kg wet	0.0200		110	70-130	8.02	20	
1,1,2,2-Tetrachloroethane	0.0174	0.0010	mg/Kg wet	0.0200		87.2	70-130	4.70	20	
Tetrachloroethylene	0.0229	0.0020	mg/Kg wet	0.0200		114	70-130	6.69	20	
Tetrahydrofuran	0.0177	0.010	mg/Kg wet	0.0200		88.4	70-130	2.79	20	
Toluene	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130	1.38	20	
1,2,3-Trichlorobenzene	0.0182	0.0020	mg/Kg wet	0.0200		91.1	70-130	4.61	20	
1,2,4-Trichlorobenzene	0.0193	0.0020	mg/Kg wet	0.0200		96.6	70-130	1.34	20	
1,1,1-Trichloroethane	0.0213	0.0020	mg/Kg wet	0.0200		106	70-130	8.42	20	
1,1,2-Trichloroethane	0.0188	0.0020	mg/Kg wet	0.0200		94.2	70-130	4.26	20	
Trichloroethylene	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130	3.62	20	
<b>Trichlorofluoromethane (Freon 11)</b>	0.0269	0.010	mg/Kg wet	0.0200		<b>134</b> *	70-130	4.25	20	L-07
1,2,3-Trichloropropane	0.0177	0.0020	mg/Kg wet	0.0200		88.4	70-130	1.14	20	
1,2,4-Trimethylbenzene	0.0188	0.0020	mg/Kg wet	0.0200		94.0	70-130	0.640	20	
1,3,5-Trimethylbenzene	0.0199	0.0020	mg/Kg wet	0.0200		99.3	70-130	3.69	20	
Vinyl Chloride	0.0243	0.010	mg/Kg wet	0.0200		122	70-130	0.577	20	
m+p Xylene	0.0388	0.0040	mg/Kg wet	0.0400		97.1	70-130	2.71	20	
o-Xylene	0.0198	0.0020	mg/Kg wet	0.0200		99.2	70-130	3.80	20	
Surrogate: 1,2-Dichloroethane-d4	0.0495		mg/Kg wet	0.0500		99.1	70-130			
Surrogate: Toluene-d8	0.0521		mg/Kg wet	0.0500		104	70-130			
Surrogate: 4-Bromofluorobenzene	0.0501		mg/Kg wet	0.0500		100	70-130			

**QUALITY CONTROL**

**Semivolatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B228235 - SW-846 3546**

**Blank (B228235-BLK1)**

Prepared: 04/15/19 Analyzed: 04/16/19

Acenaphthene	ND	0.17	mg/Kg wet							
Acenaphthylene	ND	0.17	mg/Kg wet							
Acetophenone	ND	0.34	mg/Kg wet							
Aniline	ND	0.34	mg/Kg wet							V-34
Anthracene	ND	0.17	mg/Kg wet							
Benzo(a)anthracene	ND	0.17	mg/Kg wet							
Benzo(a)pyrene	ND	0.17	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.17	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.17	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.17	mg/Kg wet							
Bis(2-chloroethoxy)methane	ND	0.34	mg/Kg wet							
Bis(2-chloroethyl)ether	ND	0.34	mg/Kg wet							
Bis(2-chloroisopropyl)ether	ND	0.34	mg/Kg wet							
Bis(2-Ethylhexyl)phthalate	ND	0.34	mg/Kg wet							
4-Bromophenylphenylether	ND	0.34	mg/Kg wet							
Butylbenzylphthalate	ND	0.34	mg/Kg wet							
4-Chloroaniline	ND	0.66	mg/Kg wet							V-34
2-Chloronaphthalene	ND	0.34	mg/Kg wet							
2-Chlorophenol	ND	0.34	mg/Kg wet							
Chrysene	ND	0.17	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.17	mg/Kg wet							
Dibenzofuran	ND	0.34	mg/Kg wet							
Di-n-butylphthalate	ND	0.34	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.34	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.34	mg/Kg wet							
1,4-Dichlorobenzene	ND	0.34	mg/Kg wet							
3,3-Dichlorobenzidine	ND	0.17	mg/Kg wet							
2,4-Dichlorophenol	ND	0.34	mg/Kg wet							
Diethylphthalate	ND	0.34	mg/Kg wet							
2,4-Dimethylphenol	ND	0.34	mg/Kg wet							
Dimethylphthalate	ND	0.34	mg/Kg wet							
2,4-Dinitrophenol	ND	0.66	mg/Kg wet							
2,4-Dinitrotoluene	ND	0.34	mg/Kg wet							
2,6-Dinitrotoluene	ND	0.34	mg/Kg wet							
Di-n-octylphthalate	ND	0.34	mg/Kg wet							
1,2-Diphenylhydrazine/Azobenzene	ND	0.34	mg/Kg wet							
Fluoranthene	ND	0.17	mg/Kg wet							
Fluorene	ND	0.17	mg/Kg wet							
Hexachlorobenzene	ND	0.34	mg/Kg wet							
Hexachlorobutadiene	ND	0.34	mg/Kg wet							
Hexachloroethane	ND	0.34	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.17	mg/Kg wet							
Isophorone	ND	0.34	mg/Kg wet							
2-Methylnaphthalene	ND	0.17	mg/Kg wet							
2-Methylphenol	ND	0.34	mg/Kg wet							
3/4-Methylphenol	ND	0.34	mg/Kg wet							
Naphthalene	ND	0.17	mg/Kg wet							
Nitrobenzene	ND	0.34	mg/Kg wet							
2-Nitrophenol	ND	0.34	mg/Kg wet							
4-Nitrophenol	ND	0.66	mg/Kg wet							
Pentachlorophenol	ND	0.34	mg/Kg wet							
Phenanthrene	ND	0.17	mg/Kg wet							



QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B228235 - SW-846 3546

Blank (B228235-BLK1)

Prepared: 04/15/19 Analyzed: 04/16/19

Phenol	ND	0.34	mg/Kg wet							
Pyrene	ND	0.17	mg/Kg wet							
Pyridine	ND	0.34	mg/Kg wet							
1,2,4-Trichlorobenzene	ND	0.34	mg/Kg wet							
2,4,5-Trichlorophenol	ND	0.34	mg/Kg wet							
2,4,6-Trichlorophenol	ND	0.34	mg/Kg wet							
Surrogate: 2-Fluorophenol	5.69		mg/Kg wet	6.67		85.3	30-130			
Surrogate: Phenol-d6	6.07		mg/Kg wet	6.67		91.0	30-130			
Surrogate: Nitrobenzene-d5	2.95		mg/Kg wet	3.33		88.4	30-130			
Surrogate: 2-Fluorobiphenyl	2.88		mg/Kg wet	3.33		86.5	30-130			
Surrogate: 2,4,6-Tribromophenol	6.37		mg/Kg wet	6.67		95.5	30-130			
Surrogate: p-Terphenyl-d14	3.35		mg/Kg wet	3.33		101	30-130			

LCS (B228235-BS1)

Prepared: 04/15/19 Analyzed: 04/16/19

Acenaphthene	1.31	0.17	mg/Kg wet	1.67		78.8	40-140			
Acenaphthylene	1.43	0.17	mg/Kg wet	1.67		85.7	40-140			
Acetophenone	1.23	0.34	mg/Kg wet	1.67		73.6	40-140			
Aniline	0.884	0.34	mg/Kg wet	1.67		53.1	40-140			V-34
Anthracene	1.51	0.17	mg/Kg wet	1.67		90.4	40-140			
Benzo(a)anthracene	1.55	0.17	mg/Kg wet	1.67		92.9	40-140			
Benzo(a)pyrene	1.55	0.17	mg/Kg wet	1.67		93.0	40-140			
Benzo(b)fluoranthene	1.44	0.17	mg/Kg wet	1.67		86.2	40-140			
Benzo(g,h,i)perylene	1.63	0.17	mg/Kg wet	1.67		97.9	40-140			
Benzo(k)fluoranthene	1.47	0.17	mg/Kg wet	1.67		88.1	40-140			
Bis(2-chloroethoxy)methane	1.68	0.34	mg/Kg wet	1.67		101	40-140			
Bis(2-chloroethyl)ether	1.32	0.34	mg/Kg wet	1.67		79.3	40-140			
Bis(2-chloroisopropyl)ether	1.37	0.34	mg/Kg wet	1.67		82.4	40-140			
Bis(2-Ethylhexyl)phthalate	1.61	0.34	mg/Kg wet	1.67		96.8	40-140			
4-Bromophenylphenylether	1.55	0.34	mg/Kg wet	1.67		93.3	40-140			
Butylbenzylphthalate	1.62	0.34	mg/Kg wet	1.67		97.4	40-140			
4-Chloroaniline	0.856	0.66	mg/Kg wet	1.67		51.4	15-140			V-34 †
2-Chloronaphthalene	1.32	0.34	mg/Kg wet	1.67		78.9	40-140			
2-Chlorophenol	1.37	0.34	mg/Kg wet	1.67		82.3	30-130			
Chrysene	1.54	0.17	mg/Kg wet	1.67		92.3	40-140			
Dibenz(a,h)anthracene	1.62	0.17	mg/Kg wet	1.67		97.1	40-140			
Dibenzofuran	1.42	0.34	mg/Kg wet	1.67		85.2	40-140			
Di-n-butylphthalate	1.55	0.34	mg/Kg wet	1.67		93.3	40-140			
1,2-Dichlorobenzene	1.11	0.34	mg/Kg wet	1.67		66.8	40-140			
1,3-Dichlorobenzene	1.09	0.34	mg/Kg wet	1.67		65.3	40-140			
1,4-Dichlorobenzene	1.10	0.34	mg/Kg wet	1.67		65.8	40-140			
3,3-Dichlorobenzidine	1.13	0.17	mg/Kg wet	1.67		67.6	40-140			
2,4-Dichlorophenol	1.47	0.34	mg/Kg wet	1.67		88.0	30-130			
Diethylphthalate	1.46	0.34	mg/Kg wet	1.67		87.4	40-140			
2,4-Dimethylphenol	1.49	0.34	mg/Kg wet	1.67		89.4	30-130			
Dimethylphthalate	1.45	0.34	mg/Kg wet	1.67		86.8	40-140			
2,4-Dinitrophenol	1.04	0.66	mg/Kg wet	1.67		62.6	15-140			†
2,4-Dinitrotoluene	1.41	0.34	mg/Kg wet	1.67		84.4	40-140			
2,6-Dinitrotoluene	1.51	0.34	mg/Kg wet	1.67		90.4	40-140			
Di-n-octylphthalate	1.53	0.34	mg/Kg wet	1.67		91.9	40-140			
1,2-Diphenylhydrazine/Azobenzene	1.58	0.34	mg/Kg wet	1.67		94.7	40-140			
Fluoranthene	1.49	0.17	mg/Kg wet	1.67		89.4	40-140			
Fluorene	1.41	0.17	mg/Kg wet	1.67		84.5	40-140			

QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B228235 - SW-846 3546

LCS (B228235-BS1)

Prepared: 04/15/19 Analyzed: 04/16/19

Hexachlorobenzene	1.47	0.34	mg/Kg wet	1.67		88.2	40-140			
Hexachlorobutadiene	1.13	0.34	mg/Kg wet	1.67		67.7	40-140			
Hexachloroethane	1.09	0.34	mg/Kg wet	1.67		65.4	40-140			
Indeno(1,2,3-cd)pyrene	1.66	0.17	mg/Kg wet	1.67		99.6	40-140			
Isophorone	1.44	0.34	mg/Kg wet	1.67		86.1	40-140			
2-Methylnaphthalene	1.34	0.17	mg/Kg wet	1.67		80.4	40-140			
2-Methylphenol	1.38	0.34	mg/Kg wet	1.67		82.8	30-130			
3/4-Methylphenol	1.32	0.34	mg/Kg wet	1.67		79.1	30-130			
Naphthalene	1.28	0.17	mg/Kg wet	1.67		76.5	40-140			
Nitrobenzene	1.28	0.34	mg/Kg wet	1.67		76.6	40-140			
2-Nitrophenol	1.35	0.34	mg/Kg wet	1.67		80.9	30-130			
4-Nitrophenol	1.41	0.66	mg/Kg wet	1.67		84.8	15-140			†
Pentachlorophenol	1.26	0.34	mg/Kg wet	1.67		75.4	30-130			
Phenanthrene	1.51	0.17	mg/Kg wet	1.67		90.5	40-140			
Phenol	1.49	0.34	mg/Kg wet	1.67		89.4	15-140			†
Pyrene	1.55	0.17	mg/Kg wet	1.67		92.7	40-140			
Pyridine	0.826	0.34	mg/Kg wet	1.67		49.6	30-140			†
1,2,4-Trichlorobenzene	1.17	0.34	mg/Kg wet	1.67		70.3	40-140			
2,4,5-Trichlorophenol	1.51	0.34	mg/Kg wet	1.67		90.8	30-130			
2,4,6-Trichlorophenol	1.51	0.34	mg/Kg wet	1.67		90.5	30-130			
Surrogate: 2-Fluorophenol	5.32		mg/Kg wet	6.67		79.9	30-130			
Surrogate: Phenol-d6	5.95		mg/Kg wet	6.67		89.2	30-130			
Surrogate: Nitrobenzene-d5	2.79		mg/Kg wet	3.33		83.6	30-130			
Surrogate: 2-Fluorobiphenyl	3.03		mg/Kg wet	3.33		91.0	30-130			
Surrogate: 2,4,6-Tribromophenol	6.58		mg/Kg wet	6.67		98.7	30-130			
Surrogate: p-Terphenyl-d14	3.29		mg/Kg wet	3.33		98.6	30-130			

LCS Dup (B228235-BS1)

Prepared: 04/15/19 Analyzed: 04/16/19

Acenaphthene	1.35	0.17	mg/Kg wet	1.67		80.9	40-140	2.55	30	
Acenaphthylene	1.47	0.17	mg/Kg wet	1.67		87.9	40-140	2.58	30	
Acetophenone	1.21	0.34	mg/Kg wet	1.67		72.7	40-140	1.23	30	
Aniline	0.880	0.34	mg/Kg wet	1.67		52.8	40-140	0.453	30	V-34
Anthracene	1.49	0.17	mg/Kg wet	1.67		89.4	40-140	1.11	30	
Benzo(a)anthracene	1.55	0.17	mg/Kg wet	1.67		92.8	40-140	0.151	30	
Benzo(a)pyrene	1.56	0.17	mg/Kg wet	1.67		93.7	40-140	0.729	30	
Benzo(b)fluoranthene	1.44	0.17	mg/Kg wet	1.67		86.4	40-140	0.185	30	
Benzo(g,h,i)perylene	1.60	0.17	mg/Kg wet	1.67		95.8	40-140	2.09	30	
Benzo(k)fluoranthene	1.46	0.17	mg/Kg wet	1.67		87.3	40-140	0.889	30	
Bis(2-chloroethoxy)methane	1.69	0.34	mg/Kg wet	1.67		101	40-140	0.653	30	
Bis(2-chloroethyl)ether	1.27	0.34	mg/Kg wet	1.67		76.3	40-140	3.96	30	
Bis(2-chloroisopropyl)ether	1.33	0.34	mg/Kg wet	1.67		79.6	40-140	3.53	30	
Bis(2-Ethylhexyl)phthalate	1.64	0.34	mg/Kg wet	1.67		98.7	40-140	1.99	30	
4-Bromophenylphenylether	1.54	0.34	mg/Kg wet	1.67		92.3	40-140	1.03	30	
Butylbenzylphthalate	1.64	0.34	mg/Kg wet	1.67		98.1	40-140	0.757	30	
4-Chloroaniline	0.874	0.66	mg/Kg wet	1.67		52.4	15-140	2.00	30	V-34 †
2-Chloronaphthalene	1.32	0.34	mg/Kg wet	1.67		78.9	40-140	0.0254	30	
2-Chlorophenol	1.33	0.34	mg/Kg wet	1.67		79.8	30-130	3.11	30	
Chrysene	1.55	0.17	mg/Kg wet	1.67		92.8	40-140	0.605	30	
Dibenz(a,h)anthracene	1.61	0.17	mg/Kg wet	1.67		96.5	40-140	0.620	30	
Dibenzofuran	1.44	0.34	mg/Kg wet	1.67		86.4	40-140	1.38	30	
Di-n-butylphthalate	1.54	0.34	mg/Kg wet	1.67		92.1	40-140	1.23	30	
1,2-Dichlorobenzene	1.10	0.34	mg/Kg wet	1.67		65.9	40-140	1.33	30	

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**QUALITY CONTROL**

**Semivolatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B228235 - SW-846 3546</b>										
<b>LCS Dup (B228235-BSD1)</b>										
					Prepared: 04/15/19 Analyzed: 04/16/19					
1,3-Dichlorobenzene	1.08	0.34	mg/Kg wet	1.67		64.5	40-140	1.20	30	
1,4-Dichlorobenzene	1.06	0.34	mg/Kg wet	1.67		63.7	40-140	3.24	30	
3,3-Dichlorobenzidine	1.10	0.17	mg/Kg wet	1.67		66.2	40-140	2.12	30	
2,4-Dichlorophenol	1.48	0.34	mg/Kg wet	1.67		88.9	30-130	0.927	30	
Diethylphthalate	1.48	0.34	mg/Kg wet	1.67		88.7	40-140	1.50	30	
2,4-Dimethylphenol	1.50	0.34	mg/Kg wet	1.67		90.1	30-130	0.869	30	
Dimethylphthalate	1.49	0.34	mg/Kg wet	1.67		89.6	40-140	3.20	30	
2,4-Dinitrophenol	1.06	0.66	mg/Kg wet	1.67		63.5	15-140	1.52	30	†
2,4-Dinitrotoluene	1.40	0.34	mg/Kg wet	1.67		84.3	40-140	0.166	30	
2,6-Dinitrotoluene	1.51	0.34	mg/Kg wet	1.67		90.7	40-140	0.265	30	
Di-n-octylphthalate	1.53	0.34	mg/Kg wet	1.67		91.6	40-140	0.283	30	
1,2-Diphenylhydrazine/Azobenzene	1.57	0.34	mg/Kg wet	1.67		94.3	40-140	0.466	30	
Fluoranthene	1.49	0.17	mg/Kg wet	1.67		89.6	40-140	0.201	30	
Fluorene	1.45	0.17	mg/Kg wet	1.67		86.8	40-140	2.76	30	
Hexachlorobenzene	1.48	0.34	mg/Kg wet	1.67		88.8	40-140	0.723	30	
Hexachlorobutadiene	1.10	0.34	mg/Kg wet	1.67		66.2	40-140	2.18	30	
Hexachloroethane	1.06	0.34	mg/Kg wet	1.67		63.8	40-140	2.45	30	
Indeno(1,2,3-cd)pyrene	1.63	0.17	mg/Kg wet	1.67		97.7	40-140	1.91	30	
Isophorone	1.44	0.34	mg/Kg wet	1.67		86.4	40-140	0.325	30	
2-Methylnaphthalene	1.33	0.17	mg/Kg wet	1.67		79.9	40-140	0.599	30	
2-Methylphenol	1.37	0.34	mg/Kg wet	1.67		82.0	30-130	0.922	30	
3/4-Methylphenol	1.34	0.34	mg/Kg wet	1.67		80.3	30-130	1.50	30	
Naphthalene	1.25	0.17	mg/Kg wet	1.67		75.3	40-140	1.63	30	
Nitrobenzene	1.27	0.34	mg/Kg wet	1.67		76.0	40-140	0.865	30	
2-Nitrophenol	1.34	0.34	mg/Kg wet	1.67		80.4	30-130	0.645	30	
4-Nitrophenol	1.46	0.66	mg/Kg wet	1.67		87.6	15-140	3.29	30	†
Pentachlorophenol	1.29	0.34	mg/Kg wet	1.67		77.2	30-130	2.41	30	
Phenanthrene	1.50	0.17	mg/Kg wet	1.67		90.2	40-140	0.288	30	
Phenol	1.50	0.34	mg/Kg wet	1.67		90.0	15-140	0.647	30	†
Pyrene	1.54	0.17	mg/Kg wet	1.67		92.2	40-140	0.627	30	
Pyridine	0.824	0.34	mg/Kg wet	1.67		49.4	30-140	0.242	30	†
1,2,4-Trichlorobenzene	1.15	0.34	mg/Kg wet	1.67		69.1	40-140	1.75	30	
2,4,5-Trichlorophenol	1.49	0.34	mg/Kg wet	1.67		89.5	30-130	1.38	30	
2,4,6-Trichlorophenol	1.56	0.34	mg/Kg wet	1.67		93.3	30-130	3.05	30	
Surrogate: 2-Fluorophenol	5.16		mg/Kg wet	6.67		77.5	30-130			
Surrogate: Phenol-d6	5.90		mg/Kg wet	6.67		88.5	30-130			
Surrogate: Nitrobenzene-d5	2.74		mg/Kg wet	3.33		82.3	30-130			
Surrogate: 2-Fluorobiphenyl	3.06		mg/Kg wet	3.33		91.8	30-130			
Surrogate: 2,4,6-Tribromophenol	6.66		mg/Kg wet	6.67		99.9	30-130			
Surrogate: p-Terphenyl-d14	3.22		mg/Kg wet	3.33		96.7	30-130			

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**QUALITY CONTROL**

**Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B228231 - SW-846 3540C**

**Blank (B228231-BLK1)**

Prepared: 04/15/19 Analyzed: 04/16/19

Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	0.188		mg/Kg wet	0.200		94.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.193		mg/Kg wet	0.200		96.6	30-150			
Surrogate: Tetrachloro-m-xylene	0.180		mg/Kg wet	0.200		90.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.196		mg/Kg wet	0.200		98.1	30-150			

**LCS (B228231-BS1)**

Prepared: 04/15/19 Analyzed: 04/16/19

Aroclor-1016	0.17	0.020	mg/Kg wet	0.200		84.1	40-140			
Aroclor-1016 [2C]	0.17	0.020	mg/Kg wet	0.200		82.6	40-140			
Aroclor-1260	0.16	0.020	mg/Kg wet	0.200		78.2	40-140			
Aroclor-1260 [2C]	0.16	0.020	mg/Kg wet	0.200		79.5	40-140			
Surrogate: Decachlorobiphenyl	0.175		mg/Kg wet	0.200		87.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.181		mg/Kg wet	0.200		90.7	30-150			
Surrogate: Tetrachloro-m-xylene	0.169		mg/Kg wet	0.200		84.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.184		mg/Kg wet	0.200		91.9	30-150			

**LCS Dup (B228231-BS1)**

Prepared: 04/15/19 Analyzed: 04/16/19

Aroclor-1016	0.20	0.020	mg/Kg wet	0.200		98.7	40-140	16.0	30	
Aroclor-1016 [2C]	0.20	0.020	mg/Kg wet	0.200		100	40-140	19.5	30	
Aroclor-1260	0.19	0.020	mg/Kg wet	0.200		93.2	40-140	17.5	30	
Aroclor-1260 [2C]	0.19	0.020	mg/Kg wet	0.200		92.5	40-140	15.1	30	
Surrogate: Decachlorobiphenyl	0.209		mg/Kg wet	0.200		105	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.214		mg/Kg wet	0.200		107	30-150			
Surrogate: Tetrachloro-m-xylene	0.200		mg/Kg wet	0.200		100	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.217		mg/Kg wet	0.200		108	30-150			



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**QUALITY CONTROL**

**Petroleum Hydrocarbons Analyses - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B228233 - SW-846 3546</b>										
<b>Blank (B228233-BLK1)</b>										
Prepared: 04/15/19 Analyzed: 04/17/19										
TPH (C9-C36)	ND	8.3	mg/Kg wet							
Surrogate: 2-Fluorobiphenyl	1.95		mg/Kg wet	3.33		58.5	40-140			
<b>LCS (B228233-BS1)</b>										
Prepared: 04/15/19 Analyzed: 04/17/19										
TPH (C9-C36)	29.3	8.3	mg/Kg wet	33.3		87.8	40-140			
Surrogate: 2-Fluorobiphenyl	2.62		mg/Kg wet	3.33		78.6	40-140			
<b>LCS Dup (B228233-BSD1)</b>										
Prepared: 04/15/19 Analyzed: 04/17/19										
TPH (C9-C36)	28.8	8.3	mg/Kg wet	33.3		86.5	40-140	1.46	30	
Surrogate: 2-Fluorobiphenyl	2.77		mg/Kg wet	3.33		83.1	40-140			

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**QUALITY CONTROL**

**Metals Analyses (Total) - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B228326 - SW-846 7471</b>										
<b>Blank (B228326-BLK1)</b> Prepared: 04/18/19 Analyzed: 04/19/19										
Mercury	ND	0.025	mg/Kg wet							
<b>LCS (B228326-BS1)</b> Prepared: 04/18/19 Analyzed: 04/19/19										
Mercury	4.19	0.37	mg/Kg wet	3.71		113	65-135			
<b>LCS Dup (B228326-BSD1)</b> Prepared: 04/18/19 Analyzed: 04/19/19										
Mercury	3.76	0.38	mg/Kg wet	3.71		101	65-135	10.7	30	
<b>Batch B228464 - SW-846 3050B</b>										
<b>Blank (B228464-BLK1)</b> Prepared: 04/17/19 Analyzed: 04/18/19										
Antimony	ND	1.7	mg/Kg wet							
Arsenic	ND	1.7	mg/Kg wet							
Barium	ND	1.7	mg/Kg wet							
Beryllium	ND	0.17	mg/Kg wet							
Cadmium	ND	0.17	mg/Kg wet							
Chromium	ND	0.33	mg/Kg wet							
Copper	ND	0.33	mg/Kg wet							
Lead	ND	0.50	mg/Kg wet							
Nickel	ND	0.33	mg/Kg wet							
Selenium	ND	3.3	mg/Kg wet							
Silver	ND	0.33	mg/Kg wet							
Thallium	ND	1.7	mg/Kg wet							
Vanadium	ND	0.67	mg/Kg wet							
Zinc	ND	0.67	mg/Kg wet							
<b>LCS (B228464-BS1)</b> Prepared: 04/17/19 Analyzed: 04/18/19										
Antimony	69.0	5.0	mg/Kg wet	89.6		77.1	3.3-196.4			
Arsenic	180	5.0	mg/Kg wet	202		89.2	82.7-117.3			
Barium	269	5.0	mg/Kg wet	270		99.8	82.6-117.8			
Beryllium	92.7	0.50	mg/Kg wet	96.8		95.8	83.4-116.7			
Cadmium	132	0.50	mg/Kg wet	141		93.7	83-117			
Chromium	159	1.0	mg/Kg wet	167		94.9	81.4-118			
Copper	106	1.0	mg/Kg wet	108		98.2	83.4-115.7			
Lead	69.2	1.5	mg/Kg wet	73.8		93.8	82.9-117.1			
Nickel	87.0	1.0	mg/Kg wet	89.4		97.3	82.9-117.5			
Selenium	39.8	10	mg/Kg wet	49.9		79.8	79.2-120.6			
Silver	68.6	1.0	mg/Kg wet	71.1		96.4	79.7-120.1			
Thallium	64.1	5.0	mg/Kg wet	58.5		110	80.7-119.5			
Vanadium	53.2	2.0	mg/Kg wet	58.2		91.5	79-121			
Zinc	246	2.0	mg/Kg wet	264		93.3	80.7-119.3			

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**QUALITY CONTROL**

**Metals Analyses (Total) - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B228464 - SW-846 3050B</b>										
<b>LCS Dup (B228464-BSD1)</b>					Prepared: 04/17/19 Analyzed: 04/18/19					
Antimony	70.6	4.8	mg/Kg wet	89.6		78.8	3.3-196.4	2.19	30	
Arsenic	184	4.8	mg/Kg wet	202		91.1	82.7-117.3	2.03	30	
Barium	271	4.8	mg/Kg wet	270		100	82.6-117.8	0.550	30	
Beryllium	95.0	0.48	mg/Kg wet	96.8		98.1	83.4-116.7	2.40	30	
Cadmium	136	0.48	mg/Kg wet	141		96.3	83-117	2.69	30	
Chromium	161	0.96	mg/Kg wet	167		96.5	81.4-118	1.67	30	
Copper	108	0.96	mg/Kg wet	108		100	83.4-115.7	1.85	30	
Lead	68.8	1.4	mg/Kg wet	73.8		93.2	82.9-117.1	0.648	30	
Nickel	89.3	0.96	mg/Kg wet	89.4		99.9	82.9-117.5	2.60	30	
Silver	70.9	0.96	mg/Kg wet	71.1		99.7	79.7-120.1	3.33	30	
Thallium	65.8	4.8	mg/Kg wet	58.5		112	80.7-119.5	2.63	30	
Vanadium	53.9	1.9	mg/Kg wet	58.2		92.7	79-121	1.32	30	
Zinc	253	1.9	mg/Kg wet	264		95.8	80.7-119.3	2.71	30	
<b>MRL Check (B228464-MRL1)</b>					Prepared: 04/17/19 Analyzed: 04/18/19					
Lead	0.476	0.49	mg/Kg wet	0.489		97.2	80-120			

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**QUALITY CONTROL**

**Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B228169 - SW-846 9045C</b>										
<b>LCS (B228169-BS1)</b>				Prepared & Analyzed: 04/13/19						
pH	5.95		pH Units	6.00		99.2	90-110			
<b>Batch B228496 - SW-846 9014</b>										
<b>Blank (B228496-BLK1)</b>				Prepared: 04/17/19 Analyzed: 04/18/19						
Reactive Cyanide	ND	0.40	mg/Kg							
<b>LCS (B228496-BS1)</b>				Prepared: 04/17/19 Analyzed: 04/18/19						
Reactive Cyanide	9.7	0.40	mg/Kg	10.0		96.9	83.6-111			
<b>Batch B228498 - SW-846 9030A</b>										
<b>Blank (B228498-BLK1)</b>				Prepared: 04/17/19 Analyzed: 04/18/19						
Reactive Sulfide	ND	2.0	mg/Kg							
<b>LCS (B228498-BS1)</b>				Prepared: 04/17/19 Analyzed: 04/18/19						
Reactive Sulfide	14	2.0	mg/Kg	14.8		97.3	54.9-121			
<b>Batch B228560 - SM21-22 2510B Modified</b>										
<b>Blank (B228560-BLK1)</b>				Prepared & Analyzed: 04/18/19						
Specific conductance	ND	2.0	µmhos/cm							
<b>LCS (B228560-BS1)</b>				Prepared & Analyzed: 04/18/19						
Specific conductance	190		µmhos/cm	192		101	90-110			



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**QUALITY CONTROL**

**TCLP - Metals Analyses - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B228378 - SW-846 3010A</b>										
<b>Blank (B228378-BLK1)</b>				Prepared: 04/16/19 Analyzed: 04/17/19						
Lead	ND	0.010	mg/L							
<b>LCS (B228378-BS1)</b>				Prepared: 04/16/19 Analyzed: 04/17/19						
Lead	0.517	0.010	mg/L	0.500		103	80-120			
<b>LCS Dup (B228378-BSD1)</b>				Prepared: 04/16/19 Analyzed: 04/17/19						
Lead	0.511	0.010	mg/L	0.500		102	80-120	1.14	20	
<b>Matrix Spike (B228378-MS1)</b>				<b>Source: 19D0736-01</b>		Prepared: 04/16/19 Analyzed: 04/17/19				
Lead	183	0.010	mg/L	0.500	180	<b>696</b> *	75-125			MS-19

**IDENTIFICATION SUMMARY  
FOR SINGLE COMPONENT ANALYTES**

LCS
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*SW-846 8082A*

Lab Sample ID:           B228231-BS1                                Date(s) Analyzed:           04/16/2019                     04/16/2019          

Instrument ID (1):           ECD 9                                                Instrument ID (2):           ECD 9          

GC Column (1):                                      ID:                                      (mm)                      GC Column (2):                                      ID:                                      (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.17	
	2	0.000	-0.030	0.030	0.17	0.0
Aroclor-1260	1	0.000	-0.030	0.030	0.16	
	2	0.000	-0.030	0.030	0.16	0.0

**IDENTIFICATION SUMMARY  
FOR SINGLE COMPONENT ANALYTES**

**LCS Dup**

*SW-846 8082A*

Lab Sample ID:                   B228231-BSD1                                        Date(s) Analyzed:           04/16/2019                     04/16/2019          

Instrument ID (1):                   ECD 9                                        Instrument ID (2):                   ECD 9                  

GC Column (1):                      ID:                      (mm)                      GC Column (2):                      ID:                      (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.20	
	2	0.000	-0.030	0.030	0.20	0.0
Aroclor-1260	1	0.000	-0.030	0.030	0.19	
	2	0.000	-0.030	0.030	0.19	0.0

**FLAG/QUALIFIER SUMMARY**

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
H-03	Sample received after recommended holding time was exceeded.
L-02	Laboratory fortified blank/laboratory control sample recovery and duplicate recoveries outside of control limits. Data validation is not affected since all results are "not detected" for associated samples in this batch and bias is on the high side.
L-07	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
L-14	Compound classified by MA CAM as difficult with acceptable recoveries of 40-160%. Recovery does not meet 70-130% criteria but does meet difficult compound criteria.
MS-19	Sample to spike ratio is greater than or equal to 4:1. Spiked amount is not representative of the native amount in the sample. Appropriate or meaningful recoveries cannot be calculated.
O-32	A dilution was performed as part of the standard analytical procedure.
V-05	Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.
V-06	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side for this compound.
V-16	Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.
V-20	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.
V-34	Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.



**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
<b>SW-846 1030 in Soil</b>	
Ignitability	NY,NH,CT,NC,ME,VA
<b>SW-846 6010D in Soil</b>	
Antimony	CT,NH,NY,ME,VA,NC
Arsenic	CT,NH,NY,ME,VA,NC
Barium	CT,NH,NY,ME,VA,NC
Beryllium	CT,NH,NY,ME,VA,NC
Cadmium	CT,NH,NY,ME,VA,NC
Chromium	CT,NH,NY,ME,VA,NC
Copper	CT,NH,NY,ME,VA,NC
Lead	CT,NH,NY,AIHA,ME,VA,NC
Nickel	CT,NH,NY,ME,VA,NC
Selenium	CT,NH,NY,ME,VA,NC
Silver	CT,NH,NY,ME,VA,NC
Thallium	CT,NH,NY,ME,VA,NC
Vanadium	CT,NH,NY,ME,VA,NC
Zinc	CT,NH,NY,ME,VA,NC
<b>SW-846 6010D in Water</b>	
Lead	NY,CT,ME,NC,NH,VA
<b>SW-846 7471B in Soil</b>	
Mercury	CT,NH,NY,NC,ME,VA
<b>SW-846 8082A in Soil</b>	
Aroclor-1016	CT,NH,NY,ME,NC,VA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1221	CT,NH,NY,ME,NC,VA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1232	CT,NH,NY,ME,NC,VA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1242	CT,NH,NY,ME,NC,VA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1248	CT,NH,NY,ME,NC,VA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1254	CT,NH,NY,ME,NC,VA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1260	CT,NH,NY,ME,NC,VA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1262	NY,NC,VA
Aroclor-1262 [2C]	NY,NC,VA
Aroclor-1268	NY,NC,VA
Aroclor-1268 [2C]	NY,NC,VA
<b>SW-846 8260C in Soil</b>	
Acetone	CT,NH,NY,ME
Benzene	CT,NH,NY,ME
Bromobenzene	NH,NY,ME
Bromochloromethane	NH,NY,ME
Bromodichloromethane	CT,NH,NY,ME

**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
<i>SW-846 8260C in Soil</i>	
Bromoform	CT,NH,NY,ME
Bromomethane	CT,NH,NY,ME
2-Butanone (MEK)	CT,NH,NY,ME
n-Butylbenzene	CT,NH,NY,ME
sec-Butylbenzene	CT,NH,NY,ME
tert-Butylbenzene	CT,NH,NY,ME
Carbon Disulfide	CT,NH,NY,ME
Carbon Tetrachloride	CT,NH,NY,ME
Chlorobenzene	CT,NH,NY,ME
Chlorodibromomethane	CT,NH,NY,ME
Chloroethane	CT,NH,NY,ME
Chloroform	CT,NH,NY,ME
Chloromethane	CT,NH,NY,ME
2-Chlorotoluene	CT,NH,NY,ME
4-Chlorotoluene	CT,NH,NY,ME
1,2-Dibromo-3-chloropropane (DBCP)	NY
Dibromomethane	NH,NY,ME
1,2-Dichlorobenzene	CT,NH,NY,ME
1,3-Dichlorobenzene	CT,NH,NY,ME
1,4-Dichlorobenzene	CT,NH,NY,ME
Dichlorodifluoromethane (Freon 12)	NY,ME
1,1-Dichloroethane	CT,NH,NY,ME
1,2-Dichloroethane	CT,NH,NY,ME
1,1-Dichloroethylene	CT,NH,NY,ME
cis-1,2-Dichloroethylene	CT,NH,NY,ME
trans-1,2-Dichloroethylene	CT,NH,NY,ME
1,2-Dichloropropane	CT,NH,NY,ME
1,3-Dichloropropane	NH,NY,ME
2,2-Dichloropropane	NH,NY,ME
1,1-Dichloropropene	NH,NY,ME
cis-1,3-Dichloropropene	CT,NH,NY,ME
trans-1,3-Dichloropropene	CT,NH,NY,ME
1,4-Dioxane	NY
Ethylbenzene	CT,NH,NY,ME
Hexachlorobutadiene	NH,NY,ME
2-Hexanone (MBK)	CT,NH,NY,ME
Isopropylbenzene (Cumene)	CT,NH,NY,ME
p-Isopropyltoluene (p-Cymene)	NH,NY
Methyl tert-Butyl Ether (MTBE)	NH,NY
Methylene Chloride	CT,NH,NY,ME
4-Methyl-2-pentanone (MIBK)	CT,NH,NY
Naphthalene	NH,NY,ME
n-Propylbenzene	NH,NY
Styrene	CT,NH,NY,ME
1,1,1,2-Tetrachloroethane	CT,NH,NY,ME
1,1,2,2-Tetrachloroethane	CT,NH,NY,ME
Tetrachloroethylene	CT,NH,NY,ME

**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
<b><i>SW-846 8260C in Soil</i></b>	
Toluene	CT,NH,NY,ME
1,2,3-Trichlorobenzene	NY
1,2,4-Trichlorobenzene	NH,NY,ME
1,1,1-Trichloroethane	CT,NH,NY,ME
1,1,2-Trichloroethane	CT,NH,NY,ME
Trichloroethylene	CT,NH,NY,ME
Trichlorofluoromethane (Freon 11)	CT,NH,NY,ME
1,2,3-Trichloropropane	NH,NY,ME
1,2,4-Trimethylbenzene	CT,NH,NY,ME
1,3,5-Trimethylbenzene	CT,NH,NY,ME
Vinyl Chloride	CT,NH,NY,ME
m+p Xylene	CT,NH,NY,ME
o-Xylene	CT,NH,NY,ME
<b><i>SW-846 8270D in Soil</i></b>	
Acenaphthene	CT,NY,NH
Acenaphthylene	CT,NY,NH
Acetophenone	NY,NH
Aniline	NY,NH
Anthracene	CT,NY,NH
Benzo(a)anthracene	CT,NY,NH
Benzo(a)pyrene	CT,NY,NH
Benzo(b)fluoranthene	CT,NY,NH
Benzo(g,h,i)perylene	CT,NY,NH
Benzo(k)fluoranthene	CT,NY,NH
Bis(2-chloroethoxy)methane	CT,NY,NH
Bis(2-chloroethyl)ether	CT,NY,NH
Bis(2-chloroisopropyl)ether	CT,NY,NH
Bis(2-Ethylhexyl)phthalate	CT,NY,NH
4-Bromophenylphenylether	CT,NY,NH
Butylbenzylphthalate	CT,NY,NH
4-Chloroaniline	CT,NY,NH
2-Chloronaphthalene	CT,NY,NH
2-Chlorophenol	CT,NY,NH
Chrysene	CT,NY,NH
Dibenz(a,h)anthracene	CT,NY,NH
Dibenzofuran	CT,NY,NH
Di-n-butylphthalate	CT,NY,NH
1,2-Dichlorobenzene	NY,NH
1,3-Dichlorobenzene	NY,NH
1,4-Dichlorobenzene	NY,NH
3,3-Dichlorobenzidine	CT,NY,NH
2,4-Dichlorophenol	CT,NY,NH
Diethylphthalate	CT,NY,NH
2,4-Dimethylphenol	CT,NY,NH
Dimethylphthalate	CT,NY,NH
2,4-Dinitrophenol	CT,NY,NH

**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
<b>SW-846 8270D in Soil</b>	
2,4-Dinitrotoluene	CT,NY,NH
2,6-Dinitrotoluene	CT,NY,NH
Di-n-octylphthalate	CT,NY,NH
1,2-Diphenylhydrazine/Azobenzene	NY,NH
Fluoranthene	CT,NY,NH
Fluorene	NY,NH
Hexachlorobenzene	CT,NY,NH
Hexachlorobutadiene	CT,NY,NH
Hexachloroethane	CT,NY,NH
Indeno(1,2,3-cd)pyrene	CT,NY,NH
Isophorone	CT,NY,NH
2-Methylnaphthalene	CT,NY,NH
2-Methylphenol	CT,NY,NH
3/4-Methylphenol	CT,NY,NH
Naphthalene	CT,NY,NH
Nitrobenzene	CT,NY,NH
2-Nitrophenol	CT,NY,NH
4-Nitrophenol	CT,NY,NH
Pentachlorophenol	CT,NY,NH
Phenanthrene	CT,NY,NH
Phenol	CT,NY,NH
Pyrene	CT,NY,NH
1,2,4-Trichlorobenzene	CT,NY,NH
2,4,5-Trichlorophenol	CT,NY,NH
2,4,6-Trichlorophenol	CT,NY,NH
<b>SW-846 8270D in Water</b>	
Acenaphthene	CT,NY,NH
Acenaphthylene	CT,NY,NH
Acetophenone	NY
Aniline	CT,NY
Anthracene	CT,NY,NH
Benzo(a)anthracene	CT,NY,NH
Benzo(a)pyrene	CT,NY,NH
Benzo(b)fluoranthene	CT,NY,NH
Benzo(g,h,i)perylene	CT,NY,NH
Benzo(k)fluoranthene	CT,NY,NH
Bis(2-chloroethoxy)methane	CT,NY,NH
Bis(2-chloroethyl)ether	CT,NY,NH
Bis(2-chloroisopropyl)ether	CT,NY,NH
Bis(2-Ethylhexyl)phthalate	CT,NY,NH
4-Bromophenylphenylether	CT,NY,NH
Butylbenzylphthalate	CT,NY,NH
4-Chloroaniline	CT,NY,NH
2-Chloronaphthalene	CT,NY,NH
2-Chlorophenol	CT,NY,NH
Chrysene	CT,NY,NH



**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
<i>SW-846 8270D in Water</i>	
Dibenz(a,h)anthracene	CT,NY,NH
Dibenzofuran	CT,NY,NH
Di-n-butylphthalate	CT,NY,NH
1,2-Dichlorobenzene	CT,NY,NH
1,3-Dichlorobenzene	CT,NY,NH
1,4-Dichlorobenzene	CT,NY,NH
3,3-Dichlorobenzidine	CT,NY,NH
2,4-Dichlorophenol	CT,NY,NH
Diethylphthalate	CT,NY,NH
2,4-Dimethylphenol	CT,NY,NH
Dimethylphthalate	CT,NY,NH
2,4-Dinitrophenol	CT,NY,NH
2,4-Dinitrotoluene	CT,NY,NH
2,6-Dinitrotoluene	CT,NY,NH
Di-n-octylphthalate	CT,NY,NH
1,2-Diphenylhydrazine/Azobenzene	NY
Fluoranthene	CT,NY,NH
Fluorene	NY,NH
Hexachlorobenzene	CT,NY,NH
Hexachlorobutadiene	CT,NY,NH
Hexachloroethane	CT,NY,NH
Indeno(1,2,3-cd)pyrene	CT,NY,NH
Isophorone	CT,NY,NH
2-Methylnaphthalene	CT,NY,NH
2-Methylphenol	CT,NY,NH
3/4-Methylphenol	CT,NY,NH
Naphthalene	CT,NY,NH
Nitrobenzene	CT,NY,NH
2-Nitrophenol	CT,NY,NH
4-Nitrophenol	CT,NY,NH
Pentachlorophenol	CT,NY,NH
Phenanthrene	CT,NY,NH
Phenol	CT,NY,NH
Pyrene	CT,NY,NH
1,2,4-Trichlorobenzene	CT,NY,NH
2,4,5-Trichlorophenol	CT,NY,NH
2,4,6-Trichlorophenol	CT,NY,NH

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The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2005	100033	03/1/2020
MA	Massachusetts DEP	M-MA100	06/30/2019
CT	Connecticut Department of Public Health	PH-0567	09/30/2019
NY	New York State Department of Health	10899 NELAP	04/1/2020
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2020
RI	Rhode Island Department of Health	LAO00112	12/30/2019
NC	North Carolina Div. of Water Quality	652	12/31/2019
NJ	New Jersey DEP	MA007 NELAP	06/30/2019
FL	Florida Department of Health	E871027 NELAP	06/30/2019
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2019
ME	State of Maine	2011028	06/9/2019
VA	Commonwealth of Virginia	460217	12/14/2019
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2019
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2019
NC-DW	North Carolina Department of Health	25703	07/31/2019



I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples \_\_\_\_\_



**con-test**  
ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

**Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False**

Client Vertex

Received By mp Date 4/12/19 Time 20:26

How were the samples received? In Cooler T No Cooler \_\_\_\_\_ On Ice T No Ice \_\_\_\_\_  
 Direct from Sampling \_\_\_\_\_ Ambient \_\_\_\_\_ Melted Ice \_\_\_\_\_

Were samples within Temperature? 2-6°C T By Gun # 3 Actual Temp - 4.1  
 By Blank # \_\_\_\_\_ Actual Temp - \_\_\_\_\_

Was Custody Seal Intact? N/A Were Samples Tampered with? N/A  
 Was COC Relinquished? T Does Chain Agree With Samples? T

Are there broken/leaking/loose caps on any samples? F

Is COC in ink/ Legible? T Were samples received within holding time? T  
 Did COC include all pertinent Information? Client T Analysis T Sampler Name T  
 Project T ID's T Collection Dates/Times T

Are Sample labels filled out and legible? T  
 Are there Lab to Filters? F Who was notified? \_\_\_\_\_  
 Are there Rushes? F Who was notified? \_\_\_\_\_  
 Are there Short Holds? T Who was notified? Miranda  
 Is there enough Volume? T  
 Is there Headspace where applicable? N/A MS/MSD? F  
 Proper Media/Containers Used? T Is splitting samples required? F  
 Were trip blanks received? F On COC? F  
 Do all samples have the proper pH? N/A Acid \_\_\_\_\_ Base \_\_\_\_\_

Vials	#	Containers:	#	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear
Meoh-	1	250 mL Amb.		250 mL Plastic		4oz Amb/Clear
Bisulfate-		Flashpoint		Col./Bacteria		2oz Amb/Clear
DI-	2	Other Glass		Other Plastic	1	Encore
Thiosulfate-		SOC Kit		Plastic Bag		Frozen: 4/12/19 20:26
Sulfuric-		Perchlorate		Ziplock		

**Unused Media**

Vials	#	Containers:	#	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear
DI-		Other Plastic		Other Glass		Encore
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:
Sulfuric-		Perchlorate		Ziplock		

Comments:



## MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory			Project #: 19D0736		
Project Location: Wayland, MA			RTN:		
This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)] 19D0736-01 thru 19D0736-07					
Matrices: Soil					
<b>CAM Protocol (check all that below)</b>					
8260 VOC CAM II A (X)	7470/7471 Hg CAM IIIB (X)	MassDEP VPH CAM IV A ( )	8082 PCB CAM V A (X)	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )
8270 SVOC CAM II B (X)	7010 Metals CAM III C ( )	MassDEP VPH CAM IV C ( )	8081 Pesticides CAM V B ( )	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
6010 Metals CAM III A (X)	6020 Metals CAM III D ( )	MassDEP EPH CAM IV B ( )	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
<b>Affirmative response to Questions A through F is required for "Presumptive Certainty" status</b>					
<b>A</b>	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>B</b>	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>C</b>	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>D</b>	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>E a</b>	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>E b</b>	APH and TO-15 Methods only: Was the complete analyte list reported for each method?				<input type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>F</b>	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Questions A through E)?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>A response to questions G, H and I below is required for "Presumptive Certainty" status</b>					
<b>G</b>	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.</b>					
<b>H</b>	Were all QC performance standards specified in the CAM protocol(s) achieved?				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <sup>1</sup>
<b>I</b>	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <sup>1</sup>
<sup>1</sup> All Negative responses must be addressed in an attached Environmental Laboratory case narrative.					
<b>I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.</b>					
Signature: <u>Tod Kopyscinski</u>			Position: Laboratory Director		
Printed Name: <u>Tod E. Kopyscinski</u>			Date: <u>04/19/19</u>		

May 15, 2019

Kristen Sarson  
Vertex Engineering - Boston  
100 North Washington St. Suite 302  
Boston, MA 02114

Project Location: Wayland, MA  
Client Job Number:  
Project Number: 46047  
Laboratory Work Order Number: 19E0566

Enclosed are results of analyses for samples received by the laboratory on May 9, 2019. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Jessica Hoffman". The signature is written in a cursive, flowing style.

Jessica L. Hoffman  
Project Manager

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Vertex Engineering - Boston  
 100 North Washington St. Suite 302  
 Boston, MA 02114  
 ATTN: Kristen Sarson

REPORT DATE: 5/15/2019

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 46047

**ANALYTICAL SUMMARY**

WORK ORDER NUMBER: 19E0566

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Wayland, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
V-301 (2-4)	19E0566-01	Soil		SM 2540G SW-846 6010D	
V-302 (2-4)	19E0566-02	Soil		SM 2540G SW-846 6010D	
V-303 (2-4)	19E0566-03	Soil		SM 2540G SW-846 6010D	
V-304 (2-4)	19E0566-04	Soil		SM 2540G SW-846 6010D	
V-305 (2-4)	19E0566-05	Soil		SM 2540G SW-846 6010D	
V-306 (2-4)	19E0566-06	Soil		SM 2540G SW-846 6010D	
V-307 (2-4)	19E0566-07	Soil		SM 2540G SW-846 6010D	
V-308 (2-4)	19E0566-08	Soil		SM 2540G SW-846 6010D	
V-309 (0-2)	19E0566-09	Soil		SM 2540G SW-846 6010D	
V-310 (0-2)	19E0566-10	Soil		SM 2540G SW-846 6010D	
V-311 (0-2)	19E0566-11	Soil		SM 2540G SW-846 6010D	
V-312 (2-4)	19E0566-12	Soil		SM 2540G SW-846 6010D	
V-313 (2-4)	19E0566-13	Soil		SM 2540G SW-846 6010D	
V-314 (2-4)	19E0566-14	Soil		SM 2540G SW-846 6010D	



**CASE NARRATIVE SUMMARY**

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

A handwritten signature in black ink, appearing to read "Lisa A. Worthington", is written over a light gray rectangular background.

Lisa A. Worthington  
Technical Representative

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Wayland, MA

Sample Description:

Work Order: 19E0566

Date Received: 5/9/2019

Field Sample #: V-301 (2-4)

Sampled: 5/8/2019 09:40

Sample ID: 19E0566-01

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.7	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 2:07	EJB
Copper	13	0.34	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 2:07	EJB
Lead	5.0	0.52	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 2:07	EJB

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Project Location: Wayland, MA

Sample Description:

Work Order: 19E0566

Date Received: 5/9/2019

Field Sample #: V-301 (2-4)

Sampled: 5/8/2019 09:40

Sample ID: 19E0566-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/PHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	93.9		% Wt	1		SM 2540G	5/13/19	5/14/19 13:17	MJR

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Project Location: Wayland, MA

Sample Description:

Work Order: 19E0566

Date Received: 5/9/2019

Field Sample #: V-302 (2-4)

Sampled: 5/8/2019 09:50

Sample ID: 19E0566-02

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.8	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 2:14	EJB
Copper	22	0.36	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 2:14	EJB
Lead	31	0.54	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 2:14	EJB



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Project Location: Wayland, MA

Sample Description:

Work Order: 19E0566

Date Received: 5/9/2019

Field Sample #: V-302 (2-4)

Sampled: 5/8/2019 09:50

Sample ID: 19E0566-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/PHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	91.5		% Wt	1		SM 2540G	5/13/19	5/14/19 13:17	MJR

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Project Location: Wayland, MA

Sample Description:

Work Order: 19E0566

Date Received: 5/9/2019

Field Sample #: V-303 (2-4)

Sampled: 5/8/2019 10:00

Sample ID: 19E0566-03

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.8	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 2:20	EJB
Copper	45	0.36	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 2:20	EJB
Lead	28	0.54	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 2:20	EJB

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Project Location: Wayland, MA

Sample Description:

Work Order: 19E0566

Date Received: 5/9/2019

Field Sample #: V-303 (2-4)

Sampled: 5/8/2019 10:00

Sample ID: 19E0566-03

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/PHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	93.3		% Wt	1		SM 2540G	5/13/19	5/14/19 13:17	MJR

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Project Location: Wayland, MA

Sample Description:

Work Order: 19E0566

Date Received: 5/9/2019

Field Sample #: V-304 (2-4)

Sampled: 5/8/2019 10:10

Sample ID: 19E0566-04

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.7	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 2:27	EJB
Copper	13	0.34	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 2:27	EJB
Lead	12	0.51	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 2:27	EJB

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Project Location: Wayland, MA

Sample Description:

Work Order: 19E0566

Date Received: 5/9/2019

Field Sample #: V-304 (2-4)

Sampled: 5/8/2019 10:10

Sample ID: 19E0566-04

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/PHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	94.1		% Wt	1		SM 2540G	5/13/19	5/14/19 13:17	MJR



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Project Location: Wayland, MA

Sample Description:

Work Order: 19E0566

Date Received: 5/9/2019

Field Sample #: V-305 (2-4)

Sampled: 5/8/2019 10:20

Sample ID: 19E0566-05

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.7	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 2:33	EJB
Copper	37	0.35	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 2:33	EJB
Lead	22	0.52	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 2:33	EJB

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Project Location: Wayland, MA

Sample Description:

Work Order: 19E0566

Date Received: 5/9/2019

Field Sample #: V-305 (2-4)

Sampled: 5/8/2019 10:20

Sample ID: 19E0566-05

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/PHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	93.5		% Wt	1		SM 2540G	5/13/19	5/14/19 13:17	MJR

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Project Location: Wayland, MA

Sample Description:

Work Order: 19E0566

Date Received: 5/9/2019

Field Sample #: V-306 (2-4)

Sampled: 5/8/2019 10:30

Sample ID: 19E0566-06

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.8	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 2:39	EJB
Copper	31	0.36	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 2:39	EJB
Lead	25	0.53	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 2:39	EJB

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Project Location: Wayland, MA

Sample Description:

Work Order: 19E0566

Date Received: 5/9/2019

Field Sample #: V-306 (2-4)

Sampled: 5/8/2019 10:30

Sample ID: 19E0566-06

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/PHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	92.6		% Wt	1		SM 2540G	5/13/19	5/14/19 13:17	MJR

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Project Location: Wayland, MA

Sample Description:

Work Order: 19E0566

Date Received: 5/9/2019

Field Sample #: V-307 (2-4)

Sampled: 5/8/2019 10:40

Sample ID: 19E0566-07

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.8	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 3:04	EJB
Copper	28	0.36	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 3:04	EJB
Lead	57	0.54	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 3:04	EJB



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Project Location: Wayland, MA

Sample Description:

Work Order: 19E0566

Date Received: 5/9/2019

Field Sample #: V-307 (2-4)

Sampled: 5/8/2019 10:40

Sample ID: 19E0566-07

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	93.2		% Wt	1		SM 2540G	5/13/19	5/14/19 13:18	MJR

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Project Location: Wayland, MA

Sample Description:

Work Order: 19E0566

Date Received: 5/9/2019

Field Sample #: V-308 (2-4)

Sampled: 5/8/2019 10:50

Sample ID: 19E0566-08

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.7	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 3:10	EJB
Copper	43	0.35	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 3:10	EJB
Lead	22	0.52	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 3:10	EJB

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Project Location: Wayland, MA

Sample Description:

Work Order: 19E0566

Date Received: 5/9/2019

Field Sample #: V-308 (2-4)

Sampled: 5/8/2019 10:50

Sample ID: 19E0566-08

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/PHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	93.6		% Wt	1		SM 2540G	5/13/19	5/14/19 13:18	MJR

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Project Location: Wayland, MA

Sample Description:

Work Order: 19E0566

Date Received: 5/9/2019

Field Sample #: V-309 (0-2)

Sampled: 5/8/2019 11:00

Sample ID: 19E0566-09

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.7	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 3:16	EJB
Copper	4.2	0.34	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 3:16	EJB
Lead	5.9	0.51	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 3:16	EJB

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Project Location: Wayland, MA

Sample Description:

Work Order: 19E0566

Date Received: 5/9/2019

Field Sample #: V-309 (0-2)

Sampled: 5/8/2019 11:00

Sample ID: 19E0566-09

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	96.2		% Wt	1		SM 2540G	5/13/19	5/14/19 13:18	MJR



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Project Location: Wayland, MA

Sample Description:

Work Order: 19E0566

Date Received: 5/9/2019

Field Sample #: V-310 (0-2)

Sampled: 5/8/2019 11:05

Sample ID: 19E0566-10

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.7	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 3:23	EJB
Copper	400	0.34	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 3:23	EJB
Lead	140	0.50	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 3:23	EJB

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Project Location: Wayland, MA

Sample Description:

Work Order: 19E0566

Date Received: 5/9/2019

Field Sample #: V-310 (0-2)

Sampled: 5/8/2019 11:05

Sample ID: 19E0566-10

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/PHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	96.4		% Wt	1		SM 2540G	5/13/19	5/14/19 13:18	MJR

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Project Location: Wayland, MA

Sample Description:

Work Order: 19E0566

Date Received: 5/9/2019

Field Sample #: V-311 (0-2)

Sampled: 5/8/2019 11:10

Sample ID: 19E0566-11

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.7	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 3:29	EJB
Copper	5.9	0.34	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 3:29	EJB
Lead	8.8	0.51	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 3:29	EJB

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Project Location: Wayland, MA

Sample Description:

Work Order: 19E0566

Date Received: 5/9/2019

Field Sample #: V-311 (0-2)

Sampled: 5/8/2019 11:10

Sample ID: 19E0566-11

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	96.0		% Wt	1		SM 2540G	5/13/19	5/14/19 13:18	MJR

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Project Location: Wayland, MA

Sample Description:

Work Order: 19E0566

Date Received: 5/9/2019

Field Sample #: V-312 (2-4)

Sampled: 5/8/2019 11:15

Sample ID: 19E0566-12

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.9	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 3:36	EJB
Copper	20	0.38	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 3:36	EJB
Lead	150	0.57	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 3:36	EJB



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Project Location: Wayland, MA

Sample Description:

Work Order: 19E0566

Date Received: 5/9/2019

Field Sample #: V-312 (2-4)

Sampled: 5/8/2019 11:15

Sample ID: 19E0566-12

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/PHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.5		% Wt	1		SM 2540G	5/13/19	5/14/19 13:19	MJR

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Project Location: Wayland, MA

Sample Description:

Work Order: 19E0566

Date Received: 5/9/2019

Field Sample #: V-313 (2-4)

Sampled: 5/8/2019 11:20

Sample ID: 19E0566-13

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.8	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 3:42	EJB
Copper	24	0.36	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 3:42	EJB
Lead	86	0.54	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 3:42	EJB

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Project Location: Wayland, MA

Sample Description:

Work Order: 19E0566

Date Received: 5/9/2019

Field Sample #: V-313 (2-4)

Sampled: 5/8/2019 11:20

Sample ID: 19E0566-13

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/PHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.1		% Wt	1		SM 2540G	5/13/19	5/14/19 13:19	MJR

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Project Location: Wayland, MA

Sample Description:

Work Order: 19E0566

Date Received: 5/9/2019

Field Sample #: V-314 (2-4)

Sampled: 5/8/2019 11:25

Sample ID: 19E0566-14

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.8	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 3:48	EJB
Copper	32	0.37	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 3:48	EJB
Lead	55	0.55	mg/Kg dry	1		SW-846 6010D	5/13/19	5/15/19 3:48	EJB

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Project Location: Wayland, MA

Sample Description:

Work Order: 19E0566

Date Received: 5/9/2019

Field Sample #: V-314 (2-4)

Sampled: 5/8/2019 11:25

Sample ID: 19E0566-14

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/PHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	91.3		% Wt	1		SM 2540G	5/13/19	5/14/19 13:19	MJR



**Sample Extraction Data**

**Prep Method: % Solids-SM 2540G**

Lab Number [Field ID]	Batch	Date
19E0566-01 [V-301 (2-4)]	B230611	05/13/19
19E0566-02 [V-302 (2-4)]	B230611	05/13/19
19E0566-03 [V-303 (2-4)]	B230611	05/13/19
19E0566-04 [V-304 (2-4)]	B230611	05/13/19
19E0566-05 [V-305 (2-4)]	B230611	05/13/19
19E0566-06 [V-306 (2-4)]	B230611	05/13/19
19E0566-07 [V-307 (2-4)]	B230611	05/13/19
19E0566-08 [V-308 (2-4)]	B230611	05/13/19
19E0566-09 [V-309 (0-2)]	B230611	05/13/19
19E0566-10 [V-310 (0-2)]	B230611	05/13/19
19E0566-11 [V-311 (0-2)]	B230611	05/13/19
19E0566-12 [V-312 (2-4)]	B230611	05/13/19
19E0566-13 [V-313 (2-4)]	B230611	05/13/19
19E0566-14 [V-314 (2-4)]	B230611	05/13/19

**Prep Method: SW-846 3050B-SW-846 6010D**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19E0566-01 [V-301 (2-4)]	B230590	1.55	50.0	05/13/19
19E0566-02 [V-302 (2-4)]	B230590	1.52	50.0	05/13/19
19E0566-03 [V-303 (2-4)]	B230590	1.48	50.0	05/13/19
19E0566-04 [V-304 (2-4)]	B230590	1.56	50.0	05/13/19
19E0566-05 [V-305 (2-4)]	B230590	1.54	50.0	05/13/19
19E0566-06 [V-306 (2-4)]	B230590	1.52	50.0	05/13/19
19E0566-07 [V-307 (2-4)]	B230590	1.50	50.0	05/13/19
19E0566-08 [V-308 (2-4)]	B230590	1.55	50.0	05/13/19
19E0566-09 [V-309 (0-2)]	B230590	1.52	50.0	05/13/19
19E0566-10 [V-310 (0-2)]	B230590	1.54	50.0	05/13/19
19E0566-11 [V-311 (0-2)]	B230590	1.55	50.0	05/13/19
19E0566-12 [V-312 (2-4)]	B230590	1.48	50.0	05/13/19
19E0566-13 [V-313 (2-4)]	B230590	1.57	50.0	05/13/19
19E0566-14 [V-314 (2-4)]	B230590	1.48	50.0	05/13/19

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**QUALITY CONTROL**

**Metals Analyses (Total) - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B230590 - SW-846 3050B</b>										
<b>Blank (B230590-BLK1)</b>										
Prepared: 05/13/19 Analyzed: 05/15/19										
Antimony	ND	1.7	mg/Kg wet							
Copper	ND	0.33	mg/Kg wet							
Lead	ND	0.50	mg/Kg wet							
<b>LCS (B230590-BS1)</b>										
Prepared: 05/13/19 Analyzed: 05/15/19										
Antimony	52.7	5.0	mg/Kg wet	133		39.6	1.5-101.5			
Copper	270	0.99	mg/Kg wet	301		89.8	77.4-108.3			
Lead	198	1.5	mg/Kg wet	241		82.2	76.3-110.4			
<b>LCS Dup (B230590-BSD1)</b>										
Prepared: 05/13/19 Analyzed: 05/15/19										
Antimony	51.8	4.9	mg/Kg wet	133		38.9	1.5-101.5	1.77	30	
Copper	268	0.98	mg/Kg wet	301		89.0	77.4-108.3	0.853	30	
Lead	199	1.5	mg/Kg wet	241		82.8	76.3-110.4	0.632	30	
<b>MRL Check (B230590-MRL1)</b>										
Prepared: 05/13/19 Analyzed: 05/15/19										
Lead	0.536	0.50	mg/Kg wet	0.497		108	80-120			

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**FLAG/QUALIFIER SUMMARY**

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
<i>SW-846 6010D in Soil</i>	
Antimony	CT,NH,NY,ME,VA,NC
Copper	CT,NH,NY,ME,VA,NC
Lead	CT,NH,NY,AIHA,ME,VA,NC

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2005	100033	03/1/2020
MA	Massachusetts DEP	M-MA100	06/30/2019
CT	Connecticut Department of Public Health	PH-0567	09/30/2019
NY	New York State Department of Health	10899 NELAP	04/1/2020
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2020
RI	Rhode Island Department of Health	LAO00112	12/30/2019
NC	North Carolina Div. of Water Quality	652	12/31/2019
NJ	New Jersey DEP	MA007 NELAP	06/30/2019
FL	Florida Department of Health	E871027 NELAP	06/30/2019
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2019
ME	State of Maine	2011028	06/9/2019
VA	Commonwealth of Virginia	460217	12/14/2019
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2019
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2019
NC-DW	North Carolina Department of Health	25703	07/31/2019



Company Name: Veritas  
 Address: 100N Washington St, Suite 302, Boston MA  
 Phone: 781-952-6000  
 Project Name: Waters Edge  
 Project Location: Wayland, MA  
 Project Number: 46047  
 Project Manager: K. Sauson  
 Con-Test Quote Name/Number:  
 Invoice Recipient: K. Sauson  
 Sampled By: K. Sauson

Requested Turnaround Time:  
 7-Day  10-Day   
 Due Date: 5 DAY  
 Rush Approval Required  
 1-Day  3-Day   
 2-Day  4-Day   
 Data Delivery  
 Format: PDF  EXCEL   
 Other: END  
 CLP Like Data Pkg Required:   
 Email To: K. Sauson @ veritas.com  
 Fax To #:

Con-Test Work Order #	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	Composites	Matrix Code	Domic Code
1	V-301 (2-4)	5/8/19	0940	X	S	
2	V-301 (4-6)		0945			
3	V-302 (2-4)		0950			
4	V-302 (4-6)		0955			
5	V-303 (2-4)		1000			
6	V-303 (4-6)		1005			
7	V-304 (2-4)		1010			
8	V-304 (4-6)		1015			
9	V-305 (2-4)		1020			
10	V-305 (4-6)		1025			

Comments:  
 \*Please hold stored samples  
 TCLP if total lead > 100 mg/kg +

Please use the following codes to indicate possible sample concentration within the Conc Code column above:  
 H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature) [Signature] Date/Time: 5/9/19 11:27  
 Received by: (signature) [Signature] Date/Time: 5/9/19 11:27  
 Relinquished by: (signature) [Signature] Date/Time: 5/9/19 6:10  
 Received by: (signature) [Signature] Date/Time: 5/9/19 10:10  
 Relinquished by: (signature) [Signature] Date/Time: 5/9/19 5:0  
 Received by: (signature) [Signature] Date/Time: 5/9/19 5:0

Special Requirements  
 MA MCP Required  
 MCP Certification Form Required  
 CT RCP Required  
 RCP Certification Form Required  
 MA State DW Required  
 PWSID #

Project Entity  
 Government  
 Federal  
 City  
 Municipality  
 21 J  
 Brownfield  
 MWRA  
 School  
 MBTA  
 WRTA  
 Chromatogram  
 AIHA-LAP, LLC  
 Other

1 Matrix Codes:  
 GW = Ground Water  
 WW = Waste Water  
 DW = Drinking Water  
 A = Air  
 S = Soil  
 SL = Sludge  
 SOL = Solid  
 O = Other (please define)

2 Preservation Codes:  
 I = Iced  
 H = HCL  
 M = Methanol  
 N = Nitric Acid  
 S = Sulfuric Acid  
 B = Sodium Bisulfate  
 X = Sodium Hydroxide  
 T = Sodium Thiosulfate  
 O = Other (please define)

3 Container Codes:  
 A = Amber Glass  
 G = Glass  
 P = Plastic  
 ST = Sterile  
 V = Vial  
 S = Summa Canister  
 T = Tedlar Bag  
 O = Other (please define)

PCB ONLY  
 Soxhlet  
 Non Soxhlet





http://www.contestlabs.com  
 CHAIN OF CUSTODY RECORD

Phone: 413-525-2332  
 Fax: 413-525-6405  
 Email: info@contestlabs.com



Company Name: Veritas  
 Address: 100N Washington St, 302 Boston MA 02114  
 Phone: 781-952-6060  
 Project Name: Blue Edge  
 Project Location: Wayland  
 Project Number: 400017  
 Project Manager: K. Sarsor  
 Con-Test Quote Name/Number:  
 Invoice Recipient: F. Sarsor  
 Sampled By: K. Sarsor

Con-Test Work Order #	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	Composite	Date	Matrix Code	Done Date
6	N-306 (2-4)	5/8/19	1030	✓		S	
7	V-306 (4-6)		1035				
	V-307 (2-4)		1040				
	V-307 (4-6)		1045				
8	V-308 (2-4)		1050				
	V-308 (4-6)		1055				
9	V-309 (0-2)		1100				
10	V-310 (0-2)		1105				
11	V-311 (0-2)		1110				
12	V-312 (2-4)		1115				

Requested Turnaround Time: 5 DAY  
 Due Date: 5/27/19  
 7-Day  10-Day   
 1-Day  3-Day   
 2-Day  4-Day   
 Format: PDF  EXCEL   
 Other: ADD  
 CLP Like Data Pkg Required:   
 Email To: ksarsor@veritaslab.com  
 Fax To #:

ANALYSIS REQUESTED  
Total Lead, Copper, Arsenic  
+ TCP Phos canister X  
NEEDED  
AF

Matrix Codes:  
 GW = Ground Water  
 WW = Waste Water  
 DW = Drinking Water  
 A = Air  
 S = Soil  
 SL = Sludge  
 SOL = Solid  
 O = Other (please define)

Preservation Codes:  
 I = Iced  
 H = HCL  
 M = Methanol  
 N = Nitric Acid  
 S = Sulfuric Acid  
 B = Sodium Bisulfate  
 X = Sodium Hydroxide  
 T = Sodium Thiosulfate  
 O = Other (please define)

Container Codes:  
 A = Amber Glass  
 G = Glass  
 P = Plastic  
 ST = Sterile  
 V = Vial  
 S = Summa Canister  
 T = Tedlar Bag  
 O = Other (please define)

PCB ONLY  
 Soxhlet  
 Non Soxhlet

Special Requirements:  
 MA MCP Required   
 MCP Certification Form Required   
 CT RCP Required   
 RCP Certification Form Required   
 MA State DW Required   
 PWSID #

Detection Limits Requirements:  
 MA   
 CT   
 OTHER

Project Entity:  
 Government  
 Federal  
 City  
 Municipality  
 21 J  
 Brownfield  
 MWRA  
 School  
 MBTA  
 WRTA  
 Chromatogram  
 AIHA-LAP, LLC  
 Other

Comments:  
\* Please hold stored samples  
TCP if total lead > 100 mg/kg +

Relinquished by: (signature) [Signature] Date/Time: 5/8/19 1127  
 Received by: (signature) [Signature] Date/Time: 5/19/19 1127  
 Relinquished by: (signature) [Signature] Date/Time: 5/19/19 6:10  
 Received by: (signature) [Signature] Date/Time: 5/19/19 1910  
 Relinquished by: (signature) [Signature] Date/Time: 5/8  
 Received by: (signature) [Signature] Date/Time:





I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples \_\_\_\_\_



**con-test**  
ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

**Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False**

Client Verde  
 Received By SL Date 6/9/14 Time 16:0  
 How were the samples received? In Cooler T No Cooler \_\_\_\_\_ On Ice T No Ice \_\_\_\_\_  
 Direct from Sampling \_\_\_\_\_ Ambient \_\_\_\_\_ Melted Ice \_\_\_\_\_  
 Were samples within Temperature? 2-6°C T By Gun # 3 Actual Temp - 58  
 By Blank # \_\_\_\_\_ Actual Temp - \_\_\_\_\_  
 Was Custody Seal Intact? N/A Were Samples Tampered with? N/A  
 Was COC Relinquished? T Does Chain Agree With Samples? T  
 Are there broken/leaking/loose caps on any samples? F  
 Is COC in ink/ Legible? T Were samples received within holding time? T  
 Did COC include all pertinent Information? Client T Analysis T Sampler Name T  
 Project T ID's T Collection Dates/Times T  
 Are Sample labels filled out and legible? T  
 Are there Lab to Filters? F Who was notified? \_\_\_\_\_  
 Are there Rushes? F Who was notified? \_\_\_\_\_  
 Are there Short Holds? F Who was notified? \_\_\_\_\_  
 Is there enough Volume? T  
 Is there Headspace where applicable? N/A MS/MSD? F  
 Proper Media/Containers Used? T Is splitting samples required? F  
 Were trip blanks received? F On COC? F  
 Do all samples have the proper pH? N/A Acid \_\_\_\_\_ Base \_\_\_\_\_

Vials	#	Containers:	#	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear <u>14</u>
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear
Bisulfate-		Flashpoint		Col./Bacteria		2oz Amb/Clear
DI-		Other Glass		Other Plastic		Encore
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:
Sulfuric-		Perchlorate		Ziplock		

**Unused Media**

Vials	#	Containers:	#	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear <u>15</u>
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear
DI-		Other Plastic		Other Glass		Encore
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:
Sulfuric-		Perchlorate		Ziplock		

Comments:



May 21, 2019

Kristen Sarson  
Vertex Engineering - Boston  
100 North Washington St. Suite 302  
Boston, MA 02114

Project Location: Wayland, MA  
Client Job Number:  
Project Number: 46047  
Laboratory Work Order Number: 19E0870

Enclosed are results of analyses for samples received by the laboratory on May 15, 2019. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Jessica Hoffman", is displayed on a light blue rectangular background.

Jessica L. Hoffman  
Project Manager



## Table of Contents

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---

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Vertex Engineering - Boston  
100 North Washington St. Suite 302  
Boston, MA 02114  
ATTN: Kristen Sarson

REPORT DATE: 5/21/2019

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 46047

**ANALYTICAL SUMMARY**

---

WORK ORDER NUMBER: 19E0870

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Wayland, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
V-310 (0-2)	19E0870-01	Soil		SM 2540G SW-846 6010D	
V-312 (2-4)	19E0870-02	Soil		SM 2540G SW-846 6010D	

**CASE NARRATIVE SUMMARY**

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

For method 6010, only lead was requested and reported.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

A handwritten signature in black ink, appearing to read "Tod Kopycinski". The signature is written in a cursive style with a large, sweeping initial "T".

Tod E. Kopycinski  
Laboratory Director

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Wayland, MA

Sample Description:

Work Order: 19E0870

Date Received: 5/15/2019

Field Sample #: V-310 (0-2)

Sampled: 5/8/2019 11:05

Sample ID: 19E0870-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	96.4		% Wt	1		SM 2540G	5/16/19	5/16/19 20:39	KG

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Wayland, MA

Sample Description:

Work Order: 19E0870

Date Received: 5/15/2019

Field Sample #: V-310 (0-2)

Sampled: 5/8/2019 11:05

Sample ID: 19E0870-01

Sample Matrix: Soil

TCLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	20	0.050	mg/L	5		SW-846 6010D	5/18/19	5/20/19 19:33	EJB



39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Wayland, MA

Sample Description:

Work Order: 19E0870

Date Received: 5/15/2019

Sampled: 5/8/2019 11:15

Field Sample #: V-312 (2-4)

Sample ID: 19E0870-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.5		% Wt	1		SM 2540G	5/16/19	5/16/19 20:39	KG

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Wayland, MA

Sample Description:

Work Order: 19E0870

Date Received: 5/15/2019

Field Sample #: V-312 (2-4)

Sampled: 5/8/2019 11:15

Sample ID: 19E0870-02

Sample Matrix: Soil

TCLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	0.099	0.010	mg/L	1		SW-846 6010D	5/18/19	5/20/19 17:45	EJB

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

**Sample Extraction Data**

**Prep Method: % Solids-SM 2540G**

Lab Number [Field ID]	Batch	Date
19E0870-01 [V-310 (0-2)]	B230991	05/16/19
19E0870-02 [V-312 (2-4)]	B230991	05/16/19

**Prep Method: SW-846 3010A-SW-846 6010D**

**Leachates were extracted on 5/17/2019 per SW-846 1311 in Batch B231084**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
19E0870-01 [V-310 (0-2)]	B231263	50.0	50.0	05/18/19
19E0870-02 [V-312 (2-4)]	B231263	50.0	50.0	05/18/19

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

**QUALITY CONTROL**

**TCLP - Metals Analyses - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B231263 - SW-846 3010A</b>										
<b>Blank (B231263-BLK1)</b>				Prepared: 05/18/19 Analyzed: 05/20/19						
Lead	ND	0.010	mg/L							
<b>LCS (B231263-BS1)</b>				Prepared: 05/18/19 Analyzed: 05/20/19						
Lead	0.501	0.010	mg/L	0.500		100	80-120			
<b>LCS Dup (B231263-BSD1)</b>				Prepared: 05/18/19 Analyzed: 05/20/19						
Lead	0.486	0.010	mg/L	0.500		97.3	80-120	2.94	20	

---

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

**FLAG/QUALIFIER SUMMARY**

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.



**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
---------	----------------

*SW-846 6010D in Water*

Lead NY,CT,ME,NC,NH,VA

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2005	100033	03/1/2020
MA	Massachusetts DEP	M-MA100	06/30/2019
CT	Connecticut Department of Public Health	PH-0567	09/30/2019
NY	New York State Department of Health	10899 NELAP	04/1/2020
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2020
RI	Rhode Island Department of Health	LAO00112	12/30/2019
NC	North Carolina Div. of Water Quality	652	12/31/2019
NJ	New Jersey DEP	MA007 NELAP	06/30/2019
FL	Florida Department of Health	E871027 NELAP	06/30/2019
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2019
ME	State of Maine	2011028	06/9/2019
VA	Commonwealth of Virginia	460217	12/14/2019
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2019
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2019
NC-DW	North Carolina Department of Health	25703	07/31/2019



Phone: 413-525-2332  
 Fax: 413-525-6405  
 Email: info@contestlabs.com

http://www.contestlabs.com

Doc # 381 Rev 1\_03242017

CHAIN OF CUSTODY RECORD

39 Spruce Street  
 East Longmeadow, MA 01028

Company Name: Vortex  
 Address: 100 N Washington St, Suite 302, Boston MA  
 Phone: 781-952-6000  
 Project Name: River's Edge  
 Project Location: Wayland, MA  
 Project Number: 46047  
 Project Manager: K. Sarson  
 Con-Test Quote Name/Number:  
 Invoice Recipient: K. Sarson  
 Sampled By: K. Sarson

**Requested Turnaround Time**  
 7-Day  10-Day   
 Due Date: 5 DAY

**Rush Approval Required**  
 1-Day  3-Day   
 2-Day  4-Day

**Data Delivery**  
 Format: PDF  EXCEL   
 Other: END  
 CLP Like Data Pkg Required:   
 Email To: ksarson@vortexeng.com  
foalend@overseas.com  
 Fax To #:

Requested Turnaround Time	Rush Approval Required	Data Delivery	Analysis Requested
7-Day <input type="checkbox"/>	1-Day <input type="checkbox"/>	Format: PDF <input checked="" type="checkbox"/>	ANALYSIS REQUESTED  <u>Total lead, Copper &amp; Antimony</u> <u>TCLP Pb + (see comments)</u> <u>IF NEEDED</u>
10-Day <input type="checkbox"/>	3-Day <input type="checkbox"/>	EXCEL <input checked="" type="checkbox"/>	
Due Date: <u>5 DAY</u>	2-Day <input type="checkbox"/>	Other: <u>END</u>	
	4-Day <input type="checkbox"/>	CLP Like Data Pkg Required: <input type="checkbox"/>	
		Email To: <u>ksarson@vortexeng.com</u>	
		<u>foalend@overseas.com</u>	

# of Containers  
 Preservation Code  
 Container Code  
**Dissolved Metals Samples**  
 Field Filtered  
 Lab to Filter  
**Orthophosphate Samples**  
 Field Filtered  
 Lab to Filter

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	Composite	Grab	Matrix Code	Conc Code
	V-301 (2-4)	5/8/19	0940	X		S	
	V-301 (4-6) *		0945				
2	V-302 (2-4)		0950				
	V-302 (4-6) *		0955				
3	V-303 (2-4)		1000				
	V-303 (4-6) *		1005				
4	V-304 (2-4)		1010				
	V-304 (4-6) *		1015				
5	V-305 (2-4)		1020				
	V-305 (4-6) *		1025				

samples reactivated for  
 TCLP Lead per rule. JLH  
 5/15/19 on samples  
 V-310 (0-2) and V-3 (2-4)

**Matrix Codes:**  
 GW = Ground Water  
 WW = Waste Water  
 DW = Drinking Water  
 A = Air  
 S = Soil  
 SL = Sludge  
 DL = Solid  
 O = Other (please define)

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 V = Vial  
 S = Summa Canister  
 T = Tedlar Bag  
 O = Other (please define)

Comments:  
 \*Please hold starred samples  
 TCLP if total lead > 100 mg/kg +

Please use the following codes to indicate possible sample concentration within the Conc Code column above:  
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Relinquished by: (signature) [Signature] Date/Time: 5/9/19 11:27  
 Received by: (signature) [Signature] Date/Time: 5/9/19 11:27  
 Relinquished by: (signature) [Signature] Date/Time: 5/9/19 6:10  
 Received by: (signature) [Signature] Date/Time: 5/9/19 10:10  
 Relinquished by: (signature) [Signature] Date/Time:  
 Received by: (signature) [Signature] Date/Time:

**Detection Limit Requirements**  
 MA  CT  Other

**Special Requirements**  
 MA MCP Required  
 MCP Certification Form Required  
 CT RCP Required  
 RCP Certification Form Required  
 MA State DW Required  
 PWSID #

**Project Entity**  
 Government  Municipality  MWRA  WRTA  
 Federal  21 J  School  
 City  Brownfield  MBTA

**PCB ONLY**  
 Soxhlet  
 Non Soxhlet



Company Name: Veritas  
 Address: 100N Washington St, 302 Boston MA 02114  
 Phone: 781-952-6060  
 Project Name: Blue Edge  
 Project Location: Wayland  
 Project Number: 400017  
 Project Manager: K. Sarsor  
 Con-Test Quote Name/Number:  
 Invoice Recipient: F. Sarsor  
 Sampled By: K. Sarsor

Con-Test Work Order #	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	Composite Date	Matrix Date	Done Date
6	N-306 (2-4)	5/8/19	1030	✓	S	
7	V-306 (4-6)		1035			
	V-307 (2-4)		1040			
	V-307 (4-6)		1045			
8	V-308 (2-4)		1050			
	V-308 (4-6)		1055			
9	V-309 (0-2)		1100			
01	V-310 (0-2)		1105			
	V-311 (0-2)		1110			
02	V-312 (2-4)		1115			

Comments: \* Please hold stored samples  
TCUP if total lead > 100 mg/kg +

Relinquished by: (signature) [Signature] Date/Time: 5/8/19 11:27  
 Received by: (signature) [Signature] Date/Time: 5/19/19 11:27  
 Relinquished by: (signature) [Signature] Date/Time: 5/19/19 6:10  
 Received by: (signature) [Signature] Date/Time: 5/19/19 19:10  
 Relinquished by: (signature) [Signature] Date/Time: 5/8  
 Received by: (signature) [Signature] Date/Time:

Special Requirements: MA MCP Required  
 MCP Certification Form Required   
 CT RCP Required   
 RCP Certification Form Required   
 MA State DW Required

Detection Limits Requirements: MA  
CT  
Other

PWSID #

Project Entity:  Government  Federal  City  Municipality  21 J  Brownfield  MWRA  School  MBTA  WRTA  Other  Chromatogram  AIHA-LAP, LLC







**Client Name:** BPX  
**Address:** 100N WASHINGTON ST 302, BOSTON MA 02114  
**Phone:** 781-952-6604  
**Project Name:** BPX  
**Project Location:** Wayland MA  
**Project Number:** 110047  
**Project Manager:** K. Sarsen  
**Con-Test Quote Name/Number:**  
**Invoice Recipient:** K. Sarsen  
**Sampled By:** K. Sarsen

**Requested Turnaround Time:**  
 7-Day  10-Day   
**Due Date:** 5-DAY  
**Analysis Requested:**  
 1-Day  3-Day   
 2-Day  4-Day   
**Data Delivery:**  
 Format: PDF  EXCEL   
 Other: GD  
 CLP Like Data Pkg Required:   
 Email To: K.sarsen@wayland.org  
 Fax To #:

Con-Test Work Order #	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	Composites	Grab	Matrix Code	Conc Code
<u>3</u>	<u>V-313 (2-4)</u>	<u>5/8/19</u>	<u>1120</u>	<u>2</u>		<u>S</u>	
<u>4</u>	<u>V-314 (2-4)</u>	<u>5/8/19</u>	<u>1125</u>	<u>2</u>		<u>S</u>	

Comments:

+ TCLP if total lead 710 mg/kg

Please use the following codes to indicate possible sample concentration within the Conc Code column above:  
 H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time:
<u>[Signature]</u>	<u>5/9/19 1127</u>
Received by: (signature)	Date/Time:
<u>[Signature]</u>	<u>5/9/19 1127</u>
Relinquished by: (signature)	Date/Time:
<u>[Signature]</u>	<u>5/9/19 6:10</u>
Received by: (signature)	Date/Time:
<u>[Signature]</u>	<u>5/9/19 1410</u>
Relinquished by: (signature)	Date/Time:
<u>[Signature]</u>	
Received by: (signature)	Date/Time:
<u>[Signature]</u>	

Detection Limit Requirements	Special Requirements
MA	MA MCP Required <input checked="" type="checkbox"/>
	MCP Certification Form Required <input type="checkbox"/>
CT	CT RCP Required <input type="checkbox"/>
	RCP Certification Form Required <input type="checkbox"/>
Other	MA State DW Required <input type="checkbox"/>
	PWSID #

**# of Containers:** 1  
**Preservation Code:** 1  
**Container Code:** A  
**Matrix Codes:**  
 GW = Ground Water  
 WW = Waste Water  
 DW = Drinking Water  
 A = Air  
 S = Soil  
 SL = Sludge  
 SOL = Solid  
 O = Other (please define)  
**Preservation Codes:**  
 I = Iced  
 H = HCL  
 M = Methanol  
 N = Nitric Acid  
 S = Sulfuric Acid  
 B = Sodium Bisulfate  
 X = Sodium Hydroxide  
 T = Sodium Thiosulfate  
 O = Other (please define)  
**Container Codes:**  
 A = Amber Glass  
 G = Glass  
 P = Plastic  
 ST = Sterile  
 V = Vial  
 S = Summa Canister  
 T = Tedlar Bag  
 O = Other (please define)  
**PCB ONLY:**  
 Soxhlet  
 Non Soxhlet

**Project Entity:**  
 Government  
 Federal  
 City  
 Municipality  
 21 J  
 Brownfield  
 MWRA  
 School  
 MBTA  
 WRTA  
 Chromatogram  
 AIHA-LAP, LLC  
 Other

I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples \_\_\_\_\_



**con-test**  
ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

**Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False**

Client Verde  
 Received By SL Date 6/9/14 Time 16:00  
 How were the samples received? In Cooler T No Cooler \_\_\_\_\_ On Ice T No Ice \_\_\_\_\_  
 Direct from Sampling \_\_\_\_\_ Ambient \_\_\_\_\_ Melted Ice \_\_\_\_\_  
 Were samples within Temperature? 2-6°C T By Gun # 3 Actual Temp - 58  
 By Blank # \_\_\_\_\_ Actual Temp - \_\_\_\_\_  
 Was Custody Seal Intact? N/A Were Samples Tampered with? N/A  
 Was COC Relinquished? T Does Chain Agree With Samples? T  
 Are there broken/leaking/loose caps on any samples? F  
 Is COC in ink/ Legible? T Were samples received within holding time? T  
 Did COC include all pertinent Information? Client T Analysis T Sampler Name T  
 Project T ID's T Collection Dates/Times T  
 Are Sample labels filled out and legible? T  
 Are there Lab to Filters? F Who was notified? \_\_\_\_\_  
 Are there Rushes? F Who was notified? \_\_\_\_\_  
 Are there Short Holds? F Who was notified? \_\_\_\_\_  
 Is there enough Volume? T  
 Is there Headspace where applicable? N/A MS/MSD? F  
 Proper Media/Containers Used? T Is splitting samples required? F  
 Were trip blanks received? F On COC? F  
 Do all samples have the proper pH? N/A Acid \_\_\_\_\_ Base \_\_\_\_\_

Vials	#	Containers:	#	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear <u>14</u>
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear
Bisulfate-		Flashpoint		Col./Bacteria		2oz Amb/Clear
DI-		Other Glass		Other Plastic		Encore
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:
Sulfuric-		Perchlorate		Ziplock		

**Unused Media**

Vials	#	Containers:	#	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear <u>15</u>
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear
DI-		Other Plastic		Other Glass		Encore
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:
Sulfuric-		Perchlorate		Ziplock		

Comments:



## MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory			Project #: 19E0870		
Project Location: Wayland, MA			RTN:		
This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)] 19E0870-01 thru 19E0870-02					
Matrices: Soil					
<b>CAM Protocol (check all that below)</b>					
8260 VOC CAM II A ( )	7470/7471 Hg CAM IIIB ( )	MassDEP VPH CAM IV A ( )	8082 PCB CAM V A ( )	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )
8270 SVOC CAM II B ( )	7010 Metals CAM III C ( )	MassDEP VPH CAM IV C ( )	8081 Pesticides CAM V B ( )	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
6010 Metals CAM III A (X)	6020 Metals CAM III D ( )	MassDEP EPH CAM IV B ( )	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
<b>Affirmative response to Questions A through F is required for "Presumptive Certainty" status</b>					
<b>A</b>	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>B</b>	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>C</b>	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>D</b>	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>E a</b>	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).				<input type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>E b</b>	APH and TO-15 Methods only: Was the complete analyte list reported for each method?				<input type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>F</b>	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Questions A through E)?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>A response to questions G, H and I below is required for "Presumptive Certainty" status</b>					
<b>G</b>	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.</b>					
<b>H</b>	Were all QC performance standards specified in the CAM protocol(s) achieved?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>I</b>	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <sup>1</sup>
<sup>1</sup> All Negative responses must be addressed in an attached Environmental Laboratory case narrative.					
<b>I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.</b>					
Signature: <u>Tod Kopyscinski</u>			Position: Laboratory Director		
Printed Name: <u>Tod E. Kopyscinski</u>			Date: <u>05/21/19</u>		

March 3, 2021

Kristen Sarson  
Vertex Engineering - Boston  
100 North Washington St. Suite 302  
Boston, MA 02114

Project Location: 434 Boston Post Road, Wayland, MA  
Client Job Number:  
Project Number: 46047  
Laboratory Work Order Number: 21B1162

Enclosed are results of analyses for samples received by the laboratory on February 26, 2021. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jessica L. Hoffman  
Project Manager

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39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

 Vertex Engineering - Boston  
 100 North Washington St. Suite 302  
 Boston, MA 02114  
 ATTN: Kristen Sarson

REPORT DATE: 3/3/2021

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 46047

**ANALYTICAL SUMMARY**

WORK ORDER NUMBER: 21B1162

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: 434 Boston Post Road, Wayland, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
V-301-DISP-FR	21B1162-01	Soil		SM 2540G SM21-22 2510B Modified SW-846 1030 SW-846 6010D SW-846 7471B SW-846 8015C SW-846 8082A SW-846 8260C-D SW-846 8270D-E SW-846 9014 SW-846 9030A SW-846 9045C	
V-302-DISP-FR	21B1162-02	Soil		SM 2540G SM21-22 2510B Modified SW-846 1030 SW-846 6010D SW-846 7471B SW-846 8015C SW-846 8082A SW-846 8260C-D SW-846 8270D-E SW-846 9014 SW-846 9030A SW-846 9045C	
V-303-DISP-FR	21B1162-03	Soil		SM 2540G SM21-22 2510B Modified SW-846 1030 SW-846 6010D SW-846 7471B SW-846 8015C SW-846 8082A SW-846 8260C-D SW-846 8270D-E SW-846 9014 SW-846 9030A SW-846 9045C	



**CASE NARRATIVE SUMMARY**

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

---

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SW-846 8015C

---

**Qualifications:****MS-22**

Either matrix spike or MS duplicate is outside of control limits, but the other is within limits. RPD between the two MS/MSD results is within method specified criteria.

**Analyte & Samples(s) Qualified:****TPH (C9-C36)**

B277195-MSD1

---

**O-25**

Sample contamination consists of heavy residual hydrocarbons similar to asphalt.

**Analyte & Samples(s) Qualified:****TPH (C9-C36)**

21B1162-01[V-301-DISP-FR], 21B1162-02[V-302-DISP-FR], 21B1162-03[V-303-DISP-FR]

SW-846 8082A

---

**Qualifications:****O-32**

A dilution was performed as part of the standard analytical procedure.

**Analyte & Samples(s) Qualified:**

21B1162-01[V-301-DISP-FR], 21B1162-02[V-302-DISP-FR], 21B1162-03[V-303-DISP-FR]

SW-846 8260C-D

---

**Qualifications:****V-16**

Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

**Analyte & Samples(s) Qualified:****1,4-Dioxane**

S057358-CCV1

---

**V-20**

Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

**Analyte & Samples(s) Qualified:****Dibromomethane**

B277220-BS1, B277220-BSD1, S057358-CCV1

---

**V-36**

Initial calibration verification (ICV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

**Analyte & Samples(s) Qualified:****Dichlorodifluoromethane (Freon 12)**

B277220-BS1, B277220-BSD1, S057358-CCV1

SW-846 8270D-E

---

**Qualifications:****RL-08**

Elevated reporting limit due to sample matrix interference. MA CAM reporting limit not met.

**Analyte & Samples(s) Qualified:**

21B1162-01[V-301-DISP-FR], 21B1162-02[V-302-DISP-FR], 21B1162-03[V-303-DISP-FR]

---

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---

**V-06**

Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side for this compound.

**Analyte & Samples(s) Qualified:****2,4-Dinitrophenol**

21B1162-01[V-301-DISP-FR], 21B1162-02[V-302-DISP-FR], 21B1162-03[V-303-DISP-FR], B277196-BLK1, B277196-BS1, B277196-BSD1, S057411-CCV1

**2,4-Dinitrotoluene**

21B1162-01[V-301-DISP-FR], 21B1162-02[V-302-DISP-FR], 21B1162-03[V-303-DISP-FR], B277196-BLK1, B277196-BS1, B277196-BSD1, S057411-CCV1

**2-Nitrophenol**

21B1162-01[V-301-DISP-FR], 21B1162-02[V-302-DISP-FR], 21B1162-03[V-303-DISP-FR], B277196-BLK1, B277196-BS1, B277196-BSD1, S057411-CCV1

---

**V-34**

Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

**Analyte & Samples(s) Qualified:****4-Chloroaniline**

21B1162-01[V-301-DISP-FR], 21B1162-02[V-302-DISP-FR], 21B1162-03[V-303-DISP-FR], B277196-BLK1, B277196-BS1, B277196-BSD1, S057411-CCV1

SW-846 9045C

**Qualifications:**

---

**H-12**

Analysis was performed past the MA CAM recommended holding time of 24 hours for pH and ORP.

**Analyte & Samples(s) Qualified:****pH**

21B1162-01[V-301-DISP-FR], 21B1162-02[V-302-DISP-FR], 21B1162-03[V-303-DISP-FR]

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington  
Technical Representative

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 434 Boston Post Road, Wayland,

Sample Description:

Work Order: 21B1162

Date Received: 2/26/2021

Field Sample #: V-301-DISP-FR

Sampled: 2/26/2021 11:00

Sample ID: 21B1162-01

Sample Matrix: Soil

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.077	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00077	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
Benzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
Bromobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
Bromochloromethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
Bromodichloromethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
Bromoform	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
Bromomethane	ND	0.0077	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
2-Butanone (MEK)	ND	0.031	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
n-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
sec-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
tert-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00077	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
Carbon Disulfide	ND	0.0046	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
Carbon Tetrachloride	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
Chlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
Chlorodibromomethane	ND	0.00077	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
Chloroethane	ND	0.0077	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
Chloroform	ND	0.0031	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
Chloromethane	ND	0.0077	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
2-Chlorotoluene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
4-Chlorotoluene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
1,2-Dibromoethane (EDB)	ND	0.00077	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
Dibromomethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
1,2-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
1,3-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
1,4-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.0077	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
1,1-Dichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
1,2-Dichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
1,1-Dichloroethylene	ND	0.0031	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
cis-1,2-Dichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
trans-1,2-Dichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
1,2-Dichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
1,3-Dichloropropane	ND	0.00077	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
2,2-Dichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
1,1-Dichloropropene	ND	0.0031	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
cis-1,3-Dichloropropene	ND	0.00077	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
trans-1,3-Dichloropropene	ND	0.00077	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
Diethyl Ether	ND	0.0077	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
Diisopropyl Ether (DIPE)	ND	0.00077	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
1,4-Dioxane	ND	0.077	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
Ethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 434 Boston Post Road, Wayland,

Sample Description:

Work Order: 21B1162

Date Received: 2/26/2021

Field Sample #: V-301-DISP-FR

Sampled: 2/26/2021 11:00

Sample ID: 21B1162-01

Sample Matrix: Soil

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
2-Hexanone (MBK)	ND	0.015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
Isopropylbenzene (Cumene)	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0031	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
Methylene Chloride	ND	0.0077	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
Naphthalene	ND	0.0031	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
n-Propylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
Styrene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
1,1,1,2-Tetrachloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
1,1,1,2,2-Tetrachloroethane	ND	0.00077	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
Tetrachloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
Tetrahydrofuran	ND	0.0077	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
Toluene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
1,2,3-Trichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
1,2,4-Trichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
1,1,1-Trichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
1,1,2-Trichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
Trichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0077	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
1,2,3-Trichloropropane	ND	0.0031	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
1,2,4-Trimethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
1,3,5-Trimethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
Vinyl Chloride	ND	0.0077	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
m+p Xylene	ND	0.0031	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF
o-Xylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 6:42	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	93.9	70-130	3/1/21 6:42
Toluene-d8	105	70-130	3/1/21 6:42
4-Bromofluorobenzene	109	70-130	3/1/21 6:42



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Project Location: 434 Boston Post Road, Wayland,

Sample Description:

Work Order: 21B1162

Date Received: 2/26/2021

Field Sample #: V-301-DISP-FR

Sampled: 2/26/2021 11:00

Sample ID: 21B1162-01

Sample Matrix: Soil

Sample Flags: RL-08

## Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.37	0.20	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Acenaphthylene	ND	0.37	0.24	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Acetophenone	ND	0.74	0.28	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Aniline	ND	0.74	0.17	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Anthracene	0.21	0.37	0.20	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Benzo(a)anthracene	0.73	0.37	0.24	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Benzo(a)pyrene	0.71	0.37	0.24	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Benzo(b)fluoranthene	0.77	0.37	0.24	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Benzo(g,h,i)perylene	0.47	0.37	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Benzo(k)fluoranthene	0.27	0.37	0.24	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Bis(2-chloroethoxy)methane	ND	0.74	0.31	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Bis(2-chloroethyl)ether	ND	0.74	0.37	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Bis(2-chloroisopropyl)ether	ND	0.74	0.50	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Bis(2-Ethylhexyl)phthalate	ND	0.74	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
4-Bromophenylphenylether	ND	0.74	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Butylbenzylphthalate	ND	0.74	0.26	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
4-Chloroaniline	ND	1.4	0.31	mg/Kg dry	2	V-34	SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
2-Chloronaphthalene	ND	0.74	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
2-Chlorophenol	ND	0.74	0.26	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Chrysene	0.80	0.37	0.24	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Dibenz(a,h)anthracene	ND	0.37	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Dibenzofuran	ND	0.74	0.26	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Di-n-butylphthalate	ND	0.74	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
1,2-Dichlorobenzene	ND	0.74	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
1,3-Dichlorobenzene	ND	0.74	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
1,4-Dichlorobenzene	ND	0.74	0.20	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
3,3-Dichlorobenzidine	ND	0.37	0.28	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
2,4-Dichlorophenol	ND	0.74	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Diethylphthalate	ND	0.74	0.31	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
2,4-Dimethylphenol	ND	0.74	0.26	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Dimethylphthalate	ND	0.74	0.28	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
2,4-Dinitrophenol	ND	1.4	1.0	mg/Kg dry	2	V-06	SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
2,4-Dinitrotoluene	ND	0.74	0.35	mg/Kg dry	2	V-06	SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
2,6-Dinitrotoluene	ND	0.74	0.35	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Di-n-octylphthalate	ND	0.74	0.33	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
1,2-Diphenylhydrazine/Azobenzene	ND	0.74	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Fluoranthene	1.2	0.37	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Fluorene	ND	0.37	0.26	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Hexachlorobenzene	ND	0.74	0.20	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Hexachlorobutadiene	ND	0.74	0.28	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Hexachloroethane	ND	0.74	0.24	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Indeno(1,2,3-cd)pyrene	0.42	0.37	0.26	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Isophorone	ND	0.74	0.26	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
2-Methylnaphthalene	ND	0.37	0.24	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL

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Project Location: 434 Boston Post Road, Wayland,

Sample Description:

Work Order: 21B1162

Date Received: 2/26/2021

Field Sample #: V-301-DISP-FR

Sampled: 2/26/2021 11:00

Sample ID: 21B1162-01

Sample Matrix: Soil

Sample Flags: RL-08

**Semivolatile Organic Compounds by GC/MS**

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2-Methylphenol	ND	0.74	0.28	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
3/4-Methylphenol	ND	0.74	0.26	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Naphthalene	ND	0.37	0.24	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Nitrobenzene	ND	0.74	0.31	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
2-Nitrophenol	ND	0.74	0.31	mg/Kg dry	2	V-06	SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
4-Nitrophenol	ND	1.4	0.52	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Pentachlorophenol	ND	0.74	0.50	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Phenanthrene	0.95	0.37	0.20	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Phenol	ND	0.74	0.26	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Pyrene	1.8	0.37	0.24	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
Pyridine	ND	0.74	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
1,2,4-Trichlorobenzene	ND	0.74	0.24	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
2,4,5-Trichlorophenol	ND	0.74	0.26	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL
2,4,6-Trichlorophenol	ND	0.74	0.26	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 17:39	BGL

Surrogates	% Recovery	Recovery Limits	Flag/Qual
2-Fluorophenol	59.2	30-130	
Phenol-d6	68.0	30-130	
Nitrobenzene-d5	59.4	30-130	
2-Fluorobiphenyl	66.9	30-130	
2,4,6-Tribromophenol	63.7	30-130	
p-Terphenyl-d14	77.4	30-130	

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Project Location: 434 Boston Post Road, Wayland,

Sample Description:

Work Order: 21B1162

Date Received: 2/26/2021

Field Sample #: V-301-DISP-FR

Sampled: 2/26/2021 11:00

Sample ID: 21B1162-01

Sample Matrix: Soil

Sample Flags: O-32

**Polychlorinated Biphenyls with 3540 Soxhlet Extraction**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	2/26/21	2/28/21 22:10	JMB
Aroclor-1221 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	2/26/21	2/28/21 22:10	JMB
Aroclor-1232 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	2/26/21	2/28/21 22:10	JMB
Aroclor-1242 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	2/26/21	2/28/21 22:10	JMB
Aroclor-1248 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	2/26/21	2/28/21 22:10	JMB
Aroclor-1254 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	2/26/21	2/28/21 22:10	JMB
Aroclor-1260 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	2/26/21	2/28/21 22:10	JMB
Aroclor-1262 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	2/26/21	2/28/21 22:10	JMB
Aroclor-1268 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	2/26/21	2/28/21 22:10	JMB
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Decachlorobiphenyl [1]		69.9	30-150					2/28/21 22:10	
Decachlorobiphenyl [2]		75.5	30-150					2/28/21 22:10	
Tetrachloro-m-xylene [1]		89.9	30-150					2/28/21 22:10	
Tetrachloro-m-xylene [2]		93.8	30-150					2/28/21 22:10	

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Project Location: 434 Boston Post Road, Wayland,

Sample Description:

Work Order: 21B1162

Date Received: 2/26/2021

**Field Sample #: V-301-DISP-FR**

Sampled: 2/26/2021 11:00

**Sample ID: 21B1162-01**

Sample Matrix: Soil

**Petroleum Hydrocarbons Analyses**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	680	91	mg/Kg dry	10	O-25	SW-846 8015C	2/27/21	3/1/21 11:11	RDD
Surrogates	% Recovery		Recovery Limits		Flag/Qual				
2-Fluorobiphenyl	50.4		40-140				3/1/21 11:11		

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Project Location: 434 Boston Post Road, Wayland,

Sample Description:

Work Order: 21B1162

Date Received: 2/26/2021

Field Sample #: V-301-DISP-FR

Sampled: 2/26/2021 11:00

Sample ID: 21B1162-01

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.8	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:32	AJL
Arsenic	5.8	3.6	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:32	AJL
Barium	22	1.8	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:32	AJL
Beryllium	0.24	0.18	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:32	AJL
Cadmium	ND	0.36	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:32	AJL
Chromium	13	0.73	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:32	AJL
Lead	17	0.55	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:32	AJL
Mercury	ND	0.028	mg/Kg dry	1		SW-846 7471B	3/1/21	3/3/21 11:30	CJV
Nickel	9.4	0.73	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:32	AJL
Selenium	ND	3.6	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:32	AJL
Silver	ND	0.36	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:32	AJL
Thallium	ND	1.8	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:32	AJL
Vanadium	18	0.73	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:32	AJL
Zinc	27	0.73	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:32	AJL



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Project Location: 434 Boston Post Road, Wayland,

Sample Description:

Work Order: 21B1162

Date Received: 2/26/2021

**Field Sample #: V-301-DISP-FR**

Sampled: 2/26/2021 11:00

**Sample ID: 21B1162-01**

Sample Matrix: Soil

**Conventional Chemistry Parameters by EPA/PHA/SW-846 Methods (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	90.4		% Wt	1		SM 2540G	2/27/21	2/27/21 15:21	ERL
Ignitability	Absent		present/absent	1		SW-846 1030	2/26/21	2/26/21 19:00	DJM
pH @19.3°C	7.4		pH Units	1	H-12	SW-846 9045C	3/1/21	3/1/21 20:25	DJM
Reactive Cyanide	ND	4.0	mg/Kg	1		SW-846 9014	3/2/21	3/2/21 14:47	YR
Reactive Sulfide	ND	20	mg/Kg	1		SW-846 9030A	3/2/21	3/2/21 14:23	YR
Specific conductance	6.6	2.0	µmhos/cm	1		SM21-22 2510B Modified	3/1/21	3/1/21 8:41	EC

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Project Location: 434 Boston Post Road, Wayland,

Sample Description:

Work Order: 21B1162

Date Received: 2/26/2021

Field Sample #: V-302-DISP-FR

Sampled: 2/26/2021 10:50

Sample ID: 21B1162-02

Sample Matrix: Soil

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.070	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00070	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
Benzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
Bromobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
Bromochloromethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
Bromodichloromethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
Bromoform	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
Bromomethane	ND	0.0070	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
2-Butanone (MEK)	ND	0.028	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
n-Butylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
sec-Butylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
tert-Butylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00070	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
Carbon Disulfide	ND	0.0042	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
Carbon Tetrachloride	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
Chlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
Chlorodibromomethane	ND	0.00070	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
Chloroethane	ND	0.0070	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
Chloroform	ND	0.0028	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
Chloromethane	ND	0.0070	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
2-Chlorotoluene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
4-Chlorotoluene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
1,2-Dibromoethane (EDB)	ND	0.00070	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
Dibromomethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
1,2-Dichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
1,3-Dichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
1,4-Dichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.0070	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
1,1-Dichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
1,2-Dichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
1,1-Dichloroethylene	ND	0.0028	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
cis-1,2-Dichloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
trans-1,2-Dichloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
1,2-Dichloropropane	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
1,3-Dichloropropane	ND	0.00070	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
2,2-Dichloropropane	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
1,1-Dichloropropene	ND	0.0028	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
cis-1,3-Dichloropropene	ND	0.00070	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
trans-1,3-Dichloropropene	ND	0.00070	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
Diethyl Ether	ND	0.0070	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
Diisopropyl Ether (DIPE)	ND	0.00070	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
1,4-Dioxane	ND	0.070	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
Ethylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 434 Boston Post Road, Wayland,

Sample Description:

Work Order: 21B1162

Date Received: 2/26/2021

Field Sample #: V-302-DISP-FR

Sampled: 2/26/2021 10:50

Sample ID: 21B1162-02

Sample Matrix: Soil

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
2-Hexanone (MBK)	ND	0.014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
Isopropylbenzene (Cumene)	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0028	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
Methylene Chloride	ND	0.0070	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
Naphthalene	ND	0.0028	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
n-Propylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
Styrene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
1,1,1,2-Tetrachloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
1,1,1,2,2-Tetrachloroethane	ND	0.00070	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
Tetrachloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
Tetrahydrofuran	ND	0.0070	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
Toluene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
1,2,3-Trichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
1,2,4-Trichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
1,1,1-Trichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
1,1,2-Trichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
Trichloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0070	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
1,2,3-Trichloropropane	ND	0.0028	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
1,2,4-Trimethylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
1,3,5-Trimethylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
Vinyl Chloride	ND	0.0070	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
m+p Xylene	ND	0.0028	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF
o-Xylene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:09	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	95.1	70-130	3/1/21 7:09
Toluene-d8	103	70-130	3/1/21 7:09
4-Bromofluorobenzene	109	70-130	3/1/21 7:09

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Project Location: 434 Boston Post Road, Wayland,

Sample Description:

Work Order: 21B1162

Date Received: 2/26/2021

Field Sample #: V-302-DISP-FR

Sampled: 2/26/2021 10:50

Sample ID: 21B1162-02

Sample Matrix: Soil

Sample Flags: RL-08

## Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.37	0.20	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Acenaphthylene	ND	0.37	0.24	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Acetophenone	ND	0.74	0.28	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Aniline	ND	0.74	0.17	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Anthracene	0.28	0.37	0.20	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Benzo(a)anthracene	0.82	0.37	0.24	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Benzo(a)pyrene	0.83	0.37	0.24	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Benzo(b)fluoranthene	0.86	0.37	0.24	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Benzo(g,h,i)perylene	0.40	0.37	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Benzo(k)fluoranthene	0.35	0.37	0.24	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Bis(2-chloroethoxy)methane	ND	0.74	0.31	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Bis(2-chloroethyl)ether	ND	0.74	0.37	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Bis(2-chloroisopropyl)ether	ND	0.74	0.50	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Bis(2-Ethylhexyl)phthalate	ND	0.74	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
4-Bromophenylphenylether	ND	0.74	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Butylbenzylphthalate	ND	0.74	0.26	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
4-Chloroaniline	ND	1.4	0.31	mg/Kg dry	2	V-34	SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
2-Chloronaphthalene	ND	0.74	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
2-Chlorophenol	ND	0.74	0.26	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Chrysene	0.89	0.37	0.24	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Dibenz(a,h)anthracene	ND	0.37	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Dibenzofuran	ND	0.74	0.26	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Di-n-butylphthalate	ND	0.74	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
1,2-Dichlorobenzene	ND	0.74	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
1,3-Dichlorobenzene	ND	0.74	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
1,4-Dichlorobenzene	ND	0.74	0.20	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
3,3-Dichlorobenzidine	ND	0.37	0.28	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
2,4-Dichlorophenol	ND	0.74	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Diethylphthalate	ND	0.74	0.31	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
2,4-Dimethylphenol	ND	0.74	0.26	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Dimethylphthalate	ND	0.74	0.28	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
2,4-Dinitrophenol	ND	1.4	1.0	mg/Kg dry	2	V-06	SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
2,4-Dinitrotoluene	ND	0.74	0.35	mg/Kg dry	2	V-06	SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
2,6-Dinitrotoluene	ND	0.74	0.35	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Di-n-octylphthalate	ND	0.74	0.33	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
1,2-Diphenylhydrazine/Azobenzene	ND	0.74	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Fluoranthene	1.3	0.37	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Fluorene	ND	0.37	0.26	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Hexachlorobenzene	ND	0.74	0.20	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Hexachlorobutadiene	ND	0.74	0.28	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Hexachloroethane	ND	0.74	0.24	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Indeno(1,2,3-cd)pyrene	0.41	0.37	0.26	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Isophorone	ND	0.74	0.26	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
2-Methylnaphthalene	ND	0.37	0.24	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 434 Boston Post Road, Wayland,

Sample Description:

Work Order: 21B1162

Date Received: 2/26/2021

Field Sample #: V-302-DISP-FR

Sampled: 2/26/2021 10:50

Sample ID: 21B1162-02

Sample Matrix: Soil

Sample Flags: RL-08

**Semivolatile Organic Compounds by GC/MS**

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2-Methylphenol	ND	0.74	0.28	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
3/4-Methylphenol	ND	0.74	0.26	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Naphthalene	ND	0.37	0.24	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Nitrobenzene	ND	0.74	0.31	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
2-Nitrophenol	ND	0.74	0.31	mg/Kg dry	2	V-06	SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
4-Nitrophenol	ND	1.4	0.52	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Pentachlorophenol	ND	0.74	0.50	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Phenanthrene	1.2	0.37	0.20	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Phenol	ND	0.74	0.26	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Pyrene	2.1	0.37	0.24	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Pyridine	ND	0.74	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
1,2,4-Trichlorobenzene	ND	0.74	0.24	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
2,4,5-Trichlorophenol	ND	0.74	0.26	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
2,4,6-Trichlorophenol	ND	0.74	0.26	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:03	BGL
Surrogates		% Recovery	Recovery Limits			Flag/Qual				
2-Fluorophenol		56.7	30-130						3/1/21 18:03	
Phenol-d6		66.1	30-130						3/1/21 18:03	
Nitrobenzene-d5		58.4	30-130						3/1/21 18:03	
2-Fluorobiphenyl		62.4	30-130						3/1/21 18:03	
2,4,6-Tribromophenol		57.9	30-130						3/1/21 18:03	
p-Terphenyl-d14		73.6	30-130						3/1/21 18:03	



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Project Location: 434 Boston Post Road, Wayland,

Sample Description:

Work Order: 21B1162

Date Received: 2/26/2021

Field Sample #: V-302-DISP-FR

Sampled: 2/26/2021 10:50

Sample ID: 21B1162-02

Sample Matrix: Soil

Sample Flags: O-32

**Polychlorinated Biphenyls with 3540 Soxhlet Extraction**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	2/26/21	2/28/21 22:28	JMB
Aroclor-1221 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	2/26/21	2/28/21 22:28	JMB
Aroclor-1232 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	2/26/21	2/28/21 22:28	JMB
Aroclor-1242 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	2/26/21	2/28/21 22:28	JMB
Aroclor-1248 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	2/26/21	2/28/21 22:28	JMB
Aroclor-1254 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	2/26/21	2/28/21 22:28	JMB
Aroclor-1260 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	2/26/21	2/28/21 22:28	JMB
Aroclor-1262 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	2/26/21	2/28/21 22:28	JMB
Aroclor-1268 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	2/26/21	2/28/21 22:28	JMB
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Decachlorobiphenyl [1]		68.2	30-150					2/28/21 22:28	
Decachlorobiphenyl [2]		75.9	30-150					2/28/21 22:28	
Tetrachloro-m-xylene [1]		87.8	30-150					2/28/21 22:28	
Tetrachloro-m-xylene [2]		92.6	30-150					2/28/21 22:28	

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 434 Boston Post Road, Wayland,

Sample Description:

Work Order: 21B1162

Date Received: 2/26/2021

**Field Sample #: V-302-DISP-FR**

Sampled: 2/26/2021 10:50

**Sample ID: 21B1162-02**

Sample Matrix: Soil

**Petroleum Hydrocarbons Analyses**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	660	91	mg/Kg dry	10	O-25	SW-846 8015C	2/27/21	3/1/21 11:32	RDD
Surrogates	% Recovery		Recovery Limits		Flag/Qual				
2-Fluorobiphenyl	53.5		40-140				3/1/21 11:32		

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 434 Boston Post Road, Wayland,

Sample Description:

Work Order: 21B1162

Date Received: 2/26/2021

Field Sample #: V-302-DISP-FR

Sampled: 2/26/2021 10:50

Sample ID: 21B1162-02

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.8	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:37	AJL
Arsenic	6.3	3.6	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:37	AJL
Barium	37	1.8	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:37	AJL
Beryllium	0.24	0.18	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:37	AJL
Cadmium	ND	0.36	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:37	AJL
Chromium	14	0.71	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:37	AJL
Lead	23	0.54	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:37	AJL
Mercury	ND	0.028	mg/Kg dry	1		SW-846 7471B	3/1/21	3/3/21 11:32	CJV
Nickel	10	0.71	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:37	AJL
Selenium	ND	3.6	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:37	AJL
Silver	ND	0.36	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:37	AJL
Thallium	ND	1.8	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:37	AJL
Vanadium	18	0.71	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:37	AJL
Zinc	31	0.71	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:37	AJL

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Project Location: 434 Boston Post Road, Wayland,

Sample Description:

Work Order: 21B1162

Date Received: 2/26/2021

Field Sample #: V-302-DISP-FR

Sampled: 2/26/2021 10:50

Sample ID: 21B1162-02

Sample Matrix: Soil

**Conventional Chemistry Parameters by EPA/PHA/SW-846 Methods (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	90.5		% Wt	1		SM 2540G	2/27/21	2/27/21 15:21	ERL
Ignitability	Absent		present/absent	1		SW-846 1030	2/26/21	2/26/21 19:00	DJM
pH @19°C	8.1		pH Units	1	H-12	SW-846 9045C	3/1/21	3/1/21 20:25	DJM
Reactive Cyanide	ND	3.9	mg/Kg	1		SW-846 9014	3/2/21	3/2/21 14:47	YR
Reactive Sulfide	ND	20	mg/Kg	1		SW-846 9030A	3/2/21	3/2/21 14:23	YR
Specific conductance	6.4	2.0	µmhos/cm	1		SM21-22 2510B Modified	3/1/21	3/1/21 8:41	EC

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Project Location: 434 Boston Post Road, Wayland,

Sample Description:

Work Order: 21B1162

Date Received: 2/26/2021

Field Sample #: V-303-DISP-FR

Sampled: 2/26/2021 10:40

Sample ID: 21B1162-03

Sample Matrix: Soil

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.067	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00067	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
Benzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
Bromobenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
Bromochloromethane	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
Bromodichloromethane	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
Bromoform	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
Bromomethane	ND	0.0067	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
2-Butanone (MEK)	ND	0.027	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
n-Butylbenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
sec-Butylbenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
tert-Butylbenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00067	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
Carbon Disulfide	ND	0.0040	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
Carbon Tetrachloride	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
Chlorobenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
Chlorodibromomethane	ND	0.00067	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
Chloroethane	ND	0.0067	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
Chloroform	ND	0.0027	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
Chloromethane	ND	0.0067	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
2-Chlorotoluene	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
4-Chlorotoluene	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
1,2-Dibromoethane (EDB)	ND	0.00067	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
Dibromomethane	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
1,2-Dichlorobenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
1,3-Dichlorobenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
1,4-Dichlorobenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.0067	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
1,1-Dichloroethane	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
1,2-Dichloroethane	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
1,1-Dichloroethylene	ND	0.0027	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
cis-1,2-Dichloroethylene	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
trans-1,2-Dichloroethylene	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
1,2-Dichloropropane	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
1,3-Dichloropropane	ND	0.00067	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
2,2-Dichloropropane	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
1,1-Dichloropropene	ND	0.0027	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
cis-1,3-Dichloropropene	ND	0.00067	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
trans-1,3-Dichloropropene	ND	0.00067	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
Diethyl Ether	ND	0.0067	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
Diisopropyl Ether (DIPE)	ND	0.00067	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
1,4-Dioxane	ND	0.067	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
Ethylbenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF



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Project Location: 434 Boston Post Road, Wayland,

Sample Description:

Work Order: 21B1162

Date Received: 2/26/2021

Field Sample #: V-303-DISP-FR

Sampled: 2/26/2021 10:40

Sample ID: 21B1162-03

Sample Matrix: Soil

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
2-Hexanone (MBK)	ND	0.013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
Isopropylbenzene (Cumene)	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0027	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
Methylene Chloride	ND	0.0067	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
Naphthalene	ND	0.0027	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
n-Propylbenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
Styrene	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
1,1,1,2-Tetrachloroethane	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
1,1,2,2-Tetrachloroethane	ND	0.00067	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
Tetrachloroethylene	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
Tetrahydrofuran	ND	0.0067	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
Toluene	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
1,2,3-Trichlorobenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
1,2,4-Trichlorobenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
1,1,1-Trichloroethane	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
1,1,2-Trichloroethane	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
Trichloroethylene	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0067	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
1,2,3-Trichloropropane	ND	0.0027	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
1,2,4-Trimethylbenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
1,3,5-Trimethylbenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
Vinyl Chloride	ND	0.0067	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
m+p Xylene	ND	0.0027	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF
o-Xylene	ND	0.0013	mg/Kg dry	1		SW-846 8260C-D	3/1/21	3/1/21 7:36	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	97.5	70-130	3/1/21 7:36
Toluene-d8	102	70-130	3/1/21 7:36
4-Bromofluorobenzene	108	70-130	3/1/21 7:36

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Project Location: 434 Boston Post Road, Wayland,

Sample Description:

Work Order: 21B1162

Date Received: 2/26/2021

Field Sample #: V-303-DISP-FR

Sampled: 2/26/2021 10:40

Sample ID: 21B1162-03

Sample Matrix: Soil

Sample Flags: RL-08

## Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.37	0.20	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Acenaphthylene	ND	0.37	0.24	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Acetophenone	ND	0.75	0.29	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Aniline	ND	0.75	0.18	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Anthracene	ND	0.37	0.20	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Benzo(a)anthracene	0.38	0.37	0.24	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Benzo(a)pyrene	0.44	0.37	0.24	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Benzo(b)fluoranthene	0.50	0.37	0.24	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Benzo(g,h,i)perylene	0.25	0.37	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Benzo(k)fluoranthene	ND	0.37	0.24	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Bis(2-chloroethoxy)methane	ND	0.75	0.31	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Bis(2-chloroethyl)ether	ND	0.75	0.37	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Bis(2-chloroisopropyl)ether	ND	0.75	0.51	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Bis(2-Ethylhexyl)phthalate	ND	0.75	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
4-Bromophenylphenylether	ND	0.75	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Butylbenzylphthalate	ND	0.75	0.26	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
4-Chloroaniline	ND	1.5	0.31	mg/Kg dry	2	V-34	SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
2-Chloronaphthalene	ND	0.75	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
2-Chlorophenol	ND	0.75	0.26	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Chrysene	0.45	0.37	0.24	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Dibenz(a,h)anthracene	ND	0.37	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Dibenzofuran	ND	0.75	0.26	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Di-n-butylphthalate	ND	0.75	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
1,2-Dichlorobenzene	ND	0.75	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
1,3-Dichlorobenzene	ND	0.75	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
1,4-Dichlorobenzene	ND	0.75	0.20	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
3,3-Dichlorobenzidine	ND	0.37	0.29	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
2,4-Dichlorophenol	ND	0.75	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Diethylphthalate	ND	0.75	0.31	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
2,4-Dimethylphenol	ND	0.75	0.26	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Dimethylphthalate	ND	0.75	0.29	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
2,4-Dinitrophenol	ND	1.5	1.0	mg/Kg dry	2	V-06	SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
2,4-Dinitrotoluene	ND	0.75	0.35	mg/Kg dry	2	V-06	SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
2,6-Dinitrotoluene	ND	0.75	0.35	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Di-n-octylphthalate	ND	0.75	0.33	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
1,2-Diphenylhydrazine/Azobenzene	ND	0.75	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Fluoranthene	0.50	0.37	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Fluorene	ND	0.37	0.26	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Hexachlorobenzene	ND	0.75	0.20	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Hexachlorobutadiene	ND	0.75	0.29	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Hexachloroethane	ND	0.75	0.24	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Indeno(1,2,3-cd)pyrene	ND	0.37	0.26	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Isophorone	ND	0.75	0.26	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
2-Methylnaphthalene	ND	0.37	0.24	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL

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Project Location: 434 Boston Post Road, Wayland,

Sample Description:

Work Order: 21B1162

Date Received: 2/26/2021

Field Sample #: V-303-DISP-FR

Sampled: 2/26/2021 10:40

Sample ID: 21B1162-03

Sample Matrix: Soil

Sample Flags: RL-08

**Semivolatile Organic Compounds by GC/MS**

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2-Methylphenol	ND	0.75	0.29	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
3/4-Methylphenol	ND	0.75	0.26	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Naphthalene	ND	0.37	0.24	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Nitrobenzene	ND	0.75	0.31	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
2-Nitrophenol	ND	0.75	0.31	mg/Kg dry	2	V-06	SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
4-Nitrophenol	ND	1.5	0.53	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Pentachlorophenol	ND	0.75	0.51	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Phenanthrene	0.27	0.37	0.20	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Phenol	ND	0.75	0.26	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Pyrene	0.85	0.37	0.24	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
Pyridine	ND	0.75	0.22	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
1,2,4-Trichlorobenzene	ND	0.75	0.24	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
2,4,5-Trichlorophenol	ND	0.75	0.26	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL
2,4,6-Trichlorophenol	ND	0.75	0.26	mg/Kg dry	2		SW-846 8270D-E	2/27/21	3/1/21 18:26	BGL

Surrogates	% Recovery	Recovery Limits	Flag/Qual
2-Fluorophenol	55.8	30-130	
Phenol-d6	65.6	30-130	
Nitrobenzene-d5	57.4	30-130	
2-Fluorobiphenyl	61.8	30-130	
2,4,6-Tribromophenol	56.0	30-130	
p-Terphenyl-d14	69.8	30-130	

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Project Location: 434 Boston Post Road, Wayland,

Sample Description:

Work Order: 21B1162

Date Received: 2/26/2021

Field Sample #: V-303-DISP-FR

Sampled: 2/26/2021 10:40

Sample ID: 21B1162-03

Sample Matrix: Soil

Sample Flags: O-32

**Polychlorinated Biphenyls with 3540 Soxhlet Extraction**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	2/26/21	2/28/21 22:46	JMB
Aroclor-1221 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	2/26/21	2/28/21 22:46	JMB
Aroclor-1232 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	2/26/21	2/28/21 22:46	JMB
Aroclor-1242 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	2/26/21	2/28/21 22:46	JMB
Aroclor-1248 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	2/26/21	2/28/21 22:46	JMB
Aroclor-1254 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	2/26/21	2/28/21 22:46	JMB
Aroclor-1260 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	2/26/21	2/28/21 22:46	JMB
Aroclor-1262 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	2/26/21	2/28/21 22:46	JMB
Aroclor-1268 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	2/26/21	2/28/21 22:46	JMB
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Decachlorobiphenyl [1]		68.2	30-150					2/28/21 22:46	
Decachlorobiphenyl [2]		82.5	30-150					2/28/21 22:46	
Tetrachloro-m-xylene [1]		89.9	30-150					2/28/21 22:46	
Tetrachloro-m-xylene [2]		94.3	30-150					2/28/21 22:46	

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Project Location: 434 Boston Post Road, Wayland,

Sample Description:

Work Order: 21B1162

Date Received: 2/26/2021

Field Sample #: V-303-DISP-FR

Sampled: 2/26/2021 10:40

Sample ID: 21B1162-03

Sample Matrix: Soil

**Petroleum Hydrocarbons Analyses**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	690	92	mg/Kg dry	10	O-25	SW-846 8015C	2/27/21	3/1/21 12:35	RDD
Surrogates	% Recovery		Recovery Limits		Flag/Qual				
2-Fluorobiphenyl	42.0		40-140					3/1/21 12:35	



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Project Location: 434 Boston Post Road, Wayland,

Sample Description:

Work Order: 21B1162

Date Received: 2/26/2021

Field Sample #: V-303-DISP-FR

Sampled: 2/26/2021 10:40

Sample ID: 21B1162-03

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.9	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:53	AJL
Arsenic	5.9	3.7	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:53	AJL
Barium	23	1.9	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:53	AJL
Beryllium	0.23	0.19	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:53	AJL
Cadmium	ND	0.37	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:53	AJL
Chromium	15	0.75	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:53	AJL
Lead	38	0.56	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:53	AJL
Mercury	ND	0.028	mg/Kg dry	1		SW-846 7471B	3/1/21	3/3/21 11:38	CJV
Nickel	9.6	0.75	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:53	AJL
Selenium	ND	3.7	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:53	AJL
Silver	ND	0.37	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:53	AJL
Thallium	ND	1.9	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:53	AJL
Vanadium	19	0.75	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:53	AJL
Zinc	42	0.75	mg/Kg dry	1		SW-846 6010D	3/1/21	3/2/21 14:53	AJL

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Project Location: 434 Boston Post Road, Wayland,

Sample Description:

Work Order: 21B1162

Date Received: 2/26/2021

Field Sample #: V-303-DISP-FR

Sampled: 2/26/2021 10:40

Sample ID: 21B1162-03

Sample Matrix: Soil

**Conventional Chemistry Parameters by EPA/PHA/SW-846 Methods (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	90.0		% Wt	1		SM 2540G	2/27/21	2/27/21 15:21	ERL
Ignitability	Absent		present/absent	1		SW-846 1030	2/26/21	2/26/21 19:00	DJM
pH @18.9°C	8.0		pH Units	1	H-12	SW-846 9045C	3/1/21	3/1/21 20:25	DJM
Reactive Cyanide	ND	3.9	mg/Kg	1		SW-846 9014	3/2/21	3/2/21 14:47	YR
Reactive Sulfide	ND	20	mg/Kg	1		SW-846 9030A	3/2/21	3/2/21 14:23	YR
Specific conductance	4.9	2.0	µmhos/cm	1		SM21-22 2510B Modified	3/1/21	3/1/21 8:41	EC

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**Sample Extraction Data**
**Prep Method: % Solids    Analytical Method: SM 2540G**

Lab Number [Field ID]	Batch	Date
21B1162-01 [V-301-DISP-FR]	B277194	02/27/21
21B1162-02 [V-302-DISP-FR]	B277194	02/27/21
21B1162-03 [V-303-DISP-FR]	B277194	02/27/21

**SM21-22 2510B Modified**

Lab Number [Field ID]	Batch	Initial [g]	Date
21B1162-01 [V-301-DISP-FR]	B277247	1.00	03/01/21
21B1162-02 [V-302-DISP-FR]	B277247	1.00	03/01/21
21B1162-03 [V-303-DISP-FR]	B277247	1.00	03/01/21

**SW-846 1030**

Lab Number [Field ID]	Batch	Initial [g]	Date
21B1162-01 [V-301-DISP-FR]	B277177	50.0	02/26/21
21B1162-02 [V-302-DISP-FR]	B277177	50.0	02/26/21
21B1162-03 [V-303-DISP-FR]	B277177	50.0	02/26/21

**Prep Method: SW-846 3050B    Analytical Method: SW-846 6010D**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
21B1162-01 [V-301-DISP-FR]	B277249	1.52	50.0	03/01/21
21B1162-02 [V-302-DISP-FR]	B277249	1.55	50.0	03/01/21
21B1162-03 [V-303-DISP-FR]	B277249	1.48	50.0	03/01/21

**Prep Method: SW-846 7471    Analytical Method: SW-846 7471B**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
21B1162-01 [V-301-DISP-FR]	B277246	0.594	50.0	03/01/21
21B1162-02 [V-302-DISP-FR]	B277246	0.595	50.0	03/01/21
21B1162-03 [V-303-DISP-FR]	B277246	0.594	50.0	03/01/21

**Prep Method: SW-846 3546    Analytical Method: SW-846 8015C**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
21B1162-01 [V-301-DISP-FR]	B277195	30.4	1.00	02/27/21
21B1162-02 [V-302-DISP-FR]	B277195	30.3	1.00	02/27/21
21B1162-03 [V-303-DISP-FR]	B277195	30.3	1.00	02/27/21

**Prep Method: SW-846 3540C    Analytical Method: SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
21B1162-01 [V-301-DISP-FR]	B277180	10.5	10.0	02/26/21
21B1162-02 [V-302-DISP-FR]	B277180	10.8	10.0	02/26/21
21B1162-03 [V-303-DISP-FR]	B277180	10.2	10.0	02/26/21

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**Sample Extraction Data**
**Prep Method: SW-846 5035    Analytical Method: SW-846 8260C-D**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
21B1162-01 [V-301-DISP-FR]	B277220	7.16	10.0	03/01/21
21B1162-02 [V-302-DISP-FR]	B277220	7.89	10.0	03/01/21
21B1162-03 [V-303-DISP-FR]	B277220	8.34	10.0	03/01/21

**Prep Method: SW-846 3546    Analytical Method: SW-846 8270D-E**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
21B1162-01 [V-301-DISP-FR]	B277196	30.4	1.00	02/27/21
21B1162-02 [V-302-DISP-FR]	B277196	30.3	1.00	02/27/21
21B1162-03 [V-303-DISP-FR]	B277196	30.3	1.00	02/27/21

**SW-846 9014**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
21B1162-01 [V-301-DISP-FR]	B277406	25.2	250	03/02/21
21B1162-02 [V-302-DISP-FR]	B277406	25.4	250	03/02/21
21B1162-03 [V-303-DISP-FR]	B277406	25.4	250	03/02/21

**SW-846 9030A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
21B1162-01 [V-301-DISP-FR]	B277407	25.4	250	03/02/21
21B1162-02 [V-302-DISP-FR]	B277407	25.2	250	03/02/21
21B1162-03 [V-303-DISP-FR]	B277407	25.4	250	03/02/21

**SW-846 9045C**

Lab Number [Field ID]	Batch	Initial [g]	Date
21B1162-01 [V-301-DISP-FR]	B277279	20.0	03/01/21
21B1162-02 [V-302-DISP-FR]	B277279	20.0	03/01/21
21B1162-03 [V-303-DISP-FR]	B277279	20.0	03/01/21

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## QUALITY CONTROL

## Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B277220 - SW-846 5035

Blank (B277220-BLK1)

Prepared &amp; Analyzed: 03/01/21

Acetone	ND	0.10	mg/Kg wet							
tert-Amyl Methyl Ether (TAME)	ND	0.0010	mg/Kg wet							
Benzene	ND	0.0020	mg/Kg wet							
Bromobenzene	ND	0.0020	mg/Kg wet							
Bromochloromethane	ND	0.0020	mg/Kg wet							
Bromodichloromethane	ND	0.0020	mg/Kg wet							
Bromoform	ND	0.0020	mg/Kg wet							
Bromomethane	ND	0.010	mg/Kg wet							
2-Butanone (MEK)	ND	0.040	mg/Kg wet							
n-Butylbenzene	ND	0.0020	mg/Kg wet							
sec-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butyl Ethyl Ether (TBEE)	ND	0.0010	mg/Kg wet							
Carbon Disulfide	ND	0.0060	mg/Kg wet							
Carbon Tetrachloride	ND	0.0020	mg/Kg wet							
Chlorobenzene	ND	0.0020	mg/Kg wet							
Chlorodibromomethane	ND	0.0010	mg/Kg wet							
Chloroethane	ND	0.010	mg/Kg wet							
Chloroform	ND	0.0040	mg/Kg wet							
Chloromethane	ND	0.010	mg/Kg wet							
2-Chlorotoluene	ND	0.0020	mg/Kg wet							
4-Chlorotoluene	ND	0.0020	mg/Kg wet							
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0020	mg/Kg wet							
1,2-Dibromoethane (EDB)	ND	0.0010	mg/Kg wet							
Dibromomethane	ND	0.0020	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,4-Dichlorobenzene	ND	0.0020	mg/Kg wet							
Dichlorodifluoromethane (Freon 12)	ND	0.010	mg/Kg wet							
1,1-Dichloroethane	ND	0.0020	mg/Kg wet							
1,2-Dichloroethane	ND	0.0020	mg/Kg wet							
1,1-Dichloroethylene	ND	0.0040	mg/Kg wet							
cis-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
trans-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
1,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,3-Dichloropropane	ND	0.0010	mg/Kg wet							
2,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,1-Dichloropropene	ND	0.0020	mg/Kg wet							
cis-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
trans-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
Diethyl Ether	ND	0.010	mg/Kg wet							
Diisopropyl Ether (DIPE)	ND	0.0010	mg/Kg wet							
1,4-Dioxane	ND	0.10	mg/Kg wet							
Ethylbenzene	ND	0.0020	mg/Kg wet							
Hexachlorobutadiene	ND	0.0020	mg/Kg wet							
2-Hexanone (MBK)	ND	0.020	mg/Kg wet							
Isopropylbenzene (Cumene)	ND	0.0020	mg/Kg wet							
p-Isopropyltoluene (p-Cymene)	ND	0.0020	mg/Kg wet							
Methyl tert-Butyl Ether (MTBE)	ND	0.0040	mg/Kg wet							
Methylene Chloride	ND	0.010	mg/Kg wet							
4-Methyl-2-pentanone (MIBK)	ND	0.020	mg/Kg wet							
Naphthalene	ND	0.0040	mg/Kg wet							



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**QUALITY CONTROL**
**Volatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B277220 - SW-846 5035</b>										
<b>Blank (B277220-BLK1)</b>										
Prepared & Analyzed: 03/01/21										
n-Propylbenzene	ND	0.0020	mg/Kg wet							
Styrene	ND	0.0020	mg/Kg wet							
1,1,1,2-Tetrachloroethane	ND	0.0020	mg/Kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0010	mg/Kg wet							
Tetrachloroethylene	ND	0.0020	mg/Kg wet							
Tetrahydrofuran	ND	0.010	mg/Kg wet							
Toluene	ND	0.0020	mg/Kg wet							
1,2,3-Trichlorobenzene	ND	0.0020	mg/Kg wet							
1,2,4-Trichlorobenzene	ND	0.0020	mg/Kg wet							
1,1,1-Trichloroethane	ND	0.0020	mg/Kg wet							
1,1,2-Trichloroethane	ND	0.0020	mg/Kg wet							
Trichloroethylene	ND	0.0020	mg/Kg wet							
Trichlorofluoromethane (Freon 11)	ND	0.010	mg/Kg wet							
1,2,3-Trichloropropane	ND	0.0020	mg/Kg wet							
1,2,4-Trimethylbenzene	ND	0.0020	mg/Kg wet							
1,3,5-Trimethylbenzene	ND	0.0020	mg/Kg wet							
Vinyl Chloride	ND	0.010	mg/Kg wet							
m+p Xylene	ND	0.0040	mg/Kg wet							
o-Xylene	ND	0.0020	mg/Kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0444		mg/Kg wet	0.0500		88.8	70-130			
Surrogate: Toluene-d8	0.0507		mg/Kg wet	0.0500		101	70-130			
Surrogate: 4-Bromofluorobenzene	0.0525		mg/Kg wet	0.0500		105	70-130			
<b>LCS (B277220-BS1)</b>										
Prepared & Analyzed: 03/01/21										
Acetone	0.173	0.10	mg/Kg wet	0.200		86.4	40-160			†
tert-Amyl Methyl Ether (TAME)	0.0207	0.0010	mg/Kg wet	0.0200		104	70-130			
Benzene	0.0224	0.0020	mg/Kg wet	0.0200		112	70-130			
Bromobenzene	0.0181	0.0020	mg/Kg wet	0.0200		90.4	70-130			
Bromochloromethane	0.0236	0.0020	mg/Kg wet	0.0200		118	70-130			
Bromodichloromethane	0.0210	0.0020	mg/Kg wet	0.0200		105	70-130			
Bromoform	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130			
Bromomethane	0.0222	0.010	mg/Kg wet	0.0200		111	40-160			†
2-Butanone (MEK)	0.198	0.040	mg/Kg wet	0.200		98.9	40-160			†
n-Butylbenzene	0.0171	0.0020	mg/Kg wet	0.0200		85.3	70-130			
sec-Butylbenzene	0.0180	0.0020	mg/Kg wet	0.0200		90.2	70-130			
tert-Butylbenzene	0.0187	0.0020	mg/Kg wet	0.0200		93.3	70-130			
tert-Butyl Ethyl Ether (TBEE)	0.0210	0.0010	mg/Kg wet	0.0200		105	70-130			
Carbon Disulfide	0.200	0.0060	mg/Kg wet	0.200		99.8	70-130			
Carbon Tetrachloride	0.0203	0.0020	mg/Kg wet	0.0200		101	70-130			
Chlorobenzene	0.0196	0.0020	mg/Kg wet	0.0200		98.0	70-130			
Chlorodibromomethane	0.0230	0.0010	mg/Kg wet	0.0200		115	70-130			
Chloroethane	0.0203	0.010	mg/Kg wet	0.0200		101	70-130			
Chloroform	0.0209	0.0040	mg/Kg wet	0.0200		104	70-130			
Chloromethane	0.0217	0.010	mg/Kg wet	0.0200		109	40-160			†
2-Chlorotoluene	0.0197	0.0020	mg/Kg wet	0.0200		98.3	70-130			
4-Chlorotoluene	0.0203	0.0020	mg/Kg wet	0.0200		101	70-130			
1,2-Dibromo-3-chloropropane (DBCP)	0.0163	0.0020	mg/Kg wet	0.0200		81.5	70-130			
1,2-Dibromoethane (EDB)	0.0228	0.0010	mg/Kg wet	0.0200		114	70-130			
Dibromomethane	0.0230	0.0020	mg/Kg wet	0.0200		115	70-130			V-20
1,2-Dichlorobenzene	0.0190	0.0020	mg/Kg wet	0.0200		95.2	70-130			
1,3-Dichlorobenzene	0.0183	0.0020	mg/Kg wet	0.0200		91.6	70-130			
1,4-Dichlorobenzene	0.0175	0.0020	mg/Kg wet	0.0200		87.4	70-130			

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**QUALITY CONTROL**
**Volatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B277220 - SW-846 5035</b>										
<b>LCS (B277220-BS1)</b>										
Prepared & Analyzed: 03/01/21										
Dichlorodifluoromethane (Freon 12)	0.0229	0.010	mg/Kg wet	0.0200		114	40-160			V-36 †
1,1-Dichloroethane	0.0230	0.0020	mg/Kg wet	0.0200		115	70-130			
1,2-Dichloroethane	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130			
1,1-Dichloroethylene	0.0197	0.0040	mg/Kg wet	0.0200		98.3	70-130			
cis-1,2-Dichloroethylene	0.0201	0.0020	mg/Kg wet	0.0200		100	70-130			
trans-1,2-Dichloroethylene	0.0223	0.0020	mg/Kg wet	0.0200		112	70-130			
1,2-Dichloropropane	0.0211	0.0020	mg/Kg wet	0.0200		106	70-130			
1,3-Dichloropropane	0.0215	0.0010	mg/Kg wet	0.0200		107	70-130			
2,2-Dichloropropane	0.0213	0.0020	mg/Kg wet	0.0200		107	70-130			
1,1-Dichloropropene	0.0218	0.0020	mg/Kg wet	0.0200		109	70-130			
cis-1,3-Dichloropropene	0.0226	0.0010	mg/Kg wet	0.0200		113	70-130			
trans-1,3-Dichloropropene	0.0219	0.0010	mg/Kg wet	0.0200		110	70-130			
Diethyl Ether	0.0196	0.010	mg/Kg wet	0.0200		98.1	70-130			
Diisopropyl Ether (DIPE)	0.0208	0.0010	mg/Kg wet	0.0200		104	70-130			
1,4-Dioxane	0.213	0.10	mg/Kg wet	0.200		106	40-160			†
Ethylbenzene	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130			
Hexachlorobutadiene	0.0176	0.0020	mg/Kg wet	0.0200		88.0	70-130			
2-Hexanone (MBK)	0.198	0.020	mg/Kg wet	0.200		98.9	40-160			†
Isopropylbenzene (Cumene)	0.0178	0.0020	mg/Kg wet	0.0200		89.0	70-130			
p-Isopropyltoluene (p-Cymene)	0.0174	0.0020	mg/Kg wet	0.0200		87.2	70-130			
Methyl tert-Butyl Ether (MTBE)	0.0203	0.0040	mg/Kg wet	0.0200		102	70-130			
Methylene Chloride	0.0217	0.010	mg/Kg wet	0.0200		109	70-130			
4-Methyl-2-pentanone (MIBK)	0.198	0.020	mg/Kg wet	0.200		98.8	40-160			†
Naphthalene	0.0176	0.0040	mg/Kg wet	0.0200		87.8	70-130			
n-Propylbenzene	0.0196	0.0020	mg/Kg wet	0.0200		98.1	70-130			
Styrene	0.0211	0.0020	mg/Kg wet	0.0200		106	70-130			
1,1,1,2-Tetrachloroethane	0.0214	0.0020	mg/Kg wet	0.0200		107	70-130			
1,1,1,2,2-Tetrachloroethane	0.0190	0.0010	mg/Kg wet	0.0200		95.2	70-130			
Tetrachloroethylene	0.0222	0.0020	mg/Kg wet	0.0200		111	70-130			
Tetrahydrofuran	0.0234	0.010	mg/Kg wet	0.0200		117	70-130			
Toluene	0.0216	0.0020	mg/Kg wet	0.0200		108	70-130			
1,2,3-Trichlorobenzene	0.0171	0.0020	mg/Kg wet	0.0200		85.5	70-130			
1,2,4-Trichlorobenzene	0.0183	0.0020	mg/Kg wet	0.0200		91.5	70-130			
1,1,1-Trichloroethane	0.0199	0.0020	mg/Kg wet	0.0200		99.7	70-130			
1,1,2-Trichloroethane	0.0197	0.0020	mg/Kg wet	0.0200		98.6	70-130			
Trichloroethylene	0.0222	0.0020	mg/Kg wet	0.0200		111	70-130			
Trichlorofluoromethane (Freon 11)	0.0199	0.010	mg/Kg wet	0.0200		99.4	70-130			
1,2,3-Trichloropropane	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130			
1,2,4-Trimethylbenzene	0.0170	0.0020	mg/Kg wet	0.0200		85.2	70-130			
1,3,5-Trimethylbenzene	0.0190	0.0020	mg/Kg wet	0.0200		95.0	70-130			
Vinyl Chloride	0.0216	0.010	mg/Kg wet	0.0200		108	70-130			
m+p Xylene	0.0413	0.0040	mg/Kg wet	0.0400		103	70-130			
o-Xylene	0.0185	0.0020	mg/Kg wet	0.0200		92.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0434		mg/Kg wet	0.0500		86.7	70-130			
Surrogate: Toluene-d8	0.0515		mg/Kg wet	0.0500		103	70-130			
Surrogate: 4-Bromofluorobenzene	0.0530		mg/Kg wet	0.0500		106	70-130			

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**QUALITY CONTROL**
**Volatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B277220 - SW-846 5035</b>										
<b>LCS Dup (B277220-BSD1)</b>										
Prepared & Analyzed: 03/01/21										
Acetone	0.166	0.10	mg/Kg wet	0.200		82.9	40-160	4.21	20	†
tert-Amyl Methyl Ether (TAME)	0.0205	0.0010	mg/Kg wet	0.0200		102	70-130	1.26	20	
Benzene	0.0215	0.0020	mg/Kg wet	0.0200		108	70-130	3.74	20	
Bromobenzene	0.0180	0.0020	mg/Kg wet	0.0200		89.8	70-130	0.666	20	
Bromochloromethane	0.0237	0.0020	mg/Kg wet	0.0200		118	70-130	0.592	20	
Bromodichloromethane	0.0198	0.0020	mg/Kg wet	0.0200		99.1	70-130	5.78	20	
Bromoform	0.0190	0.0020	mg/Kg wet	0.0200		95.2	70-130	5.71	20	
Bromomethane	0.0215	0.010	mg/Kg wet	0.0200		108	40-160	3.02	20	†
2-Butanone (MEK)	0.197	0.040	mg/Kg wet	0.200		98.6	40-160	0.294	20	†
n-Butylbenzene	0.0169	0.0020	mg/Kg wet	0.0200		84.3	70-130	1.18	20	
sec-Butylbenzene	0.0172	0.0020	mg/Kg wet	0.0200		86.0	70-130	4.77	20	
tert-Butylbenzene	0.0181	0.0020	mg/Kg wet	0.0200		90.6	70-130	2.94	20	
tert-Butyl Ethyl Ether (TBEE)	0.0219	0.0010	mg/Kg wet	0.0200		110	70-130	4.28	20	
Carbon Disulfide	0.196	0.0060	mg/Kg wet	0.200		98.2	70-130	1.65	20	
Carbon Tetrachloride	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130	0.296	20	
Chlorobenzene	0.0192	0.0020	mg/Kg wet	0.0200		96.2	70-130	1.85	20	
Chlorodibromomethane	0.0223	0.0010	mg/Kg wet	0.0200		112	70-130	2.91	20	
Chloroethane	0.0219	0.010	mg/Kg wet	0.0200		110	70-130	7.96	20	
Chloroform	0.0207	0.0040	mg/Kg wet	0.0200		103	70-130	1.15	20	
Chloromethane	0.0212	0.010	mg/Kg wet	0.0200		106	40-160	2.33	20	†
2-Chlorotoluene	0.0193	0.0020	mg/Kg wet	0.0200		96.7	70-130	1.64	20	
4-Chlorotoluene	0.0187	0.0020	mg/Kg wet	0.0200		93.6	70-130	8.00	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.0154	0.0020	mg/Kg wet	0.0200		76.8	70-130	5.94	20	
1,2-Dibromoethane (EDB)	0.0212	0.0010	mg/Kg wet	0.0200		106	70-130	7.45	20	
Dibromomethane	0.0216	0.0020	mg/Kg wet	0.0200		108	70-130	6.46	20	V-20
1,2-Dichlorobenzene	0.0181	0.0020	mg/Kg wet	0.0200		90.3	70-130	5.28	20	
1,3-Dichlorobenzene	0.0173	0.0020	mg/Kg wet	0.0200		86.7	70-130	5.50	20	
1,4-Dichlorobenzene	0.0177	0.0020	mg/Kg wet	0.0200		88.3	70-130	1.02	20	
Dichlorodifluoromethane (Freon 12)	0.0233	0.010	mg/Kg wet	0.0200		117	40-160	1.90	20	V-36 †
1,1-Dichloroethane	0.0229	0.0020	mg/Kg wet	0.0200		115	70-130	0.522	20	
1,2-Dichloroethane	0.0200	0.0020	mg/Kg wet	0.0200		99.8	70-130	1.39	20	
1,1-Dichloroethylene	0.0196	0.0040	mg/Kg wet	0.0200		98.1	70-130	0.204	20	
cis-1,2-Dichloroethylene	0.0191	0.0020	mg/Kg wet	0.0200		95.3	70-130	5.31	20	
trans-1,2-Dichloroethylene	0.0224	0.0020	mg/Kg wet	0.0200		112	70-130	0.268	20	
1,2-Dichloropropane	0.0209	0.0020	mg/Kg wet	0.0200		105	70-130	0.951	20	
1,3-Dichloropropane	0.0211	0.0010	mg/Kg wet	0.0200		106	70-130	1.60	20	
2,2-Dichloropropane	0.0210	0.0020	mg/Kg wet	0.0200		105	70-130	1.51	20	
1,1-Dichloropropene	0.0215	0.0020	mg/Kg wet	0.0200		108	70-130	1.29	20	
cis-1,3-Dichloropropene	0.0214	0.0010	mg/Kg wet	0.0200		107	70-130	5.46	20	
trans-1,3-Dichloropropene	0.0226	0.0010	mg/Kg wet	0.0200		113	70-130	2.88	20	
Diethyl Ether	0.0181	0.010	mg/Kg wet	0.0200		90.6	70-130	7.95	20	
Diisopropyl Ether (DIPE)	0.0213	0.0010	mg/Kg wet	0.0200		106	70-130	2.18	20	
1,4-Dioxane	0.177	0.10	mg/Kg wet	0.200		88.6	40-160	18.2	20	†
Ethylbenzene	0.0201	0.0020	mg/Kg wet	0.0200		100	70-130	0.794	20	
Hexachlorobutadiene	0.0176	0.0020	mg/Kg wet	0.0200		87.8	70-130	0.228	20	
2-Hexanone (MBK)	0.192	0.020	mg/Kg wet	0.200		96.2	40-160	2.78	20	†
Isopropylbenzene (Cumene)	0.0183	0.0020	mg/Kg wet	0.0200		91.5	70-130	2.77	20	
p-Isopropyltoluene (p-Cymene)	0.0169	0.0020	mg/Kg wet	0.0200		84.6	70-130	3.03	20	
Methyl tert-Butyl Ether (MTBE)	0.0202	0.0040	mg/Kg wet	0.0200		101	70-130	0.593	20	
Methylene Chloride	0.0210	0.010	mg/Kg wet	0.0200		105	70-130	3.28	20	
4-Methyl-2-pentanone (MIBK)	0.196	0.020	mg/Kg wet	0.200		98.1	40-160	0.711	20	†
Naphthalene	0.0160	0.0040	mg/Kg wet	0.0200		80.0	70-130	9.30	20	

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**QUALITY CONTROL**
**Volatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B277220 - SW-846 5035</b>										
<b>LCS Dup (B277220-BSD1)</b>										
Prepared & Analyzed: 03/01/21										
n-Propylbenzene	0.0196	0.0020	mg/Kg wet	0.0200		97.8	70-130	0.306	20	
Styrene	0.0205	0.0020	mg/Kg wet	0.0200		102	70-130	3.27	20	
1,1,1,2-Tetrachloroethane	0.0219	0.0020	mg/Kg wet	0.0200		110	70-130	2.50	20	
1,1,2,2-Tetrachloroethane	0.0186	0.0010	mg/Kg wet	0.0200		93.1	70-130	2.23	20	
Tetrachloroethylene	0.0218	0.0020	mg/Kg wet	0.0200		109	70-130	1.72	20	
Tetrahydrofuran	0.0245	0.010	mg/Kg wet	0.0200		122	70-130	4.68	20	
Toluene	0.0213	0.0020	mg/Kg wet	0.0200		107	70-130	1.21	20	
1,2,3-Trichlorobenzene	0.0162	0.0020	mg/Kg wet	0.0200		80.8	70-130	5.65	20	
1,2,4-Trichlorobenzene	0.0179	0.0020	mg/Kg wet	0.0200		89.5	70-130	2.21	20	
1,1,1-Trichloroethane	0.0207	0.0020	mg/Kg wet	0.0200		103	70-130	3.64	20	
1,1,2-Trichloroethane	0.0189	0.0020	mg/Kg wet	0.0200		94.6	70-130	4.14	20	
Trichloroethylene	0.0215	0.0020	mg/Kg wet	0.0200		108	70-130	2.84	20	
Trichlorofluoromethane (Freon 11)	0.0194	0.010	mg/Kg wet	0.0200		97.0	70-130	2.44	20	
1,2,3-Trichloropropane	0.0196	0.0020	mg/Kg wet	0.0200		97.9	70-130	6.14	20	
1,2,4-Trimethylbenzene	0.0171	0.0020	mg/Kg wet	0.0200		85.6	70-130	0.468	20	
1,3,5-Trimethylbenzene	0.0193	0.0020	mg/Kg wet	0.0200		96.5	70-130	1.57	20	
Vinyl Chloride	0.0209	0.010	mg/Kg wet	0.0200		105	70-130	3.01	20	
m+p Xylene	0.0405	0.0040	mg/Kg wet	0.0400		101	70-130	2.10	20	
o-Xylene	0.0180	0.0020	mg/Kg wet	0.0200		90.2	70-130	2.52	20	
Surrogate: 1,2-Dichloroethane-d4	0.0435		mg/Kg wet	0.0500		87.0	70-130			
Surrogate: Toluene-d8	0.0503		mg/Kg wet	0.0500		101	70-130			
Surrogate: 4-Bromofluorobenzene	0.0528		mg/Kg wet	0.0500		106	70-130			

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**QUALITY CONTROL**
**Semivolatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B277196 - SW-846 3546</b>										
<b>Blank (B277196-BLK1)</b>										
Prepared: 02/27/21 Analyzed: 03/01/21										
Acenaphthene	ND	0.17	mg/Kg wet							
Acenaphthylene	ND	0.17	mg/Kg wet							
Acetophenone	ND	0.34	mg/Kg wet							
Aniline	ND	0.34	mg/Kg wet							
Anthracene	ND	0.17	mg/Kg wet							
Benzo(a)anthracene	ND	0.17	mg/Kg wet							
Benzo(a)pyrene	ND	0.17	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.17	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.17	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.17	mg/Kg wet							
Bis(2-chloroethoxy)methane	ND	0.34	mg/Kg wet							
Bis(2-chloroethyl)ether	ND	0.34	mg/Kg wet							
Bis(2-chloroisopropyl)ether	ND	0.34	mg/Kg wet							
Bis(2-Ethylhexyl)phthalate	ND	0.34	mg/Kg wet							
4-Bromophenylphenylether	ND	0.34	mg/Kg wet							
Butylbenzylphthalate	ND	0.34	mg/Kg wet							
4-Chloroaniline	ND	0.66	mg/Kg wet							V-34
2-Chloronaphthalene	ND	0.34	mg/Kg wet							
2-Chlorophenol	ND	0.34	mg/Kg wet							
Chrysene	ND	0.17	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.17	mg/Kg wet							
Dibenzofuran	ND	0.34	mg/Kg wet							
Di-n-butylphthalate	ND	0.34	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.34	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.34	mg/Kg wet							
1,4-Dichlorobenzene	ND	0.34	mg/Kg wet							
3,3-Dichlorobenzidine	ND	0.17	mg/Kg wet							
2,4-Dichlorophenol	ND	0.34	mg/Kg wet							
Diethylphthalate	ND	0.34	mg/Kg wet							
2,4-Dimethylphenol	ND	0.34	mg/Kg wet							
Dimethylphthalate	ND	0.34	mg/Kg wet							
2,4-Dinitrophenol	ND	0.66	mg/Kg wet							V-06
2,4-Dinitrotoluene	ND	0.34	mg/Kg wet							V-06
2,6-Dinitrotoluene	ND	0.34	mg/Kg wet							
Di-n-octylphthalate	ND	0.34	mg/Kg wet							
1,2-Diphenylhydrazine/Azobenzene	ND	0.34	mg/Kg wet							
Fluoranthene	ND	0.17	mg/Kg wet							
Fluorene	ND	0.17	mg/Kg wet							
Hexachlorobenzene	ND	0.34	mg/Kg wet							
Hexachlorobutadiene	ND	0.34	mg/Kg wet							
Hexachloroethane	ND	0.34	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.17	mg/Kg wet							
Isophorone	ND	0.34	mg/Kg wet							
2-Methylnaphthalene	ND	0.17	mg/Kg wet							
2-Methylphenol	ND	0.34	mg/Kg wet							
3/4-Methylphenol	ND	0.34	mg/Kg wet							
Naphthalene	ND	0.17	mg/Kg wet							
Nitrobenzene	ND	0.34	mg/Kg wet							
2-Nitrophenol	ND	0.34	mg/Kg wet							V-06
4-Nitrophenol	ND	0.66	mg/Kg wet							
Pentachlorophenol	ND	0.34	mg/Kg wet							
Phenanthrene	ND	0.17	mg/Kg wet							



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## QUALITY CONTROL

## Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B277196 - SW-846 3546</b>										
<b>Blank (B277196-BLK1)</b>										
Prepared: 02/27/21 Analyzed: 03/01/21										
Phenol	ND	0.34	mg/Kg wet							
Pyrene	ND	0.17	mg/Kg wet							
Pyridine	ND	0.34	mg/Kg wet							
1,2,4-Trichlorobenzene	ND	0.34	mg/Kg wet							
2,4,5-Trichlorophenol	ND	0.34	mg/Kg wet							
2,4,6-Trichlorophenol	ND	0.34	mg/Kg wet							
Surrogate: 2-Fluorophenol	4.40		mg/Kg wet	6.67		66.0	30-130			
Surrogate: Phenol-d6	5.07		mg/Kg wet	6.67		76.1	30-130			
Surrogate: Nitrobenzene-d5	2.23		mg/Kg wet	3.33		67.0	30-130			
Surrogate: 2-Fluorobiphenyl	2.35		mg/Kg wet	3.33		70.4	30-130			
Surrogate: 2,4,6-Tribromophenol	2.44		mg/Kg wet	3.33		73.2	30-130			
Surrogate: p-Terphenyl-d14	2.89		mg/Kg wet	3.33		86.6	30-130			
<b>LCS (B277196-BS1)</b>										
Prepared: 02/27/21 Analyzed: 03/01/21										
Acenaphthene	1.20	0.17	mg/Kg wet	1.67		71.9	40-140			
Acenaphthylene	1.22	0.17	mg/Kg wet	1.67		73.3	40-140			
Acetophenone	1.20	0.34	mg/Kg wet	1.67		71.8	40-140			
Aniline	1.03	0.34	mg/Kg wet	1.67		61.9	40-140			
Anthracene	1.35	0.17	mg/Kg wet	1.67		81.0	40-140			
Benzo(a)anthracene	1.30	0.17	mg/Kg wet	1.67		78.1	40-140			
Benzo(a)pyrene	1.24	0.17	mg/Kg wet	1.67		74.5	40-140			
Benzo(b)fluoranthene	1.26	0.17	mg/Kg wet	1.67		75.4	40-140			
Benzo(g,h,i)perylene	1.45	0.17	mg/Kg wet	1.67		86.8	40-140			
Benzo(k)fluoranthene	1.22	0.17	mg/Kg wet	1.67		73.3	40-140			
Bis(2-chloroethoxy)methane	1.17	0.34	mg/Kg wet	1.67		70.4	40-140			
Bis(2-chloroethyl)ether	1.13	0.34	mg/Kg wet	1.67		67.5	40-140			
Bis(2-chloroisopropyl)ether	1.24	0.34	mg/Kg wet	1.67		74.4	40-140			
Bis(2-Ethylhexyl)phthalate	1.50	0.34	mg/Kg wet	1.67		90.3	40-140			
4-Bromophenylphenylether	1.19	0.34	mg/Kg wet	1.67		71.2	40-140			
Butylbenzylphthalate	1.46	0.34	mg/Kg wet	1.67		87.6	40-140			
4-Chloroaniline	0.991	0.66	mg/Kg wet	1.67		59.5	15-140			V-34 †
2-Chloronaphthalene	1.05	0.34	mg/Kg wet	1.67		62.8	40-140			
2-Chlorophenol	1.16	0.34	mg/Kg wet	1.67		69.8	30-130			
Chrysene	1.27	0.17	mg/Kg wet	1.67		76.1	40-140			
Dibenz(a,h)anthracene	1.42	0.17	mg/Kg wet	1.67		85.2	40-140			
Dibenzofuran	1.21	0.34	mg/Kg wet	1.67		72.6	40-140			
Di-n-butylphthalate	1.34	0.34	mg/Kg wet	1.67		80.2	40-140			
1,2-Dichlorobenzene	1.08	0.34	mg/Kg wet	1.67		64.5	40-140			
1,3-Dichlorobenzene	1.03	0.34	mg/Kg wet	1.67		61.8	40-140			
1,4-Dichlorobenzene	1.04	0.34	mg/Kg wet	1.67		62.2	40-140			
3,3-Dichlorobenzidine	1.10	0.17	mg/Kg wet	1.67		65.8	40-140			
2,4-Dichlorophenol	1.23	0.34	mg/Kg wet	1.67		73.6	30-130			
Diethylphthalate	1.25	0.34	mg/Kg wet	1.67		74.7	40-140			
2,4-Dimethylphenol	1.19	0.34	mg/Kg wet	1.67		71.1	30-130			
Dimethylphthalate	1.17	0.34	mg/Kg wet	1.67		70.5	40-140			
2,4-Dinitrophenol	0.544	0.66	mg/Kg wet	1.67		32.7	15-140			V-06 †
2,4-Dinitrotoluene	1.35	0.34	mg/Kg wet	1.67		80.8	40-140			V-06
2,6-Dinitrotoluene	1.34	0.34	mg/Kg wet	1.67		80.3	40-140			
Di-n-octylphthalate	1.49	0.34	mg/Kg wet	1.67		89.3	40-140			
1,2-Diphenylhydrazine/Azobenzene	1.26	0.34	mg/Kg wet	1.67		75.8	40-140			
Fluoranthene	1.28	0.17	mg/Kg wet	1.67		76.9	40-140			
Fluorene	1.26	0.17	mg/Kg wet	1.67		75.5	40-140			

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**QUALITY CONTROL**
**Semivolatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B277196 - SW-846 3546</b>										
<b>LCS (B277196-BS1)</b>										
					Prepared: 02/27/21 Analyzed: 03/01/21					
Hexachlorobenzene	1.21	0.34	mg/Kg wet	1.67		72.7	40-140			
Hexachlorobutadiene	1.06	0.34	mg/Kg wet	1.67		63.5	40-140			
Hexachloroethane	1.10	0.34	mg/Kg wet	1.67		65.9	40-140			
Indeno(1,2,3-cd)pyrene	1.45	0.17	mg/Kg wet	1.67		86.8	40-140			
Isophorone	1.24	0.34	mg/Kg wet	1.67		74.5	40-140			
2-Methylnaphthalene	1.27	0.17	mg/Kg wet	1.67		76.1	40-140			
2-Methylphenol	1.21	0.34	mg/Kg wet	1.67		72.5	30-130			
3/4-Methylphenol	1.22	0.34	mg/Kg wet	1.67		73.2	30-130			
Naphthalene	1.14	0.17	mg/Kg wet	1.67		68.3	40-140			
Nitrobenzene	1.13	0.34	mg/Kg wet	1.67		67.8	40-140			
2-Nitrophenol	1.38	0.34	mg/Kg wet	1.67		82.9	30-130			V-06
4-Nitrophenol	1.32	0.66	mg/Kg wet	1.67		79.1	15-140			†
Pentachlorophenol	0.887	0.34	mg/Kg wet	1.67		53.2	30-130			
Phenanthrene	1.32	0.17	mg/Kg wet	1.67		79.0	40-140			
Phenol	1.14	0.34	mg/Kg wet	1.67		68.2	15-140			†
Pyrene	1.37	0.17	mg/Kg wet	1.67		82.2	40-140			
Pyridine	0.793	0.34	mg/Kg wet	1.67		47.6	30-140			†
1,2,4-Trichlorobenzene	1.07	0.34	mg/Kg wet	1.67		64.0	40-140			
2,4,5-Trichlorophenol	1.29	0.34	mg/Kg wet	1.67		77.2	30-130			
2,4,6-Trichlorophenol	1.26	0.34	mg/Kg wet	1.67		75.8	30-130			
Surrogate: 2-Fluorophenol	4.95		mg/Kg wet	6.67		74.3	30-130			
Surrogate: Phenol-d6	5.49		mg/Kg wet	6.67		82.4	30-130			
Surrogate: Nitrobenzene-d5	2.45		mg/Kg wet	3.33		73.5	30-130			
Surrogate: 2-Fluorobiphenyl	2.61		mg/Kg wet	3.33		78.4	30-130			
Surrogate: 2,4,6-Tribromophenol	2.88		mg/Kg wet	3.33		86.3	30-130			
Surrogate: p-Terphenyl-d14	2.90		mg/Kg wet	3.33		87.2	30-130			
<b>LCS Dup (B277196-BS1)</b>										
					Prepared: 02/27/21 Analyzed: 03/01/21					
Acenaphthene	1.22	0.17	mg/Kg wet	1.67		72.9	40-140	1.46	30	
Acenaphthylene	1.25	0.17	mg/Kg wet	1.67		74.9	40-140	2.27	30	
Acetophenone	1.18	0.34	mg/Kg wet	1.67		70.5	40-140	1.77	30	
Aniline	0.933	0.34	mg/Kg wet	1.67		56.0	40-140	10.0	30	
Anthracene	1.35	0.17	mg/Kg wet	1.67		81.1	40-140	0.222	30	
Benzo(a)anthracene	1.32	0.17	mg/Kg wet	1.67		79.3	40-140	1.58	30	
Benzo(a)pyrene	1.25	0.17	mg/Kg wet	1.67		74.8	40-140	0.295	30	
Benzo(b)fluoranthene	1.26	0.17	mg/Kg wet	1.67		75.9	40-140	0.555	30	
Benzo(g,h,i)perylene	1.45	0.17	mg/Kg wet	1.67		87.0	40-140	0.138	30	
Benzo(k)fluoranthene	1.24	0.17	mg/Kg wet	1.67		74.4	40-140	1.54	30	
Bis(2-chloroethoxy)methane	1.17	0.34	mg/Kg wet	1.67		70.4	40-140	0.00	30	
Bis(2-chloroethyl)ether	1.11	0.34	mg/Kg wet	1.67		66.5	40-140	1.52	30	
Bis(2-chloroisopropyl)ether	1.24	0.34	mg/Kg wet	1.67		74.3	40-140	0.188	30	
Bis(2-Ethylhexyl)phthalate	1.53	0.34	mg/Kg wet	1.67		91.9	40-140	1.76	30	
4-Bromophenylphenylether	1.19	0.34	mg/Kg wet	1.67		71.5	40-140	0.421	30	
Butylbenzylphthalate	1.48	0.34	mg/Kg wet	1.67		88.6	40-140	1.13	30	
4-Chloroaniline	0.928	0.66	mg/Kg wet	1.67		55.7	15-140	6.60	30	V-34 †
2-Chloronaphthalene	1.02	0.34	mg/Kg wet	1.67		61.0	40-140	2.84	30	
2-Chlorophenol	1.15	0.34	mg/Kg wet	1.67		69.2	30-130	0.835	30	
Chrysene	1.29	0.17	mg/Kg wet	1.67		77.2	40-140	1.43	30	
Dibenz(a,h)anthracene	1.38	0.17	mg/Kg wet	1.67		83.1	40-140	2.50	30	
Dibenzofuran	1.23	0.34	mg/Kg wet	1.67		73.5	40-140	1.29	30	
Di-n-butylphthalate	1.34	0.34	mg/Kg wet	1.67		80.4	40-140	0.249	30	
1,2-Dichlorobenzene	1.03	0.34	mg/Kg wet	1.67		62.1	40-140	3.85	30	

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**QUALITY CONTROL**
**Semivolatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B277196 - SW-846 3546</b>										
<b>LCS Dup (B277196-BS1)</b>										
					Prepared: 02/27/21 Analyzed: 03/01/21					
1,3-Dichlorobenzene	0.993	0.34	mg/Kg wet	1.67		59.6	40-140	3.69	30	
1,4-Dichlorobenzene	1.02	0.34	mg/Kg wet	1.67		61.2	40-140	1.52	30	
3,3-Dichlorobenzidine	0.957	0.17	mg/Kg wet	1.67		57.4	40-140	13.6	30	
2,4-Dichlorophenol	1.27	0.34	mg/Kg wet	1.67		76.0	30-130	3.21	30	
Diethylphthalate	1.25	0.34	mg/Kg wet	1.67		75.2	40-140	0.667	30	
2,4-Dimethylphenol	1.21	0.34	mg/Kg wet	1.67		72.4	30-130	1.76	30	
Dimethylphthalate	1.20	0.34	mg/Kg wet	1.67		71.8	40-140	1.91	30	
2,4-Dinitrophenol	0.678	0.66	mg/Kg wet	1.67		40.7	15-140	21.8	30	V-06 †
2,4-Dinitrotoluene	1.37	0.34	mg/Kg wet	1.67		82.2	40-140	1.64	30	V-06
2,6-Dinitrotoluene	1.35	0.34	mg/Kg wet	1.67		80.8	40-140	0.546	30	
Di-n-octylphthalate	1.50	0.34	mg/Kg wet	1.67		89.9	40-140	0.580	30	
1,2-Diphenylhydrazine/Azobenzene	1.27	0.34	mg/Kg wet	1.67		76.1	40-140	0.474	30	
Fluoranthene	1.29	0.17	mg/Kg wet	1.67		77.5	40-140	0.725	30	
Fluorene	1.28	0.17	mg/Kg wet	1.67		76.7	40-140	1.55	30	
Hexachlorobenzene	1.22	0.34	mg/Kg wet	1.67		73.0	40-140	0.384	30	
Hexachlorobutadiene	1.05	0.34	mg/Kg wet	1.67		63.2	40-140	0.505	30	
Hexachloroethane	1.05	0.34	mg/Kg wet	1.67		63.3	40-140	4.06	30	
Indeno(1,2,3-cd)pyrene	1.49	0.17	mg/Kg wet	1.67		89.5	40-140	3.04	30	
Isophorone	1.26	0.34	mg/Kg wet	1.67		75.7	40-140	1.65	30	
2-Methylnaphthalene	1.30	0.17	mg/Kg wet	1.67		77.8	40-140	2.26	30	
2-Methylphenol	1.22	0.34	mg/Kg wet	1.67		73.4	30-130	1.12	30	
3/4-Methylphenol	1.25	0.34	mg/Kg wet	1.67		74.7	30-130	2.00	30	
Naphthalene	1.15	0.17	mg/Kg wet	1.67		68.8	40-140	0.817	30	
Nitrobenzene	1.14	0.34	mg/Kg wet	1.67		68.2	40-140	0.647	30	
2-Nitrophenol	1.39	0.34	mg/Kg wet	1.67		83.5	30-130	0.649	30	V-06
4-Nitrophenol	1.30	0.66	mg/Kg wet	1.67		78.3	15-140	0.991	30	†
Pentachlorophenol	0.906	0.34	mg/Kg wet	1.67		54.4	30-130	2.19	30	
Phenanthrene	1.33	0.17	mg/Kg wet	1.67		79.9	40-140	1.13	30	
Phenol	1.13	0.34	mg/Kg wet	1.67		67.7	15-140	0.794	30	†
Pyrene	1.38	0.17	mg/Kg wet	1.67		82.7	40-140	0.606	30	
Pyridine	0.760	0.34	mg/Kg wet	1.67		45.6	30-140	4.25	30	†
1,2,4-Trichlorobenzene	1.08	0.34	mg/Kg wet	1.67		64.5	40-140	0.747	30	
2,4,5-Trichlorophenol	1.28	0.34	mg/Kg wet	1.67		76.9	30-130	0.337	30	
2,4,6-Trichlorophenol	1.27	0.34	mg/Kg wet	1.67		76.3	30-130	0.631	30	
Surrogate: 2-Fluorophenol	4.75		mg/Kg wet	6.67		71.2	30-130			
Surrogate: Phenol-d6	5.38		mg/Kg wet	6.67		80.6	30-130			
Surrogate: Nitrobenzene-d5	2.44		mg/Kg wet	3.33		73.3	30-130			
Surrogate: 2-Fluorobiphenyl	2.56		mg/Kg wet	3.33		76.9	30-130			
Surrogate: 2,4,6-Tribromophenol	2.84		mg/Kg wet	3.33		85.3	30-130			
Surrogate: p-Terphenyl-d14	2.87		mg/Kg wet	3.33		86.2	30-130			

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**QUALITY CONTROL**
**Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B277180 - SW-846 3540C</b>										
<b>Blank (B277180-BLK1)</b>										
Prepared: 02/26/21 Analyzed: 02/28/21										
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	0.189		mg/Kg wet	0.200		94.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.188		mg/Kg wet	0.200		94.2	30-150			
Surrogate: Tetrachloro-m-xylene	0.183		mg/Kg wet	0.200		91.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.198		mg/Kg wet	0.200		99.2	30-150			
<b>LCS (B277180-BS1)</b>										
Prepared: 02/26/21 Analyzed: 02/28/21										
Aroclor-1016	0.16	0.020	mg/Kg wet	0.200		82.2	40-140			
Aroclor-1016 [2C]	0.17	0.020	mg/Kg wet	0.200		86.7	40-140			
Aroclor-1260	0.16	0.020	mg/Kg wet	0.200		78.4	40-140			
Aroclor-1260 [2C]	0.16	0.020	mg/Kg wet	0.200		81.3	40-140			
Surrogate: Decachlorobiphenyl	0.184		mg/Kg wet	0.200		91.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.186		mg/Kg wet	0.200		92.8	30-150			
Surrogate: Tetrachloro-m-xylene	0.177		mg/Kg wet	0.200		88.4	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.194		mg/Kg wet	0.200		97.0	30-150			
<b>LCS Dup (B277180-BSD1)</b>										
Prepared: 02/26/21 Analyzed: 02/28/21										
Aroclor-1016	0.16	0.020	mg/Kg wet	0.200		80.9	40-140	1.67	30	
Aroclor-1016 [2C]	0.17	0.020	mg/Kg wet	0.200		86.9	40-140	0.173	30	
Aroclor-1260	0.16	0.020	mg/Kg wet	0.200		78.4	40-140	0.0191	30	
Aroclor-1260 [2C]	0.16	0.020	mg/Kg wet	0.200		81.3	40-140	0.0105	30	
Surrogate: Decachlorobiphenyl	0.185		mg/Kg wet	0.200		92.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.185		mg/Kg wet	0.200		92.7	30-150			
Surrogate: Tetrachloro-m-xylene	0.177		mg/Kg wet	0.200		88.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.193		mg/Kg wet	0.200		96.7	30-150			

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**QUALITY CONTROL**
**Petroleum Hydrocarbons Analyses - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B277195 - SW-846 3546</b>										
<b>Blank (B277195-BLK1)</b>										
					Prepared: 02/27/21 Analyzed: 03/01/21					
TPH (C9-C36)	ND	8.3	mg/Kg wet							
Surrogate: 2-Fluorobiphenyl	1.86		mg/Kg wet	3.33		55.8	40-140			
<b>LCS (B277195-BS1)</b>										
					Prepared: 02/27/21 Analyzed: 03/01/21					
TPH (C9-C36)	23.9	8.3	mg/Kg wet	33.3		71.7	40-140			
Surrogate: 2-Fluorobiphenyl	2.64		mg/Kg wet	3.33		79.3	40-140			
<b>LCS Dup (B277195-BSD1)</b>										
					Prepared: 02/27/21 Analyzed: 03/01/21					
TPH (C9-C36)	23.0	8.3	mg/Kg wet	33.3		69.1	40-140	3.75	25	
Surrogate: 2-Fluorobiphenyl	2.44		mg/Kg wet	3.33		73.1	40-140			
<b>Matrix Spike (B277195-MS1)</b>										
					Source: 21B1162-02		Prepared: 02/27/21 Analyzed: 03/01/21			
TPH (C9-C36)	686	92	mg/Kg dry	36.8	658	76.8	40-140			
Surrogate: 2-Fluorobiphenyl	1.95		mg/Kg dry	3.68		53.0	40-140			
<b>Matrix Spike Dup (B277195-MSD1)</b>										
					Source: 21B1162-02		Prepared: 02/27/21 Analyzed: 03/01/21			
TPH (C9-C36)	631	91	mg/Kg dry	36.6	658	-74.6 *	40-140	8.43	50	MS-22
Surrogate: 2-Fluorobiphenyl	1.71		mg/Kg dry	3.66		46.8	40-140			

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**QUALITY CONTROL**
**Metals Analyses (Total) - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B277246 - SW-846 7471</b>										
<b>Blank (B277246-BLK1)</b> Prepared: 03/01/21 Analyzed: 03/03/21										
Mercury	ND	0.025	mg/Kg wet							
<b>LCS (B277246-BS1)</b> Prepared: 03/01/21 Analyzed: 03/03/21										
Mercury	17.0	0.74	mg/Kg wet	15.6		109	59.3-140.4			
<b>LCS Dup (B277246-BSD1)</b> Prepared: 03/01/21 Analyzed: 03/03/21										
Mercury	20.3	0.75	mg/Kg wet	15.6		130	59.3-140.4	17.7	20	
<b>Batch B277249 - SW-846 3050B</b>										
<b>Blank (B277249-BLK1)</b> Prepared: 03/01/21 Analyzed: 03/02/21										
Antimony	ND	1.7	mg/Kg wet							
Arsenic	ND	3.3	mg/Kg wet							
Barium	ND	1.7	mg/Kg wet							
Beryllium	ND	0.17	mg/Kg wet							
Cadmium	ND	0.33	mg/Kg wet							
Chromium	ND	0.67	mg/Kg wet							
Lead	ND	0.50	mg/Kg wet							
Nickel	ND	0.67	mg/Kg wet							
Selenium	ND	3.3	mg/Kg wet							
Silver	ND	0.33	mg/Kg wet							
Thallium	ND	1.7	mg/Kg wet							
Vanadium	ND	0.67	mg/Kg wet							
Zinc	ND	0.67	mg/Kg wet							
<b>LCS (B277249-BS1)</b> Prepared: 03/01/21 Analyzed: 03/02/21										
Antimony	120	5.0	mg/Kg wet	134		89.8	1.9-200.7			
Arsenic	160	10	mg/Kg wet	170		93.9	82.9-117.6			
Barium	187	5.0	mg/Kg wet	183		102	82.5-117.5			
Beryllium	117	0.50	mg/Kg wet	116		101	83.4-116.4			
Cadmium	92.2	1.0	mg/Kg wet	89.5		103	82.8-117.3			
Chromium	102	2.0	mg/Kg wet	101		101	82.1-117.8			
Lead	135	1.5	mg/Kg wet	140		96.7	82.9-117.1			
Nickel	73.2	2.0	mg/Kg wet	68.3		107	82.1-117.7			
Selenium	187	10	mg/Kg wet	182		103	79.7-120.3			
Silver	47.2	1.0	mg/Kg wet	50.1		94.3	80.2-120			
Thallium	88.5	5.0	mg/Kg wet	87.7		101	81.1-118.6			
Vanadium	157	2.0	mg/Kg wet	153		102	79.1-120.9			
Zinc	225	2.0	mg/Kg wet	228		98.9	80.7-118.9			
<b>LCS Dup (B277249-BSD1)</b> Prepared: 03/01/21 Analyzed: 03/02/21										
Antimony	118	4.9	mg/Kg wet	134		88.1	1.9-200.7	2.02	30	
Arsenic	160	9.8	mg/Kg wet	170		94.4	82.9-117.6	0.567	30	
Barium	199	4.9	mg/Kg wet	183		108	82.5-117.5	6.06	20	
Beryllium	116	0.49	mg/Kg wet	116		100	83.4-116.4	0.681	30	
Cadmium	91.3	0.98	mg/Kg wet	89.5		102	82.8-117.3	0.971	20	
Chromium	99.8	2.0	mg/Kg wet	101		98.8	82.1-117.8	2.12	30	
Lead	133	1.5	mg/Kg wet	140		95.3	82.9-117.1	1.46	30	
Nickel	71.6	2.0	mg/Kg wet	68.3		105	82.1-117.7	2.13	30	
Selenium	177	9.8	mg/Kg wet	182		97.4	79.7-120.3	5.39	30	
Silver	50.1	0.98	mg/Kg wet	50.1		100	80.2-120	5.92	30	
Thallium	88.0	4.9	mg/Kg wet	87.7		100	81.1-118.6	0.516	30	
Vanadium	154	2.0	mg/Kg wet	153		101	79.1-120.9	1.66	30	
Zinc	224	2.0	mg/Kg wet	228		98.4	80.7-118.9	0.460	30	



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**QUALITY CONTROL**
**Metals Analyses (Total) - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B277249 - SW-846 3050B**
**Reference (B277249-SRM1) MRL Check**

Prepared: 03/01/21 Analyzed: 03/02/21

Lead	0.413	0.48	mg/Kg wet	0.483		85.6	80-120			
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**QUALITY CONTROL**
**Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B277194 - % Solids</b>										
<b>Duplicate (B277194-DUP3)</b>		<b>Source: 21B1162-01</b>			Prepared & Analyzed: 02/27/21					
% Solids	90.9		% Wt		90.4			0.501	10	
<b>Duplicate (B277194-DUP4)</b>		<b>Source: 21B1162-03</b>			Prepared & Analyzed: 02/27/21					
% Solids	90.2		% Wt		90.0			0.143	10	
<b>Batch B277247 - SM21-22 2510B Modified</b>										
<b>Blank (B277247-BLK1)</b>					Prepared & Analyzed: 03/01/21					
Specific conductance	ND	2.0	µmhos/cm							
<b>LCS (B277247-BS1)</b>					Prepared & Analyzed: 03/01/21					
Specific conductance	140	2.0	µmhos/cm	137		104	90-110			
<b>Duplicate (B277247-DUP1)</b>		<b>Source: 21B1162-01</b>			Prepared & Analyzed: 03/01/21					
Specific conductance	5.4	2.0	µmhos/cm		6.6			20.6	26.4	
<b>Batch B277279 - SW-846 9045C</b>										
<b>LCS (B277279-BS1)</b>					Prepared & Analyzed: 03/01/21					
pH	6.04		pH Units	6.00		101	90-110			
<b>Batch B277406 - SW-846 9014</b>										
<b>Blank (B277406-BLK1)</b>					Prepared & Analyzed: 03/02/21					
Reactive Cyanide	ND	0.40	mg/Kg							
<b>LCS (B277406-BS1)</b>					Prepared & Analyzed: 03/02/21					
Reactive Cyanide	8.9	0.40	mg/Kg	10.0		88.9	83.2-115			
<b>LCS (B277406-BS2)</b>					Prepared & Analyzed: 03/02/21					
Reactive Cyanide	9.4	0.40	mg/Kg	10.0		94.1	83.2-115			
<b>Batch B277407 - SW-846 9030A</b>										
<b>Blank (B277407-BLK1)</b>					Prepared & Analyzed: 03/02/21					
Reactive Sulfide	ND	2.0	mg/Kg							
<b>LCS (B277407-BS1)</b>					Prepared & Analyzed: 03/02/21					
Reactive Sulfide	5.2	2.0	mg/Kg	5.60		92.9	71.6-120			

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**QUALITY CONTROL**
**Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B277407 - SW-846 9030A**
**LCS (B277407-BS2)**

Prepared &amp; Analyzed: 03/02/21

Reactive Sulfide	5.2	2.0	mg/Kg	5.60		92.9	71.6-120			
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## IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

**LCS**

*SW-846 8082A*

Lab Sample ID:           B277180-BS1                                Date(s) Analyzed:           02/28/2021                     02/28/2021          

Instrument ID (1):           ECD3                                                Instrument ID (2):           ECD3          

GC Column (1):                      ID:                      (mm)                      GC Column (2):                      ID:                      (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.16	
	2	0.000	-0.030	0.030	0.17	6.1
Aroclor-1260	1	0.000	-0.030	0.030	0.16	
	2	0.000	-0.030	0.030	0.16	0.0

**IDENTIFICATION SUMMARY  
 FOR SINGLE COMPONENT ANALYTES**

LCS Dup
---------

*SW-846 8082A*

Lab Sample ID: B277180-BSD1 Date(s) Analyzed: 02/28/2021 02/28/2021  
 Instrument ID (1): ECD3 Instrument ID (2): ECD3  
 GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.16	
	2	0.000	-0.030	0.030	0.17	6.1
Aroclor-1260	1	0.000	-0.030	0.030	0.16	
	2	0.000	-0.030	0.030	0.16	0.0

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**FLAG/QUALIFIER SUMMARY**

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
H-12	Analysis was performed past the MA CAM recommended holding time of 24 hours for pH and ORP.
MS-22	Either matrix spike or MS duplicate is outside of control limits, but the other is within limits. RPD between the two MS/MSD results is within method specified criteria.
O-25	Sample contamination consists of heavy residual hydrocarbons similar to asphalt.
O-32	A dilution was performed as part of the standard analytical procedure.
RL-08	Elevated reporting limit due to sample matrix interference. MA CAM reporting limit not met.
V-06	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side for this compound.
V-16	Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.
V-20	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.
V-34	Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.
V-36	Initial calibration verification (ICV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.



**CERTIFICATIONS**
**Certified Analyses included in this Report**

Analyte	Certifications
<b>SW-846 1030 in Soil</b>	
Ignitability	NY,NH,CT,NC,ME,VA
<b>SW-846 6010D in Soil</b>	
Antimony	CT,NH,NY,ME,VA,NC
Arsenic	CT,NH,NY,ME,VA,NC
Barium	CT,NH,NY,ME,VA,NC
Beryllium	CT,NH,NY,ME,VA,NC
Cadmium	CT,NH,NY,ME,VA,NC
Chromium	CT,NH,NY,ME,VA,NC
Lead	CT,NH,NY,AIHA,ME,VA,NC
Nickel	CT,NH,NY,ME,VA,NC
Selenium	CT,NH,NY,ME,VA,NC
Silver	CT,NH,NY,ME,VA,NC
Thallium	CT,NH,NY,ME,VA,NC
Vanadium	CT,NH,NY,ME,VA,NC
Zinc	CT,NH,NY,ME,VA,NC
<b>SW-846 7471B in Soil</b>	
Mercury	CT,NH,NY,NC,ME,VA
<b>SW-846 8082A in Soil</b>	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA
<b>SW-846 8260C-D in Soil</b>	
Acetone	CT,NH,NY,ME
Benzene	CT,NH,NY,ME
Bromobenzene	NH,NY,ME
Bromochloromethane	NH,NY,ME
Bromodichloromethane	CT,NH,NY,ME
Bromoform	CT,NH,NY,ME
Bromomethane	CT,NH,NY,ME
2-Butanone (MEK)	CT,NH,NY,ME

**CERTIFICATIONS**
**Certified Analyses included in this Report**

Analyte	Certifications
<i>SW-846 8260C-D in Soil</i>	
n-Butylbenzene	CT,NH,NY,ME
sec-Butylbenzene	CT,NH,NY,ME
tert-Butylbenzene	CT,NH,NY,ME
Carbon Disulfide	CT,NH,NY,ME
Carbon Tetrachloride	CT,NH,NY,ME
Chlorobenzene	CT,NH,NY,ME
Chlorodibromomethane	CT,NH,NY,ME
Chloroethane	CT,NH,NY,ME
Chloroform	CT,NH,NY,ME
Chloromethane	CT,NH,NY,ME
2-Chlorotoluene	CT,NH,NY,ME
4-Chlorotoluene	CT,NH,NY,ME
1,2-Dibromo-3-chloropropane (DBCP)	NY
1,2-Dibromoethane (EDB)	NY
Dibromomethane	NH,NY,ME
1,2-Dichlorobenzene	CT,NH,NY,ME
1,3-Dichlorobenzene	CT,NH,NY,ME
1,4-Dichlorobenzene	CT,NH,NY,ME
Dichlorodifluoromethane (Freon 12)	NY,ME
1,1-Dichloroethane	CT,NH,NY,ME
1,2-Dichloroethane	CT,NH,NY,ME
1,1-Dichloroethylene	CT,NH,NY,ME
cis-1,2-Dichloroethylene	CT,NH,NY,ME
trans-1,2-Dichloroethylene	CT,NH,NY,ME
1,2-Dichloropropane	CT,NH,NY,ME
1,3-Dichloropropane	NH,NY,ME
2,2-Dichloropropane	NH,NY,ME
1,1-Dichloropropene	NH,NY,ME
cis-1,3-Dichloropropene	CT,NH,NY,ME
trans-1,3-Dichloropropene	CT,NH,NY,ME
1,4-Dioxane	NY
Ethylbenzene	CT,NH,NY,ME
Hexachlorobutadiene	NH,NY,ME
2-Hexanone (MBK)	CT,NH,NY,ME
Isopropylbenzene (Cumene)	CT,NH,NY,ME
p-Isopropyltoluene (p-Cymene)	NH,NY
Methyl tert-Butyl Ether (MTBE)	NH,NY
Methylene Chloride	CT,NH,NY,ME
4-Methyl-2-pentanone (MIBK)	CT,NH,NY
Naphthalene	NH,NY,ME
n-Propylbenzene	NH,NY
Styrene	CT,NH,NY,ME
1,1,1,2-Tetrachloroethane	CT,NH,NY,ME
1,1,2,2-Tetrachloroethane	CT,NH,NY,ME
Tetrachloroethylene	CT,NH,NY,ME
Toluene	CT,NH,NY,ME
1,2,3-Trichlorobenzene	NY

## CERTIFICATIONS

## Certified Analyses included in this Report

Analyte	Certifications
<b>SW-846 8260C-D in Soil</b>	
1,2,4-Trichlorobenzene	NH,NY,ME
1,1,1-Trichloroethane	CT,NH,NY,ME
1,1,2-Trichloroethane	CT,NH,NY,ME
Trichloroethylene	CT,NH,NY,ME
Trichlorofluoromethane (Freon 11)	CT,NH,NY,ME
1,2,3-Trichloropropane	NH,NY,ME
1,2,4-Trimethylbenzene	CT,NH,NY,ME
1,3,5-Trimethylbenzene	CT,NH,NY,ME
Vinyl Chloride	CT,NH,NY,ME
m+p Xylene	CT,NH,NY,ME
o-Xylene	CT,NH,NY,ME
<b>SW-846 8270D-E in Soil</b>	
Acenaphthene	CT,NY,NH
Acenaphthylene	CT,NY,NH
Acetophenone	NY,NH
Aniline	NY,NH
Anthracene	CT,NY,NH
Benzo(a)anthracene	CT,NY,NH
Benzo(a)pyrene	CT,NY,NH
Benzo(b)fluoranthene	CT,NY,NH
Benzo(g,h,i)perylene	CT,NY,NH
Benzo(k)fluoranthene	CT,NY,NH
Bis(2-chloroethoxy)methane	CT,NY,NH
Bis(2-chloroethyl)ether	CT,NY,NH
Bis(2-chloroisopropyl)ether	CT,NY,NH
Bis(2-Ethylhexyl)phthalate	CT,NY,NH
4-Bromophenylphenylether	CT,NY,NH
Butylbenzylphthalate	CT,NY,NH
4-Chloroaniline	CT,NY,NH
2-Chloronaphthalene	CT,NY,NH
2-Chlorophenol	CT,NY,NH
Chrysene	CT,NY,NH
Dibenz(a,h)anthracene	CT,NY,NH
Dibenzofuran	CT,NY,NH
Di-n-butylphthalate	CT,NY,NH
1,2-Dichlorobenzene	NY,NH
1,3-Dichlorobenzene	NY,NH
1,4-Dichlorobenzene	NY,NH
3,3-Dichlorobenzidine	CT,NY,NH
2,4-Dichlorophenol	CT,NY,NH
Diethylphthalate	CT,NY,NH
2,4-Dimethylphenol	CT,NY,NH
Dimethylphthalate	CT,NY,NH
2,4-Dinitrophenol	CT,NY,NH
2,4-Dinitrotoluene	CT,NY,NH
2,6-Dinitrotoluene	CT,NY,NH

**CERTIFICATIONS**
**Certified Analyses included in this Report**

Analyte	Certifications
<i>SW-846 8270D-E in Soil</i>	
Di-n-octylphthalate	CT,NY,NH
1,2-Diphenylhydrazine/Azobenzene	NY,NH
Fluoranthene	CT,NY,NH
Fluorene	NY,NH
Hexachlorobenzene	CT,NY,NH
Hexachlorobutadiene	CT,NY,NH
Hexachloroethane	CT,NY,NH
Indeno(1,2,3-cd)pyrene	CT,NY,NH
Isophorone	CT,NY,NH
2-Methylnaphthalene	CT,NY,NH
2-Methylphenol	CT,NY,NH
3/4-Methylphenol	CT,NY,NH
Naphthalene	CT,NY,NH
Nitrobenzene	CT,NY,NH
2-Nitrophenol	CT,NY,NH
4-Nitrophenol	CT,NY,NH
Pentachlorophenol	CT,NY,NH
Phenanthrene	CT,NY,NH
Phenol	CT,NY,NH
Pyrene	CT,NY,NH
1,2,4-Trichlorobenzene	CT,NY,NH
2,4,5-Trichlorophenol	CT,NY,NH
2,4,6-Trichlorophenol	CT,NY,NH

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2021
CT	Connecticut Department of Public Health	PH-0165	12/31/2022
NY	New York State Department of Health	10899 NELAP	04/1/2021
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2022
RI	Rhode Island Department of Health	LAO00112	12/30/2021
NC	North Carolina Div. of Water Quality	652	12/31/2021
NJ	New Jersey DEP	MA007 NELAP	06/30/2021
FL	Florida Department of Health	E871027 NELAP	06/30/2021
VT	Vermont Department of Health Lead Laboratory	LL720741	07/30/2021
ME	State of Maine	MA00100	06/9/2021
VA	Commonwealth of Virginia	460217	12/14/2021
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2021
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2021
NC-DW	North Carolina Department of Health	25703	07/31/2021
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2021
MI	Dept. of Env, Great Lakes, and Energy	9100	09/6/2021



Phone: 413-525-2332  
 Fax: 413-525-6405  
 Email: info@contestlabs.com

http://www.contestlabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street  
 East Longmeadow, MA 01028

Doc # 381 Rev 2\_06262019

Page 1 of 1

21B1162

Company Name: The Vertex Companies  
 Address: 100 N Washington St Suite 302  
 Phone: 781-917-5363  
 Project Location: Rivers Edge  
484 Boston Post Road, Nayland, MA  
 Project Number: 46047  
 Project Manager: Kristin Sarson  
 Con-Test Quote Name/Number:  
 Invoice Recipient:  
 Sampled By: Maddeline Juffras

Respective Turnaround Time		Disposal	
7-Day <input type="checkbox"/>	10-Day <input type="checkbox"/>	<input type="radio"/>	Field Filtered
PFAS 10-Day (std) <input type="checkbox"/>	Due Date:	<input type="radio"/>	Lab to Filter
Rush Approval Required		Orthophosphate Samples	
1-Day <input checked="" type="checkbox"/>	3-Day <input type="checkbox"/>	<input type="radio"/>	Field Filtered
2-Day <input type="checkbox"/>	4-Day <input type="checkbox"/>	<input type="radio"/>	Lab to Filter
Format: PDF <input checked="" type="checkbox"/> EXCEL <input checked="" type="checkbox"/>			
Other: <u>Equis</u>			
CLP Like Data Pkg Required: <input type="checkbox"/>			
Email To: <u>ksarson@vertexeng.com</u>			
Fax To #:			

ANALYSIS REQUESTED

VOC 8260	SVOC 8270	<del>PCB 8002</del> Metals NPH	PCB 8002 Soxhlet Extract	TPH 8015	pH	Reactivity/Conductivity	Leakability	TCLP (if triggered)
----------	-----------	--------------------------------	--------------------------	----------	----	-------------------------	-------------	---------------------

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE
1	N-301-DISP-FR	2/26/21	11:00	Comp	S		3	2			
2	N-302-DISP-FR	↓	12:50	↓	↓		3	2			
3	N-303-DISP-FR	↓	10:40	↓	↓		3	2			

1 Preservation Code

Total Number Of:

VIALS \_\_\_\_\_

GLASS \_\_\_\_\_

PLASTIC \_\_\_\_\_

BACTERIA \_\_\_\_\_

ENCORE \_\_\_\_\_

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

\*Contest is not responsible for missing samples from prepackaged coolers

Relinquished by: (signature) Maddeline Juffras Date/Time: 2/26/21 12:50

Received by: (signature) [Signature] Date/Time: 2/26/21 12:50

Relinquished by: (signature) [Signature] Date/Time: 2/26/21 16:36

Received by: (signature) [Signature] Date/Time: 4.4.21 11:30

Relinquished by: (signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_

Received by: (signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_

Relinquished by: (signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_

Received by: (signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_

Client Comments: IF TCLP is triggered please contact K. Sarson.

Detection Limit Requirements	Special Requirements
<input type="checkbox"/> M <input type="checkbox"/> S <input type="checkbox"/> T <input type="checkbox"/> Other	<input checked="" type="checkbox"/> PA PCB Required <input type="checkbox"/> ACP Certification Form Required <input type="checkbox"/> LI PCB Required <input type="checkbox"/> PCB Certification Form Required <input type="checkbox"/> Other PCB Required

Project Entity:

Government  Municipality  MWRA  WRTA

Federal  21 J  School

City  Brownfield  MBTA

Please use the following codes to indicate possible sample concentration within the Conc Code column above:

H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Other:  Chromatogram  Soxhlet  
 AIHA-LAP, LLC  Non Soxhlet

Comments:

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples \_\_\_\_\_



**con-test**  
ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

**Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False**

Client Vertex

Received By [Signature] Date 2/26/21 Time 1630

How were the samples received? In Cooler T No Cooler \_\_\_\_\_ On Ice T No Ice \_\_\_\_\_  
Direct from Sampling \_\_\_\_\_ Ambient \_\_\_\_\_ Melted Ice \_\_\_\_\_

Were samples within Temperature? 2-6°C T By Gun # 3 Actual Temp - 4.4  
By Blank # \_\_\_\_\_ Actual Temp - \_\_\_\_\_

Was Custody Seal Intact? n/a Were Samples Tampered with? n/a  
Was COC Relinquished? T Does Chain Agree With Samples? T

Are there broken/leaking/loose caps on any samples? F

Is COC in ink/ Legible? T Were samples received within holding time? T

Did COC include all pertinent Information? Client T Analysis T Sampler Name T  
Project T ID's T Collection Dates/Times T

Are Sample labels filled out and legible? T

Are there Lab to Filters? F

Are there Rushes? T

Are there Short Holds? T

Is there enough Volume? T

Is there Headspace where applicable? n/a

Proper Media/Containers Used? T

Were trip blanks received? F

Do all samples have the proper pH? \_\_\_\_\_

Who was notified? \_\_\_\_\_

Who was notified? David Erica

Who was notified? David

MS/MSD? F

Is splitting samples required? F

On COC? F

Acid n/a Base n/a

Vials	#	Containers:	#	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic		8oz <del>Amb</del> Clear
Meoh-	<u>3</u>	250 mL Amb.		250 mL Plastic		4oz Amb/Clear
Bisulfate-	<u>6</u>	Flashpoint		Col./Bacteria		2oz Amb/Clear
DI-		Other Glass		Other Plastic		Encore
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:
Sulfuric-		Perchlorate		Ziplock		

**Unused Media**

Vials	#	Containers:	#	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear
DI-		Other Plastic		Other Glass		Encore
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:
Sulfuric-		Perchlorate		Ziplock		

Comments:



## MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test, a Pace Analytical Laboratory	Project #: 21B1162
Project Location: 434 Boston Post Road, Wayland, MA	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]  
21B1162-01 thru 21B1162-03

Matrices: Soil

**CAM Protocol (check all that below)**

8260 VOC CAM II A (X)	7470/7471 Hg CAM IIIB (X)	MassDEP VPH CAM IV A ( )	8082 PCB CAM V A (X)	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )
8270 SVOC CAM II B (X)	7010 Metals CAM III C ( )	MassDEP VPH CAM IV C ( )	8081 Pesticides CAM V B ( )	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
6010 Metals CAM III A (X)	6020 Metals CAM III D ( )	MassDEP EPH CAM IV B ( )	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )

**Affirmative response to Questions A through F is required for "Presumptive Certainty" status**

<b>A</b>	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>B</b>	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>C</b>	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>D</b>	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>E a</b>	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	<input type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>E b</b>	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>F</b>	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>

**A response to questions G, H and I below is required for "Presumptive Certainty" status**

<b>G</b>	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <sup>1</sup>
----------	---	--

**Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

<b>H</b>	Were all QC performance standards specified in the CAM protocol(s) achieved?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <sup>1</sup>
<b>I</b>	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>

<sup>1</sup>All Negative responses must be addressed in an attached Environmental Laboratory case narrative.

**I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.**

Signature: Lisa Worthington Position: Technical Representative  
Printed Name: Lisa A. Worthington Date: 03/03/21



*CERTIFICATE OF ANALYSIS*

Steve Winters  
United Retek  
47 South Maple Street  
Bellingham, MA 02019

**RE: Rivers Edge Wayland MA (21-08)**  
**ESS Laboratory Work Order Number: 21D0381**

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard  
Laboratory Director

**REVIEWED**

*By ESS Laboratory at 12:33 pm, Apr 15, 2021*

**Analytical Summary**

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



*CERTIFICATE OF ANALYSIS*

Client Name: United Retek  
Client Project ID: Rivers Edge Wayland MA

ESS Laboratory Work Order: 21D0381

**SAMPLE RECEIPT**

The following samples were received on April 13, 2021 for the analyses specified on the enclosed Chain of Custody Record.

<b>Lab Number</b>	<b>Sample Name</b>	<b>Matrix</b>	<b>Analysis</b>
21D0381-01	No 1 Firing Range	Soil	1311, 1311/6010C
21D0381-02	No 2 Firing Range	Soil	1311, 1311/6010C
21D0381-03	No 3 Firing Range	Soil	1311, 1311/6010C
21D0381-04	No 4 Firing Range	Soil	1311, 1311/6010C
21D0381-05	No 5 Firing Range	Soil	1311, 1311/6010C
21D0381-06	No 6 Firing Range	Soil	1311, 1311/6010C



CERTIFICATE OF ANALYSIS

Client Name: United Retek  
Client Project ID: Rivers Edge Wayland MA

ESS Laboratory Work Order: 21D0381

**PROJECT NARRATIVE**

**No unusual observations noted.**

**End of Project Narrative.**

**DATA USABILITY LINKS**

*To ensure you are viewing the most current version of the documents below, please clear your internet cookies for [www.ESSLaboratory.com](http://www.ESSLaboratory.com). Consult your IT Support personnel for information on how to clear your internet cookies.*

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



*CERTIFICATE OF ANALYSIS*

Client Name: United Retek  
Client Project ID: Rivers Edge Wayland MA

ESS Laboratory Work Order: 21D0381

**CURRENT SW-846 METHODOLOGY VERSIONS**

**Analytical Methods**

- 1010A - Flashpoint
- 6010C - ICP
- 6020A - ICP MS
- 7010 - Graphite Furnace
- 7196A - Hexavalent Chromium
- 7470A - Aqueous Mercury
- 7471B - Solid Mercury
- 8011 - EDB/DBCP/TCP
- 8015C - GRO/DRO
- 8081B - Pesticides
- 8082A - PCB
- 8100M - TPH
- 8151A - Herbicides
- 8260B - VOA
- 8270D - SVOA
- 8270D SIM - SVOA Low Level
- 9014 - Cyanide
- 9038 - Sulfate
- 9040C - Aqueous pH
- 9045D - Solid pH (Corrosivity)
- 9050A - Specific Conductance
- 9056A - Anions (IC)
- 9060A - TOC
- 9095B - Paint Filter
- MADEP 04-1.1 - EPH
- MADEP 18-2.1 - VPH

**Prep Methods**

- 3005A - Aqueous ICP Digestion
- 3020A - Aqueous Graphite Furnace / ICP MS Digestion
- 3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
- 3060A - Solid Hexavalent Chromium Digestion
- 3510C - Separatory Funnel Extraction
- 3520C - Liquid / Liquid Extraction
- 3540C - Manual Soxhlet Extraction
- 3541 - Automated Soxhlet Extraction
- 3546 - Microwave Extraction
- 3580A - Waste Dilution
- 5030B - Aqueous Purge and Trap
- 5030C - Aqueous Purge and Trap
- 5035A - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



*CERTIFICATE OF ANALYSIS*

Client Name: United Retek  
Client Project ID: Rivers Edge Wayland MA  
Client Sample ID: No 1 Firing Range  
Date Sampled: 04/12/21 00:00  
Percent Solids: N/A

ESS Laboratory Work Order: 21D0381  
ESS Laboratory Sample ID: 21D0381-01  
Sample Matrix: Soil  
Units: mg/L

Extraction Method: 3005A TCLP

**1311 TCLP Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>TCLP Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Lead	ND (0.050)		1311/6010C		1	KJK	04/14/21 21:28	50	50	DD11338





*CERTIFICATE OF ANALYSIS*

Client Name: United Retek  
Client Project ID: Rivers Edge Wayland MA  
Client Sample ID: No 1 Firing Range  
Date Sampled: 04/12/21 00:00  
Percent Solids: N/A  
Initial Volume: 100  
Final Volume: 2000  
Extraction Method: 1311

ESS Laboratory Work Order: 21D0381  
ESS Laboratory Sample ID: 21D0381-01  
Sample Matrix: Soil  
Units: °C  
Analyst: NAR  
Prepared: 4/13/21 19:35

**TCLP Extraction by 1311**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Batch</u>
Temperature (Min C)	20.1 (N/A)		1311		1	NAR	04/14/21 11:40	DD11341
Temperature (Max C)	21.9 (N/A)		1311		1	NAR	04/14/21 11:40	DD11341
Temperature (Range)	Temperature is not within 23 +/-2 °C. (N/A)							



*CERTIFICATE OF ANALYSIS*

Client Name: United Retek  
Client Project ID: Rivers Edge Wayland MA  
Client Sample ID: No 2 Firing Range  
Date Sampled: 04/12/21 00:00  
Percent Solids: N/A

ESS Laboratory Work Order: 21D0381  
ESS Laboratory Sample ID: 21D0381-02  
Sample Matrix: Soil  
Units: mg/L

Extraction Method: 3005A TCLP

**1311 TCLP Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>TCLP Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Lead	ND (0.050)		1311/6010C		1	KJK	04/14/21 21:29	50	50	DD11338



*CERTIFICATE OF ANALYSIS*

Client Name: United Retek  
Client Project ID: Rivers Edge Wayland MA  
Client Sample ID: No 2 Firing Range  
Date Sampled: 04/12/21 00:00  
Percent Solids: N/A  
Initial Volume: 100  
Final Volume: 2000  
Extraction Method: 1311

ESS Laboratory Work Order: 21D0381  
ESS Laboratory Sample ID: 21D0381-02  
Sample Matrix: Soil  
Units: °C  
Analyst: NAR  
Prepared: 4/13/21 19:35

**TCLP Extraction by 1311**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Batch</u>
Temperature (Min C)	20.1 (N/A)		1311		1	NAR	04/14/21 11:40	DD11341
Temperature (Max C)	21.9 (N/A)		1311		1	NAR	04/14/21 11:40	DD11341
Temperature (Range)	Temperature is not within 23 +/-2 °C. (N/A)							



*CERTIFICATE OF ANALYSIS*

Client Name: United Retek  
Client Project ID: Rivers Edge Wayland MA  
Client Sample ID: No 3 Firing Range  
Date Sampled: 04/12/21 00:00  
Percent Solids: N/A

ESS Laboratory Work Order: 21D0381  
ESS Laboratory Sample ID: 21D0381-03  
Sample Matrix: Soil  
Units: mg/L

Extraction Method: 3005A TCLP

**1311 TCLP Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>TCLP Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Lead	ND (0.050)		1311/6010C		1	KJK	04/14/21 21:31	50	50	DD11338



*CERTIFICATE OF ANALYSIS*

Client Name: United Retek  
Client Project ID: Rivers Edge Wayland MA  
Client Sample ID: No 3 Firing Range  
Date Sampled: 04/12/21 00:00  
Percent Solids: N/A  
Initial Volume: 100  
Final Volume: 2000  
Extraction Method: 1311

ESS Laboratory Work Order: 21D0381  
ESS Laboratory Sample ID: 21D0381-03  
Sample Matrix: Soil  
Units: °C  
Analyst: NAR  
Prepared: 4/13/21 19:35

**TCLP Extraction by 1311**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Batch</u>
Temperature (Min C)	20.1 (N/A)		1311		1	NAR	04/14/21 11:40	DD11341
Temperature (Max C)	21.9 (N/A)		1311		1	NAR	04/14/21 11:40	DD11341
Temperature (Range)	Temperature is not within 23 +/-2 °C. (N/A)							



*CERTIFICATE OF ANALYSIS*

Client Name: United Retek  
Client Project ID: Rivers Edge Wayland MA  
Client Sample ID: No 4 Firing Range  
Date Sampled: 04/12/21 00:00  
Percent Solids: N/A

ESS Laboratory Work Order: 21D0381  
ESS Laboratory Sample ID: 21D0381-04  
Sample Matrix: Soil  
Units: mg/L

Extraction Method: 3005A TCLP

**1311 TCLP Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>TCLP Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Lead	ND (0.050)		1311/6010C		1	KJK	04/14/21 21:32	50	50	DD11338





*CERTIFICATE OF ANALYSIS*

Client Name: United Retek  
Client Project ID: Rivers Edge Wayland MA  
Client Sample ID: No 4 Firing Range  
Date Sampled: 04/12/21 00:00  
Percent Solids: N/A  
Initial Volume: 100  
Final Volume: 2000  
Extraction Method: 1311

ESS Laboratory Work Order: 21D0381  
ESS Laboratory Sample ID: 21D0381-04  
Sample Matrix: Soil  
Units: °C  
Analyst: NAR  
Prepared: 4/13/21 19:35

**TCLP Extraction by 1311**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Batch</u>
Temperature (Min C)	20.1 (N/A)		1311		1	NAR	04/14/21 11:40	DD11341
Temperature (Max C)	21.9 (N/A)		1311		1	NAR	04/14/21 11:40	DD11341
Temperature (Range)	Temperature is not within 23 +/-2 °C. (N/A)							



*CERTIFICATE OF ANALYSIS*

Client Name: United Retek  
Client Project ID: Rivers Edge Wayland MA  
Client Sample ID: No 5 Firing Range  
Date Sampled: 04/12/21 00:00  
Percent Solids: N/A

ESS Laboratory Work Order: 21D0381  
ESS Laboratory Sample ID: 21D0381-05  
Sample Matrix: Soil  
Units: mg/L

Extraction Method: 3005A TCLP

**1311 TCLP Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>TCLP Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Lead	ND (0.050)		1311/6010C		1	KJK	04/14/21 21:34	50	50	DD11338



*CERTIFICATE OF ANALYSIS*

Client Name: United Retek  
Client Project ID: Rivers Edge Wayland MA  
Client Sample ID: No 5 Firing Range  
Date Sampled: 04/12/21 00:00  
Percent Solids: N/A  
Initial Volume: 100  
Final Volume: 2000  
Extraction Method: 1311

ESS Laboratory Work Order: 21D0381  
ESS Laboratory Sample ID: 21D0381-05  
Sample Matrix: Soil  
Units: °C  
Analyst: NAR  
Prepared: 4/13/21 19:35

**TCLP Extraction by 1311**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Batch</u>
Temperature (Min C)	20.1 (N/A)		1311		1	NAR	04/14/21 11:40	DD11341
Temperature (Max C)	21.9 (N/A)		1311		1	NAR	04/14/21 11:40	DD11341
Temperature (Range)	Temperature is not within 23 +/-2 °C. (N/A)							



*CERTIFICATE OF ANALYSIS*

Client Name: United Retek  
Client Project ID: Rivers Edge Wayland MA  
Client Sample ID: No 6 Firing Range  
Date Sampled: 04/12/21 00:00  
Percent Solids: N/A

ESS Laboratory Work Order: 21D0381  
ESS Laboratory Sample ID: 21D0381-06  
Sample Matrix: Soil  
Units: mg/L

Extraction Method: 3005A TCLP

**1311 TCLP Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>TCLP Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Lead	ND (0.050)		1311/6010C		1	KJK	04/14/21 21:35	50	50	DD11338



*CERTIFICATE OF ANALYSIS*

Client Name: United Retek  
Client Project ID: Rivers Edge Wayland MA  
Client Sample ID: No 6 Firing Range  
Date Sampled: 04/12/21 00:00  
Percent Solids: N/A  
Initial Volume: 100  
Final Volume: 2000  
Extraction Method: 1311

ESS Laboratory Work Order: 21D0381  
ESS Laboratory Sample ID: 21D0381-06  
Sample Matrix: Soil  
Units: °C  
Analyst: NAR  
Prepared: 4/13/21 19:35

**TCLP Extraction by 1311**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Batch</u>
Temperature (Min C)	20.1 (N/A)		1311		1	NAR	04/14/21 11:40	DD11341
Temperature (Max C)	21.9 (N/A)		1311		1	NAR	04/14/21 11:40	DD11341
Temperature (Range)	Temperature is not within 23 +/-2 °C. (N/A)							



*CERTIFICATE OF ANALYSIS*

Client Name: United Retek  
Client Project ID: Rivers Edge Wayland MA

ESS Laboratory Work Order: 21D0381

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
<b>1311 TCLP Metals</b>										
<b>Batch DD11338 - 3005A_TCLP</b>										
<b>Blank</b>										
Lead	ND	0.050	mg/L							
<b>Blank</b>										
Lead	ND	0.050	mg/L							
<b>LCS</b>										
Lead	0.497	0.050	mg/L	0.5000		99	80-120			
<b>LCS Dup</b>										
Lead	0.496	0.050	mg/L	0.5000		99	80-120	0.2	20	





*CERTIFICATE OF ANALYSIS*

Client Name: United Retek  
Client Project ID: Rivers Edge Wayland MA

ESS Laboratory Work Order: 21D0381

**Notes and Definitions**

- Z18      Temperature is not within 23 +/-2 °C.
- U        Analyte included in the analysis, but not detected
- ND      Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry      Sample results reported on a dry weight basis
- RPD     Relative Percent Difference
- MDL     Method Detection Limit
- MRL     Method Reporting Limit
- LOD     Limit of Detection
- LOQ     Limit of Quantitation
- DL      Detection Limit
- I/V      Initial Volume
- F/V      Final Volume
- §        Subcontracted analysis; see attached report
- 1        Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2        Range result excludes concentrations of target analytes eluting in that range.
- 3        Range result excludes the concentration of the C9-C10 aromatic range.
- Avg     Results reported as a mathematical average.
- NR      No Recovery
- [CALC]   Calculated Analyte
- SUB     Subcontracted analysis; see attached report
- RL      Reporting Limit
- EDL     Estimated Detection Limit
- MF      Membrane Filtration
- MPN     Most Probably Number
- TNTC    Too numerous to Count
- CFU     Colony Forming Units



*CERTIFICATE OF ANALYSIS*

Client Name: United Retek  
Client Project ID: Rivers Edge Wayland MA

ESS Laboratory Work Order: 21D0381

**ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS**

**ENVIRONMENTAL**

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

[http://www.ct.gov/dph/lib/dph/environmental\\_health/environmental\\_laboratories/pdf/OutofStateCommercialLaboratories.pdf](http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf)

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002

<http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

[http://datamine2.state.nj.us/DEP\\_OPRA/OpraMain/pi\\_main?mode=pi\\_by\\_site&sort\\_order=PI\\_NAMEA&Select+a+Site:=58715](http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715)

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

<http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx>

## ESS Laboratory Sample and Cooler Receipt Checklist

Client: United Retek - TB

ESS Project ID: 21D0381

Shipped/Delivered Via: ESS Courier

Date Received: 4/13/2021

Project Due Date: 4/15/2021

Days for Project: 2 Day

1. Air bill manifest present?  No  
Air No.: NA
2. Were custody seals present?  No
3. Is radiation count <100 CPM?  Yes
4. Is a Cooler Present?  Yes  
Temp: 1.2 Iced with: Ice
5. Was COC signed and dated by client?  Yes

6. Does COC match bottles?  Yes
7. Is COC complete and correct?  Yes
8. Were samples received intact?  Yes
9. Were labs informed about **short holds & rushes**?  Yes / No / NA
10. Were any analyses received outside of hold time?  Yes / No

11. Any Subcontracting needed?  Yes / No  
ESS Sample IDs: \_\_\_\_\_  
Analysis: \_\_\_\_\_  
TAT: \_\_\_\_\_

12. Were VOAs received?  Yes / No  
a. Air bubbles in aqueous VOAs?  Yes / No  
b. Does methanol cover soil completely?  Yes / No / NA

13. Are the samples properly preserved?  Yes / No  
a. If metals preserved upon receipt: Date: \_\_\_\_\_ Time: \_\_\_\_\_ By: \_\_\_\_\_  
b. Low Level VOA vials frozen: Date: \_\_\_\_\_ Time: \_\_\_\_\_ By: \_\_\_\_\_

Sample Receiving Notes:

14. Was there a need to contact Project Manager?  Yes / No  
a. Was there a need to contact the client?  Yes / No  
Who was contacted? \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ By: \_\_\_\_\_

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
1	153093	Yes	N/A	Yes	8 oz jar	NP	
2	153094	Yes	N/A	Yes	8 oz jar	NP	
3	153095	Yes	N/A	Yes	8 oz jar	NP	
4	153096	Yes	N/A	Yes	8 oz jar	NP	
5	153097	Yes	N/A	Yes	8 oz jar	NP	
6	153098	Yes	N/A	Yes	8 oz jar	NP	

**2nd Review**

- Were all containers scanned into storage/lab? Initials: ID
- Are barcode labels on correct containers?  Yes / No
- Are all Flashpoint stickers attached/container ID # circled?  Yes / No / NA
- Are all Hex Chrome stickers attached?  Yes / No / NA
- Are all QC stickers attached?  Yes / No / NA
- Are VOA stickers attached if bubbles noted?  Yes / No / NA

Completed By: [Signature] Date & Time: 4/13/21 1821

# ESS Laboratory Sample and Cooler Receipt Checklist

Client: United Retek - TB

ESS Project ID: 21D0381

Date Received: 4/13/2021

Reviewed By: 

Date & Time: 4/13/21 1837



185 Frances Avenue  
 Cranston, RI 02921  
 Phone: 401-461-7181  
 Fax: 401-461-4486  
 www.esslaboratory.com

### CHAIN OF CUSTODY

ESS Lab # **2100381**

Page **1** of **1**

Turn Time  >5  5  4  3  2  1  Same Day

Regulatory State: Criteria:

Is this project for any of the following?:

CT RCP  MA MCP  RGP  Permit  401 WQ

#### ELECTRONIC DELIVERABLES (Final Reports are PDF)

Limit Checker  State Forms  EQiS  
 Excel  Hard Copy  Enviro Data  
 CLP-Like Package  Other (Specify) →

#### CLIENT INFORMATION

Client: **UNITED RETEK CORP.**  
 Address: **47 SOUTH MAPLE ST.  
 BELLINGHAM MA 02019**  
 Phone: **508-478-5500**  
 Email Distribution List: **EDDIE@UNITED  
 RYAN@ → RETEK.COM  
 STEVE@UNITEDRETEK.COM**

#### PROJECT INFORMATION

Project Name: **RIVERS EDGE**  
 Project Location: **WAYLAND MA**  
 Project Number: **21-08**  
 Project Manager: **N/A**  
 Bill to: **UNITEDRETEK**  
 PO#: **N/A**  
 Quote#: **N/A**

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

#### REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	Requested Analyses										Total Number of Bottles						
1	4-12-21	P.M.	C	S	#1 FIRING RANGE																	
2	↓	↓	↓	↓	#2																	
3	↓	↓	↓	↓	#3																	
4	↓	↓	↓	↓	#4																	
5	↓	↓	↓	↓	#5																	
6	↓	↓	↓	↓	#6																	

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial  
 Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other\*  
 Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAc, NaOH 9-NH4Cl 10-DI H2O 11-Other\*

Chain needs to be filled out neatly and completely for on time delivery.

Sampled by: \_\_\_\_\_  
 Laboratory Use Only  
 Cooler Temperature (°C): **1.2**  
 100

Comments: \* Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration  
 Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
<i>[Signature]</i>	4-13-21	A.M.	<i>[Signature]</i> 4/13/21 11:09	<i>[Signature]</i>	4/13/21	18:05	<i>Maylon Davis</i> 401-312-1815

**ATTACHMENT 3:  
IN-SITU CHEMICAL  
STABILIZATION SDS**



## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Product form : Mixture  
 Product name : Phos- 5®  
 Product code : AMMGA, BDMGA  
 Formula : H<sub>3</sub>PO<sub>4</sub> (Phosphoric acid)  
 Synonyms : h

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Industrial use  
 Agricultural chemical

### 1.3. Details of the supplier of the safety data sheet

C S , Inc.  
 1 7 ( )  
 h \ "  
 7 U ° "  
 T 800- /  
 U o) o

### 1.4. Emergency telephone number

Emergency number : 800-424-9300  
 CHEMTREC

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### GHS-US classification

Acute Tox. 4 (Oral) H302  
 Skin Corr. 1A H314  
 Eye Dam. 1 H318  
 Carc. 1A H350  
 STOT SE 3 H335  
 Aquatic Acute 2 H401

## 2.2. Label elements

### GHS-US labelling

Hazard pictograms (GHS-US)



Signal word (GHS-US)

: Danger

Hazard statements (GHS-US)

: H302 - Harmful if swallowed  
 H314 - Causes severe skin burns and eye damage  
 H318 - Causes serious eye damage  
 H335 - May cause respiratory irritation  
 H350 - May cause cancer  
 H401 - Toxic to aquatic life

Precautionary statements (GHS-US)

: P201 - Obtain special instructions before use  
 P202 - Do not handle until all safety precautions have been read and understood  
 P260 - Do not breathe fume, mist, vapours, spray  
 P264 - Wash hands and forearms thoroughly after handling  
 P270 - Do not eat, drink or smoke when using this product  
 P271 - Use only outdoors or in a well-ventilated area  
 P273 - Avoid release to the environment  
 P280 - Wear eye protection, face protection, protective gloves, protective clothing  
 P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting  
 P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
 P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
 P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 P308+P313 - IF exposed or concerned: Get medical advice/attention  
 P310 - Immediately call a POISON CENTER or doctor  
 P330 - If swallowed, rinse mouth  
 P363 - Wash contaminated clothing before reuse  
 P403+P233 - Store in a well-ventilated place. Keep container tightly closed  
 P405 - Store locked up  
 P501 - Dispose of contents/container according to local, regional, national, and international regulations

### 2.3. Other hazards

Hazardous to the aquatic environment

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixture

Name	Product identifier	%	GHS-US classification
Phosphoric acid	(CAS No.) 7664-38-2	72 - 77	Acute Tox. 4 (Oral), H302 Skin Corr. 1A, H314 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 2, H401
Sulfuric acid	(CAS No.) 7664-93-9	2.5 - 4	Acute Tox. 2 (Inhalation:dust,mist), H330 Skin Corr. 1A, H314 Eye Dam. 1, H318 Carc. 1A, H350
Fluorides, as F		0.4 - 0.7	Not classified

Note: AMMGA Typical Nutrient Strength is 53.5% (as P<sub>2</sub>O<sub>5</sub>)

Note: BDMGA Typical Nutrient Strength is 53.5% (as P<sub>2</sub>O<sub>5</sub>)

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

- First-aid measures general : If exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : Using proper respiratory protection, immediately move the exposed person to fresh air. Keep at rest and in a position comfortable for breathing. Give oxygen or artificial respiration if necessary. Seek immediate medical advice. Symptoms may be delayed.
- First-aid measures after skin contact : Remove/Take off immediately all contaminated clothing. Rinse immediately with plenty of water (for at least 15 minutes). Seek medical attention immediately if exposure is severe. Obtain medical attention if irritation develops or persists. Wash contaminated clothing before reuse.
- First-aid measures after eye contact : Immediately rinse with water for a prolonged period (at least 15 minutes) while holding the eyelids wide open. Seek medical attention immediately if exposure is severe. Obtain medical attention if irritation develops or persists.
- First-aid measures after ingestion : If swallowed, do not induce vomiting. Seek medical advice immediately and show this container or label.

### 4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries : Corrosive. Causes burns. Harmful if swallowed.
- Symptoms/injuries after inhalation : Causes severe respiratory irritation if inhaled. Symptoms may include: Burning of nose and throat, constriction of airway, difficulty breathing, shortness of breath, bronchial spasms, chest pain, and pink frothy sputum. Contact may cause immediate severe irritation progressing quickly to chemical burns. May cause pulmonary edema. Symptoms may be delayed.
- Symptoms/injuries after skin contact : Contact may cause immediate severe irritation progressing quickly to chemical burns.

Symptoms/injuries after eye contact	: Contact may cause immediate severe irritation progressing quickly to chemical burns. Can cause blindness.
Symptoms/injuries after ingestion	: May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. Swallowing a small quantity of this material will result in serious health hazard.
Chronic symptoms	: Repeated or prolonged inhalation may damage lungs. Prolonged and repeated contact will eventually cause permanent tissue damage and effects such as erosion of teeth, lesions on the skin, tracheo-bronchitis, mouth inflammation, conjunctivitis, and gastritis. Repeated or prolonged inhalation of mist may cause cancer.

#### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media	: Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media	: Do not get water inside containers. Do not apply water stream directly at source of leak. Do not use a heavy water stream. A direct water stream will cause violent splattering and generation of heat.

#### 5.2. Special hazards arising from the substance or mixture

Fire hazard	: Not flammable. Under conditions of fire this material may produce: Oxides of phosphorus; Phosphine; Sulphur oxides.
Explosion hazard	: Product is not explosive.

#### 5.3. Advice for firefighters

Firefighting instructions	: Keep upwind. Use water spray or fog for cooling exposed containers. If water is added to concentrated acid, violent splattering can occur, and considerable heat may be generated. Cool non-leaking, fire-exposed containers with water spray.
Protection during firefighting	: Firefighters must use full bunker gear including NIOSH-approved positive pressure self-contained breathing apparatus to protect against potential hazardous combustion or decomposition products.
Other information	: Do not allow run-off from fire fighting to enter drains or water courses.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

Protective equipment	: Use recommended respiratory protection. Wear suitable protective clothing, gloves and eye/face protection.
Emergency procedures	: Stop leak if safe to do so. Eliminate ignition sources. Evacuate unnecessary personnel. Ventilate area. Keep upwind.

**6.1.2. For emergency responders**

- Protective equipment : Use recommended respiratory protection. Wear suitable protective clothing, gloves and eye/face protection.
- Emergency procedures : Stop leak if safe to do so. Eliminate ignition sources. Evacuate unnecessary personnel. Ventilate area.

**6.2. Environmental precautions**

If spill could potentially enter any waterway, including intermittent dry creeks, contact the U.S. COAST GUARD NATIONAL RESPONSE CENTER at 800-424-8802. In case of accident or road spill notify CHEMTREC at 800-424-9300. In other countries call CHEMTREC at (International code) +1-703-527-3887.

**6.3. Methods and material for containment and cleaning up**

- For containment : Contain any spills with dikes or inert absorbents to prevent migration and entry into sewers or streams. Do not allow into drains or water courses or dispose of where ground or surface waters may be affected.
- Methods for cleaning up : Ventilate area. Small quantities of liquid spill: take up in non-combustible inert absorbent material and shovel into container for disposal. Collect absorbed material and place into a sealed, labelled container to be disposed at an appropriate disposal facility according to current applicable laws and regulations and product characteristics at the time of disposal.
- Liquid spill: neutralize with powdered limestone or sodium bicarbonate.
- Practice good housekeeping – spillage can be slippery on smooth surface either wet or dry.

**6.4. Reference to other sections**

No additional information available

**SECTION 7: Handling and storage****7.1. Precautions for safe handling**

- Precautions for safe handling : Avoid all eye and skin contact and do not breathe vapour and mist. Wear recommended personal protective equipment. Ensure there is adequate ventilation. Keep away from heat and sources of ignition. Employ good maintenance practices to prevent leaks. Use good process control measures to prevent releases. Do not add water to acid. When diluting, always add acid to water. Causes severe burns.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety procedures. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Wash contaminated clothing before reuse.

**7.2. Conditions for safe storage, including any incompatibilities**

- Storage conditions : Store in dry, cool area. Store in a well-ventilated place. Keep away from combustible materials. Diking of storage tanks is recommended.
- Incompatible materials : Avoid contact with combustibles and reactive materials.
- Prohibitions on mixed storage : Keep away from (strong) bases.
- Storage area : Store in dry, cool area. Store in a well-ventilated place. Keep away from combustible materials.

### 7.3. Specific end use(s)

Industrial use. Agricultural chemical.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

<b>Sulfuric acid (7664-93-9)</b>		
USA ACGIH	TWA	0.2 mg/m <sup>3</sup> (thoracic fraction)
USA NIOSH	IDLH	15 mg/m <sup>3</sup>
USA NIOSH	TWA	1 mg/m <sup>3</sup>
USA OSHA	TWA	1 mg/m <sup>3</sup>
Alberta	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)
British Columbia	TWA	0.2 mg/m <sup>3</sup> (thoracic, contained in strong inorganic acid mists)
Manitoba	TWA	0.2 mg/m <sup>3</sup> (thoracic fraction)
New Brunswick	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)
Newfoundland & Labrador	TWA	0.2 mg/m <sup>3</sup> (thoracic fraction)
Northwest Territories	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)
Nova Scotia	TWA	0.2 mg/m <sup>3</sup> (thoracic fraction)
Nunavut	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)
Ontario	TWA	0.2 mg/m <sup>3</sup> (thoracic)
Prince Edward Island	TWA	0.2 mg/m <sup>3</sup> (thoracic fraction)
Quebec	TWAEV / STEV	1 mg/m <sup>3</sup> (TWAEV), 3 mg/m <sup>3</sup> (STEV)
Saskatchewan	TWA / STEL	0.2 mg/m <sup>3</sup> (TWA, thoracic fraction), 0.6 mg/m <sup>3</sup> (STEL, thoracic fraction)
Yukon	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 1 mg/m <sup>3</sup> (STEL)

<b>Phosphoric acid (7664-38-2)</b>		
USA ACGIH	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)
USA NIOSH	IDLH	1000 mg/m <sup>3</sup>
USA NIOSH	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)
USA OSHA	TWA	1 mg/m <sup>3</sup>
Alberta	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)
British Columbia	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)
Manitoba	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)
New Brunswick	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)
Newfoundland & Labrador	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)



<b>Phosphoric acid (7664-38-2)</b>		
Northwest Territories	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)
Nova Scotia	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)
Nunavut	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)
Ontario	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)
Prince Edward Island	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)
Quebec	TWAEV / STEV	1 mg/m <sup>3</sup> (TWAEV), 3 mg/m <sup>3</sup> (STEV)
Saskatchewan	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)
Yukon	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 1 mg/m <sup>3</sup> (STEL)

## 8.2. Exposure controls

Appropriate engineering controls

: Provide sufficient ventilation to keep vapors below the permissible exposure limit. Ensure adequate ventilation, especially in confined areas. Packaging and unloading areas and open processing equipment may require mechanical exhaust systems. Corrosion-proof construction recommended.

Personal protective equipment

: Protective goggles. Face shield. Gas mask at concentration in the air >> TLV. Protective clothing.



Hand protection

: Impermeable protective gloves, such as: nitrile, neoprene, or PVC. Wear gauntlet gloves. Check glove manufacturer's permeation / degradation information.

Eye protection

: Chemical safety goggles and full face shield. Do not wear contact lenses. For increased protection, use supplied-air acid hood.

Skin and body protection

: Wear suitable protective clothing. Wear acid-resistant suit with acid-resistant apron, boots.

Respiratory protection

: Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits. Use respirator approved for acid fumes and mist.

Environmental exposure controls

: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Viscous
Colour	: Amber to black
Odour	: Acrid
Odour threshold	: No data available
pH	: 1 – 1.5

pH solution	: 1 – 10 g/l
Molecular mass	: 98 g/mol (Phosphoric acid)
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 136 - 163 °C (277 - 326 °F)
Flash point	: No data available
Self ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: 2 - 6 mm Hg at 25 °C (77 °F)
Relative vapour density at 20 °C	: No data available
Relative density	: 1.7 at 24 °C (75 °F)
Bulk Density	: 14 lb/gal
Solubility	: Water: Miscible
Log Pow	: No data available
Log Kow	: No data available
Viscosity	: 90-125 cP at 24 °C (75 °F) (53% P <sub>2</sub> O <sub>5</sub> ) 60-90 cP at 38 °C (100 °F) (53% P <sub>2</sub> O <sub>5</sub> )
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

## 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Product is hygroscopic. Acidic liquids, such as this material, may react with metals and release hydrogen gas.

### 10.2. Chemical stability

Stable at standard temperature and pressure.

### 10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

### 10.4. Conditions to avoid

Protect from moisture. Avoid high temperatures.

### 10.5. Incompatible materials

Avoid contact with bases, aluminum, copper, mild steel, brass, and bronze.

### 10.6. Hazardous decomposition products

Under conditions of fire this material may produce: Oxides of phosphorus; Phosphine; Sulphur oxides.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Harmful if swallowed.

<b>Sulfuric acid (7664-93-9)</b>	
LD50 oral rat	2140 mg/kg
LC50 inhalation rat (mg/l)	0.36 mg/l 4 h (reported as 510 mg/m <sup>3</sup> /2 h)
LC50 inhalation rat (ppm)	86.75 ppm 4 h (reported as 347 ppm/1 h)

<b>Phosphoric acid (7664-38-2)</b>	
LD50 oral rat	1530 mg/kg
LD50 dermal rabbit	2730 mg/kg
LC50 inhalation rat (mg/l)	> 850 mg/m <sup>3</sup> (Exposure time: 1 h)

Skin corrosion/irritation : Causes severe skin burns and eye damage.

pH: 1 – 1.5

Serious eye damage/irritation : Causes serious eye damage.

pH: 1 – 1.5

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : May cause cancer<sup>1</sup>.

<b>Sulfuric acid (7664-93-9)</b>	
IARC group	1

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : May cause respiratory irritation.

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

## SECTION 12: Ecological information

### 12.1. Toxicity

<b>Ecotoxicity</b>	<b>EPA Ecological Toxicity rating :</b>	High
	<b>Acute Toxicity to Fish:</b>	( <i>L. macrochirus</i> (bluegill sunfish)) 96-hr static: LC <sub>50</sub> = pH 3.0–3.5.
	<b>Chronic Toxicity to Fish:</b>	Mosquito fish: LD <sub>50</sub> =138 mg/L; 96 hours (CAS# 7664-38-2) ( <i>Daphnia magna</i> ) 12-hr static: EC <sub>50</sub> = pH 4.6; ( <i>Daphnia pulex</i> ) 12-hr static: EC <sub>50</sub> = pH 4.1; ( <i>Gammarus pulex</i> ) 12-hr static: LC <sub>50</sub> = pH 3.4
	<b>Acute Toxicity to Aquatic Invertebrates:</b>	( <i>Daphnia magna</i> ) 12-hr static: EC <sub>50</sub> = pH 4.6; ( <i>Daphnia pulex</i> ) 12-hr static: EC <sub>50</sub> = pH 4.1; ( <i>Gammarus pulex</i> ) 12-hr static: LC <sub>50</sub> = pH 3.4
	<b>Chronic Toxicity to Aquatic Invertebrates:</b>	No data available
	<b>Toxicity to Aquatic Plants:</b>	Dangerous to aquatic plants at high concentrations.

<sup>1</sup> "The International Agency for Research on Cancer (IARC) classified "strong inorganic acid mists containing sulfuric acid" as a Category 1 carcinogen, a substance that is "carcinogenic to humans". The National Toxicity Program classified "strong inorganic acid mists containing sulfuric acid" as a "known human carcinogen". These classifications are for strong inorganic acid mists only and do not apply to sulfuric acid or sulfuric acid solutions. The basis for the classifications rest on several epidemiology studies which have several deficiencies. These studies did not account for exposure to other substances, some known to be animal or potential human carcinogens, social influences (smoking, etc.) and included small numbers of subjects. Based on the overall weight of evidence from all human and chronic animal studies, no definitive causal relationship between sulfuric acid mist exposure and respiratory tract tumors has been shown. When handling this material avoid the creation of mist.

	<b>Toxicity to Bacteria:</b>	(Activated sludge): EC <sub>50</sub> = pH 2.55.
	<b>Toxicity to Soil Dwelling Organisms:</b>	No data available
	<b>Toxicity to Terrestrial Plants:</b>	(Peas, beans, beets, rapeseed and weeds) Sprayed with 15-20% solution of H <sub>3</sub> PO <sub>4</sub> : Foliage was destroyed on all plants.
<b>Environmental Fate:</b>	<b>Stability in Water:</b>	Ionic dissociation in water.
	<b>Stability in Soil:</b>	Dissolves some soil material (carbonates).
	<b>Transport and Distribution:</b>	Under acidic soil conditions, sparsely soluble phosphates tend to solubilize and may migrate to water.
<b>Toxicity:</b>	Inorganic phosphates have the potential to increase the growth of freshwater algae, whose eventual death will reduce the available oxygen for aquatic life.	
<b>Degradation Products:</b>	<b>Biodegradation:</b>	Under anaerobic conditions, microorganisms may degrade the product to phosphine.
	<b>Photodegradation:</b>	No data available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Sewage disposal recommendations : This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

Waste disposal recommendations : Place in a appropriate container and dispose of contaminated material at a licenced site.

Additional information : Dispose of waste material in accordance with all local, regional, national, and international regulations.

## SECTION 14: Transport information

In accordance with DOT / TDG / ADR / RID / ADNR / IMDG / ICAO / IATA

### 14.1. UN number

UN-No.(DOT) : 1805

DOT NA no. UN1805

### 14.2. UN proper shipping name

DOT Proper Shipping Name : Phosphoric Acid Solution

Department of Transportation (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136

Hazard Classes

Hazard labels (DOT) : 8 - Corrosive substances



Packing group (DOT) : III - Minor Danger

DOT Special Provisions (49 CFR 172.102) : **A7** - Steel packagings must be corrosion-resistant or have protection against corrosion

**IB3** - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).

**N34** - Aluminum construction materials are not authorized for any part of a packaging which is normally in contact with the hazardous material.

**T4** - See Table (172.102(7))

**TP1**- TP1 The maximum degree of filling must not exceed the degree of filling determined by the following:

$$\left( \text{Degree of filling} = \frac{97}{1 + \alpha (t_r - t_f)} \right)$$

Where:

$t_r$  is the maximum mean bulk temperature during transport, and  $t_f$  is the temperature in degrees celsius of the liquid during filling (For additional clarification, see 49 CFR 172.102(8)).

DOT Packaging Exceptions (49 CFR 173.xxx) : 154

DOT Packaging Non Bulk (49 CFR 173.xxx) : 203

DOT Packaging Bulk (49 CFR 173.xxx) : 241

### 14.3. Additional information

Emergency Response Guide (ERG) Number : 154

Reportable Quantity : 5000 pounds (at 100% Phosphoric Acid)

Other information : No supplementary information available.

### Overland transport

No additional information available

### Transport by sea

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

### Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 5 L

DOT Quantity Limitations Cargo : 60 L  
 aircraft only (49 CFR 175.75)

IATA ERG Number : 8L

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

<b>AmberPhos-54®</b>	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

<b>Sulfuric acid (7664-93-9)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Listed on SARA Section 302 (Specific toxic chemical listings)	
Listed on SARA Section 313 (Specific toxic chemical listings)	
SARA Section 302 Threshold Planning Quantity (TPQ)	1000 lb
SARA Section 313 - Emission Reporting	1.0 % (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)

<b>Phosphoric acid (7664-38-2)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

### 15.2. US State regulations

The following states have an OSH program approved by OSHA. If you are located in any of these states you may be under state jurisdiction rather than federal jurisdiction and your state may have more stringent requirements than OSHA. You should consult your state regulations to ensure compliance.

Alaska	Indiana	Minnesota	North Carolina	Utah
Arizona	Iowa	Nevada	Oregon	Vermont
California	Kentucky	New Mexico	Puerto Rico	*Virgin Islands
*Connecticut	Maryland	*New Jersey	South Carolina	Virginia
Hawaii	Michigan	*New York	Tennessee	Washington
*Illinois				Wyoming

\*The state plans in these states apply only to public sector employers. In these states private sector employers are subject to USOL – OSHA jurisdiction. All other state plans apply to both public and private sector employers.

<b>Sulfuric acid (7664-93-9)</b>
U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Acute
U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Chronic
U.S. - California - Toxic Air Contaminant List (AB 1807, AB 2728)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Hawaii - Occupational Exposure Limits - STELs
U.S. - Hawaii - Occupational Exposure Limits - TWAs
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
U.S. - Idaho - Occupational Exposure Limits - TWAs



U.S. - Illinois - Toxic Air Contaminant Carcinogens  
U.S. - Illinois - Toxic Air Contaminants  
U.S. - Louisiana - Reportable Quantity List for Pollutants  
U.S. - Maine - Air Pollutants - Hazardous Air Pollutants  
U.S. - Massachusetts - Allowable Ambient Limits (AALs)  
U.S. - Massachusetts - Allowable Threshold Concentrations (ATCs)  
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Conc. - Reporting Category 1  
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Conc. - Reporting Category 2  
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity  
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1  
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2  
U.S. - Massachusetts - Right To Know List  
U.S. - Massachusetts - Threshold Effects Exposure Limits (TEELs)  
U.S. - Massachusetts - Toxics Use Reduction Act  
U.S. - Michigan - Occupational Exposure Limits - TWAs  
U.S. - Michigan - Polluting Materials List  
U.S. - Minnesota - Chemicals of High Concern  
U.S. - Minnesota - Hazardous Substance List  
U.S. - Minnesota - Permissible Exposure Limits - TWAs  
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour  
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual  
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances  
U.S. - New Jersey - Environmental Hazardous Substances List  
U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - New Jersey - Special Health Hazards Substances List  
U.S. - New York - Occupational Exposure Limits - TWAs  
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances  
U.S. - North Carolina - Control of Toxic Air Pollutants  
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour  
U.S. - Ohio - Extremely Hazardous Substances - Threshold Quantities  
U.S. - Oregon - Permissible Exposure Limits - TWAs  
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List  
U.S. - Pennsylvania - RTK (Right to Know) List  
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - 1-Hour  
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - Annual  
U.S. - South Carolina - Toxic Air Pollutants - Maximum Allowable Concentrations  
U.S. - South Carolina - Toxic Air Pollutants - Pollutant Categories  
U.S. - Tennessee - Occupational Exposure Limits - TWAs  
U.S. - Texas - Effects Screening Levels - Long Term  
U.S. - Texas - Effects Screening Levels - Short Term  
U.S. - Vermont - Permissible Exposure Limits - TWAs  
U.S. - Washington - Permissible Exposure Limits - STELs  
U.S. - Washington - Permissible Exposure Limits - TWAs  
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Height 25 Ft to Less Than 40 Ft  
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Height 40 Ft to Less Than 75 Ft  
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 75 Feet or Greater  
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights Less Than 25 Feet

**Phosphoric acid (7664-38-2)**

U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Chronic  
U.S. - California - Toxic Air Contaminant List (AB 1807, AB 2728)  
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)  
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)  
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities  
U.S. - Hawaii - Occupational Exposure Limits - STELs  
U.S. - Hawaii - Occupational Exposure Limits - TWAs  
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations  
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)  
U.S. - Idaho - Occupational Exposure Limits - TWAs  
U.S. - Louisiana - Reportable Quantity List for Pollutants  
U.S. - Massachusetts - Allowable Ambient Limits (AALs)  
U.S. - Massachusetts - Allowable Threshold Concentrations (ATCs)  
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Conc. - Reporting Category 1  
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Conc. - Reporting Category 2  
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity  
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1  
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2  
U.S. - Massachusetts - Right To Know List  
U.S. - Massachusetts - Threshold Effects Exposure Limits (TELs)  
U.S. - Massachusetts - Toxics Use Reduction Act  
U.S. - Michigan - Occupational Exposure Limits - STELs  
U.S. - Michigan - Occupational Exposure Limits - TWAs  
U.S. - Michigan - Polluting Materials List  
U.S. - Minnesota - Chemicals of High Concern  
U.S. - Minnesota - Hazardous Substance List  
U.S. - Minnesota - Permissible Exposure Limits - STELs  
U.S. - Minnesota - Permissible Exposure Limits - TWAs  
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour  
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual  
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances  
U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - New Jersey - Special Health Hazards Substances List  
U.S. - New York - Occupational Exposure Limits - TWAs  
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances  
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 1-Hour  
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour  
U.S. - Oregon - Permissible Exposure Limits - TWAs  
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List  
U.S. - Pennsylvania - RTK (Right to Know) List  
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - Annual  
U.S. - South Carolina - Toxic Air Pollutants - Maximum Allowable Concentrations  
U.S. - South Carolina - Toxic Air Pollutants - Pollutant Categories  
U.S. - Tennessee - Occupational Exposure Limits - STELs  
U.S. - Tennessee - Occupational Exposure Limits - TWAs  
U.S. - Texas - Effects Screening Levels - Long Term  
U.S. - Texas - Effects Screening Levels - Short Term

U.S. - Vermont - Permissible Exposure Limits - STELs  
 U.S. - Vermont - Permissible Exposure Limits - TWAs  
 U.S. - Washington - Permissible Exposure Limits - STELs  
 U.S. - Washington - Permissible Exposure Limits - TWAs  
 U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Height 25 Ft to Less Than 40 Ft  
 U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Height 40 Ft to Less Than 75 Ft  
 U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 75 Feet or Greater  
 U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights Less Than 25 Feet

### 15.3. Canadian regulations

#### AmberPhos-54®

WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class E - Corrosive Material
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#### Sulfuric acid (7664-93-9)

Listed on the Canadian DSL (Domestic Substances List) inventory.  
 Listed on the Canadian Ingredient Disclosure List – Disclosure at 1%

WHMIS Classification	Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects Class E - Corrosive Material
----------------------	--

#### Phosphoric acid (7664-38-2)

Listed on the Canadian DSL (Domestic Substances List) inventory.  
 Listed on the Canadian Ingredient Disclosure List – Disclosure at 1%

WHMIS Classification	Class E - Corrosive Material
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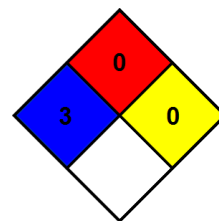
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

## SECTION 16: Other information

NFPA health hazard : 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.

NFPA fire hazard : 0 - Materials that will not burn.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



Full text of H-phrases:

Acute Tox. 2 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 2
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 2	Hazardous to the aquatic environment - Acute Hazard Category 2
Carc. 1A	Carcinogenicity Category 1A
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Skin Corr. 1A	skin corrosion/irritation Category 1A
STOT SE 3	Specific target organ toxicity (single exposure) Category 3

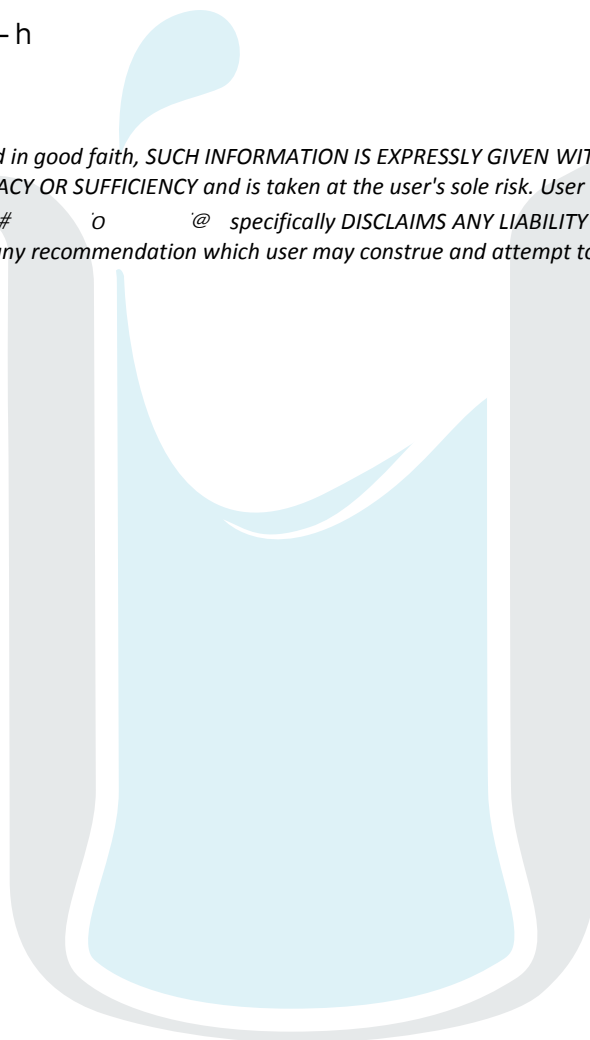
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H330	Fatal if inhaled
H335	May cause respiratory irritation
H350	May cause cancer

Previous MSDS Number: MSDS 46 – h

SDS US (GHS HazCom 2012)

*Although the information contained is offered in good faith, SUCH INFORMATION IS EXPRESSLY GIVEN WITHOUT ANY WARRANTY (EXPRESS OR IMPLIED) OR ANY GUARANTEE OF ITS ACCURACY OR SUFFICIENCY and is taken at the user's sole risk. User is solely responsible for determining the suitability of use in each particular situation. # 'o '@ specifically DISCLAIMS ANY LIABILITY WHATSOEVER FOR THE USE OF SUCH INFORMATION, including without limitation any recommendation which user may construe and attempt to apply which may infringe or violate valid patents, licenses, and/or copyright.*

SDS US (GHS HazCom 2012)





**BILL OF LADING (pursuant to 310 CMR 40.0030)**

**A. LOCATION OF SITE OR DISPOSAL SITE WHERE REMEDIATION WASTE WAS GENERATED:**

- 1. Release Name/Location Aid: PLANNED RIVERS EDGE DEVELOPMENT
- 2. Street Address: 484-490 BOSTON POST ROAD
- 3. City/Town: WAYLAND 4. Zip Code: 017781831
- 5. Check here if the disposal site that is the source of the release is Tier Classified. Check the current Tier Classification Category.
  - a. Tier I  b. Tier ID  c. Tier II

**B. THIS FORM IS BEING USED TO:** (check one: B1-B4):

- 1. Submit a **Bill of Lading (BOL)** to transport Remediation Waste to Temporary Storage or a Receiving Facility.  
Response Actions associated with this BOL (check all that apply):
  - a. Immediate Response Action (IRA)  e. Comprehensive Response Actions
  - b. Release Abatement Measure (RAM)  f. Limited Removal Action (LRA): (must be retained pursuant to 310 CMR 40.0034(6); can't be submitted via eDEP)
  - c. Downgradient Property Status (DPS)  g. Other \_\_\_\_\_
  - d. Utility Release Abatement Measure (URAM)
- 2. Submit an Attestation of Completion of **Shipment to Temporary Storage** (Sections C, F and J are not required):
- 3. Submit an Attestation of **Completion of Shipment to a Receiving Facility** (Sections C, F and J are not required):
- 4. Certify that Remediation Waste Was **Not Shipped, and the Bill of Lading is Void**. (Sections C, D, E, and F are not required)
- 5. Date Bill of Lading submitted to the Department: 05/03/2021 b. eDEP Transaction ID: 1275882  
(mm/dd/yyyy)
- 6. Period of Generation Associated with this Bill of Lading 4/28/2021 to 8/15/2021  
(mm/dd/yyyy) (mm/dd/yyyy)

**(All sections of this transmittal form must be filled out unless otherwise noted above)**

The Bill of Lading is not considered complete until the Attestation of Completion of Shipment is received by the Department.

**C. DESCRIPTION OF WASTE AND WASTE SOURCE:**

- 1. Contaminated Media/Debris (check all that apply):
  - a. Soil  b. Groundwater  c. Surface Water  d. Sediment  e. Vegetation or Organic Debris
  - f. Demolition/Construction Waste  g. Inorganic Absorbent Materials  h. Other: \_\_\_\_\_
- 2. Uncontainerized Waste (check all that apply):
  - a. Inorganic Absorbent Materials  b. Other: \_\_\_\_\_



**BILL OF LADING (pursuant to 310 CMR 40.0030)**

**C. DESCRIPTION OF WASTE AND WASTE SOURCE (cont.):**

3. Containerized Waste (check all that apply):

- a. Tank Bottoms/Sludges
- b. Containers
- c. Drums
- d. Engineered Impoundments
- e. Other: \_\_\_\_\_

4. Estimated Quantity: 400  Tons  Cu. Yds.  Gallons

5. Contaminant Source (check one):

- a. Transportation Accident
- b. Underground Storage Tank
- c. Brownfields Redevelopment
- d. Other: \_\_\_\_\_

6. Type of Contaminant (check all that apply):

- a. Gasoline
- b. Diesel Fuel
- c. #2 Fuel Oil
- d. #4 Fuel Oil
- e. #6 Fuel Oil
- f. Jet Fuel
- g. Waste Oil
- h. Kerosene
- i. Chlorinated Solvents
- j. Urban Fill
- k. Other: \_\_\_\_\_

7. Constituents of Concern (check all that apply):

- a. As
- b. Cd
- c. Cr
- d. Pb
- e. Hg
- f. EPH/TPH
- g. VPH
- h. PCBs
- i. VOCs
- j. SVOCs
- k. Other: \_\_\_\_\_

8. If applicable, check the box for the Reportable Concentration Category of the site:

- a. RCS-1
- b. RCS-2
- c. RCGW-1
- d. RCGW-2

9. Remediation Waste Characterization Documentation (check at least one):

- a. Site History Information
- b. Sampling Analytical Methods and Procedures
- c. Laboratory Data
- d. Field Screening Data
- e. Characterization Documentation previously submitted to the Department

i. Date submitted: \_\_\_\_\_ ii. Type of Documentation: \_\_\_\_\_  
(mm/dd/yyyy)

**D. TRANSPORTER OR COMMON CARRIER INFORMATION:**

1. Transporter/Common Carrier Name: BOSTON ENVIRONMENTAL CORP

2. Contact First Name: JOHN 3. Last Name: COLE

4. Street: 338 HOWARD STREET 5. Title: DIRECTOR OF OPERATIONS

6. City/Town: BROCKTON 7. State: MA 8. Zip Code: 023020000

9. Telephone: 5088978025 10. Ext: \_\_\_\_\_ 11. Email: jcole@bostonenvcorp.com





**BILL OF LADING (pursuant to 310 CMR 40.0030)**

**E. RECEIVING FACILITY/TEMPORARY STORAGE LOCATION:**

1. Operator/Facility Name: WASTE MANAGEMENT OF NH (TREE)

2. Contact First Name: ELLEN 3. Last Name: BELLIO

4. Street: 176 ROCHESTER NECK ROAD 5. Title: SR. MGR. WASTE APPROVALS

6. City/Town: ROCHESTER 7. State: NH 8. Zip Code: 038390000

9. Telephone: 8009634476 10. Ext: \_\_\_\_\_ 11. Email: ebellio@wm.com

12. Type of facility: (check one)

a. Temporary Storage i. Period of Temporary Storage \_\_\_\_\_ to \_\_\_\_\_  
(mm/dd/yyyy) (mm/dd/yyyy)

ii. Reason for Temporary Storage: \_\_\_\_\_

b. Asphalt Batch/Hot Mix  c. Landfill/Disposal  d. Landfill/Structural Fill  e. Landfill/Daily Cover

f. Asphalt Batch/Cold Mix  g. Thermal Processing  h. Incinerator  i. Other: \_\_\_\_\_

13. Division of Hazardous Waste/Class A Permit Number: \_\_\_\_\_

14. Division of Solid Waste Permit Number: DES-SW-SP-90-001

15. EPA Identification Number: \_\_\_\_\_

**F. LSP SIGNATURE AND STAMP:**

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this submittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and 309 CMR 4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief, the assessment action(s) undertaken to characterize the Remediation Waste which is (are) the subject of this submittal for acceptance at the facility identified in this submittal comply with applicable provisions of 310 CMR 40.0000, and such facility is permitted to accept Remediation Waste having the characteristics described in this submittal.

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

1. LSP #: 5217

2. First Name: WILLIAM J 3. Last Name: GIBBONS

4. Telephone: 7816987654 5. Ext: \_\_\_\_\_ 6. Email: \_\_\_\_\_

7. Signature: WILLIAM J GIBBONS

8. Date: 4/30/2021  
(mm/dd/yyyy)

9. LSP Stamp:







**BILL OF LADING (pursuant to 310 CMR 40.0030)**

**J. CERTIFICATION OF PERSON SUBMITTING BILL OF LADING (cont.) :**

6. Check here if the address of the person providing certification is different from address recorded in Section G.

7. Street: \_\_\_\_\_

8. City/Town: \_\_\_\_\_ 9. State: \_\_\_\_\_ 10. Zip Code: \_\_\_\_\_

11. Telephone: \_\_\_\_\_ 12. Ext: \_\_\_\_\_ 13. Email: \_\_\_\_\_

**YOU ARE SUBJECT TO AN ANNUAL COMPLIANCE ASSURANCE FEE OF UP TO \$10,000 PER BILLABLE YEAR FOR THIS DISPOSAL SITE. YOU MUST LEGIBLY COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.**

Date Stamp (MassDEP USE ONLY):

Received by DEP on 5/3/2021 2:52:29 PM





April 28, 2021

Turnkey Recycling and Environmental Enterprises (TREE)  
90 Rochester Neck Road  
Rochester, New Hampshire  
Attn: Ms. Ellen Bellio, Waste Approvals Manager

**RE: LSP Opinion Letter– Treated TCLP Soil for Direct Disposal Conditional Approval  
Stockpiled Wayland DPW Soil**  
Alta at River’s Edge, LLC  
484-490 Boston Post Road  
Wayland, Massachusetts  
VERTEX Project No. 67404  
Release Tracking Number (RTN) 3-36013

Dear Ms. Bellio:

The Vertex Companies, Inc. (VERTEX) is pleased to submit this Licensed Site Professional (LSP) (LSP) Opinion Letter on behalf of Alta River’s Edge, LLC, for the proposed transport of up to 200 tons of lead-impacted soil for direct disposal at the above referenced facility (the Facility). The soil has been stabilized and is scheduled to be live loaded from the property identified as River’s Edge located at 484-490 Boston Post Road in Wayland, Massachusetts (the “Property”) and is being removed to support Property redevelopment.

The approximately 7-acre Property is currently being redeveloped by Alta River’s Edge, LLC as a multi-unit residential development. The general Property locus is shown on Figure 1, and the general layout of the Property is shown on Figure 2.

A portion of the Property is a Disposal Site listed by the Massachusetts Department of Environmental Protection (MassDEP) under Release Tracking Number (RTN) 3-36013 for the reported oil and hazardous materials (OHM) in stockpiled soil originating from off-site locations. Additional information regarding the soil and historical Property RTNs is included below.

The information provided in this LSP Opinion letter includes a general Property history and summary of investigation activities and demonstrates that the soil proposed to be transported for disposal at the Facility meets the Facility’s acceptance criteria.

## General Property History

Based on a review of readily available historical information, a portion of the Property was utilized as a firing range since at least the mid-1970s until 2017 and the remainder of the Property historically consisted of undeveloped cleared land prior to construction of a municipal wastewater treatment plant (the Septage Facility) in 1983. The Septage Facility operated until 2009.

After 1983 and according to representatives of the Town of Wayland, it appears that the Wayland Department of Public Works (DPW) began storing soils, waste asphalt, masonry, concrete, and other debris which originated from off-site locations, in the eastern portion of the Property. Transportation of DPW material to the Property for storage continued until 2017.

The soil proposed to be transported for disposal at the Facility is a portion of the DPW stockpiled soil in an area of the Property that is separate from the firing range and Septage Facility.

## Disposal Site Release History

Based on the available information, three releases of OHM have occurred at the Property. The information below summarizes the identified OHM releases at the Property and the locations of the releases are shown on Figure 2.

### RTN 3-001724 (Septage Facility)

This RTN was assigned in 1987 following MassDEP notification of the discharge of an estimated 3-gallons of unknown oil “ostensibly from a restaurant grease trap” into the Septage Facility’s receiving tanks. Based on available documentation, the plant operator identified this wrongful discharge shortly following the release and responded by closing valves to isolate the discharged material to the “Raw Well” and to restrict pathways that would have resulted in a release to the environment. A sample of the oil was collected for laboratory analysis of polychlorinated biphenyls (PCBs) and PCBs were not detected above the laboratory detection limit. The oil was removed and disposed of off-site under Hazardous Waste Manifest documentation.

After additional investigations by the MassDEP in 1993 and based on available documentation, the MassDEP determined the release was no longer considered a “Disposal Site” under the Massachusetts Contingency Plan (MCP) and classified the release as DEPNDs (MassDEP Not a Disposal Site). Soil proposed for reuse at the Facility was not impacted by the RTN 3-001724 release.

### RTN 3-34474

RTN 3-34474 is associated with the discovery of asbestos at the Property in August 2017 during pre-purchase due-diligence activities undertaken for Alta River’s Edge, LLC. On August 8, 2017, during regrading of the large stockpile of DPW soil to enable it to be sampled for characterization



analyses, VERTEX identified suspect asbestos-containing waste materials (ACWM) including potential transite pipe and floor tiles, all located within a small area of the stockpile. Six samples of suspect ACWM were collected and submitted for polarized light microscopy (PLM) analysis.

Based on the analytical results, five of the six suspect ACWM samples contained greater than 1% asbestos. On August 14, 2017, following discussions between VERTEX, the Town of Wayland and their consultant, and the MassDEP Bureau of Air and Waste, it was determined that greater than 1 pound of asbestos was present, triggering a 2-hour reportable condition under the MCP. The Town of Wayland notified the MassDEP of the release, and the release was subsequently assigned RTN 3-34474.

From July to December 2018, VERTEX collected 95 soil samples from the stockpile and analyzed the samples for asbestos. No asbestos was detected in the 95 soil samples. The ACWM was abated in accordance with a MassDEP-approved Non-Traditional Asbestos Work Plan (NTAWP) and under a MCP Immediate Response Action (IRA).

The extent of the ACWM was confirmed based on visual observations by a Massachusetts-licensed asbestos inspector and test results, and VERTEX oversaw the excavation and off-site transport of approximately 2,000 cubic yards of commingled soil and ACWM from the stockpile. VERTEX's oversight during the ACWM remediation included continuous air monitoring and continuous Massachusetts-licensed Asbestos Inspector observation of the excavated materials and excavation sidewalls and base to confirm the full extent of ACWM was excavated and disposed of off-site. No additional ACWM was observed in the excavation sidewalls and/or base during the remediation and as noted above, analysis of soil samples did not detect asbestos fibers in any sample.

On January 26, 2021 this RTN was closed with a Permanent Solution Statement with No Conditions under the MCP.

#### RTN 3-36013

In March 2019, during the collection of soil characterization samples at the Property, semi-volatile organic compounds (SVOCs) and lead were detected at concentrations exceeding applicable MCP RCS-1 Reportable Concentrations in soil samples collected from the stockpile. Additionally, lead, copper, and antimony were detected at concentrations exceeding applicable MCP RCS-1 Reportable Concentrations in soils at the former firing range, and dissolved arsenic, nickel, and ammonia were detected in groundwater at concentrations exceeding applicable MCP RCGW-1 Reportable Concentrations. On December 2, 2019, the Town of Wayland notified the MassDEP of the reportable conditions, and the releases were subsequently assigned RTN 3-36013.

Soil proposed for disposal at the Facility include lead-impacted soils from a portion of the stockpile. If soils outside this area are proposed for disposal at the Facility, an additional disposal package will be provided.

## Sampling Activities – Stockpile

Following ACWM abatement activities within the large stockpile, the remainder of the stockpile was graded to a manageable height and configuration to allow for the collection of soil characterization samples and a sampling grid of characterization cells was established, surveyed by a professional survey company, and the limits of each characterization cell were marked with stakes. Between, March 1 and March 12, 2019, VERTEX oversaw the advancement of 44 test pits within the stockpile, identified as TP-A1 through TP-A5, TP-B1 through TP-B6, TP-C1 through TP-C6, TP-D1 through TP-D7, TP-E2 through TP-E8, TP-F3 through TP-F8, TP-G6, TP-G7, and TP-V-101 through TP-V-105. Soil samples were collected continuously in 5-foot vertical composites from the ground surface to approximately 10 feet bgs (with the exception of test pits D3 and E5 which were advanced to 15 feet bgs). A total of 85 soil samples were collected for characterization analysis.

The soils were screened in the field using a photoionization detector (PID) calibrated with a 100 parts per million by volume (ppmv) isobutylene standard to report ionizable total volatile organic compounds (TVOCs) as isobutylene equivalents. Visual and olfactory evidence of impacts were recorded in the field and on the test pit logs, where observed. Soil characterization and PID screening results are provided on the boring logs included as Attachment 1.

Each of the soil samples submitted for laboratory analysis was a composite of five approximately equal-volume aliquots of soil collected from each 5-foot depth interval of each characterization cell. The aliquots were mixed in a stainless-steel bowl to create the representative composite sample for each cell, which was then placed into laboratory-supplied sample containers. Soil samples collected for analysis of volatile organic compounds (VOCs) were collected by placing approximately equal-volume aliquots from five points within each characterization cell directly from the excavator bucket into the sample containers.

Samples were submitted to Con-Test Analytical Laboratory (Con-Test) of East Longmeadow, Massachusetts for laboratory analysis of the MassDEP Reuse and Disposal of Contaminated Soil at Massachusetts Landfills DEP Policy #COMM-97-001 (COMM-97) disposal parameters as well as additional analyses, including:

- Volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8260;
- Semi-volatile organic compounds (SVOCs) by USEPA Method 8270;
- Extractable Petroleum Hydrocarbons (EPH) by MassDEP Method 04-1.1;
- Massachusetts Contingency Plan (MCP) 14 Total Metals by USEPA Method 6010 and 7471;
- Polychlorinated biphenyls (PCBs) by USEPA Method 8082 with Soxhlet extraction;
- Total petroleum hydrocarbons (TPH) by USEPA Method 8015;
- Corrosivity (pH) by USEPA Method 1,9045D;
- Reactivity (cyanide and sulfide) by USEPA Method 125,7.3;
- Conductivity by USEPA Method 1,9050A; and

- Ignitability by USEPA Method 1030.

Additionally, based on the previous discovery of ACWM within the stockpile, the 80 soil samples were also submitted for analysis of asbestos fibers, using the California Air Resources Board CARB-435 preparation method and USEPA Method 600/R-93/116 polarized light microscopy method.

Based on the soil analytical data, total lead was detected in cell E-7 at 780 milligrams per kilogram (mg/kg) in the sample collected from 0 to 5 feet below ground surface (bgs), and 300 mg/kg in the sample collected from 5 to 10 feet bgs. Due to the detection of lead exceeding 100 mg/kg, on February 26, 2021, VERTEX collected additional five-point composite samples from each cell, identified as TP-E7(0-5)\_TCLP and TP-E7(5-10)\_TCLP, and submitted each to Con-Test for TCLP extraction by USEPA Method 1311 and analysis of lead by USEPA Method 6010D. Extractable lead was detected at 10 mg/L in sample TP-E7(0-5)\_TCLP and 12 mg/L in sample TP-E7(5-10).

Following the detection of extractable lead at concentrations exceeding the RCRA regulatory threshold concentration of 5 mg/L for classification as a characteristic hazardous waste, on March 8, 2021, VERTEX oversaw the advancement of four test pits 5 feet laterally from the original E-7 sample location, in each compass direction,. At each test pit location five-feet from the original sample location, VERTEX collected one five-point composite at the 0 to 5 feet bgs depth interval and one from 5 to 10 feet bgs depth interval. The samples were submitted to Con-Test for analysis of total lead by USEPA Method 6010D, and for TCLP extraction by USEPA Method 1311 and analysis of lead in the extract by USEPA Method 6010D. Based on the analytical results, extractable lead was not detected in the eight samples at concentrations exceeding the Resource Conservation and Recovery Act (RCRA) regulatory threshold for classification as a characteristic hazardous waste.

A summary of soil sample analytical results representing the soil proposed for disposal at the Facility is provided on Table 1, a summary of the delineation samples collected within cell E-7 is provided on Table 3, and copies of the laboratory analytical reports are provided in Attachment 2.

### **Soil Physical Characteristics**

The soil encountered during sampling activities was described using a modified Burmister soil classification system and was recorded on test pit logs. Copies of the logs are presented in Attachment 1. The soil was generally described as light brown fine to coarse sand and gravel with trace silt and clay.

### **Soil Stabilization and Confirmatory Sampling**

On April 13, 2021, the soil within the delineated area of Cell E-7 was stabilized using a 75% phosphoric acid solution (Phos-75) at a dose rate of 0.5% by volume. The Phos-75 was applied as

a spray from a wand applicator and mixed with the soil with an excavator. A copy of the Safety Data Sheet for Phos-75 is attached. Following in-situ stabilization, two composite post-stabilization confirmatory samples were collected from the stabilized TCLP soil at the Facility-required frequency of one sample per 100 tons of treated soil. The samples were submitted to ESS Laboratories of Cranston, Rhode Island for TCLP-lead analysis. A summary of soil sample analytical results is provided on Table 3, and a copy of the laboratory analytical report is included in Attachment 1. At no time was the soil placed in containers, placed in trucks, or transported outside of the lead-contaminated cell.

### Soil Disposal

VERTEX proposes to transport the approximately 125 cubic yards (approximately 200 tons using a conversion factor of 1.6 tons per cubic yard) of stabilized soil for direct disposal at the Facility. Based on the laboratory analytical results and the Facility's sampling frequency of one sample per 200 tons of soil and analysis of 1 sample per 100 tons of stabilized soil showing successful stabilization, the soil data supports the proposed disposal of the approximately 200 tons of soil at the Facility.

Figure 3 shows the soil sampling characterization cells and indicates the location of the TCLP-lead area proposed for direct disposal under this LSP Opinion Letter. It is the opinion of the LSP that the soil analytical results are representative of the soil proposed for disposal, and upon confirmation of successful stabilization the analytical results will meet the Facility's acceptance criteria.

Soil will not be shipped from uncharacterized locations or at greater quantities than the quantity requested without prior Facility approval. If needed or where specifically requested, additional samples and analytical data will be collected and provided to the Facility for approval of additional volume prior to transport to the Facility.

Please do not hesitate to contact us should you have any questions or require additional information.

Sincerely,

**The Vertex Companies, Inc.**



Kristen Sarson  
Project Manager



William J. Gibbons, PG, LSP  
Licensed Site Professional

**ATTACHMENTS**

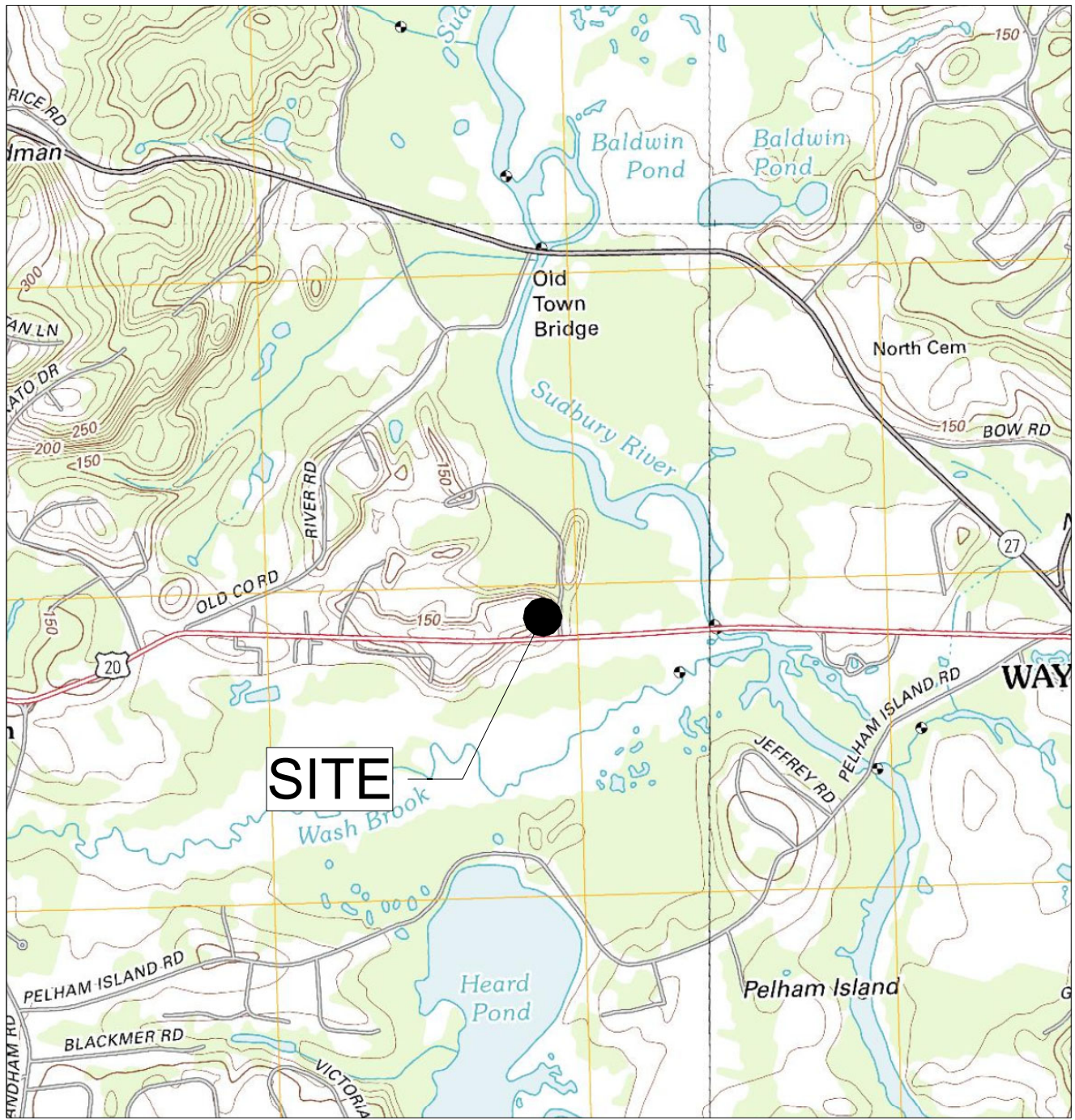
Figure 1 Site Locus  
Figure 2 Site General Layout  
Figure 3 Stockpile Grid Layout  
Figure 3A Soil Management Classification 0-5 Feet  
Figure 3B Soil Management Classification 5-10 Feet  
Figure 3C Soil Management Classification 10-15 Feet

Table 1 Summary of Soil Characterization Analytical Results – Qualifying Samples  
Table 2 Summary of Horizontal Lead Delineation Analytical Results  
Table 3 Summary of Post-Stabilization Confirmatory Samples

Attachment 1 Test Pit Logs  
Attachment 2 Laboratory Analytical Report

## FIGURES





SCALE: 1" = 0.5 miles  
(WHEN PRINTED AT 8x11)

SOURCE: UNITED STATES GEOLOGICAL SURVEY MAP FRAMINGHAM  
MA QUADRANGLE 7.5 MINUTE SERIES (2012)

**SITE LOCUS**  
**RIVER'S EDGE**

484 - 490 Boston Post Road  
Wayland, Massachusetts

Date:	04/22/19
Drawn:	KS
Checked:	FC
Job No.:	46047

FIGURE

**1**






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**LEGEND:**

- V-103 (MW)  VERTEX Monitoring Well
- V-113  Soil Boring
- MW-3  Monitoring Well Installed by Others
- V-SG-101  Soil Vapor Sample Point
-  Approximate Site Boundary



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SCALE: 1" = 100'-0"  
(WHEN PRINTED AT 11x17)

**SITE GENERAL LAYOUT**

RIVER'S EDGE

484 - 490 BOSTON POST ROAD  
WAYLAND, MA

File No.:  
Date: 3/29/19  
Drawn: KS  
Checked: FC  
Job No.: 46047

FIGURE  
**2**

4/22/19

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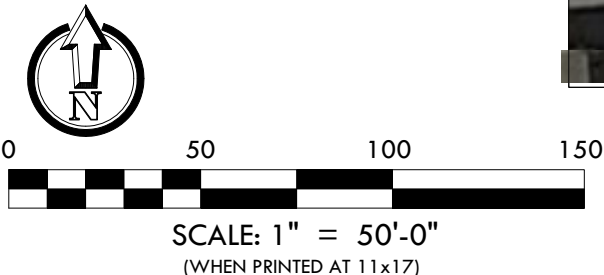


**LEGEND:**

- B3 Test Pit Grid Number
-  Approximate Configuration of 32,000 cy Stockpile
-  4,500 cy Stockpile  
TP-V-101 Test Pit Location
-  Approximate Configuration of 4,500 cy Stockpile



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**STOCKPILE GRID LAYOUT**  
**RIVER'S EDGE**  
 484 - 490 BOSTON POST ROAD  
 WAYLAND, MA

File No.:	FIGURE
Date: 05/07/19	<b>3</b>
Drawn: KS	
Checked: FC	
Job No.: 46047	

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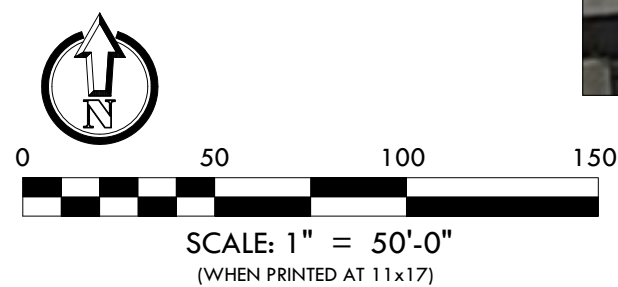
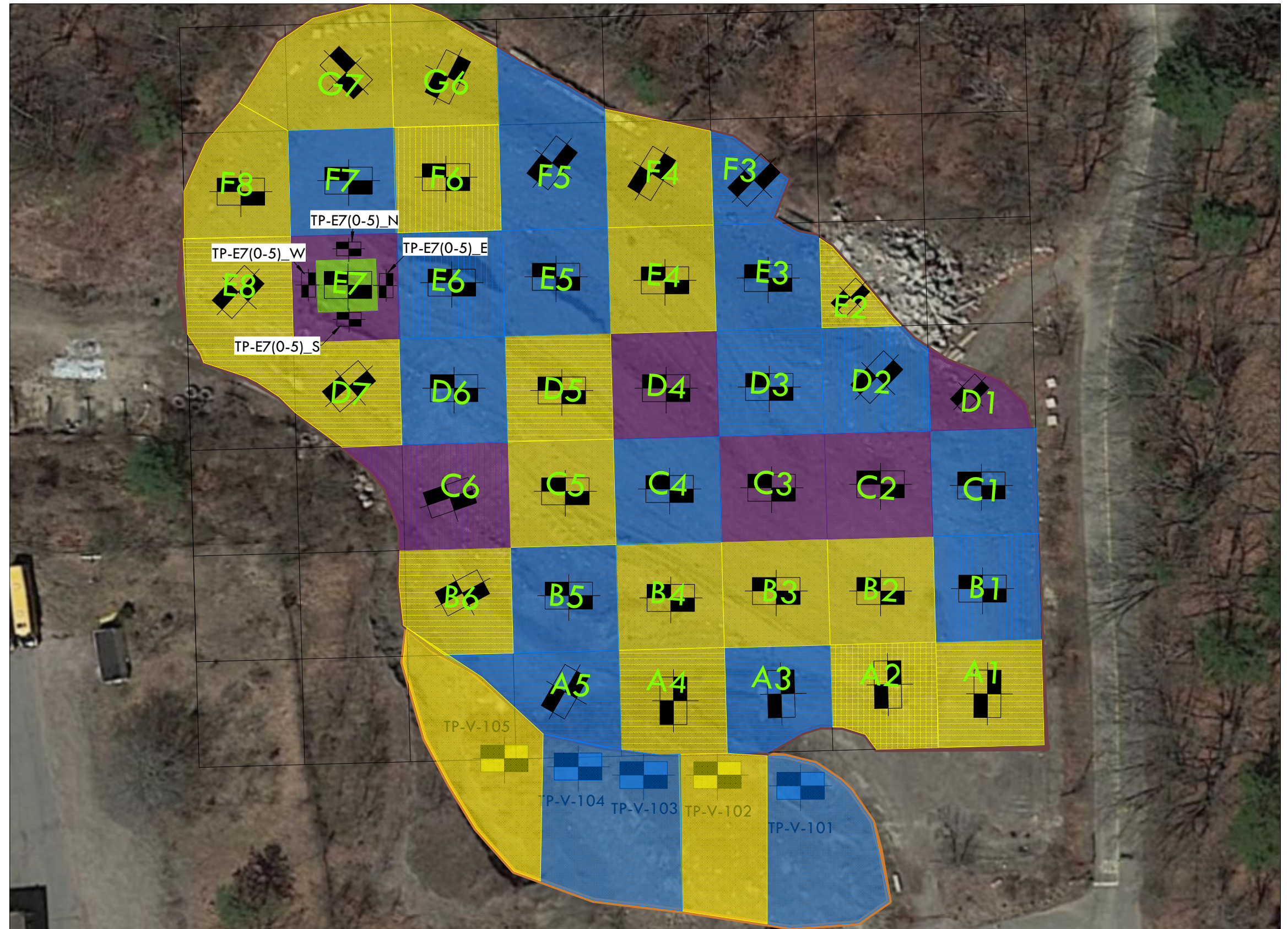
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**LEGEND:**

- B3 Test Pit Grid Number
- <RCS-1 Facility
- <RCS-2 Facility
- Unlined Landfill
- Asphalt Batch Plan
- Stabilized & Proposed for TREE
- Approximate Configuration of 32,000 cy Stockpile
- Test Pit Location  
TP-V-101
- Approximate Configuration of 4,500 cy Stockpile



**SOIL MANAGEMENT CLASSIFICATION 0-5 FEET**

RIVER'S EDGE  
 484-490 BOSTON POST ROAD  
 WAYLAND, MA  
 RTN 3-36013

Date: 05/07/19  
 Drawn: KS  
 Checked: FC  
 Job No.: 67404

FIGURE  
3A

03/17/2021	03/05/2021	02/08/2021	REVISIONS
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 BOSTON, MA 02114  
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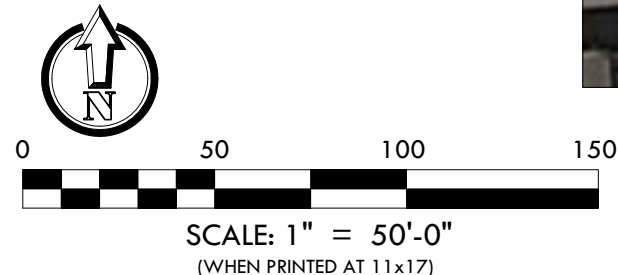
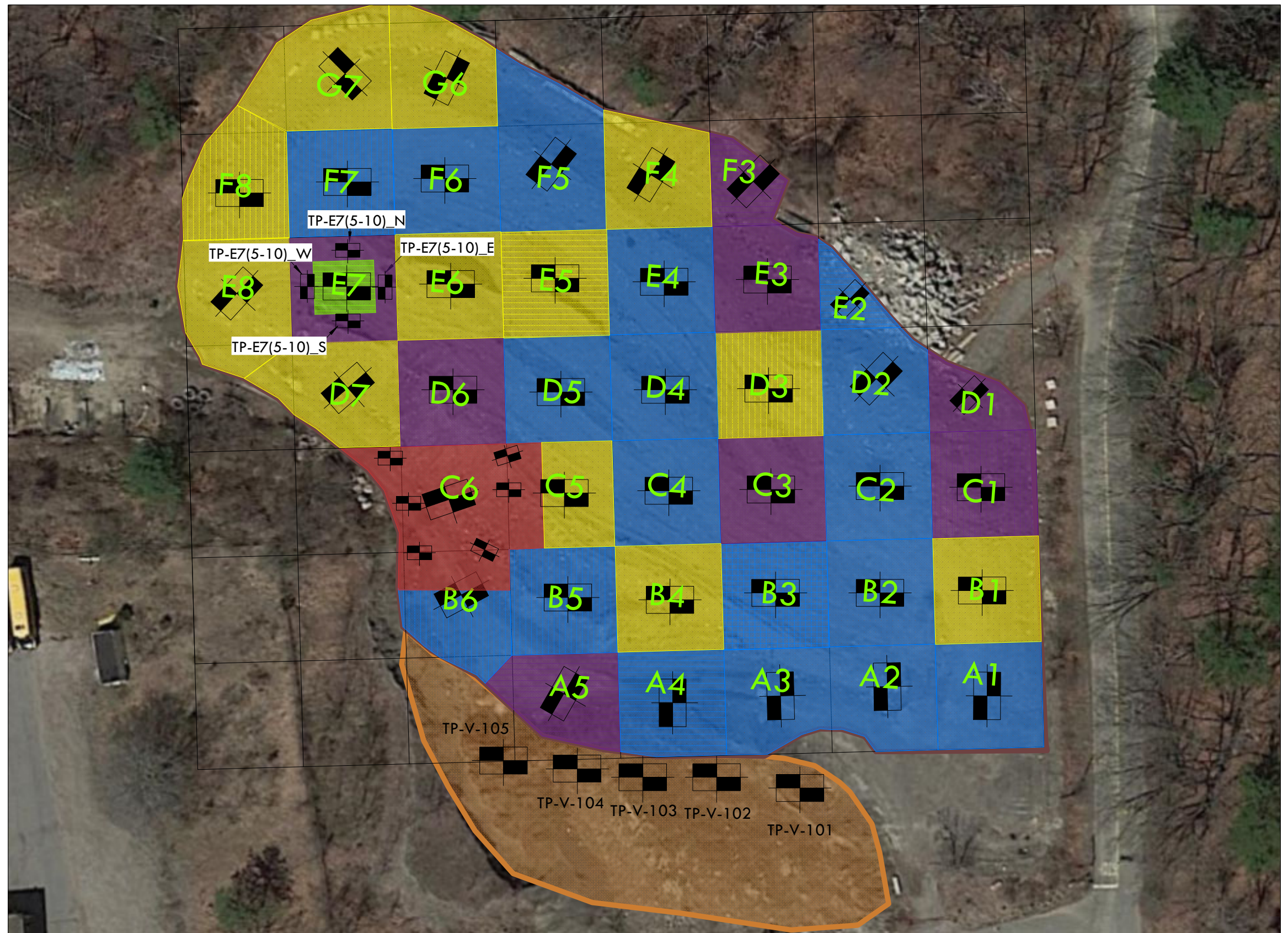
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**LEGEND:**

- B3 Test Pit Grid Number
- <RCS-1 Facility
- <RCS-2 Facility
- Unlined Landfill
- Asphalt Batch Plant
- Stabilized & Proposed for TREE
- Approximate Configuration of 32,000 cy Stockpile
- Test Pit Location
- Approximate Configuration of 4,500 cy Stockpile



**SOIL MANAGEMENT CLASSIFICATION 5-10 FEET**

RIVER'S EDGE  
 484-490 BOSTON POST ROAD  
 WAYLAND, MA  
 RTN 3-36013

Date: 05/07/19  
 Drawn: KS  
 Checked: FC  
 Job No.: 67404

FIGURE  
3B

03/09/2021	02/08/2021
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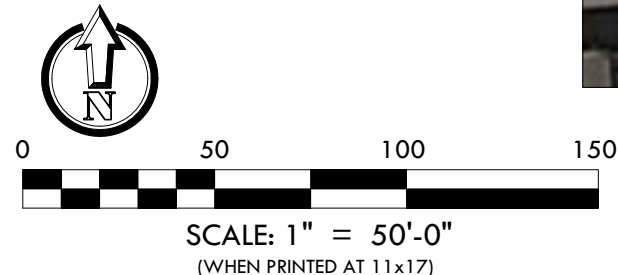
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**LEGEND:**

- B3 Test Pit Grid Number
- <RCS-1 Facility
- <RCS-2 Facility
- Unlined Landfill
- >Massachusetts Comm-97 Criteria
- Approximate Configuration of 32,000 cy Stockpile
- Test Pit Location  
TP-V-101
- Approximate Configuration of 4,500 cy Stockpile



**SOIL MANAGEMENT CLASSIFICATION 10-15 FEET**

RIVER'S EDGE  
 484-490 BOSTON POST ROAD  
 WAYLAND, MA  
 RTN 3-36013

Date: 05/07/19  
 Drawn: KS  
 Checked: FC  
 Job No.: 67404

FIGURE  
3C

02/08/2021  
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## TABLES

**Table 1**  
**Summary of Soil Characterization Analytical Results - Qualifying Samples**  
**Rivers Edge**  
**484 - 490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Area of Site Sample ID Sample Date Laboratory ID	RCS-1	Units	STOCKPILE			
			TP-E7 (0-5)		TP-E7 (5-10)	
			3/1/2019	2/26/2021	3/1/2019	2/26/2021
			19C0049-13	21B1166-03	19C0049-14	21B1166-04
<b>Asbestos</b>						
CARB 435	NSE	%	0.00	--	0.00	--
<b>Metals</b>						
Antimony	20	mg/kg	9.3	--	ND(1.8)	--
Arsenic	20	mg/kg	8.7	--	3.7	--
Barium	1000	mg/kg	34	--	22	--
Beryllium	90	mg/kg	0.37	--	0.23	--
Cadmium	70	mg/kg	0.52	--	0.22	--
Chromium	100	mg/kg	15	--	8.5	--
Copper	1000	mg/kg	--	--	--	--
Lead	200	mg/kg	780	--	300	--
Mercury	20	mg/kg	0.030	--	ND(0.026)	--
Nickel	600	mg/kg	11	--	7.2	--
Selenium	400	mg/kg	ND(3.9)	--	ND(3.5)	--
Silver	100	mg/kg	ND(0.39)	--	ND(0.35)	--
Thallium	8	mg/kg	ND(1.9)	--	ND(1.8)	--
Tungsten	NSE	mg/kg	--	--	--	--
Vanadium	400	mg/kg	20	--	13	--
Zinc	1000	mg/kg	56	--	44	--
<b>Metals, TCLP</b>						
Lead	5*	mg/l	--	10	--	12
<b>Total Petroleum Hydrocarbons (TPH)</b>						
TPH	1000	mg/kg	430	--	160	--
<b>Volatile Organic Compounds (VOCs)</b>						
Total VOCs	NSE	mg/kg	ND	--	0.0023	--
<b>Semivolatile Organic Compounds (SVOCs)</b>						
Anthracene	1000	mg/kg	ND(0.39)	--	ND(0.36)	--
Benzo(a)Anthracene	7	mg/kg	0.55	--	ND(0.36)	--
Benzo(a)Pyrene	2	mg/kg	0.60	--	ND(0.36)	--
Benzo(b)Fluoranthene	7	mg/kg	0.84	--	ND(0.36)	--
Benzo(g,h,i)Perylene	1000	mg/kg	ND(0.39)	--	ND(0.36)	--
Benzo(k)Fluoranthene	70	mg/kg	ND(0.39)	--	ND(0.36)	--
Chrysene	70	mg/kg	0.64	--	ND(0.36)	--
Fluoranthene	1000	mg/kg	0.92	--	ND(0.36)	--
Indeno(1,2,3-cd)Pyrene	7	mg/kg	0.41	--	ND(0.36)	--
Phenanthrene	10	mg/kg	ND(0.39)	--	ND(0.36)	--
Pyrene	1000	mg/kg	1.2	--	ND(0.36)	--
Total SVOCs	NSE	mg/kg	4.61	--	ND	--

**Table 1**  
**Summary of Soil Characterization Analytical Results - Qualifying Samples**  
**Rivers Edge**  
**484 - 490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	RCS-1	Units	TP-E7 (0-5)		TP-E7 (5-10)	
			3/1/2019	2/26/2021	3/1/2019	2/26/2021
Laboratory ID			19C0049-13	21B1166-03	19C0049-14	21B1166-04
<b>Polychlorinated Biphenyls (PCBs)</b>						
Aroclor 1016	1	mg/kg	ND(0.090)	--	ND(0.081)	--
Aroclor 1221	1	mg/kg	ND(0.090)	--	ND(0.081)	--
Aroclor 1232	1	mg/kg	ND(0.090)	--	ND(0.081)	--
Aroclor 1242	1	mg/kg	ND(0.090)	--	ND(0.081)	--
Aroclor 1248	1	mg/kg	ND(0.090)	--	ND(0.081)	--
Aroclor 1254	1	mg/kg	ND(0.090)	--	ND(0.081)	--
Aroclor 1260	1	mg/kg	ND(0.090)	--	ND(0.081)	--
Aroclor 1262	1	mg/kg	ND(0.090)	--	ND(0.081)	--
Aroclor 1268	1	mg/kg	ND(0.090)	--	ND(0.081)	--
Total PCBs	1	mg/kg	ND(0.090)	--	ND(0.081)	--
<b>General Chemistry</b>						
Ignitability	NSE	present/ absent	absent	--	absent	--
pH	5-9	pH Units	7.2	--	7.6	--
Reactivity Cyanide	NSE	mg/kg	ND(4.0)	--	ND(3.9)	--
Reactivity Sulfide	NSE	mg/kg	ND(20)	--	ND(20)	--
Specific Conductance	2000	umhos/cm	10	--	18	--

- Notes:
- mg/kg=milligram per kilogram; mg/l=milligram per liter; uhoms/cm=microohms p
  - Reportable Concentrations (RCS-1) taken from the Massachusetts Contingency Plc
  - \* = MCP RCS-1 does not apply. Regulatory concentration taken from the Resource
  - ND = Not Detected above laboratory reporting limits shown in parenthesis
  - -- = Not Analyzed
  - NSE = No Standard Exists
  - Highlighted values exceeds the applicable Reportable Concentration (\*regulatory
  - Full analytical results, including QA/QC information and data flags, are detailed in

**Table 2**  
**Summary of Horizontal Lead Delineation Analytical Results**  
**Rivers Edge**  
**484 - 490 Boston Post Road, Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	MCP RCS-1	MCP RCS-2	Units	TP-E7(0-5)_N	TP-E7(5-10)_N	TP-E7(0-5)_E	TP-E7(5-10)_E	TP-E7(0-5)_W	TP-E7(5-10)_W	TP-E7(0-5)_S	TP-E7(5-10)_S
Sample Date				3/10/2020	3/10/2020	3/10/2020	3/10/2020	3/10/2020	3/10/2020	3/10/2020	3/10/2020
Depth Interval (ft)				0-5	5-10	0-5	5-10	0-5	5-10	0-5	5-10
Laboratory ID				21C0390-01	21C0390-02	21C0390-03	21C0390-04	21C0390-07	21C0390-08	21C0390-05	21C0390-06
<b>Metals</b>											
Lead	200	600	mg/kg	76	170	180	25	43	19	29	19
<b>Metals, TCLP</b>											
Lead	5	5	mg/L	0.12	4.4	1.0	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
<b>General Chemistry</b>											
Solids, Total	NSE	NSE	%	90.8	91.8	85.1	88.4	85	87.7	87.5	90.9

- Notes:
- mg/kg=milligram per kilogram; uhoms/cm=microohms per centimeter
  - Reportable Concentrations (RCS-1 & RCS-2) taken from the Massachusetts Contingency Plan (MCP) 310 CMR 40.0974(2) dated April 2014
  - Shaded out columns are not proposed for import to Facility.
  - ND = Not Detected above laboratory reporting limits shown in parenthesis
  - -- = Not Analyzed
  - NSE = No Standard Exists
  - Bolded values exceed applicable MCP RCS-1 Reportable Concentration
  - Underlined values exceed applicable MCP RCS-2 Reportable Concentration
  - Full analytical results are detailed in the laboratory analytical report

**Table 3**  
**Summary of Post-Stabilization Confirmatory Analytical Results**  
**Rivers Edge**  
**484 - 490 Boston Post Road**  
**Wayland, MA**  
**VERTEX PROJECT NO. 67404**

Sample ID	RCRA	Units	#1 Cell E-7	#2 Cell E-7
Sample Date			4/13/2021	4/13/2021
Lab ID	21D0382-01	21D0382-02		
Metals, TCLP				
Lead	5	mg/L	0.093	ND(0.050)

Notes:

- mg/kg=milligram per kilogram; uhoms/cm=microohms per centimeter; mg/L=milligram per Liter
- Regulatory Concentration taken from the Resource Conservation and Recovery Act (RCRA) hazardous waste regulations 40 CFR Part 261 Subpart C.
- ND = Not Detected above laboratory reporting limits shown in parenthesis
- -- = Not Analyzed
- NSE = No Standard Exists
- Full analytical results, including QA/QC information and data flags, are detailed in the laboratory analytical report

**ATTACHMENT 1:  
TEST PIT LOGS  
QUALIFYING SAMPLES**



**TEST PIT LOG**

**DESIGNATION:**  
**PROJECT NO.:**  
**EXCAVATOR:**  
**INSPECTOR:**  
**DATE:**

**TP-E7**  
 46047  
 The Greener Group, LLC  
 Kristen Sarson  
 3/1/2019



**Project:** Wayland  
**Location:** Wayland, MA

DEPTH ELEVATION	NO.	SOIL DESCRIPTION	PID (PPM)
		0-5' Tan fine to coarse SAND, trace fine to coarse gravel and debris (asphalt, metal, plastic).	<1.0
1			
2			
3			
4			
5		5-10' Tan fine to coarse SAND and fine to coarse GRAVEL, some cobbles, trace debris (asphalt, plastic, metal, fabric).	<1.0
6			
7			
8			
9			
10		Test pit terminated at 10 feet bgs. Refusal not encountered.	
11			
12			
13			
14			
15			

Test Pit Sketch



NORTH

See Figure 1 for test pit locations.

**NOTES:**

- Soil are visually classified in general accordance with the Modified Burmister Soil Classification System.

**ATTACHMENT 2:  
LABORATORY ANALYTICAL  
REPORTS**

March 8, 2019

Kristen Sarson  
Vertex Engineering - Boston  
100 North Washington St. Suite 302  
Boston, MA 02114

Project Location: Wayland, MA  
Client Job Number:  
Project Number: 46047  
Laboratory Work Order Number: 19C0049

Enclosed are results of analyses for samples received by the laboratory on March 1, 2019. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Jessica Hoffman". The signature is written in a cursive style with a long, sweeping tail on the "n".

Jessica L. Hoffman  
Project Manager

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39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Vertex Engineering - Boston  
 100 North Washington St. Suite 302  
 Boston, MA 02114  
 ATTN: Kristen Sarson

REPORT DATE: 3/8/2019

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 46047

**ANALYTICAL SUMMARY**

WORK ORDER NUMBER: 19C0049

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Wayland, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
TP-E7 (0-5)	19C0049-13	Soil		SM 2540G SM21-22 2510B Modified SW-846 1030 SW-846 6010D SW-846 7471B SW-846 8082A SW-846 8100 Modified SW-846 8260C SW-846 8270D SW-846 9014 SW-846 9030A SW-846 9045C	
TP-E7 (5-10)	19C0049-14	Soil		SM 2540G SM21-22 2510B Modified SW-846 1030 SW-846 6010D SW-846 7471B SW-846 8082A SW-846 8100 Modified SW-846 8260C SW-846 8270D SW-846 9014 SW-846 9030A SW-846 9045C	
<del>TP-E6 (0-5)</del>	<del>19C0049-15</del>	<del>Soil</del>		<del>SM 2540G SM21-22 2510B Modified SW-846 1030 SW-846 6010D SW-846 7471B SW-846 8082A SW-846 8100 Modified SW-846 8260C SW-846 8270D SW-846 9014 SW-846 9030A SW-846 9045C</del>	

**CASE NARRATIVE SUMMARY**

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

**SM21-22 2510B Modified****Qualifications:**

**R-02**  
Duplicate RPD is outside of control limits. Outlier can be attributed to sample non-homogeneity encountered during sample prep.

**Analyte & Samples(s) Qualified:****Specific conductance**

19C0049-22[TP-F4 (0-5)], B225268-DUP1

**SW-846 6010D****Qualifications:**

**MS-07**  
Matrix spike recovery is outside of control limits. Analysis is in control based on laboratory fortified blank recovery. Possibility of sample matrix effects that lead to low bias for reported result or non-homogeneous sample aliquot cannot be eliminated.

**Analyte & Samples(s) Qualified:****Antimony**

19C0049-23[TP-F4 (5-10)], B224899-MS1

**MS-14**

Matrix spike recovery is outside of control limits. Data validation is not affected since sample result is "not detected" and recovery bias is on the high side for this compound.

**Analyte & Samples(s) Qualified:****Thallium**

19C0049-23[TP-F4 (5-10)], B224899-MS1

**SW-846 8082A****Qualifications:**

**O-32**  
A dilution was performed as part of the standard analytical procedure.

**Analyte & Samples(s) Qualified:**

19C0049-01[TP-F8 (0-5)], 19C0049-02[TP-F8 (5-10)], 19C0049-03[TP-E8 (0-5)], 19C0049-04[TP-E8 (5-10)], 19C0049-05[TP-F6 (0-5)], 19C0049-06[TP-F6 (5-10)], 19C0049-07[TP-G6 (0-5)], 19C0049-08[TP-G6 (5-10)], 19C0049-09[TP-G7 (0-5)], 19C0049-10[TP-G7 (5-10)], 19C0049-11[TP-F7 (0-5)], 19C0049-12[TP-F7 (5-10)], 19C0049-13[TP-E7 (0-5)], 19C0049-14[TP-E7 (5-10)], 19C0049-15[TP-E6 (0-5)], 19C0049-16[TP-E6 (5-10)], 19C0049-17[TP-F5 (0-5)], 19C0049-18[TP-F5 (5-10)], 19C0049-19[TP-E5 (0-5)], 19C0049-20[TP-E5 (5-10)], 19C0049-21[TP-E5 (10-15)], 19C0049-22[TP-F4 (0-5)], 19C0049-23[TP-F4 (5-10)], 19C0049-24[TP-E4 (0-5)], 19C0049-25[TP-E4 (5-10)]

**R-05**

Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.

**Analyte & Samples(s) Qualified:****Aroclor-1016 [2C]**

19C0049-21[TP-E5 (10-15)], 19C0049-22[TP-F4 (0-5)], 19C0049-23[TP-F4 (5-10)], 19C0049-24[TP-E4 (0-5)], 19C0049-25[TP-E4 (5-10)], B224905-BLK1, B224905-BS1, B224905-BSD1, B224905-MS1, B224905-MSD1

**Aroclor-1260**

19C0049-01[TP-F8 (0-5)], 19C0049-02[TP-F8 (5-10)], 19C0049-03[TP-E8 (0-5)], 19C0049-04[TP-E8 (5-10)], 19C0049-05[TP-F6 (0-5)], 19C0049-06[TP-F6 (5-10)], 19C0049-07[TP-G6 (0-5)], 19C0049-08[TP-G6 (5-10)], 19C0049-09[TP-G7 (0-5)], 19C0049-10[TP-G7 (5-10)], 19C0049-11[TP-F7 (0-5)], 19C0049-12[TP-F7 (5-10)], 19C0049-13[TP-E7 (0-5)], 19C0049-14[TP-E7 (5-10)], 19C0049-15[TP-E6 (0-5)], 19C0049-16[TP-E6 (5-10)], 19C0049-17[TP-F5 (0-5)], 19C0049-18[TP-F5 (5-10)], 19C0049-19[TP-E5 (0-5)], 19C0049-20[TP-E5 (5-10)], 19C0049-21[TP-E5 (10-15)], 19C0049-22[TP-F4 (0-5)], 19C0049-23[TP-F4 (5-10)], 19C0049-24[TP-E4 (0-5)], 19C0049-25[TP-E4 (5-10)], B224905-BLK1, B224905-BS1, B224905-BSD1, B224905-MS1, B224905-MSD1, B224907-BLK1, B224907-BS1, B224907-BSD1, B224907-MS1, B224907-MSD1

**Aroclor-1260 [2C]**

19C0049-01[TP-F8 (0-5)], 19C0049-02[TP-F8 (5-10)], 19C0049-03[TP-E8 (0-5)], 19C0049-04[TP-E8 (5-10)], 19C0049-05[TP-F6 (0-5)], 19C0049-06[TP-F6 (5-10)], 19C0049-07[TP-G6 (0-5)], 19C0049-08[TP-G6 (5-10)], 19C0049-09[TP-G7 (0-5)], 19C0049-10[TP-G7 (5-10)], 19C0049-11[TP-F7 (0-5)], 19C0049-12[TP-F7 (5-10)], 19C0049-13[TP-E7 (0-5)], 19C0049-14[TP-E7 (5-10)], 19C0049-15[TP-E6 (0-5)], 19C0049-16[TP-E6 (5-10)], 19C0049-17[TP-F5 (0-5)], 19C0049-18[TP-F5 (5-10)], 19C0049-19[TP-E5 (0-5)], 19C0049-20[TP-E5 (5-10)], 19C0049-21[TP-E5 (10-15)], 19C0049-22[TP-F4 (0-5)], 19C0049-23[TP-F4 (5-10)], 19C0049-24[TP-E4 (0-5)], 19C0049-25[TP-E4 (5-10)], B224905-BLK1, B224905-BS1, B224905-BSD1, B224905-MS1, B224905-MSD1, B224907-BLK1, B224907-BS1, B224907-BSD1, B224907-MS1, B224907-MSD1

S-26

Surrogate outside of control limits.

**Analyte & Samples(s) Qualified:****Decachlorobiphenyl [2C]**

B224907-BSD1

**Tetrachloro-m-xylene**

B224905-BSD1

**Tetrachloro-m-xylene [2C]**

B224905-BSD1

SW-846 8100 Modified

**Qualifications:**

MS-19

Sample to spike ratio is greater than or equal to 4:1. Spiked amount is not representative of the native amount in the sample. Appropriate or meaningful recoveries cannot be calculated.

**Analyte & Samples(s) Qualified:****TPH (C9-C36)**

B224908-MS1, B224908-MSD1

S-01

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

**Analyte & Samples(s) Qualified:****2-Fluorobiphenyl**

19C0049-02[TP-F8 (5-10)], 19C0049-03[TP-E8 (0-5)], 19C0049-04[TP-E8 (5-10)], 19C0049-05[TP-F6 (0-5)], 19C0049-06[TP-F6 (5-10)], 19C0049-07[TP-G6 (0-5)], 19C0049-08[TP-G6 (5-10)], 19C0049-09[TP-G7 (0-5)], 19C0049-10[TP-G7 (5-10)], 19C0049-11[TP-F7 (0-5)], 19C0049-12[TP-F7 (5-10)], 19C0049-13[TP-E7 (0-5)], 19C0049-15[TP-E6 (0-5)], 19C0049-17[TP-F5 (0-5)], 19C0049-18[TP-F5 (5-10)], 19C0049-19[TP-E5 (0-5)], 19C0049-20[TP-E5 (5-10)]

SW-846 8260C

**Qualifications:**

R-05

Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.

**Analyte & Samples(s) Qualified:****Acetone**

19C0049-01[TP-F8 (0-5)], 19C0049-02[TP-F8 (5-10)], 19C0049-03[TP-E8 (0-5)], 19C0049-04[TP-E8 (5-10)], 19C0049-05[TP-F6 (0-5)], 19C0049-06[TP-F6 (5-10)], 19C0049-07[TP-G6 (0-5)], 19C0049-08[TP-G6 (5-10)], 19C0049-09[TP-G7 (0-5)], 19C0049-10[TP-G7 (5-10)], 19C0049-11[TP-F7 (0-5)], 19C0049-12[TP-F7 (5-10)], 19C0049-13[TP-E7 (0-5)], 19C0049-14[TP-E7 (5-10)], 19C0049-15[TP-E6 (0-5)], 19C0049-16[TP-E6 (5-10)], B224963-BLK1, B224963-BS1, B224963-BSD1

V-16

Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

**Analyte & Samples(s) Qualified:****1,4-Dioxane**

19C0049-01[TP-F8 (0-5)], 19C0049-02[TP-F8 (5-10)], 19C0049-03[TP-E8 (0-5)], 19C0049-04[TP-E8 (5-10)], 19C0049-05[TP-F6 (0-5)], 19C0049-06[TP-F6 (5-10)], 19C0049-07[TP-G6 (0-5)], 19C0049-08[TP-G6 (5-10)], 19C0049-09[TP-G7 (0-5)], 19C0049-10[TP-G7 (5-10)], 19C0049-11[TP-F7 (0-5)], 19C0049-12[TP-F7 (5-10)], 19C0049-13[TP-E7 (0-5)], 19C0049-14[TP-E7 (5-10)], 19C0049-15[TP-E6 (0-5)], 19C0049-16[TP-E6 (5-10)], 19C0049-17[TP-F5 (0-5)], 19C0049-18[TP-F5 (5-10)], 19C0049-19[TP-E5 (0-5)], 19C0049-20[TP-E5 (5-10)], 19C0049-21[TP-E5 (10-15)], 19C0049-22[TP-F4 (0-5)], 19C0049-23[TP-F4 (5-10)], 19C0049-24[TP-E4 (0-5)], 19C0049-25[TP-E4 (5-10)], B224963-BLK1, B224963-BS1, B224963-BSD1, B224964-BLK1, B224964-BS1, B224964-BSD1

V-34

Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

**Analyte & Samples(s) Qualified:****Bromomethane**

19C0049-01[TP-F8 (0-5)], 19C0049-02[TP-F8 (5-10)], 19C0049-03[TP-E8 (0-5)], 19C0049-04[TP-E8 (5-10)], 19C0049-05[TP-F6 (0-5)], 19C0049-06[TP-F6 (5-10)], 19C0049-07[TP-G6 (0-5)], 19C0049-08[TP-G6 (5-10)], 19C0049-09[TP-G7 (0-5)], 19C0049-10[TP-G7 (5-10)], 19C0049-11[TP-F7 (0-5)], 19C0049-12[TP-F7 (5-10)], 19C0049-13[TP-E7 (0-5)], 19C0049-14[TP-E7 (5-10)], 19C0049-15[TP-E6 (0-5)], 19C0049-16[TP-E6 (5-10)], 19C0049-17[TP-F5 (0-5)], 19C0049-18[TP-F5 (5-10)], 19C0049-19[TP-E5 (0-5)], 19C0049-20[TP-E5 (5-10)], 19C0049-21[TP-E5 (10-15)], 19C0049-22[TP-F4 (0-5)], 19C0049-23[TP-F4 (5-10)], 19C0049-24[TP-E4 (0-5)], 19C0049-25[TP-E4 (5-10)], B224963-BLK1, B224963-BS1, B224963-BSD1, B224964-BLK1, B224964-BS1, B224964-BSD1, S033166-CCV1, S033169-CCV1

SW-846 8270D

**Qualifications:**

**L-04**

Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the low side.

**Analyte & Samples(s) Qualified:****Aniline**

19C0049-01[TP-F8 (0-5)], 19C0049-02[TP-F8 (5-10)], 19C0049-03[TP-E8 (0-5)], 19C0049-04[TP-E8 (5-10)], 19C0049-05[TP-F6 (0-5)], 19C0049-06[TP-F6 (5-10)], 19C0049-07[TP-G6 (0-5)], 19C0049-08[TP-G6 (5-10)], 19C0049-09[TP-G7 (0-5)], 19C0049-10[TP-G7 (5-10)], 19C0049-11[TP-F7 (0-5)], 19C0049-12[TP-F7 (5-10)], 19C0049-13[TP-E7 (0-5)], 19C0049-14[TP-E7 (5-10)], 19C0049-15[TP-E6 (0-5)], 19C0049-16[TP-E6 (5-10)], 19C0049-17[TP-F5 (0-5)], 19C0049-18[TP-F5 (5-10)], 19C0049-19[TP-E5 (0-5)], 19C0049-20[TP-E5 (5-10)], B224909-BLK1, B224909-BS1, B224909-BSD1

**L-07**

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

**Analyte & Samples(s) Qualified:****Aniline**

B224911-BSD1

**MS-09**

Matrix spike recovery and/or matrix spike duplicate recovery outside of control limits. Possibility of sample matrix effects that lead to a low bias for reported result or non-homogeneous sample aliquots cannot be eliminated.

**Analyte & Samples(s) Qualified:****2,4-Dimethylphenol**

19C0049-02[TP-F8 (5-10)]

**2,4-Dinitrophenol**

19C0049-22[TP-F4 (0-5)], B224909-MS1, B224909-MSD1, B224911-MS1, B224911-MSD1

**3,3-Dichlorobenzidine**

19C0049-20[TP-E5 (5-10)], 19C0049-22[TP-F4 (0-5)], B224909-MS1, B224909-MSD1, B224911-MS1, B224911-MSD1

**4-Chloroaniline**

19C0049-20[TP-E5 (5-10)], 19C0049-22[TP-F4 (0-5)], B224909-MS1, B224909-MSD1, B224911-MS1, B224911-MSD1

**Aniline**

19C0049-20[TP-E5 (5-10)], 19C0049-22[TP-F4 (0-5)], B224909-MS1, B224909-MSD1, B224911-MS1, B224911-MSD1

**Pentachlorophenol**

19C0049-20[TP-E5 (5-10)], B224909-MS1, B224909-MSD1

**MS-22**

Either matrix spike or MS duplicate is outside of control limits, but the other is within limits. RPD between the two MS/MSD results is within method specified criteria.

**Analyte & Samples(s) Qualified:****Benzo(g,h,i)perylene**

B224909-MSD1

**Indeno(1,2,3-cd)pyrene**

B224909-MSD1

**RL-08**

Elevated reporting limit due to sample matrix interference. MA CAM reporting limit not met.

**Analyte & Samples(s) Qualified:**

19C0049-01[TP-F8 (0-5)], 19C0049-02[TP-F8 (5-10)], 19C0049-03[TP-E8 (0-5)], 19C0049-04[TP-E8 (5-10)], 19C0049-05[TP-F6 (0-5)], 19C0049-06[TP-F6 (5-10)], 19C0049-07[TP-G6 (0-5)], 19C0049-08[TP-G6 (5-10)], 19C0049-09[TP-G7 (0-5)], 19C0049-10[TP-G7 (5-10)], 19C0049-11[TP-F7 (0-5)], 19C0049-12[TP-F7 (5-10)], 19C0049-13[TP-E7 (0-5)], 19C0049-14[TP-E7 (5-10)], 19C0049-15[TP-E6 (0-5)], 19C0049-16[TP-E6 (5-10)], 19C0049-17[TP-F5 (0-5)], 19C0049-18[TP-F5 (5-10)], 19C0049-19[TP-E5 (0-5)], 19C0049-20[TP-E5 (5-10)]

**V-05**

Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.

**Analyte & Samples(s) Qualified:****2,4-Dinitrophenol**

19C0049-20[TP-E5 (5-10)], 19C0049-24[TP-E4 (0-5)], 19C0049-25[TP-E4 (5-10)], B224909-MS1, B224909-MSD1, S033209-CCV1, S033252-CCV1

**V-06**

Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side for this compound.

**Analyte & Samples(s) Qualified:****1,2-Diphenylhydrazine/Azobenzene**

B224911-BS1, B224911-BSD1, B224911-MS1, B224911-MSD1, S033188-CCV1

**Bis(2-chloroethyl)ether**

B224911-BS1, B224911-BSD1, B224911-MS1, B224911-MSD1, S033188-CCV1

**Isophorone**

B224911-BS1, B224911-BSD1, B224911-MS1, B224911-MSD1, S033188-CCV1

**Nitrobenzene**

B224911-BS1, B224911-BSD1, B224911-MS1, B224911-MSD1, S033188-CCV1

**Phenol**

B224911-BS1, B224911-BSD1, B224911-MS1, B224911-MSD1, S033188-CCV1

**V-20**

Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

**Analyte & Samples(s) Qualified:****1,2-Dichlorobenzene**

S033188-CCV1

**1,2-Diphenylhydrazine/Azobenzene**

19C0049-21[TP-E5 (10-15)], 19C0049-22[TP-F4 (0-5)], 19C0049-23[TP-F4 (5-10)], B224911-BLK1

**Bis(2-chloroethyl)ether**

19C0049-21[TP-E5 (10-15)], 19C0049-22[TP-F4 (0-5)], 19C0049-23[TP-F4 (5-10)], B224911-BLK1

**Isophorone**

19C0049-21[TP-E5 (10-15)], 19C0049-22[TP-F4 (0-5)], 19C0049-23[TP-F4 (5-10)], B224911-BLK1

**Nitrobenzene**

19C0049-21[TP-E5 (10-15)], 19C0049-22[TP-F4 (0-5)], 19C0049-23[TP-F4 (5-10)], B224911-BLK1

**Phenol**

19C0049-21[TP-E5 (10-15)], 19C0049-22[TP-F4 (0-5)], 19C0049-23[TP-F4 (5-10)], B224911-BLK1

**V-34**

Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

**Analyte & Samples(s) Qualified:****4-Chloroaniline**

19C0049-01[TP-F8 (0-5)], 19C0049-02[TP-F8 (5-10)], 19C0049-03[TP-E8 (0-5)], 19C0049-04[TP-E8 (5-10)], 19C0049-05[TP-F6 (0-5)], 19C0049-06[TP-F6 (5-10)], 19C0049-07[TP-G6 (0-5)], 19C0049-08[TP-G6 (5-10)], 19C0049-09[TP-G7 (0-5)], 19C0049-10[TP-G7 (5-10)], 19C0049-11[TP-F7 (0-5)], 19C0049-12[TP-F7 (5-10)], 19C0049-13[TP-E7 (0-5)], 19C0049-14[TP-E7 (5-10)], 19C0049-15[TP-E6 (0-5)], 19C0049-16[TP-E6 (5-10)], 19C0049-17[TP-F5 (0-5)], 19C0049-18[TP-F5 (5-10)], 19C0049-19[TP-E5 (0-5)], 19C0049-20[TP-E5 (5-10)], 19C0049-21[TP-E5 (10-15)], 19C0049-22[TP-F4 (0-5)], 19C0049-23[TP-F4 (5-10)], 19C0049-24[TP-E4 (0-5)], 19C0049-25[TP-E4 (5-10)], B224909-BLK1, B224909-BS1, B224909-BSD1, B224909-MS1, B224909-MSD1, B224911-BLK1, B224911-BS1, B224911-BSD1, B224911-MS1, B224911-MSD1, S033188-CCV1, S033209-CCV1, S033229-CCV1, S033252-CCV1

**Aniline**

19C0049-01[TP-F8 (0-5)], 19C0049-02[TP-F8 (5-10)], 19C0049-03[TP-E8 (0-5)], 19C0049-04[TP-E8 (5-10)], 19C0049-05[TP-F6 (0-5)], 19C0049-06[TP-F6 (5-10)], 19C0049-07[TP-G6 (0-5)], 19C0049-08[TP-G6 (5-10)], 19C0049-09[TP-G7 (0-5)], 19C0049-10[TP-G7 (5-10)], 19C0049-11[TP-F7 (0-5)], 19C0049-12[TP-F7 (5-10)], 19C0049-13[TP-E7 (0-5)], 19C0049-14[TP-E7 (5-10)], 19C0049-15[TP-E6 (0-5)], 19C0049-16[TP-E6 (5-10)], 19C0049-17[TP-F5 (0-5)], 19C0049-18[TP-F5 (5-10)], 19C0049-19[TP-E5 (0-5)], 19C0049-21[TP-E5 (10-15)], 19C0049-22[TP-F4 (0-5)], 19C0049-23[TP-F4 (5-10)], B224909-BLK1, B224909-BS1, B224909-BSD1, B224911-BLK1, B224911-BS1, B224911-BSD1, B224911-MS1, B224911-MSD1, S033188-CCV1, S033229-CCV1



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**SW-846 8100 Modified**

TPH (C9-C36) is quantitated against a calibration made with a diesel standard.

**SW-846 8260C**

Laboratory control sample recoveries for required MCP Data Enhancement 8260 compounds were all within limits specified by the method except for "difficult analytes" where recovery control limits of 40-160% are used and/or unless otherwise listed in this narrative. Difficult analytes: MIBK, MEK, acetone, 1,4-dioxane, chloromethane, dichlorodifluoromethane, 2-hexanone, and bromomethane.

**SW-846 8270D**

Laboratory control sample recoveries for required MCP Data Enhancement 8270 compounds were all within control limits specified by the method, 40-140% for base/neutrals and 30-130% for acids except for "difficult analytes" listed below and/or otherwise listed in this narrative. Difficult analytes limits are 15 and 140%: 2,4-dinitrophenol, 4-chloroaniline, 4-nitrophenol, and phenol.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

A handwritten signature in black ink, appearing to read "Lisa A. Worthington", is written over a light gray rectangular background.

Lisa A. Worthington  
Project Manager

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Wayland, MA

Sample Description:

Work Order: 19C0049

Date Received: 3/1/2019

Field Sample #: TP-E7 (0-5)

Sampled: 3/1/2019 12:00

Sample ID: 19C0049-13

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.10	mg/Kg dry	1	R-05	SW-846 8260C	3/5/19	3/5/19 13:54	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.0010	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
Benzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
Bromobenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
Bromochloromethane	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
Bromodichloromethane	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
Bromoform	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
Bromomethane	ND	0.010	mg/Kg dry	1	V-34	SW-846 8260C	3/5/19	3/5/19 13:54	MFF
2-Butanone (MEK)	ND	0.042	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
n-Butylbenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
sec-Butylbenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
tert-Butylbenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.0010	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
Carbon Disulfide	ND	0.0063	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
Carbon Tetrachloride	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
Chlorobenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
Chlorodibromomethane	ND	0.0010	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
Chloroethane	ND	0.010	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
Chloroform	ND	0.0042	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
Chloromethane	ND	0.010	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
2-Chlorotoluene	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
4-Chlorotoluene	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
1,2-Dibromoethane (EDB)	ND	0.0010	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
Dibromomethane	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
1,2-Dichlorobenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
1,3-Dichlorobenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
1,4-Dichlorobenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.010	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
1,1-Dichloroethane	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
1,2-Dichloroethane	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
1,1-Dichloroethylene	ND	0.0042	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
cis-1,2-Dichloroethylene	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
trans-1,2-Dichloroethylene	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
1,2-Dichloropropane	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
1,3-Dichloropropane	ND	0.0010	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
2,2-Dichloropropane	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
1,1-Dichloropropene	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
cis-1,3-Dichloropropene	ND	0.0010	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
trans-1,3-Dichloropropene	ND	0.0010	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
Diethyl Ether	ND	0.010	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
Diisopropyl Ether (DIPE)	ND	0.0010	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
1,4-Dioxane	ND	0.10	mg/Kg dry	1	V-16	SW-846 8260C	3/5/19	3/5/19 13:54	MFF
Ethylbenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF

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Project Location: Wayland, MA

Sample Description:

Work Order: 19C0049

Date Received: 3/1/2019

Field Sample #: TP-E7 (0-5)

Sampled: 3/1/2019 12:00

Sample ID: 19C0049-13

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
2-Hexanone (MBK)	ND	0.021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
Isopropylbenzene (Cumene)	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0042	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
Methylene Chloride	ND	0.010	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
Naphthalene	ND	0.0042	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
n-Propylbenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
Styrene	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
1,1,1,2-Tetrachloroethane	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
1,1,1,2,2-Tetrachloroethane	ND	0.0010	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
Tetrachloroethylene	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
Tetrahydrofuran	ND	0.010	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
Toluene	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
1,2,3-Trichlorobenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
1,2,4-Trichlorobenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
1,1,1-Trichloroethane	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
1,1,2-Trichloroethane	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
Trichloroethylene	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
Trichlorofluoromethane (Freon 11)	ND	0.010	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
1,2,3-Trichloropropane	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
1,2,4-Trimethylbenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
1,3,5-Trimethylbenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
Vinyl Chloride	ND	0.010	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
m+p Xylene	ND	0.0042	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF
o-Xylene	ND	0.0021	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 13:54	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	101	70-130	
Toluene-d8	99.1	70-130	
4-Bromofluorobenzene	99.7	70-130	

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Project Location: Wayland, MA

Sample Description:

Work Order: 19C0049

Date Received: 3/1/2019

Field Sample #: TP-E7 (0-5)

Sampled: 3/1/2019 12:00

Sample ID: 19C0049-13

Sample Matrix: Soil

Sample Flags: RL-08

Semivolatle Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.39	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
Acenaphthylene	ND	0.39	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
Acetophenone	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
Aniline	ND	0.79	mg/Kg dry	2	L-04, V-34	SW-846 8270D	3/4/19	3/6/19 22:26	IMR
Anthracene	ND	0.39	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
Benzo(a)anthracene	0.55	0.39	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
Benzo(a)pyrene	0.60	0.39	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
Benzo(b)fluoranthene	0.84	0.39	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
Benzo(g,h,i)perylene	ND	0.39	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
Benzo(k)fluoranthene	ND	0.39	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
Bis(2-chloroethoxy)methane	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
Bis(2-chloroethyl)ether	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
Bis(2-chloroisopropyl)ether	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
Bis(2-Ethylhexyl)phthalate	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
4-Bromophenylphenylether	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
Butylbenzylphthalate	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
4-Chloroaniline	ND	1.5	mg/Kg dry	2	V-34	SW-846 8270D	3/4/19	3/6/19 22:26	IMR
2-Chloronaphthalene	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
2-Chlorophenol	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
Chrysene	0.64	0.39	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
Dibenz(a,h)anthracene	ND	0.39	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
Dibenzofuran	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
Di-n-butylphthalate	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
1,2-Dichlorobenzene	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
1,3-Dichlorobenzene	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
1,4-Dichlorobenzene	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
3,3-Dichlorobenzidine	ND	0.39	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
2,4-Dichlorophenol	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
Diethylphthalate	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
2,4-Dimethylphenol	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
Dimethylphthalate	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
2,4-Dinitrophenol	ND	1.5	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
2,4-Dinitrotoluene	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
2,6-Dinitrotoluene	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
Di-n-octylphthalate	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
1,2-Diphenylhydrazine/Azobenzene	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
Fluoranthene	0.92	0.39	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
Fluorene	ND	0.39	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
Hexachlorobenzene	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
Hexachlorobutadiene	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
Hexachloroethane	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
Indeno(1,2,3-cd)pyrene	0.41	0.39	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
Isophorone	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
2-Methylnaphthalene	ND	0.39	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Wayland, MA

Sample Description:

Work Order: 19C0049

Date Received: 3/1/2019

Field Sample #: TP-E7 (0-5)

Sampled: 3/1/2019 12:00

Sample ID: 19C0049-13

Sample Matrix: Soil

Sample Flags: RL-08

**Semivolatile Organic Compounds by GC/MS**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2-Methylphenol	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
3/4-Methylphenol	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
Naphthalene	ND	0.39	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
Nitrobenzene	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
2-Nitrophenol	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
4-Nitrophenol	ND	1.5	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
Pentachlorophenol	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
Phenanthrene	ND	0.39	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
Phenol	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
Pyrene	1.2	0.39	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
1,2,4-Trichlorobenzene	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
2,4,5-Trichlorophenol	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR
2,4,6-Trichlorophenol	ND	0.79	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:26	IMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual
2-Fluorophenol	64.4	30-130	
Phenol-d6	65.6	30-130	
Nitrobenzene-d5	70.0	30-130	
2-Fluorobiphenyl	71.2	30-130	
2,4,6-Tribromophenol	67.4	30-130	
p-Terphenyl-d14	85.9	30-130	

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Project Location: Wayland, MA

Sample Description:

Work Order: 19C0049

Date Received: 3/1/2019

Field Sample #: TP-E7 (0-5)

Sampled: 3/1/2019 12:00

Sample ID: 19C0049-13

Sample Matrix: Soil

Sample Flags: O-32

**Polychlorinated Biphenyls with 3540 Soxhlet Extraction**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	3/4/19	3/7/19 2:21	JMB
Aroclor-1221 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	3/4/19	3/7/19 2:21	JMB
Aroclor-1232 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	3/4/19	3/7/19 2:21	JMB
Aroclor-1242 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	3/4/19	3/7/19 2:21	JMB
Aroclor-1248 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	3/4/19	3/7/19 2:21	JMB
Aroclor-1254 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	3/4/19	3/7/19 2:21	JMB
Aroclor-1260 [1]	ND	0.090	mg/Kg dry	4	R-05	SW-846 8082A	3/4/19	3/7/19 2:21	JMB
Aroclor-1262 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	3/4/19	3/7/19 2:21	JMB
Aroclor-1268 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	3/4/19	3/7/19 2:21	JMB
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Decachlorobiphenyl [1]		63.7	30-150					3/7/19 2:21	
Decachlorobiphenyl [2]		59.0	30-150					3/7/19 2:21	
Tetrachloro-m-xylene [1]		68.8	30-150					3/7/19 2:21	
Tetrachloro-m-xylene [2]		64.2	30-150					3/7/19 2:21	



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Project Location: Wayland, MA

Sample Description:

Work Order: 19C0049

Date Received: 3/1/2019

Field Sample #: TP-E7 (0-5)

Sampled: 3/1/2019 12:00

Sample ID: 19C0049-13

Sample Matrix: Soil

**Petroleum Hydrocarbons Analyses**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	430	190	mg/Kg dry	20		SW-846 8100 Modified	3/4/19	3/7/19 1:45	RMW
Surrogates	% Recovery		Recovery Limits	Flag/Qual					
2-Fluorobiphenyl	*		40-140	S-01		3/7/19 1:45			

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Project Location: Wayland, MA

Sample Description:

Work Order: 19C0049

Date Received: 3/1/2019

Field Sample #: TP-E7 (0-5)

Sampled: 3/1/2019 12:00

Sample ID: 19C0049-13

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	9.3	1.9	mg/Kg dry	1		SW-846 6010D	3/4/19	3/6/19 12:12	QNW
Arsenic	8.7	1.9	mg/Kg dry	1		SW-846 6010D	3/4/19	3/6/19 12:12	QNW
Barium	34	1.9	mg/Kg dry	1		SW-846 6010D	3/4/19	3/6/19 12:12	QNW
Beryllium	0.37	0.19	mg/Kg dry	1		SW-846 6010D	3/4/19	3/6/19 12:12	QNW
Cadmium	0.52	0.19	mg/Kg dry	1		SW-846 6010D	3/4/19	3/6/19 12:12	QNW
Chromium	15	0.39	mg/Kg dry	1		SW-846 6010D	3/4/19	3/6/19 12:12	QNW
Lead	780	0.58	mg/Kg dry	1		SW-846 6010D	3/4/19	3/6/19 12:12	QNW
Mercury	0.030	0.027	mg/Kg dry	1		SW-846 7471B	3/4/19	3/6/19 12:51	TBC
Nickel	11	0.39	mg/Kg dry	1		SW-846 6010D	3/4/19	3/6/19 12:12	QNW
Selenium	ND	3.9	mg/Kg dry	1		SW-846 6010D	3/4/19	3/6/19 12:12	QNW
Silver	ND	0.39	mg/Kg dry	1		SW-846 6010D	3/4/19	3/6/19 12:12	QNW
Thallium	ND	1.9	mg/Kg dry	1		SW-846 6010D	3/4/19	3/6/19 12:12	QNW
Vanadium	20	0.78	mg/Kg dry	1		SW-846 6010D	3/4/19	3/6/19 12:12	QNW
Zinc	56	0.78	mg/Kg dry	1		SW-846 6010D	3/4/19	3/6/19 12:12	QNW

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Project Location: Wayland, MA

Sample Description:

Work Order: 19C0049

Date Received: 3/1/2019

Field Sample #: TP-E7 (0-5)

Sampled: 3/1/2019 12:00

Sample ID: 19C0049-13

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	86.2		% Wt	1		SM 2540G	3/2/19	3/3/19 14:14	VLH
Ignitability	Absent		present/absent	1		SW-846 1030	3/5/19	3/5/19 17:00	DJM
pH @22.6°C	7.2		pH Units	1		SW-846 9045C	3/1/19	3/1/19 21:15	AIA
Reactive Cyanide	ND	4.0	mg/Kg	1		SW-846 9014	3/2/19	3/5/19 14:15	DJM
Reactive Sulfide	ND	20	mg/Kg	1		SW-846 9030A	3/2/19	3/5/19 13:45	DJM
Specific conductance	10	2.0	µmhos/cm	1		SM21-22 2510B Modified	3/7/19	3/7/19 12:00	EC

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Project Location: Wayland, MA

Sample Description:

Work Order: 19C0049

Date Received: 3/1/2019

Field Sample #: TP-E7 (5-10)

Sampled: 3/1/2019 12:05

Sample ID: 19C0049-14

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.098	mg/Kg dry	1	R-05	SW-846 8260C	3/5/19	3/5/19 14:19	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00098	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
Benzene	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
Bromobenzene	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
Bromochloromethane	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
Bromodichloromethane	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
Bromoform	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
Bromomethane	ND	0.0098	mg/Kg dry	1	V-34	SW-846 8260C	3/5/19	3/5/19 14:19	MFF
2-Butanone (MEK)	ND	0.039	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
n-Butylbenzene	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
sec-Butylbenzene	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
tert-Butylbenzene	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00098	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
Carbon Disulfide	ND	0.0059	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
Carbon Tetrachloride	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
Chlorobenzene	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
Chlorodibromomethane	ND	0.00098	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
Chloroethane	ND	0.0098	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
Chloroform	ND	0.0039	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
Chloromethane	ND	0.0098	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
2-Chlorotoluene	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
4-Chlorotoluene	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
1,2-Dibromoethane (EDB)	ND	0.00098	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
Dibromomethane	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
1,2-Dichlorobenzene	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
1,3-Dichlorobenzene	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
1,4-Dichlorobenzene	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.0098	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
1,1-Dichloroethane	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
1,2-Dichloroethane	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
1,1-Dichloroethylene	ND	0.0039	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
cis-1,2-Dichloroethylene	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
trans-1,2-Dichloroethylene	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
1,2-Dichloropropane	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
1,3-Dichloropropane	ND	0.00098	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
2,2-Dichloropropane	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
1,1-Dichloropropene	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
cis-1,3-Dichloropropene	ND	0.00098	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
trans-1,3-Dichloropropene	ND	0.00098	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
Diethyl Ether	ND	0.0098	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
Diisopropyl Ether (DIPE)	ND	0.00098	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
1,4-Dioxane	ND	0.098	mg/Kg dry	1	V-16	SW-846 8260C	3/5/19	3/5/19 14:19	MFF
Ethylbenzene	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF

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Project Location: Wayland, MA

Sample Description:

Work Order: 19C0049

Date Received: 3/1/2019

Field Sample #: TP-E7 (5-10)

Sampled: 3/1/2019 12:05

Sample ID: 19C0049-14

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
2-Hexanone (MBK)	ND	0.020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
Isopropylbenzene (Cumene)	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0039	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
Methylene Chloride	ND	0.0098	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
Naphthalene	ND	0.0039	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
n-Propylbenzene	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
Styrene	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
1,1,1,2-Tetrachloroethane	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
1,1,1,2,2-Tetrachloroethane	ND	0.00098	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
Tetrachloroethylene	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
Tetrahydrofuran	ND	0.0098	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
Toluene	0.0023	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
1,2,3-Trichlorobenzene	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
1,2,4-Trichlorobenzene	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
1,1,1-Trichloroethane	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
1,1,2-Trichloroethane	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
Trichloroethylene	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0098	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
1,2,3-Trichloropropane	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
1,2,4-Trimethylbenzene	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
1,3,5-Trimethylbenzene	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
Vinyl Chloride	ND	0.0098	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
m+p Xylene	ND	0.0039	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF
o-Xylene	ND	0.0020	mg/Kg dry	1		SW-846 8260C	3/5/19	3/5/19 14:19	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	103	70-130	
Toluene-d8	97.9	70-130	
4-Bromofluorobenzene	101	70-130	

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Project Location: Wayland, MA

Sample Description:

Work Order: 19C0049

Date Received: 3/1/2019

Field Sample #: TP-E7 (5-10)

Sampled: 3/1/2019 12:05

Sample ID: 19C0049-14

Sample Matrix: Soil

Sample Flags: RL-08

Semivolatle Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.36	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
Acenaphthylene	ND	0.36	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
Acetophenone	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
Aniline	ND	0.73	mg/Kg dry	2	L-04, V-34	SW-846 8270D	3/4/19	3/6/19 22:53	IMR
Anthracene	ND	0.36	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
Benzo(a)anthracene	ND	0.36	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
Benzo(a)pyrene	ND	0.36	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
Benzo(b)fluoranthene	ND	0.36	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
Benzo(g,h,i)perylene	ND	0.36	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
Benzo(k)fluoranthene	ND	0.36	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
Bis(2-chloroethoxy)methane	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
Bis(2-chloroethyl)ether	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
Bis(2-chloroisopropyl)ether	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
Bis(2-Ethylhexyl)phthalate	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
4-Bromophenylphenylether	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
Butylbenzylphthalate	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
4-Chloroaniline	ND	1.4	mg/Kg dry	2	V-34	SW-846 8270D	3/4/19	3/6/19 22:53	IMR
2-Chloronaphthalene	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
2-Chlorophenol	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
Chrysene	ND	0.36	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
Dibenz(a,h)anthracene	ND	0.36	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
Dibenzofuran	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
Di-n-butylphthalate	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
1,2-Dichlorobenzene	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
1,3-Dichlorobenzene	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
1,4-Dichlorobenzene	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
3,3-Dichlorobenzidine	ND	0.36	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
2,4-Dichlorophenol	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
Diethylphthalate	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
2,4-Dimethylphenol	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
Dimethylphthalate	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
2,4-Dinitrophenol	ND	1.4	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
2,4-Dinitrotoluene	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
2,6-Dinitrotoluene	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
Di-n-octylphthalate	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
1,2-Diphenylhydrazine/Azobenzene	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
Fluoranthene	ND	0.36	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
Fluorene	ND	0.36	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
Hexachlorobenzene	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
Hexachlorobutadiene	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
Hexachloroethane	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
Indeno(1,2,3-cd)pyrene	ND	0.36	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
Isophorone	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
2-Methylnaphthalene	ND	0.36	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR



39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Wayland, MA

Sample Description:

Work Order: 19C0049

Date Received: 3/1/2019

Field Sample #: TP-E7 (5-10)

Sampled: 3/1/2019 12:05

Sample ID: 19C0049-14

Sample Matrix: Soil

Sample Flags: RL-08

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2-Methylphenol	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
3/4-Methylphenol	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
Naphthalene	ND	0.36	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
Nitrobenzene	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
2-Nitrophenol	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
4-Nitrophenol	ND	1.4	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
Pentachlorophenol	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
Phenanthrene	ND	0.36	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
Phenol	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
Pyrene	ND	0.36	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
1,2,4-Trichlorobenzene	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
2,4,5-Trichlorophenol	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR
2,4,6-Trichlorophenol	ND	0.73	mg/Kg dry	2		SW-846 8270D	3/4/19	3/6/19 22:53	IMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual
2-Fluorophenol	65.8	30-130	
Phenol-d6	69.6	30-130	
Nitrobenzene-d5	70.0	30-130	
2-Fluorobiphenyl	71.4	30-130	
2,4,6-Tribromophenol	65.8	30-130	
p-Terphenyl-d14	78.8	30-130	

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Wayland, MA

Sample Description:

Work Order: 19C0049

Date Received: 3/1/2019

Field Sample #: TP-E7 (5-10)

Sampled: 3/1/2019 12:05

Sample ID: 19C0049-14

Sample Matrix: Soil

Sample Flags: O-32

**Polychlorinated Biphenyls with 3540 Soxhlet Extraction**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	3/4/19	3/7/19 2:39	JMB
Aroclor-1221 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	3/4/19	3/7/19 2:39	JMB
Aroclor-1232 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	3/4/19	3/7/19 2:39	JMB
Aroclor-1242 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	3/4/19	3/7/19 2:39	JMB
Aroclor-1248 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	3/4/19	3/7/19 2:39	JMB
Aroclor-1254 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	3/4/19	3/7/19 2:39	JMB
Aroclor-1260 [1]	ND	0.081	mg/Kg dry	4	R-05	SW-846 8082A	3/4/19	3/7/19 2:39	JMB
Aroclor-1262 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	3/4/19	3/7/19 2:39	JMB
Aroclor-1268 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	3/4/19	3/7/19 2:39	JMB
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Decachlorobiphenyl [1]		91.1	30-150					3/7/19 2:39	
Decachlorobiphenyl [2]		83.1	30-150					3/7/19 2:39	
Tetrachloro-m-xylene [1]		99.0	30-150					3/7/19 2:39	
Tetrachloro-m-xylene [2]		94.3	30-150					3/7/19 2:39	

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Project Location: Wayland, MA

Sample Description:

Work Order: 19C0049

Date Received: 3/1/2019

Field Sample #: TP-E7 (5-10)

Sampled: 3/1/2019 12:05

Sample ID: 19C0049-14

Sample Matrix: Soil

**Petroleum Hydrocarbons Analyses**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	160	89	mg/Kg dry	10		SW-846 8100 Modified	3/4/19	3/7/19 12:43	KLB
<b>Surrogates</b>		<b>% Recovery</b>	<b>Recovery Limits</b>		<b>Flag/Qual</b>				
2-Fluorobiphenyl		57.0	40-140					3/7/19 12:43	

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Wayland, MA

Sample Description:

Work Order: 19C0049

Date Received: 3/1/2019

Field Sample #: TP-E7 (5-10)

Sampled: 3/1/2019 12:05

Sample ID: 19C0049-14

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.8	mg/Kg dry	1		SW-846 6010D	3/4/19	3/6/19 12:17	QNW
Arsenic	3.7	1.8	mg/Kg dry	1		SW-846 6010D	3/4/19	3/6/19 12:17	QNW
Barium	22	1.8	mg/Kg dry	1		SW-846 6010D	3/4/19	3/6/19 12:17	QNW
Beryllium	0.23	0.18	mg/Kg dry	1		SW-846 6010D	3/4/19	3/6/19 12:17	QNW
Cadmium	0.22	0.18	mg/Kg dry	1		SW-846 6010D	3/4/19	3/6/19 12:17	QNW
Chromium	8.5	0.35	mg/Kg dry	1		SW-846 6010D	3/4/19	3/6/19 12:17	QNW
Lead	300	0.53	mg/Kg dry	1		SW-846 6010D	3/4/19	3/6/19 12:17	QNW
Mercury	ND	0.026	mg/Kg dry	1		SW-846 7471B	3/4/19	3/6/19 12:52	TBC
Nickel	7.2	0.35	mg/Kg dry	1		SW-846 6010D	3/4/19	3/6/19 12:17	QNW
Selenium	ND	3.5	mg/Kg dry	1		SW-846 6010D	3/4/19	3/6/19 12:17	QNW
Silver	ND	0.35	mg/Kg dry	1		SW-846 6010D	3/4/19	3/6/19 12:17	QNW
Thallium	ND	1.8	mg/Kg dry	1		SW-846 6010D	3/4/19	3/6/19 12:17	QNW
Vanadium	13	0.70	mg/Kg dry	1		SW-846 6010D	3/4/19	3/6/19 12:17	QNW
Zinc	44	0.70	mg/Kg dry	1		SW-846 6010D	3/4/19	3/6/19 12:17	QNW

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Project Location: Wayland, MA

Sample Description:

Work Order: 19C0049

Date Received: 3/1/2019

Field Sample #: TP-E7 (5-10)

Sampled: 3/1/2019 12:05

Sample ID: 19C0049-14

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	92.8		% Wt	1		SM 2540G	3/2/19	3/3/19 14:15	VLH
Ignitability	Absent		present/absent	1		SW-846 1030	3/5/19	3/5/19 17:00	DJM
pH @19.5°C	7.6		pH Units	1		SW-846 9045C	3/1/19	3/1/19 21:15	AIA
Reactive Cyanide	ND	3.9	mg/Kg	1		SW-846 9014	3/2/19	3/5/19 14:15	DJM
Reactive Sulfide	ND	20	mg/Kg	1		SW-846 9030A	3/2/19	3/5/19 13:45	DJM
Specific conductance	18	2.0	µmhos/cm	1		SM21-22 2510B Modified	3/7/19	3/7/19 12:00	EC

**Sample Extraction Data**

**Prep Method: % Solids-SM 2540G**

Lab Number [Field ID]	Batch	Date
19C0049-01 [TP-F8 (0-5)]	B224810	03/02/19
19C0049-02 [TP-F8 (5-10)]	B224810	03/02/19
19C0049-03 [TP-E8 (0-5)]	B224810	03/02/19
19C0049-04 [TP-E8 (5-10)]	B224810	03/02/19
19C0049-05 [TP-F6 (0-5)]	B224810	03/02/19
19C0049-06 [TP-F6 (5-10)]	B224810	03/02/19
19C0049-07 [TP-G6 (0-5)]	B224810	03/02/19
19C0049-08 [TP-G6 (5-10)]	B224810	03/02/19
19C0049-09 [TP-G7 (0-5)]	B224810	03/02/19
19C0049-10 [TP-G7 (5-10)]	B224810	03/02/19
19C0049-11 [TP-F7 (0-5)]	B224810	03/02/19
19C0049-12 [TP-F7 (5-10)]	B224810	03/02/19
19C0049-13 [TP-E7 (0-5)]	B224810	03/02/19
19C0049-14 [TP-E7 (5-10)]	B224810	03/02/19
19C0049-15 [TP-E6 (0-5)]	B224810	03/02/19
19C0049-16 [TP-E6 (5-10)]	B224810	03/02/19
19C0049-17 [TP-F5 (0-5)]	B224810	03/02/19
19C0049-18 [TP-F5 (5-10)]	B224810	03/02/19
19C0049-19 [TP-E5 (0-5)]	B224810	03/02/19
19C0049-20 [TP-E5 (5-10)]	B224810	03/02/19
19C0049-21 [TP-E5 (10-15)]	B224810	03/02/19
19C0049-22 [TP-F4 (0-5)]	B224810	03/02/19
19C0049-23 [TP-F4 (5-10)]	B224810	03/02/19
19C0049-24 [TP-E4 (0-5)]	B224810	03/02/19
19C0049-25 [TP-E4 (5-10)]	B224810	03/02/19

**SM21-22 2510B Modified**

Lab Number [Field ID]	Batch	Initial [g]	Date
19C0049-23 [TP-F4 (5-10)]	B224951	1.00	03/05/19
19C0049-24 [TP-E4 (0-5)]	B224951	1.00	03/05/19
19C0049-25 [TP-E4 (5-10)]	B224951	1.00	03/05/19

**SM21-22 2510B Modified**

Lab Number [Field ID]	Batch	Initial [g]	Date
19C0049-01 [TP-F8 (0-5)]	B225154	1.00	03/07/19
19C0049-02 [TP-F8 (5-10)]	B225154	1.00	03/07/19
19C0049-03 [TP-E8 (0-5)]	B225154	1.00	03/07/19
19C0049-04 [TP-E8 (5-10)]	B225154	1.00	03/07/19
19C0049-05 [TP-F6 (0-5)]	B225154	1.00	03/07/19
19C0049-06 [TP-F6 (5-10)]	B225154	1.00	03/07/19
19C0049-07 [TP-G6 (0-5)]	B225154	1.00	03/07/19
19C0049-08 [TP-G6 (5-10)]	B225154	1.00	03/07/19
19C0049-09 [TP-G7 (0-5)]	B225154	1.00	03/07/19
19C0049-10 [TP-G7 (5-10)]	B225154	1.00	03/07/19
19C0049-11 [TP-F7 (0-5)]	B225154	1.00	03/07/19
19C0049-12 [TP-F7 (5-10)]	B225154	1.00	03/07/19
19C0049-13 [TP-E7 (0-5)]	B225154	1.00	03/07/19
19C0049-14 [TP-E7 (5-10)]	B225154	1.00	03/07/19



**Sample Extraction Data**

**SM21-22 2510B Modified**

Lab Number [Field ID]	Batch	Initial [g]	Date
19C0049-15 [TP-E6 (0-5)]	B225268	1.00	03/08/19
19C0049-16 [TP-E6 (5-10)]	B225268	1.00	03/08/19
19C0049-17 [TP-F5 (0-5)]	B225268	1.00	03/08/19
19C0049-18 [TP-F5 (5-10)]	B225268	1.00	03/08/19
19C0049-19 [TP-E5 (0-5)]	B225268	1.00	03/08/19
19C0049-20 [TP-E5 (5-10)]	B225268	1.00	03/08/19
19C0049-21 [TP-E5 (10-15)]	B225268	1.00	03/08/19
19C0049-22 [TP-F4 (0-5)]	B225268	1.00	03/08/19

**SW-846 1030**

Lab Number [Field ID]	Batch	Initial [g]	Date
19C0049-01 [TP-F8 (0-5)]	B224819	50.0	03/02/19
19C0049-02 [TP-F8 (5-10)]	B224819	50.0	03/02/19
19C0049-03 [TP-E8 (0-5)]	B224819	50.0	03/02/19
19C0049-04 [TP-E8 (5-10)]	B224819	50.0	03/02/19
19C0049-05 [TP-F6 (0-5)]	B224819	50.0	03/02/19
19C0049-06 [TP-F6 (5-10)]	B224819	50.0	03/02/19
19C0049-07 [TP-G6 (0-5)]	B224819	50.0	03/02/19
19C0049-08 [TP-G6 (5-10)]	B224819	50.0	03/02/19
19C0049-09 [TP-G7 (0-5)]	B224819	50.0	03/02/19

**SW-846 1030**

Lab Number [Field ID]	Batch	Initial [g]	Date
19C0049-10 [TP-G7 (5-10)]	B224978	50.0	03/05/19
19C0049-11 [TP-F7 (0-5)]	B224978	50.0	03/05/19
19C0049-12 [TP-F7 (5-10)]	B224978	50.0	03/05/19
19C0049-13 [TP-E7 (0-5)]	B224978	50.0	03/05/19
19C0049-14 [TP-E7 (5-10)]	B224978	50.0	03/05/19
19C0049-15 [TP-E6 (0-5)]	B224978	50.0	03/05/19
19C0049-16 [TP-E6 (5-10)]	B224978	50.0	03/05/19
19C0049-17 [TP-F5 (0-5)]	B224978	50.0	03/05/19
19C0049-18 [TP-F5 (5-10)]	B224978	50.0	03/05/19
19C0049-19 [TP-E5 (0-5)]	B224978	50.0	03/05/19
19C0049-20 [TP-E5 (5-10)]	B224978	50.0	03/05/19
19C0049-21 [TP-E5 (10-15)]	B224978	50.0	03/05/19
19C0049-22 [TP-F4 (0-5)]	B224978	50.0	03/05/19
19C0049-23 [TP-F4 (5-10)]	B224978	50.0	03/05/19
19C0049-24 [TP-E4 (0-5)]	B224978	50.0	03/05/19
19C0049-25 [TP-E4 (5-10)]	B224978	50.0	03/05/19

**Prep Method: SW-846 3050B-SW-846 6010D**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19C0049-01 [TP-F8 (0-5)]	B224886	1.56	50.0	03/04/19
19C0049-02 [TP-F8 (5-10)]	B224886	1.52	50.0	03/04/19
19C0049-03 [TP-E8 (0-5)]	B224886	1.49	50.0	03/04/19
19C0049-04 [TP-E8 (5-10)]	B224886	1.51	50.0	03/04/19
19C0049-05 [TP-F6 (0-5)]	B224886	1.52	50.0	03/04/19
19C0049-06 [TP-F6 (5-10)]	B224886	1.55	50.0	03/04/19

**Sample Extraction Data**

**Prep Method: SW-846 3050B-SW-846 6010D**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19C0049-07 [TP-G6 (0-5)]	B224886	1.52	50.0	03/04/19
19C0049-08 [TP-G6 (5-10)]	B224886	1.53	50.0	03/04/19

**Prep Method: SW-846 3050B-SW-846 6010D**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19C0049-09 [TP-G7 (0-5)]	B224899	1.52	50.0	03/04/19
19C0049-10 [TP-G7 (5-10)]	B224899	1.51	50.0	03/04/19
19C0049-11 [TP-F7 (0-5)]	B224899	1.54	50.0	03/04/19
19C0049-12 [TP-F7 (5-10)]	B224899	1.54	50.0	03/04/19
19C0049-13 [TP-E7 (0-5)]	B224899	1.49	50.0	03/04/19
19C0049-14 [TP-E7 (5-10)]	B224899	1.53	50.0	03/04/19
19C0049-15 [TP-E6 (0-5)]	B224899	1.49	50.0	03/04/19
19C0049-16 [TP-E6 (5-10)]	B224899	1.48	50.0	03/04/19
19C0049-17 [TP-F5 (0-5)]	B224899	1.51	50.0	03/04/19
19C0049-18 [TP-F5 (5-10)]	B224899	1.53	50.0	03/04/19
19C0049-19 [TP-E5 (0-5)]	B224899	1.54	50.0	03/04/19
19C0049-20 [TP-E5 (5-10)]	B224899	1.52	50.0	03/04/19
19C0049-21 [TP-E5 (10-15)]	B224899	1.50	50.0	03/04/19
19C0049-22 [TP-F4 (0-5)]	B224899	1.49	50.0	03/04/19
19C0049-23 [TP-F4 (5-10)]	B224899	1.53	50.0	03/04/19
19C0049-24 [TP-E4 (0-5)]	B224899	1.51	50.0	03/04/19
19C0049-25 [TP-E4 (5-10)]	B224899	1.54	50.0	03/04/19

**Prep Method: SW-846 7471-SW-846 7471B**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19C0049-21 [TP-E5 (10-15)]	B224882	0.613	50.0	03/04/19
19C0049-22 [TP-F4 (0-5)]	B224882	0.616	50.0	03/04/19
19C0049-23 [TP-F4 (5-10)]	B224882	0.618	50.0	03/04/19
19C0049-24 [TP-E4 (0-5)]	B224882	0.645	50.0	03/04/19
19C0049-25 [TP-E4 (5-10)]	B224882	0.613	50.0	03/04/19

**Prep Method: SW-846 7471-SW-846 7471B**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19C0049-01 [TP-F8 (0-5)]	B224884	0.586	50.0	03/04/19
19C0049-02 [TP-F8 (5-10)]	B224884	0.608	50.0	03/04/19
19C0049-03 [TP-E8 (0-5)]	B224884	0.630	50.0	03/04/19
19C0049-04 [TP-E8 (5-10)]	B224884	0.588	50.0	03/04/19
19C0049-05 [TP-F6 (0-5)]	B224884	0.573	50.0	03/04/19
19C0049-06 [TP-F6 (5-10)]	B224884	0.573	50.0	03/04/19
19C0049-07 [TP-G6 (0-5)]	B224884	0.620	50.0	03/04/19
19C0049-08 [TP-G6 (5-10)]	B224884	0.644	50.0	03/04/19
19C0049-09 [TP-G7 (0-5)]	B224884	0.604	50.0	03/04/19
19C0049-10 [TP-G7 (5-10)]	B224884	0.614	50.0	03/04/19
19C0049-11 [TP-F7 (0-5)]	B224884	0.607	50.0	03/04/19
19C0049-12 [TP-F7 (5-10)]	B224884	0.611	50.0	03/04/19
19C0049-13 [TP-E7 (0-5)]	B224884	0.634	50.0	03/04/19
19C0049-14 [TP-E7 (5-10)]	B224884	0.622	50.0	03/04/19
19C0049-15 [TP-E6 (0-5)]	B224884	0.580	50.0	03/04/19

**Sample Extraction Data**

**Prep Method: SW-846 7471-SW-846 7471B**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19C0049-16 [TP-E6 (5-10)]	B224884	0.630	50.0	03/04/19
19C0049-17 [TP-F5 (0-5)]	B224884	0.628	50.0	03/04/19
19C0049-18 [TP-F5 (5-10)]	B224884	0.622	50.0	03/04/19
19C0049-19 [TP-E5 (0-5)]	B224884	0.642	50.0	03/04/19
19C0049-20 [TP-E5 (5-10)]	B224884	0.646	50.0	03/04/19

**Prep Method: SW-846 3540C-SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19C0049-21 [TP-E5 (10-15)]	B224905	10.6	10.0	03/04/19
19C0049-22 [TP-F4 (0-5)]	B224905	10.6	10.0	03/04/19
19C0049-23 [TP-F4 (5-10)]	B224905	10.5	10.0	03/04/19
19C0049-24 [TP-E4 (0-5)]	B224905	10.8	10.0	03/04/19
19C0049-25 [TP-E4 (5-10)]	B224905	10.5	10.0	03/04/19

**Prep Method: SW-846 3540C-SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19C0049-01 [TP-F8 (0-5)]	B224907	10.4	10.0	03/04/19
19C0049-02 [TP-F8 (5-10)]	B224907	10.6	10.0	03/04/19
19C0049-03 [TP-E8 (0-5)]	B224907	10.1	10.0	03/04/19
19C0049-04 [TP-E8 (5-10)]	B224907	10.4	10.0	03/04/19
19C0049-05 [TP-F6 (0-5)]	B224907	10.3	10.0	03/04/19
19C0049-06 [TP-F6 (5-10)]	B224907	10.5	10.0	03/04/19
19C0049-07 [TP-G6 (0-5)]	B224907	10.3	10.0	03/04/19
19C0049-08 [TP-G6 (5-10)]	B224907	10.0	10.0	03/04/19
19C0049-09 [TP-G7 (0-5)]	B224907	10.5	10.0	03/04/19
19C0049-10 [TP-G7 (5-10)]	B224907	10.2	10.0	03/04/19
19C0049-11 [TP-F7 (0-5)]	B224907	10.5	10.0	03/04/19
19C0049-12 [TP-F7 (5-10)]	B224907	10.3	10.0	03/04/19
19C0049-13 [TP-E7 (0-5)]	B224907	10.3	10.0	03/04/19
19C0049-14 [TP-E7 (5-10)]	B224907	10.6	10.0	03/04/19
19C0049-15 [TP-E6 (0-5)]	B224907	10.4	10.0	03/04/19
19C0049-16 [TP-E6 (5-10)]	B224907	10.6	10.0	03/04/19
19C0049-17 [TP-F5 (0-5)]	B224907	10.2	10.0	03/04/19
19C0049-18 [TP-F5 (5-10)]	B224907	10.4	10.0	03/04/19
19C0049-19 [TP-E5 (0-5)]	B224907	10.4	10.0	03/04/19
19C0049-20 [TP-E5 (5-10)]	B224907	10.8	10.0	03/04/19

**Prep Method: SW-846 3546-SW-846 8100 Modified**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19C0049-01 [TP-F8 (0-5)]	B224908	30.3	1.00	03/04/19
19C0049-02 [TP-F8 (5-10)]	B224908	30.1	1.00	03/04/19
19C0049-03 [TP-E8 (0-5)]	B224908	30.6	1.00	03/04/19
19C0049-04 [TP-E8 (5-10)]	B224908	30.2	1.00	03/04/19
19C0049-05 [TP-F6 (0-5)]	B224908	30.4	1.00	03/04/19
19C0049-06 [TP-F6 (5-10)]	B224908	30.4	1.00	03/04/19
19C0049-07 [TP-G6 (0-5)]	B224908	30.5	1.00	03/04/19
19C0049-08 [TP-G6 (5-10)]	B224908	30.4	1.00	03/04/19
19C0049-09 [TP-G7 (0-5)]	B224908	30.2	1.00	03/04/19

**Sample Extraction Data**

**Prep Method: SW-846 3546-SW-846 8100 Modified**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19C0049-10 [TP-G7 (5-10)]	B224908	30.0	1.00	03/04/19
19C0049-11 [TP-F7 (0-5)]	B224908	30.3	1.00	03/04/19
19C0049-12 [TP-F7 (5-10)]	B224908	30.3	1.00	03/04/19
19C0049-13 [TP-E7 (0-5)]	B224908	30.1	1.00	03/04/19
19C0049-14 [TP-E7 (5-10)]	B224908	30.2	1.00	03/04/19
19C0049-15 [TP-E6 (0-5)]	B224908	30.0	1.00	03/04/19
19C0049-16 [TP-E6 (5-10)]	B224908	30.3	1.00	03/04/19
19C0049-17 [TP-F5 (0-5)]	B224908	30.8	1.00	03/04/19
19C0049-18 [TP-F5 (5-10)]	B224908	30.1	1.00	03/04/19
19C0049-19 [TP-E5 (0-5)]	B224908	30.2	1.00	03/04/19
19C0049-20 [TP-E5 (5-10)]	B224908	30.1	1.00	03/04/19

**Prep Method: SW-846 3546-SW-846 8100 Modified**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19C0049-21 [TP-E5 (10-15)]	B224910	30.3	1.00	03/04/19
19C0049-22 [TP-F4 (0-5)]	B224910	30.3	1.00	03/04/19
19C0049-23 [TP-F4 (5-10)]	B224910	30.2	1.00	03/04/19
19C0049-24 [TP-E4 (0-5)]	B224910	30.5	1.00	03/04/19
19C0049-25 [TP-E4 (5-10)]	B224910	30.1	1.00	03/04/19

**Prep Method: SW-846 5035-SW-846 8260C**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19C0049-01 [TP-F8 (0-5)]	B224963	4.96	10.0	03/05/19
19C0049-02 [TP-F8 (5-10)]	B224963	6.27	10.0	03/05/19
19C0049-03 [TP-E8 (0-5)]	B224963	6.63	10.0	03/05/19
19C0049-04 [TP-E8 (5-10)]	B224963	4.49	10.0	03/05/19
19C0049-05 [TP-F6 (0-5)]	B224963	6.92	10.0	03/05/19
19C0049-06 [TP-F6 (5-10)]	B224963	4.92	10.0	03/05/19
19C0049-07 [TP-G6 (0-5)]	B224963	4.60	10.0	03/05/19
19C0049-08 [TP-G6 (5-10)]	B224963	5.08	10.0	03/05/19
19C0049-09 [TP-G7 (0-5)]	B224963	5.30	10.0	03/05/19
19C0049-10 [TP-G7 (5-10)]	B224963	5.70	10.0	03/05/19
19C0049-11 [TP-F7 (0-5)]	B224963	5.25	10.0	03/05/19
19C0049-12 [TP-F7 (5-10)]	B224963	7.05	10.0	03/05/19
19C0049-13 [TP-E7 (0-5)]	B224963	5.53	10.0	03/05/19
19C0049-14 [TP-E7 (5-10)]	B224963	5.50	10.0	03/05/19
19C0049-15 [TP-E6 (0-5)]	B224963	5.99	10.0	03/05/19
19C0049-16 [TP-E6 (5-10)]	B224963	5.70	10.0	03/05/19

**Prep Method: SW-846 5035-SW-846 8260C**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19C0049-17 [TP-F5 (0-5)]	B224964	5.75	10.0	03/05/19
19C0049-18 [TP-F5 (5-10)]	B224964	6.18	10.0	03/05/19
19C0049-19 [TP-E5 (0-5)]	B224964	6.49	10.0	03/05/19
19C0049-20 [TP-E5 (5-10)]	B224964	4.60	10.0	03/05/19
19C0049-21 [TP-E5 (10-15)]	B224964	6.21	10.0	03/05/19
19C0049-22 [TP-F4 (0-5)]	B224964	7.27	10.0	03/05/19
19C0049-23 [TP-F4 (5-10)]	B224964	4.56	10.0	03/05/19

**Sample Extraction Data**

**Prep Method: SW-846 5035-SW-846 8260C**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19C0049-24 [TP-E4 (0-5)]	B224964	5.56	10.0	03/05/19
19C0049-25 [TP-E4 (5-10)]	B224964	5.64	10.0	03/05/19

**Prep Method: SW-846 3546-SW-846 8270D**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19C0049-01 [TP-F8 (0-5)]	B224909	30.3	1.00	03/04/19
19C0049-02 [TP-F8 (5-10)]	B224909	30.1	1.00	03/04/19
19C0049-03 [TP-E8 (0-5)]	B224909	30.6	1.00	03/04/19
19C0049-04 [TP-E8 (5-10)]	B224909	30.2	1.00	03/04/19
19C0049-05 [TP-F6 (0-5)]	B224909	30.4	1.00	03/04/19
19C0049-06 [TP-F6 (5-10)]	B224909	30.4	1.00	03/04/19
19C0049-07 [TP-G6 (0-5)]	B224909	30.5	1.00	03/04/19
19C0049-08 [TP-G6 (5-10)]	B224909	30.4	1.00	03/04/19
19C0049-09 [TP-G7 (0-5)]	B224909	30.2	1.00	03/04/19
19C0049-10 [TP-G7 (5-10)]	B224909	30.0	1.00	03/04/19
19C0049-11 [TP-F7 (0-5)]	B224909	30.3	1.00	03/04/19
19C0049-12 [TP-F7 (5-10)]	B224909	30.3	1.00	03/04/19
19C0049-13 [TP-E7 (0-5)]	B224909	30.1	1.00	03/04/19
19C0049-14 [TP-E7 (5-10)]	B224909	30.2	1.00	03/04/19
19C0049-15 [TP-E6 (0-5)]	B224909	30.0	1.00	03/04/19
19C0049-16 [TP-E6 (5-10)]	B224909	30.3	1.00	03/04/19
19C0049-17 [TP-F5 (0-5)]	B224909	30.8	1.00	03/04/19
19C0049-18 [TP-F5 (5-10)]	B224909	30.1	1.00	03/04/19
19C0049-19 [TP-E5 (0-5)]	B224909	30.2	1.00	03/04/19
19C0049-20 [TP-E5 (5-10)]	B224909	30.1	1.00	03/04/19

**Prep Method: SW-846 3546-SW-846 8270D**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19C0049-21 [TP-E5 (10-15)]	B224911	30.3	1.00	03/04/19
19C0049-22 [TP-F4 (0-5)]	B224911	30.3	1.00	03/04/19
19C0049-23 [TP-F4 (5-10)]	B224911	30.2	1.00	03/04/19
19C0049-24 [TP-E4 (0-5)]	B224911	30.5	1.00	03/04/19
19C0049-25 [TP-E4 (5-10)]	B224911	30.1	1.00	03/04/19

**SW-846 9014**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19C0049-01 [TP-F8 (0-5)]	B224816	25.6	250	03/02/19
19C0049-02 [TP-F8 (5-10)]	B224816	25.7	250	03/02/19
19C0049-03 [TP-E8 (0-5)]	B224816	25.7	250	03/02/19
19C0049-04 [TP-E8 (5-10)]	B224816	25.1	250	03/02/19
19C0049-05 [TP-F6 (0-5)]	B224816	25.2	250	03/02/19
19C0049-06 [TP-F6 (5-10)]	B224816	25.5	250	03/02/19
19C0049-07 [TP-G6 (0-5)]	B224816	25.8	250	03/02/19
19C0049-08 [TP-G6 (5-10)]	B224816	25.2	250	03/02/19
19C0049-09 [TP-G7 (0-5)]	B224816	25.6	250	03/02/19
19C0049-10 [TP-G7 (5-10)]	B224816	25.7	250	03/02/19
19C0049-11 [TP-F7 (0-5)]	B224816	25.4	250	03/02/19
19C0049-12 [TP-F7 (5-10)]	B224816	25.1	250	03/02/19

**Sample Extraction Data**

**SW-846 9014**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19C0049-13 [TP-E7 (0-5)]	B224816	25.1	250	03/02/19
19C0049-14 [TP-E7 (5-10)]	B224816	25.5	250	03/02/19

**SW-846 9014**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19C0049-15 [TP-E6 (0-5)]	B225002	25.9	250	03/05/19
19C0049-16 [TP-E6 (5-10)]	B225002	25.5	250	03/05/19
19C0049-17 [TP-F5 (0-5)]	B225002	25.6	250	03/05/19
19C0049-18 [TP-F5 (5-10)]	B225002	25.3	250	03/05/19
19C0049-19 [TP-E5 (0-5)]	B225002	25.7	250	03/05/19
19C0049-20 [TP-E5 (5-10)]	B225002	25.4	250	03/05/19
19C0049-21 [TP-E5 (10-15)]	B225002	25.9	250	03/05/19
19C0049-22 [TP-F4 (0-5)]	B225002	25.6	250	03/05/19
19C0049-23 [TP-F4 (5-10)]	B225002	25.6	250	03/05/19
19C0049-24 [TP-E4 (0-5)]	B225002	25.7	250	03/05/19
19C0049-25 [TP-E4 (5-10)]	B225002	25.8	250	03/05/19

**SW-846 9030A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19C0049-01 [TP-F8 (0-5)]	B224817	25.6	250	03/02/19
19C0049-02 [TP-F8 (5-10)]	B224817	25.7	250	03/02/19
19C0049-03 [TP-E8 (0-5)]	B224817	25.7	250	03/02/19
19C0049-04 [TP-E8 (5-10)]	B224817	25.1	250	03/02/19
19C0049-05 [TP-F6 (0-5)]	B224817	25.2	250	03/02/19
19C0049-06 [TP-F6 (5-10)]	B224817	25.5	250	03/02/19
19C0049-07 [TP-G6 (0-5)]	B224817	25.8	250	03/02/19
19C0049-08 [TP-G6 (5-10)]	B224817	25.2	250	03/02/19
19C0049-09 [TP-G7 (0-5)]	B224817	25.6	250	03/02/19
19C0049-10 [TP-G7 (5-10)]	B224817	25.7	250	03/02/19
19C0049-11 [TP-F7 (0-5)]	B224817	25.4	250	03/02/19
19C0049-12 [TP-F7 (5-10)]	B224817	25.1	250	03/02/19
19C0049-13 [TP-E7 (0-5)]	B224817	25.1	250	03/02/19
19C0049-14 [TP-E7 (5-10)]	B224817	25.5	250	03/02/19

**SW-846 9030A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19C0049-15 [TP-E6 (0-5)]	B225003	25.9	250	03/05/19
19C0049-16 [TP-E6 (5-10)]	B225003	25.5	250	03/05/19
19C0049-17 [TP-F5 (0-5)]	B225003	25.6	250	03/05/19
19C0049-18 [TP-F5 (5-10)]	B225003	25.3	250	03/05/19
19C0049-19 [TP-E5 (0-5)]	B225003	25.7	250	03/05/19
19C0049-20 [TP-E5 (5-10)]	B225003	25.4	250	03/05/19
19C0049-21 [TP-E5 (10-15)]	B225003	25.9	250	03/05/19
19C0049-22 [TP-F4 (0-5)]	B225003	25.6	250	03/05/19
19C0049-23 [TP-F4 (5-10)]	B225003	25.6	250	03/05/19
19C0049-24 [TP-E4 (0-5)]	B225003	25.7	250	03/05/19
19C0049-25 [TP-E4 (5-10)]	B225003	25.8	250	03/05/19



39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

**Sample Extraction Data**

**SW-846 9045C**

Lab Number [Field ID]	Batch	Initial [g]	Date
19C0049-04 [TP-E8 (5-10)]	B224798	20.0	03/01/19
19C0049-05 [TP-F6 (0-5)]	B224798	20.0	03/01/19
19C0049-08 [TP-G6 (5-10)]	B224798	20.0	03/01/19
19C0049-09 [TP-G7 (0-5)]	B224798	20.0	03/01/19
19C0049-11 [TP-F7 (0-5)]	B224798	20.0	03/01/19
19C0049-13 [TP-E7 (0-5)]	B224798	20.0	03/01/19
19C0049-14 [TP-E7 (5-10)]	B224798	20.0	03/01/19
19C0049-18 [TP-F5 (5-10)]	B224798	20.0	03/01/19
19C0049-19 [TP-E5 (0-5)]	B224798	20.0	03/01/19
19C0049-21 [TP-E5 (10-15)]	B224798	20.0	03/01/19

**SW-846 9045C**

Lab Number [Field ID]	Batch	Initial [g]	Date
19C0049-01 [TP-F8 (0-5)]	B224806	20.0	03/01/19
19C0049-02 [TP-F8 (5-10)]	B224806	20.0	03/01/19
19C0049-03 [TP-E8 (0-5)]	B224806	20.0	03/01/19
19C0049-06 [TP-F6 (5-10)]	B224806	20.0	03/01/19
19C0049-07 [TP-G6 (0-5)]	B224806	20.0	03/01/19
19C0049-10 [TP-G7 (5-10)]	B224806	20.0	03/01/19
19C0049-12 [TP-F7 (5-10)]	B224806	20.0	03/01/19
19C0049-15 [TP-E6 (0-5)]	B224806	20.0	03/01/19
19C0049-16 [TP-E6 (5-10)]	B224806	20.0	03/01/19
19C0049-17 [TP-F5 (0-5)]	B224806	20.0	03/01/19
19C0049-20 [TP-E5 (5-10)]	B224806	20.0	03/01/19
19C0049-22 [TP-F4 (0-5)]	B224806	20.0	03/01/19
19C0049-23 [TP-F4 (5-10)]	B224806	20.0	03/01/19
19C0049-24 [TP-E4 (0-5)]	B224806	20.0	03/01/19
19C0049-25 [TP-E4 (5-10)]	B224806	20.0	03/01/19

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

**QUALITY CONTROL**

**Volatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B224963 - SW-846 5035**

**Blank (B224963-BLK1)**

Prepared & Analyzed: 03/05/19

Acetone	ND	0.10	mg/Kg wet							R-05
tert-Amyl Methyl Ether (TAME)	ND	0.0010	mg/Kg wet							
Benzene	ND	0.0020	mg/Kg wet							
Bromobenzene	ND	0.0020	mg/Kg wet							
Bromochloromethane	ND	0.0020	mg/Kg wet							
Bromodichloromethane	ND	0.0020	mg/Kg wet							
Bromoform	ND	0.0020	mg/Kg wet							
Bromomethane	ND	0.010	mg/Kg wet							V-34
2-Butanone (MEK)	ND	0.040	mg/Kg wet							
n-Butylbenzene	ND	0.0020	mg/Kg wet							
sec-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butyl Ethyl Ether (TBEE)	ND	0.0010	mg/Kg wet							
Carbon Disulfide	ND	0.0060	mg/Kg wet							
Carbon Tetrachloride	ND	0.0020	mg/Kg wet							
Chlorobenzene	ND	0.0020	mg/Kg wet							
Chlorodibromomethane	ND	0.0010	mg/Kg wet							
Chloroethane	ND	0.010	mg/Kg wet							
Chloroform	ND	0.0040	mg/Kg wet							
Chloromethane	ND	0.010	mg/Kg wet							
2-Chlorotoluene	ND	0.0020	mg/Kg wet							
4-Chlorotoluene	ND	0.0020	mg/Kg wet							
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0020	mg/Kg wet							
1,2-Dibromoethane (EDB)	ND	0.0010	mg/Kg wet							
Dibromomethane	ND	0.0020	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,4-Dichlorobenzene	ND	0.0020	mg/Kg wet							
Dichlorodifluoromethane (Freon 12)	ND	0.010	mg/Kg wet							
1,1-Dichloroethane	ND	0.0020	mg/Kg wet							
1,2-Dichloroethane	ND	0.0020	mg/Kg wet							
1,1-Dichloroethylene	ND	0.0040	mg/Kg wet							
cis-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
trans-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
1,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,3-Dichloropropane	ND	0.0010	mg/Kg wet							
2,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,1-Dichloropropene	ND	0.0020	mg/Kg wet							
cis-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
trans-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
Diethyl Ether	ND	0.010	mg/Kg wet							
Diisopropyl Ether (DIPE)	ND	0.0010	mg/Kg wet							
1,4-Dioxane	ND	0.10	mg/Kg wet							V-16
Ethylbenzene	ND	0.0020	mg/Kg wet							
Hexachlorobutadiene	ND	0.0020	mg/Kg wet							
2-Hexanone (MBK)	ND	0.020	mg/Kg wet							
Isopropylbenzene (Cumene)	ND	0.0020	mg/Kg wet							
p-Isopropyltoluene (p-Cymene)	ND	0.0020	mg/Kg wet							
Methyl tert-Butyl Ether (MTBE)	ND	0.0040	mg/Kg wet							
Methylene Chloride	ND	0.010	mg/Kg wet							
4-Methyl-2-pentanone (MIBK)	ND	0.020	mg/Kg wet							
Naphthalene	ND	0.0040	mg/Kg wet							

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B224963 - SW-846 5035

Blank (B224963-BLK1)

Prepared & Analyzed: 03/05/19

n-Propylbenzene	ND	0.0020	mg/Kg wet							
Styrene	ND	0.0020	mg/Kg wet							
1,1,1,2-Tetrachloroethane	ND	0.0020	mg/Kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0010	mg/Kg wet							
Tetrachloroethylene	ND	0.0020	mg/Kg wet							
Tetrahydrofuran	ND	0.010	mg/Kg wet							
Toluene	ND	0.0020	mg/Kg wet							
1,2,3-Trichlorobenzene	ND	0.0020	mg/Kg wet							
1,2,4-Trichlorobenzene	ND	0.0020	mg/Kg wet							
1,1,1-Trichloroethane	ND	0.0020	mg/Kg wet							
1,1,2-Trichloroethane	ND	0.0020	mg/Kg wet							
Trichloroethylene	ND	0.0020	mg/Kg wet							
Trichlorofluoromethane (Freon 11)	ND	0.010	mg/Kg wet							
1,2,3-Trichloropropane	ND	0.0020	mg/Kg wet							
1,2,4-Trimethylbenzene	ND	0.0020	mg/Kg wet							
1,3,5-Trimethylbenzene	ND	0.0020	mg/Kg wet							
Vinyl Chloride	ND	0.010	mg/Kg wet							
m+p Xylene	ND	0.0040	mg/Kg wet							
o-Xylene	ND	0.0020	mg/Kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0494		mg/Kg wet	0.0500		98.7	70-130			
Surrogate: Toluene-d8	0.0492		mg/Kg wet	0.0500		98.4	70-130			
Surrogate: 4-Bromofluorobenzene	0.0514		mg/Kg wet	0.0500		103	70-130			

LCS (B224963-BS1)

Prepared & Analyzed: 03/05/19

Acetone	0.221	0.10	mg/Kg wet	0.200		111	40-160		R-05	†
tert-Amyl Methyl Ether (TAME)	0.0221	0.0010	mg/Kg wet	0.0200		110	70-130			
Benzene	0.0207	0.0020	mg/Kg wet	0.0200		104	70-130			
Bromobenzene	0.0212	0.0020	mg/Kg wet	0.0200		106	70-130			
Bromochloromethane	0.0219	0.0020	mg/Kg wet	0.0200		110	70-130			
Bromodichloromethane	0.0218	0.0020	mg/Kg wet	0.0200		109	70-130			
Bromoform	0.0218	0.0020	mg/Kg wet	0.0200		109	70-130			
Bromomethane	0.0137	0.010	mg/Kg wet	0.0200		68.5	40-160		L-14, V-34	†
2-Butanone (MEK)	0.242	0.040	mg/Kg wet	0.200		121	40-160			†
n-Butylbenzene	0.0214	0.0020	mg/Kg wet	0.0200		107	70-130			
sec-Butylbenzene	0.0218	0.0020	mg/Kg wet	0.0200		109	70-130			
tert-Butylbenzene	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130			
tert-Butyl Ethyl Ether (TBEE)	0.0215	0.0010	mg/Kg wet	0.0200		107	70-130			
Carbon Disulfide	0.0251	0.0060	mg/Kg wet	0.0200		125	70-130			
Carbon Tetrachloride	0.0223	0.0020	mg/Kg wet	0.0200		112	70-130			
Chlorobenzene	0.0215	0.0020	mg/Kg wet	0.0200		108	70-130			
Chlorodibromomethane	0.0226	0.0010	mg/Kg wet	0.0200		113	70-130			
Chloroethane	0.0231	0.010	mg/Kg wet	0.0200		116	70-130			
Chloroform	0.0207	0.0040	mg/Kg wet	0.0200		104	70-130			
Chloromethane	0.0175	0.010	mg/Kg wet	0.0200		87.4	40-160			†
2-Chlorotoluene	0.0221	0.0020	mg/Kg wet	0.0200		111	70-130			
4-Chlorotoluene	0.0215	0.0020	mg/Kg wet	0.0200		107	70-130			
1,2-Dibromo-3-chloropropane (DBCP)	0.0205	0.0020	mg/Kg wet	0.0200		103	70-130			
1,2-Dibromoethane (EDB)	0.0224	0.0010	mg/Kg wet	0.0200		112	70-130			
Dibromomethane	0.0223	0.0020	mg/Kg wet	0.0200		111	70-130			
1,2-Dichlorobenzene	0.0212	0.0020	mg/Kg wet	0.0200		106	70-130			
1,3-Dichlorobenzene	0.0215	0.0020	mg/Kg wet	0.0200		108	70-130			
1,4-Dichlorobenzene	0.0201	0.0020	mg/Kg wet	0.0200		101	70-130			

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B224963 - SW-846 5035</b>										
<b>LCS (B224963-BS1)</b>										
Prepared & Analyzed: 03/05/19										
Dichlorodifluoromethane (Freon 12)	0.0201	0.010	mg/Kg wet	0.0200		101	40-160			†
1,1-Dichloroethane	0.0215	0.0020	mg/Kg wet	0.0200		108	70-130			
1,2-Dichloroethane	0.0218	0.0020	mg/Kg wet	0.0200		109	70-130			
1,1-Dichloroethylene	0.0220	0.0040	mg/Kg wet	0.0200		110	70-130			
cis-1,2-Dichloroethylene	0.0209	0.0020	mg/Kg wet	0.0200		105	70-130			
trans-1,2-Dichloroethylene	0.0218	0.0020	mg/Kg wet	0.0200		109	70-130			
1,2-Dichloropropane	0.0212	0.0020	mg/Kg wet	0.0200		106	70-130			
1,3-Dichloropropane	0.0207	0.0010	mg/Kg wet	0.0200		103	70-130			
2,2-Dichloropropane	0.0203	0.0020	mg/Kg wet	0.0200		102	70-130			
1,1-Dichloropropene	0.0210	0.0020	mg/Kg wet	0.0200		105	70-130			
cis-1,3-Dichloropropene	0.0218	0.0010	mg/Kg wet	0.0200		109	70-130			
trans-1,3-Dichloropropene	0.0222	0.0010	mg/Kg wet	0.0200		111	70-130			
Diethyl Ether	0.0212	0.010	mg/Kg wet	0.0200		106	70-130			
Diisopropyl Ether (DIPE)	0.0216	0.0010	mg/Kg wet	0.0200		108	70-130			
1,4-Dioxane	0.233	0.10	mg/Kg wet	0.200		117	40-160			V-16 †
Ethylbenzene	0.0211	0.0020	mg/Kg wet	0.0200		105	70-130			
Hexachlorobutadiene	0.0219	0.0020	mg/Kg wet	0.0200		110	70-130			
2-Hexanone (MBK)	0.224	0.020	mg/Kg wet	0.200		112	40-160			†
Isopropylbenzene (Cumene)	0.0226	0.0020	mg/Kg wet	0.0200		113	70-130			
p-Isopropyltoluene (p-Cymene)	0.0214	0.0020	mg/Kg wet	0.0200		107	70-130			
Methyl tert-Butyl Ether (MTBE)	0.0233	0.0040	mg/Kg wet	0.0200		116	70-130			
Methylene Chloride	0.0202	0.010	mg/Kg wet	0.0200		101	70-130			
4-Methyl-2-pentanone (MIBK)	0.223	0.020	mg/Kg wet	0.200		111	40-160			†
Naphthalene	0.0198	0.0040	mg/Kg wet	0.0200		99.0	70-130			
n-Propylbenzene	0.0218	0.0020	mg/Kg wet	0.0200		109	70-130			
Styrene	0.0212	0.0020	mg/Kg wet	0.0200		106	70-130			
1,1,1,2-Tetrachloroethane	0.0218	0.0020	mg/Kg wet	0.0200		109	70-130			
1,1,2,2-Tetrachloroethane	0.0228	0.0010	mg/Kg wet	0.0200		114	70-130			
Tetrachloroethylene	0.0223	0.0020	mg/Kg wet	0.0200		112	70-130			
Tetrahydrofuran	0.0205	0.010	mg/Kg wet	0.0200		102	70-130			
Toluene	0.0212	0.0020	mg/Kg wet	0.0200		106	70-130			
1,2,3-Trichlorobenzene	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130			
1,2,4-Trichlorobenzene	0.0201	0.0020	mg/Kg wet	0.0200		101	70-130			
1,1,1-Trichloroethane	0.0223	0.0020	mg/Kg wet	0.0200		112	70-130			
1,1,2-Trichloroethane	0.0225	0.0020	mg/Kg wet	0.0200		113	70-130			
Trichloroethylene	0.0211	0.0020	mg/Kg wet	0.0200		105	70-130			
Trichlorofluoromethane (Freon 11)	0.0209	0.010	mg/Kg wet	0.0200		105	70-130			
1,2,3-Trichloropropane	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130			
1,2,4-Trimethylbenzene	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130			
1,3,5-Trimethylbenzene	0.0221	0.0020	mg/Kg wet	0.0200		111	70-130			
Vinyl Chloride	0.0187	0.010	mg/Kg wet	0.0200		93.6	70-130			
m+p Xylene	0.0428	0.0040	mg/Kg wet	0.0400		107	70-130			
o-Xylene	0.0214	0.0020	mg/Kg wet	0.0200		107	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0498		mg/Kg wet	0.0500		99.6	70-130			
Surrogate: Toluene-d8	0.0501		mg/Kg wet	0.0500		100	70-130			
Surrogate: 4-Bromofluorobenzene	0.0514		mg/Kg wet	0.0500		103	70-130			

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B224963 - SW-846 5035</b>										
<b>LCS Dup (B224963-BSD1)</b>										
Prepared & Analyzed: 03/05/19										
Acetone	0.277	0.10	mg/Kg wet	0.200		138	40-160	22.1 *	20	L-14, R-05 †
tert-Amyl Methyl Ether (TAME)	0.0215	0.0010	mg/Kg wet	0.0200		108	70-130	2.50	20	
Benzene	0.0200	0.0020	mg/Kg wet	0.0200		100	70-130	3.49	20	
Bromobenzene	0.0200	0.0020	mg/Kg wet	0.0200		100	70-130	5.37	20	
Bromochloromethane	0.0215	0.0020	mg/Kg wet	0.0200		108	70-130	1.97	20	
Bromodichloromethane	0.0207	0.0020	mg/Kg wet	0.0200		103	70-130	5.26	20	
Bromoform	0.0213	0.0020	mg/Kg wet	0.0200		107	70-130	2.41	20	
Bromomethane	0.0145	0.010	mg/Kg wet	0.0200		72.7	40-160	5.85	20	V-34 †
2-Butanone (MEK)	0.254	0.040	mg/Kg wet	0.200		127	40-160	4.81	20	†
n-Butylbenzene	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130	5.68	20	
sec-Butylbenzene	0.0207	0.0020	mg/Kg wet	0.0200		104	70-130	4.85	20	
tert-Butylbenzene	0.0201	0.0020	mg/Kg wet	0.0200		101	70-130	3.33	20	
tert-Butyl Ethyl Ether (TBEE)	0.0210	0.0010	mg/Kg wet	0.0200		105	70-130	2.38	20	
Carbon Disulfide	0.0236	0.0060	mg/Kg wet	0.0200		118	70-130	6.14	20	
Carbon Tetrachloride	0.0213	0.0020	mg/Kg wet	0.0200		106	70-130	4.87	20	
Chlorobenzene	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130	5.62	20	
Chlorodibromomethane	0.0219	0.0010	mg/Kg wet	0.0200		109	70-130	3.17	20	
Chloroethane	0.0226	0.010	mg/Kg wet	0.0200		113	70-130	2.29	20	
Chloroform	0.0200	0.0040	mg/Kg wet	0.0200		100	70-130	3.45	20	
Chloromethane	0.0167	0.010	mg/Kg wet	0.0200		83.7	40-160	4.35	20	†
2-Chlorotoluene	0.0205	0.0020	mg/Kg wet	0.0200		102	70-130	7.80	20	
4-Chlorotoluene	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130	5.19	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.0214	0.0020	mg/Kg wet	0.0200		107	70-130	4.14	20	
1,2-Dibromoethane (EDB)	0.0222	0.0010	mg/Kg wet	0.0200		111	70-130	0.511	20	
Dibromomethane	0.0216	0.0020	mg/Kg wet	0.0200		108	70-130	3.26	20	
1,2-Dichlorobenzene	0.0201	0.0020	mg/Kg wet	0.0200		100	70-130	5.38	20	
1,3-Dichlorobenzene	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130	4.19	20	
1,4-Dichlorobenzene	0.0193	0.0020	mg/Kg wet	0.0200		96.4	70-130	4.27	20	
Dichlorodifluoromethane (Freon 12)	0.0195	0.010	mg/Kg wet	0.0200		97.5	40-160	3.07	20	†
1,1-Dichloroethane	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130	6.62	20	
1,2-Dichloroethane	0.0199	0.0020	mg/Kg wet	0.0200		99.4	70-130	9.37	20	
1,1-Dichloroethylene	0.0215	0.0040	mg/Kg wet	0.0200		107	70-130	2.55	20	
cis-1,2-Dichloroethylene	0.0199	0.0020	mg/Kg wet	0.0200		99.3	70-130	5.08	20	
trans-1,2-Dichloroethylene	0.0205	0.0020	mg/Kg wet	0.0200		103	70-130	6.07	20	
1,2-Dichloropropane	0.0197	0.0020	mg/Kg wet	0.0200		98.5	70-130	7.18	20	
1,3-Dichloropropane	0.0200	0.0010	mg/Kg wet	0.0200		100	70-130	3.16	20	
2,2-Dichloropropane	0.0198	0.0020	mg/Kg wet	0.0200		99.0	70-130	2.63	20	
1,1-Dichloropropene	0.0200	0.0020	mg/Kg wet	0.0200		100	70-130	5.10	20	
cis-1,3-Dichloropropene	0.0205	0.0010	mg/Kg wet	0.0200		103	70-130	5.99	20	
trans-1,3-Dichloropropene	0.0212	0.0010	mg/Kg wet	0.0200		106	70-130	4.58	20	
Diethyl Ether	0.0205	0.010	mg/Kg wet	0.0200		102	70-130	3.39	20	
Diisopropyl Ether (DIPE)	0.0207	0.0010	mg/Kg wet	0.0200		104	70-130	4.22	20	
1,4-Dioxane	0.217	0.10	mg/Kg wet	0.200		108	40-160	7.18	20	V-16 †
Ethylbenzene	0.0199	0.0020	mg/Kg wet	0.0200		99.7	70-130	5.40	20	
Hexachlorobutadiene	0.0212	0.0020	mg/Kg wet	0.0200		106	70-130	3.56	20	
2-Hexanone (MBK)	0.225	0.020	mg/Kg wet	0.200		112	40-160	0.497	20	†
Isopropylbenzene (Cumene)	0.0211	0.0020	mg/Kg wet	0.0200		106	70-130	6.85	20	
p-Isopropyltoluene (p-Cymene)	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130	3.90	20	
Methyl tert-Butyl Ether (MTBE)	0.0236	0.0040	mg/Kg wet	0.0200		118	70-130	1.36	20	
Methylene Chloride	0.0225	0.010	mg/Kg wet	0.0200		113	70-130	10.9	20	
4-Methyl-2-pentanone (MIBK)	0.216	0.020	mg/Kg wet	0.200		108	40-160	2.84	20	†
Naphthalene	0.0196	0.0040	mg/Kg wet	0.0200		97.9	70-130	1.18	20	

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**QUALITY CONTROL**

**Volatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B224963 - SW-846 5035</b>										
<b>LCS Dup (B224963-BSD1)</b>										
Prepared & Analyzed: 03/05/19										
n-Propylbenzene	0.0205	0.0020	mg/Kg wet	0.0200		102	70-130	6.35	20	
Styrene	0.0200	0.0020	mg/Kg wet	0.0200		100	70-130	5.83	20	
1,1,1,2-Tetrachloroethane	0.0203	0.0020	mg/Kg wet	0.0200		102	70-130	6.95	20	
1,1,2,2-Tetrachloroethane	0.0215	0.0010	mg/Kg wet	0.0200		107	70-130	5.99	20	
Tetrachloroethylene	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130	7.20	20	
Tetrahydrofuran	0.0207	0.010	mg/Kg wet	0.0200		104	70-130	1.06	20	
Toluene	0.0200	0.0020	mg/Kg wet	0.0200		100	70-130	5.82	20	
1,2,3-Trichlorobenzene	0.0195	0.0020	mg/Kg wet	0.0200		97.5	70-130	4.64	20	
1,2,4-Trichlorobenzene	0.0195	0.0020	mg/Kg wet	0.0200		97.4	70-130	3.20	20	
1,1,1-Trichloroethane	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130	6.94	20	
1,1,2-Trichloroethane	0.0214	0.0020	mg/Kg wet	0.0200		107	70-130	5.15	20	
Trichloroethylene	0.0199	0.0020	mg/Kg wet	0.0200		99.6	70-130	5.69	20	
Trichlorofluoromethane (Freon 11)	0.0196	0.010	mg/Kg wet	0.0200		97.8	70-130	6.61	20	
1,2,3-Trichloropropane	0.0191	0.0020	mg/Kg wet	0.0200		95.3	70-130	5.75	20	
1,2,4-Trimethylbenzene	0.0190	0.0020	mg/Kg wet	0.0200		94.8	70-130	6.42	20	
1,3,5-Trimethylbenzene	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130	7.76	20	
Vinyl Chloride	0.0185	0.010	mg/Kg wet	0.0200		92.3	70-130	1.42	20	
m+p Xylene	0.0403	0.0040	mg/Kg wet	0.0400		101	70-130	6.01	20	
o-Xylene	0.0199	0.0020	mg/Kg wet	0.0200		99.6	70-130	7.08	20	
Surrogate: 1,2-Dichloroethane-d4	0.0518		mg/Kg wet	0.0500		104	70-130			
Surrogate: Toluene-d8	0.0496		mg/Kg wet	0.0500		99.1	70-130			
Surrogate: 4-Bromofluorobenzene	0.0507		mg/Kg wet	0.0500		101	70-130			

**Batch B224964 - SW-846 5035**

**Blank (B224964-BLK1)**

Prepared & Analyzed: 03/05/19

Acetone	ND	0.10	mg/Kg wet							
tert-Amyl Methyl Ether (TAME)	ND	0.0010	mg/Kg wet							
Benzene	ND	0.0020	mg/Kg wet							
Bromobenzene	ND	0.0020	mg/Kg wet							
Bromochloromethane	ND	0.0020	mg/Kg wet							
Bromodichloromethane	ND	0.0020	mg/Kg wet							
Bromoform	ND	0.0020	mg/Kg wet							
Bromomethane	ND	0.010	mg/Kg wet							V-34
2-Butanone (MEK)	ND	0.040	mg/Kg wet							
n-Butylbenzene	ND	0.0020	mg/Kg wet							
sec-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butyl Ethyl Ether (TBEE)	ND	0.0010	mg/Kg wet							
Carbon Disulfide	ND	0.0060	mg/Kg wet							
Carbon Tetrachloride	ND	0.0020	mg/Kg wet							
Chlorobenzene	ND	0.0020	mg/Kg wet							
Chlorodibromomethane	ND	0.0010	mg/Kg wet							
Chloroethane	ND	0.010	mg/Kg wet							
Chloroform	ND	0.0040	mg/Kg wet							
Chloromethane	ND	0.010	mg/Kg wet							
2-Chlorotoluene	ND	0.0020	mg/Kg wet							
4-Chlorotoluene	ND	0.0020	mg/Kg wet							
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0020	mg/Kg wet							
1,2-Dibromoethane (EDB)	ND	0.0010	mg/Kg wet							
Dibromomethane	ND	0.0020	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.0020	mg/Kg wet							



QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B224964 - SW-846 5035</b>										
<b>Blank (B224964-BLK1)</b>										
Prepared & Analyzed: 03/05/19										
1,4-Dichlorobenzene	ND	0.0020	mg/Kg wet							
Dichlorodifluoromethane (Freon 12)	ND	0.010	mg/Kg wet							
1,1-Dichloroethane	ND	0.0020	mg/Kg wet							
1,2-Dichloroethane	ND	0.0020	mg/Kg wet							
1,1-Dichloroethylene	ND	0.0040	mg/Kg wet							
cis-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
trans-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
1,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,3-Dichloropropane	ND	0.0010	mg/Kg wet							
2,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,1-Dichloropropene	ND	0.0020	mg/Kg wet							
cis-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
trans-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
Diethyl Ether	ND	0.010	mg/Kg wet							
Diisopropyl Ether (DIPE)	ND	0.0010	mg/Kg wet							
1,4-Dioxane	ND	0.10	mg/Kg wet							V-16
Ethylbenzene	ND	0.0020	mg/Kg wet							
Hexachlorobutadiene	ND	0.0020	mg/Kg wet							
2-Hexanone (MBK)	ND	0.020	mg/Kg wet							
Isopropylbenzene (Cumene)	ND	0.0020	mg/Kg wet							
p-Isopropyltoluene (p-Cymene)	ND	0.0020	mg/Kg wet							
Methyl tert-Butyl Ether (MTBE)	ND	0.0040	mg/Kg wet							
Methylene Chloride	ND	0.010	mg/Kg wet							
4-Methyl-2-pentanone (MIBK)	ND	0.020	mg/Kg wet							
Naphthalene	ND	0.0040	mg/Kg wet							
n-Propylbenzene	ND	0.0020	mg/Kg wet							
Styrene	ND	0.0020	mg/Kg wet							
1,1,1,2-Tetrachloroethane	ND	0.0020	mg/Kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0010	mg/Kg wet							
Tetrachloroethylene	ND	0.0020	mg/Kg wet							
Tetrahydrofuran	ND	0.010	mg/Kg wet							
Toluene	ND	0.0020	mg/Kg wet							
1,2,3-Trichlorobenzene	ND	0.0020	mg/Kg wet							
1,2,4-Trichlorobenzene	ND	0.0020	mg/Kg wet							
1,1,1-Trichloroethane	ND	0.0020	mg/Kg wet							
1,1,2-Trichloroethane	ND	0.0020	mg/Kg wet							
Trichloroethylene	ND	0.0020	mg/Kg wet							
Trichlorofluoromethane (Freon 11)	ND	0.010	mg/Kg wet							
1,2,3-Trichloropropane	ND	0.0020	mg/Kg wet							
1,2,4-Trimethylbenzene	ND	0.0020	mg/Kg wet							
1,3,5-Trimethylbenzene	ND	0.0020	mg/Kg wet							
Vinyl Chloride	ND	0.010	mg/Kg wet							
m+p Xylene	ND	0.0040	mg/Kg wet							
o-Xylene	ND	0.0020	mg/Kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0474		mg/Kg wet	0.0500		94.8	70-130			
Surrogate: Toluene-d8	0.0496		mg/Kg wet	0.0500		99.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.0507		mg/Kg wet	0.0500		101	70-130			

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B224964 - SW-846 5035</b>										
<b>LCS (B224964-BS1)</b>										
Prepared & Analyzed: 03/05/19										
Acetone	0.234	0.10	mg/Kg wet	0.200		117	40-160			†
tert-Amyl Methyl Ether (TAME)	0.0191	0.0010	mg/Kg wet	0.0200		95.7	70-130			
Benzene	0.0172	0.0020	mg/Kg wet	0.0200		86.2	70-130			
Bromobenzene	0.0197	0.0020	mg/Kg wet	0.0200		98.7	70-130			
Bromochloromethane	0.0199	0.0020	mg/Kg wet	0.0200		99.5	70-130			
Bromodichloromethane	0.0190	0.0020	mg/Kg wet	0.0200		95.1	70-130			
Bromoform	0.0207	0.0020	mg/Kg wet	0.0200		103	70-130			
Bromomethane	0.0148	0.010	mg/Kg wet	0.0200		73.8	40-160			V-34 †
2-Butanone (MEK)	0.191	0.040	mg/Kg wet	0.200		95.6	40-160			†
n-Butylbenzene	0.0180	0.0020	mg/Kg wet	0.0200		90.2	70-130			
sec-Butylbenzene	0.0195	0.0020	mg/Kg wet	0.0200		97.7	70-130			
tert-Butylbenzene	0.0189	0.0020	mg/Kg wet	0.0200		94.5	70-130			
tert-Butyl Ethyl Ether (TBEE)	0.0178	0.0010	mg/Kg wet	0.0200		89.2	70-130			
Carbon Disulfide	0.0214	0.0060	mg/Kg wet	0.0200		107	70-130			
Carbon Tetrachloride	0.0182	0.0020	mg/Kg wet	0.0200		91.0	70-130			
Chlorobenzene	0.0194	0.0020	mg/Kg wet	0.0200		96.8	70-130			
Chlorodibromomethane	0.0205	0.0010	mg/Kg wet	0.0200		102	70-130			
Chloroethane	0.0178	0.010	mg/Kg wet	0.0200		89.0	70-130			
Chloroform	0.0180	0.0040	mg/Kg wet	0.0200		90.0	70-130			
Chloromethane	0.0173	0.010	mg/Kg wet	0.0200		86.6	40-160			†
2-Chlorotoluene	0.0184	0.0020	mg/Kg wet	0.0200		92.0	70-130			
4-Chlorotoluene	0.0191	0.0020	mg/Kg wet	0.0200		95.4	70-130			
1,2-Dibromo-3-chloropropane (DBCP)	0.0181	0.0020	mg/Kg wet	0.0200		90.7	70-130			
1,2-Dibromoethane (EDB)	0.0198	0.0010	mg/Kg wet	0.0200		98.8	70-130			
Dibromomethane	0.0212	0.0020	mg/Kg wet	0.0200		106	70-130			
1,2-Dichlorobenzene	0.0207	0.0020	mg/Kg wet	0.0200		103	70-130			
1,3-Dichlorobenzene	0.0197	0.0020	mg/Kg wet	0.0200		98.5	70-130			
1,4-Dichlorobenzene	0.0190	0.0020	mg/Kg wet	0.0200		95.2	70-130			
Dichlorodifluoromethane (Freon 12)	0.0165	0.010	mg/Kg wet	0.0200		82.4	40-160			†
1,1-Dichloroethane	0.0188	0.0020	mg/Kg wet	0.0200		93.8	70-130			
1,2-Dichloroethane	0.0193	0.0020	mg/Kg wet	0.0200		96.4	70-130			
1,1-Dichloroethylene	0.0192	0.0040	mg/Kg wet	0.0200		96.0	70-130			
cis-1,2-Dichloroethylene	0.0185	0.0020	mg/Kg wet	0.0200		92.6	70-130			
trans-1,2-Dichloroethylene	0.0183	0.0020	mg/Kg wet	0.0200		91.5	70-130			
1,2-Dichloropropane	0.0178	0.0020	mg/Kg wet	0.0200		89.0	70-130			
1,3-Dichloropropane	0.0191	0.0010	mg/Kg wet	0.0200		95.5	70-130			
2,2-Dichloropropane	0.0170	0.0020	mg/Kg wet	0.0200		85.2	70-130			
1,1-Dichloropropene	0.0185	0.0020	mg/Kg wet	0.0200		92.3	70-130			
cis-1,3-Dichloropropene	0.0201	0.0010	mg/Kg wet	0.0200		101	70-130			
trans-1,3-Dichloropropene	0.0189	0.0010	mg/Kg wet	0.0200		94.6	70-130			
Diethyl Ether	0.0209	0.010	mg/Kg wet	0.0200		105	70-130			
Diisopropyl Ether (DIPE)	0.0184	0.0010	mg/Kg wet	0.0200		91.8	70-130			
1,4-Dioxane	0.154	0.10	mg/Kg wet	0.200		77.1	40-160			V-16 †
Ethylbenzene	0.0177	0.0020	mg/Kg wet	0.0200		88.3	70-130			
Hexachlorobutadiene	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130			
2-Hexanone (MBK)	0.195	0.020	mg/Kg wet	0.200		97.3	40-160			†
Isopropylbenzene (Cumene)	0.0196	0.0020	mg/Kg wet	0.0200		97.9	70-130			
p-Isopropyltoluene (p-Cymene)	0.0192	0.0020	mg/Kg wet	0.0200		96.0	70-130			
Methyl tert-Butyl Ether (MTBE)	0.0194	0.0040	mg/Kg wet	0.0200		96.9	70-130			
Methylene Chloride	0.0181	0.010	mg/Kg wet	0.0200		90.5	70-130			
4-Methyl-2-pentanone (MIBK)	0.200	0.020	mg/Kg wet	0.200		100	40-160			†
Naphthalene	0.0187	0.0040	mg/Kg wet	0.0200		93.6	70-130			

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B224964 - SW-846 5035</b>										
<b>LCS (B224964-BS1)</b>										
Prepared & Analyzed: 03/05/19										
n-Propylbenzene	0.0191	0.0020	mg/Kg wet	0.0200		95.6	70-130			
Styrene	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130			
1,1,1,2-Tetrachloroethane	0.0205	0.0020	mg/Kg wet	0.0200		102	70-130			
1,1,2,2-Tetrachloroethane	0.0187	0.0010	mg/Kg wet	0.0200		93.6	70-130			
Tetrachloroethylene	0.0195	0.0020	mg/Kg wet	0.0200		97.6	70-130			
Tetrahydrofuran	0.0217	0.010	mg/Kg wet	0.0200		108	70-130			
Toluene	0.0185	0.0020	mg/Kg wet	0.0200		92.3	70-130			
1,2,3-Trichlorobenzene	0.0195	0.0020	mg/Kg wet	0.0200		97.7	70-130			
1,2,4-Trichlorobenzene	0.0207	0.0020	mg/Kg wet	0.0200		103	70-130			
1,1,1-Trichloroethane	0.0171	0.0020	mg/Kg wet	0.0200		85.7	70-130			
1,1,2-Trichloroethane	0.0189	0.0020	mg/Kg wet	0.0200		94.5	70-130			
Trichloroethylene	0.0184	0.0020	mg/Kg wet	0.0200		91.8	70-130			
Trichlorofluoromethane (Freon 11)	0.0171	0.010	mg/Kg wet	0.0200		85.4	70-130			
1,2,3-Trichloropropane	0.0190	0.0020	mg/Kg wet	0.0200		95.1	70-130			
1,2,4-Trimethylbenzene	0.0176	0.0020	mg/Kg wet	0.0200		88.0	70-130			
1,3,5-Trimethylbenzene	0.0186	0.0020	mg/Kg wet	0.0200		93.2	70-130			
Vinyl Chloride	0.0167	0.010	mg/Kg wet	0.0200		83.3	70-130			
m+p Xylene	0.0350	0.0040	mg/Kg wet	0.0400		87.6	70-130			
o-Xylene	0.0184	0.0020	mg/Kg wet	0.0200		92.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0473		mg/Kg wet	0.0500		94.5	70-130			
Surrogate: Toluene-d8	0.0496		mg/Kg wet	0.0500		99.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.0502		mg/Kg wet	0.0500		100	70-130			
<b>LCS Dup (B224964-BS1)</b>										
Prepared & Analyzed: 03/05/19										
Acetone	0.221	0.10	mg/Kg wet	0.200		111	40-160	5.40	20	†
tert-Amyl Methyl Ether (TAME)	0.0191	0.0010	mg/Kg wet	0.0200		95.5	70-130	0.209	20	
Benzene	0.0174	0.0020	mg/Kg wet	0.0200		87.1	70-130	1.04	20	
Bromobenzene	0.0191	0.0020	mg/Kg wet	0.0200		95.6	70-130	3.19	20	
Bromochloromethane	0.0197	0.0020	mg/Kg wet	0.0200		98.3	70-130	1.21	20	
Bromodichloromethane	0.0190	0.0020	mg/Kg wet	0.0200		95.0	70-130	0.105	20	
Bromoform	0.0201	0.0020	mg/Kg wet	0.0200		101	70-130	2.55	20	
Bromomethane	0.0175	0.010	mg/Kg wet	0.0200		87.5	40-160	17.0	20	V-34 †
2-Butanone (MEK)	0.199	0.040	mg/Kg wet	0.200		99.5	40-160	3.99	20	†
n-Butylbenzene	0.0184	0.0020	mg/Kg wet	0.0200		91.8	70-130	1.76	20	
sec-Butylbenzene	0.0210	0.0020	mg/Kg wet	0.0200		105	70-130	7.01	20	
tert-Butylbenzene	0.0191	0.0020	mg/Kg wet	0.0200		95.3	70-130	0.843	20	
tert-Butyl Ethyl Ether (TBEE)	0.0183	0.0010	mg/Kg wet	0.0200		91.3	70-130	2.33	20	
Carbon Disulfide	0.0223	0.0060	mg/Kg wet	0.0200		112	70-130	4.31	20	
Carbon Tetrachloride	0.0185	0.0020	mg/Kg wet	0.0200		92.6	70-130	1.74	20	
Chlorobenzene	0.0200	0.0020	mg/Kg wet	0.0200		100	70-130	3.35	20	
Chlorodibromomethane	0.0213	0.0010	mg/Kg wet	0.0200		106	70-130	3.93	20	
Chloroethane	0.0196	0.010	mg/Kg wet	0.0200		97.9	70-130	9.52	20	
Chloroform	0.0179	0.0040	mg/Kg wet	0.0200		89.7	70-130	0.334	20	
Chloromethane	0.0173	0.010	mg/Kg wet	0.0200		86.4	40-160	0.231	20	†
2-Chlorotoluene	0.0184	0.0020	mg/Kg wet	0.0200		92.0	70-130	0.00	20	
4-Chlorotoluene	0.0186	0.0020	mg/Kg wet	0.0200		92.9	70-130	2.66	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.0165	0.0020	mg/Kg wet	0.0200		82.5	70-130	9.47	20	
1,2-Dibromoethane (EDB)	0.0201	0.0010	mg/Kg wet	0.0200		101	70-130	1.90	20	
Dibromomethane	0.0201	0.0020	mg/Kg wet	0.0200		100	70-130	5.42	20	
1,2-Dichlorobenzene	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130	0.482	20	
1,3-Dichlorobenzene	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130	4.66	20	
1,4-Dichlorobenzene	0.0194	0.0020	mg/Kg wet	0.0200		97.1	70-130	1.98	20	

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B224964 - SW-846 5035</b>										
<b>LCS Dup (B224964-BSD1)</b>										
Prepared & Analyzed: 03/05/19										
Dichlorodifluoromethane (Freon 12)	0.0167	0.010	mg/Kg wet	0.0200		83.6	40-160	1.45	20	†
1,1-Dichloroethane	0.0185	0.0020	mg/Kg wet	0.0200		92.7	70-130	1.18	20	
1,2-Dichloroethane	0.0200	0.0020	mg/Kg wet	0.0200		99.9	70-130	3.57	20	
1,1-Dichloroethylene	0.0189	0.0040	mg/Kg wet	0.0200		94.4	70-130	1.68	20	
cis-1,2-Dichloroethylene	0.0186	0.0020	mg/Kg wet	0.0200		93.2	70-130	0.646	20	
trans-1,2-Dichloroethylene	0.0192	0.0020	mg/Kg wet	0.0200		95.9	70-130	4.70	20	
1,2-Dichloropropane	0.0187	0.0020	mg/Kg wet	0.0200		93.3	70-130	4.72	20	
1,3-Dichloropropane	0.0193	0.0010	mg/Kg wet	0.0200		96.4	70-130	0.938	20	
2,2-Dichloropropane	0.0169	0.0020	mg/Kg wet	0.0200		84.3	70-130	1.06	20	
1,1-Dichloropropene	0.0176	0.0020	mg/Kg wet	0.0200		87.8	70-130	5.00	20	
cis-1,3-Dichloropropene	0.0206	0.0010	mg/Kg wet	0.0200		103	70-130	2.45	20	
trans-1,3-Dichloropropene	0.0199	0.0010	mg/Kg wet	0.0200		99.7	70-130	5.25	20	
Diethyl Ether	0.0200	0.010	mg/Kg wet	0.0200		100	70-130	4.49	20	
Diisopropyl Ether (DIPE)	0.0191	0.0010	mg/Kg wet	0.0200		95.5	70-130	3.95	20	
1,4-Dioxane	0.161	0.10	mg/Kg wet	0.200		80.3	40-160	4.02	20	V-16 †
Ethylbenzene	0.0180	0.0020	mg/Kg wet	0.0200		90.0	70-130	1.91	20	
Hexachlorobutadiene	0.0214	0.0020	mg/Kg wet	0.0200		107	70-130	3.81	20	
2-Hexanone (MBK)	0.209	0.020	mg/Kg wet	0.200		105	40-160	7.28	20	†
Isopropylbenzene (Cumene)	0.0197	0.0020	mg/Kg wet	0.0200		98.5	70-130	0.611	20	
p-Isopropyltoluene (p-Cymene)	0.0187	0.0020	mg/Kg wet	0.0200		93.5	70-130	2.64	20	
Methyl tert-Butyl Ether (MTBE)	0.0189	0.0040	mg/Kg wet	0.0200		94.6	70-130	2.40	20	
Methylene Chloride	0.0189	0.010	mg/Kg wet	0.0200		94.6	70-130	4.43	20	
4-Methyl-2-pentanone (MIBK)	0.209	0.020	mg/Kg wet	0.200		105	40-160	4.62	20	†
Naphthalene	0.0185	0.0040	mg/Kg wet	0.0200		92.7	70-130	0.966	20	
n-Propylbenzene	0.0187	0.0020	mg/Kg wet	0.0200		93.3	70-130	2.44	20	
Styrene	0.0200	0.0020	mg/Kg wet	0.0200		100	70-130	2.08	20	
1,1,1,2-Tetrachloroethane	0.0197	0.0020	mg/Kg wet	0.0200		98.3	70-130	4.18	20	
1,1,2,2-Tetrachloroethane	0.0199	0.0010	mg/Kg wet	0.0200		99.5	70-130	6.11	20	
Tetrachloroethylene	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130	6.16	20	
Tetrahydrofuran	0.0217	0.010	mg/Kg wet	0.0200		108	70-130	0.00	20	
Toluene	0.0186	0.0020	mg/Kg wet	0.0200		92.8	70-130	0.540	20	
1,2,3-Trichlorobenzene	0.0195	0.0020	mg/Kg wet	0.0200		97.7	70-130	0.00	20	
1,2,4-Trichlorobenzene	0.0209	0.0020	mg/Kg wet	0.0200		104	70-130	1.06	20	
1,1,1-Trichloroethane	0.0170	0.0020	mg/Kg wet	0.0200		84.9	70-130	0.938	20	
1,1,2-Trichloroethane	0.0186	0.0020	mg/Kg wet	0.0200		92.9	70-130	1.71	20	
Trichloroethylene	0.0185	0.0020	mg/Kg wet	0.0200		92.4	70-130	0.651	20	
Trichlorofluoromethane (Freon 11)	0.0167	0.010	mg/Kg wet	0.0200		83.6	70-130	2.13	20	
1,2,3-Trichloropropane	0.0198	0.0020	mg/Kg wet	0.0200		99.1	70-130	4.12	20	
1,2,4-Trimethylbenzene	0.0179	0.0020	mg/Kg wet	0.0200		89.4	70-130	1.58	20	
1,3,5-Trimethylbenzene	0.0177	0.0020	mg/Kg wet	0.0200		88.5	70-130	5.17	20	
Vinyl Chloride	0.0174	0.010	mg/Kg wet	0.0200		86.8	70-130	4.12	20	
m+p Xylene	0.0355	0.0040	mg/Kg wet	0.0400		88.8	70-130	1.36	20	
o-Xylene	0.0186	0.0020	mg/Kg wet	0.0200		92.8	70-130	0.866	20	
Surrogate: 1,2-Dichloroethane-d4	0.0471		mg/Kg wet	0.0500		94.1	70-130			
Surrogate: Toluene-d8	0.0488		mg/Kg wet	0.0500		97.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.0496		mg/Kg wet	0.0500		99.2	70-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B224909 - SW-846 3546

Blank (B224909-BLK1)

Prepared: 03/04/19 Analyzed: 03/06/19

Acenaphthene	ND	0.17	mg/Kg wet							
Acenaphthylene	ND	0.17	mg/Kg wet							
Acetophenone	ND	0.34	mg/Kg wet							
Aniline	ND	0.34	mg/Kg wet							L-04, V-34
Anthracene	ND	0.17	mg/Kg wet							
Benzo(a)anthracene	ND	0.17	mg/Kg wet							
Benzo(a)pyrene	ND	0.17	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.17	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.17	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.17	mg/Kg wet							
Bis(2-chloroethoxy)methane	ND	0.34	mg/Kg wet							
Bis(2-chloroethyl)ether	ND	0.34	mg/Kg wet							
Bis(2-chloroisopropyl)ether	ND	0.34	mg/Kg wet							
Bis(2-Ethylhexyl)phthalate	ND	0.34	mg/Kg wet							
4-Bromophenylphenylether	ND	0.34	mg/Kg wet							
Butylbenzylphthalate	ND	0.34	mg/Kg wet							
4-Chloroaniline	ND	0.66	mg/Kg wet							V-34
2-Chloronaphthalene	ND	0.34	mg/Kg wet							
2-Chlorophenol	ND	0.34	mg/Kg wet							
Chrysene	ND	0.17	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.17	mg/Kg wet							
Dibenzofuran	ND	0.34	mg/Kg wet							
Di-n-butylphthalate	ND	0.34	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.34	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.34	mg/Kg wet							
1,4-Dichlorobenzene	ND	0.34	mg/Kg wet							
3,3-Dichlorobenzidine	ND	0.17	mg/Kg wet							
2,4-Dichlorophenol	ND	0.34	mg/Kg wet							
Diethylphthalate	ND	0.34	mg/Kg wet							
2,4-Dimethylphenol	ND	0.34	mg/Kg wet							
Dimethylphthalate	ND	0.34	mg/Kg wet							
2,4-Dinitrophenol	ND	0.66	mg/Kg wet							
2,4-Dinitrotoluene	ND	0.34	mg/Kg wet							
2,6-Dinitrotoluene	ND	0.34	mg/Kg wet							
Di-n-octylphthalate	ND	0.34	mg/Kg wet							
1,2-Diphenylhydrazine/Azobenzene	ND	0.34	mg/Kg wet							
Fluoranthene	ND	0.17	mg/Kg wet							
Fluorene	ND	0.17	mg/Kg wet							
Hexachlorobenzene	ND	0.34	mg/Kg wet							
Hexachlorobutadiene	ND	0.34	mg/Kg wet							
Hexachloroethane	ND	0.34	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.17	mg/Kg wet							
Isophorone	ND	0.34	mg/Kg wet							
2-Methylnaphthalene	ND	0.17	mg/Kg wet							
2-Methylphenol	ND	0.34	mg/Kg wet							
3/4-Methylphenol	ND	0.34	mg/Kg wet							
Naphthalene	ND	0.17	mg/Kg wet							
Nitrobenzene	ND	0.34	mg/Kg wet							
2-Nitrophenol	ND	0.34	mg/Kg wet							
4-Nitrophenol	ND	0.66	mg/Kg wet							
Pentachlorophenol	ND	0.34	mg/Kg wet							
Phenanthrene	ND	0.17	mg/Kg wet							

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**QUALITY CONTROL**

**Semivolatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B224909 - SW-846 3546**

**Blank (B224909-BLK1)**

Prepared: 03/04/19 Analyzed: 03/06/19

Phenol	ND	0.34	mg/Kg wet							
Pyrene	ND	0.17	mg/Kg wet							
1,2,4-Trichlorobenzene	ND	0.34	mg/Kg wet							
2,4,5-Trichlorophenol	ND	0.34	mg/Kg wet							
2,4,6-Trichlorophenol	ND	0.34	mg/Kg wet							
Surrogate: 2-Fluorophenol	5.36		mg/Kg wet	6.67		80.5	30-130			
Surrogate: Phenol-d6	5.28		mg/Kg wet	6.67		79.3	30-130			
Surrogate: Nitrobenzene-d5	2.65		mg/Kg wet	3.33		79.5	30-130			
Surrogate: 2-Fluorobiphenyl	2.66		mg/Kg wet	3.33		79.9	30-130			
Surrogate: 2,4,6-Tribromophenol	5.82		mg/Kg wet	6.67		87.3	30-130			
Surrogate: p-Terphenyl-d14	3.17		mg/Kg wet	3.33		95.2	30-130			

**LCS (B224909-BS1)**

Prepared: 03/04/19 Analyzed: 03/06/19

Acenaphthene	1.13	0.17	mg/Kg wet	1.67		67.9	40-140			
Acenaphthylene	1.14	0.17	mg/Kg wet	1.67		68.3	40-140			
Acetophenone	1.05	0.34	mg/Kg wet	1.67		63.2	40-140			
<b>Aniline</b>	0.571	0.34	mg/Kg wet	1.67		<b>34.2</b> *	40-140			L-04, V-34
Anthracene	1.23	0.17	mg/Kg wet	1.67		73.7	40-140			
Benzo(a)anthracene	1.16	0.17	mg/Kg wet	1.67		69.9	40-140			
Benzo(a)pyrene	1.28	0.17	mg/Kg wet	1.67		76.9	40-140			
Benzo(b)fluoranthene	1.19	0.17	mg/Kg wet	1.67		71.6	40-140			
Benzo(g,h,i)perylene	1.36	0.17	mg/Kg wet	1.67		81.5	40-140			
Benzo(k)fluoranthene	1.21	0.17	mg/Kg wet	1.67		72.8	40-140			
Bis(2-chloroethoxy)methane	1.34	0.34	mg/Kg wet	1.67		80.4	40-140			
Bis(2-chloroethyl)ether	1.21	0.34	mg/Kg wet	1.67		72.8	40-140			
Bis(2-chloroisopropyl)ether	1.38	0.34	mg/Kg wet	1.67		82.6	40-140			
Bis(2-Ethylhexyl)phthalate	1.28	0.34	mg/Kg wet	1.67		76.6	40-140			
4-Bromophenylphenylether	1.26	0.34	mg/Kg wet	1.67		75.3	40-140			
Butylbenzylphthalate	1.28	0.34	mg/Kg wet	1.67		76.5	40-140			
4-Chloroaniline	0.538	0.66	mg/Kg wet	1.67		32.3	15-140			V-34 †
2-Chloronaphthalene	0.967	0.34	mg/Kg wet	1.67		58.0	40-140			
2-Chlorophenol	1.15	0.34	mg/Kg wet	1.67		69.1	30-130			
Chrysene	1.22	0.17	mg/Kg wet	1.67		72.9	40-140			
Dibenz(a,h)anthracene	1.32	0.17	mg/Kg wet	1.67		79.0	40-140			
Dibenzofuran	1.16	0.34	mg/Kg wet	1.67		69.5	40-140			
Di-n-butylphthalate	1.23	0.34	mg/Kg wet	1.67		73.5	40-140			
1,2-Dichlorobenzene	1.03	0.34	mg/Kg wet	1.67		62.0	40-140			
1,3-Dichlorobenzene	1.01	0.34	mg/Kg wet	1.67		60.8	40-140			
1,4-Dichlorobenzene	1.02	0.34	mg/Kg wet	1.67		61.2	40-140			
3,3-Dichlorobenzidine	0.850	0.17	mg/Kg wet	1.67		51.0	40-140			
2,4-Dichlorophenol	1.21	0.34	mg/Kg wet	1.67		72.7	30-130			
Diethylphthalate	1.21	0.34	mg/Kg wet	1.67		72.4	40-140			
2,4-Dimethylphenol	1.09	0.34	mg/Kg wet	1.67		65.5	30-130			
Dimethylphthalate	1.25	0.34	mg/Kg wet	1.67		74.7	40-140			
2,4-Dinitrophenol	1.08	0.66	mg/Kg wet	1.67		64.5	15-140			†
2,4-Dinitrotoluene	1.15	0.34	mg/Kg wet	1.67		69.0	40-140			
2,6-Dinitrotoluene	1.20	0.34	mg/Kg wet	1.67		72.2	40-140			
Di-n-octylphthalate	1.26	0.34	mg/Kg wet	1.67		75.3	40-140			
1,2-Diphenylhydrazine/Azobenzene	1.25	0.34	mg/Kg wet	1.67		74.9	40-140			
Fluoranthene	1.20	0.17	mg/Kg wet	1.67		72.3	40-140			
Fluorene	1.16	0.17	mg/Kg wet	1.67		69.5	40-140			
Hexachlorobenzene	1.19	0.34	mg/Kg wet	1.67		71.1	40-140			



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**QUALITY CONTROL**

**Semivolatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B224909 - SW-846 3546**

**LCS (B224909-BS1)**

Prepared: 03/04/19 Analyzed: 03/06/19

Hexachlorobutadiene	1.05	0.34	mg/Kg wet	1.67		62.9	40-140			
Hexachloroethane	1.05	0.34	mg/Kg wet	1.67		62.7	40-140			
Indeno(1,2,3-cd)pyrene	1.33	0.17	mg/Kg wet	1.67		79.8	40-140			
Isophorone	1.18	0.34	mg/Kg wet	1.67		71.0	40-140			
2-Methylnaphthalene	1.15	0.17	mg/Kg wet	1.67		68.9	40-140			
2-Methylphenol	1.10	0.34	mg/Kg wet	1.67		66.0	30-130			
3/4-Methylphenol	1.07	0.34	mg/Kg wet	1.67		64.2	30-130			
Naphthalene	1.10	0.17	mg/Kg wet	1.67		66.2	40-140			
Nitrobenzene	1.09	0.34	mg/Kg wet	1.67		65.6	40-140			
2-Nitrophenol	1.16	0.34	mg/Kg wet	1.67		69.5	30-130			
4-Nitrophenol	1.17	0.66	mg/Kg wet	1.67		70.3	15-140			†
Pentachlorophenol	1.20	0.34	mg/Kg wet	1.67		72.3	30-130			
Phenanthrene	1.22	0.17	mg/Kg wet	1.67		73.5	40-140			
Phenol	1.17	0.34	mg/Kg wet	1.67		70.4	15-140			†
Pyrene	1.24	0.17	mg/Kg wet	1.67		74.6	40-140			
1,2,4-Trichlorobenzene	1.06	0.34	mg/Kg wet	1.67		63.7	40-140			
2,4,5-Trichlorophenol	1.22	0.34	mg/Kg wet	1.67		73.1	30-130			
2,4,6-Trichlorophenol	1.22	0.34	mg/Kg wet	1.67		73.4	30-130			
Surrogate: 2-Fluorophenol	4.87		mg/Kg wet	6.67		73.0	30-130			
Surrogate: Phenol-d6	4.78		mg/Kg wet	6.67		71.7	30-130			
Surrogate: Nitrobenzene-d5	2.34		mg/Kg wet	3.33		70.2	30-130			
Surrogate: 2-Fluorobiphenyl	2.49		mg/Kg wet	3.33		74.6	30-130			
Surrogate: 2,4,6-Tribromophenol	5.37		mg/Kg wet	6.67		80.5	30-130			
Surrogate: p-Terphenyl-d14	2.73		mg/Kg wet	3.33		81.8	30-130			

**LCS Dup (B224909-BS1)**

Prepared: 03/04/19 Analyzed: 03/06/19

Acenaphthene	1.17	0.17	mg/Kg wet	1.67		70.4	40-140	3.64	30	
Acenaphthylene	1.16	0.17	mg/Kg wet	1.67		69.4	40-140	1.57	30	
Acetophenone	1.06	0.34	mg/Kg wet	1.67		63.6	40-140	0.568	30	
<b>Aniline</b>	0.545	0.34	mg/Kg wet	1.67		<b>32.7 *</b>	40-140	4.66	30	L-04, V-34
Anthracene	1.31	0.17	mg/Kg wet	1.67		78.6	40-140	6.43	30	
Benzo(a)anthracene	1.26	0.17	mg/Kg wet	1.67		75.7	40-140	7.97	30	
Benzo(a)pyrene	1.37	0.17	mg/Kg wet	1.67		82.4	40-140	6.93	30	
Benzo(b)fluoranthene	1.27	0.17	mg/Kg wet	1.67		76.2	40-140	6.23	30	
Benzo(g,h,i)perylene	1.47	0.17	mg/Kg wet	1.67		88.0	40-140	7.74	30	
Benzo(k)fluoranthene	1.30	0.17	mg/Kg wet	1.67		77.8	40-140	6.72	30	
Bis(2-chloroethoxy)methane	1.35	0.34	mg/Kg wet	1.67		80.8	40-140	0.471	30	
Bis(2-chloroethyl)ether	1.24	0.34	mg/Kg wet	1.67		74.5	40-140	2.36	30	
Bis(2-chloroisopropyl)ether	1.40	0.34	mg/Kg wet	1.67		84.2	40-140	1.89	30	
Bis(2-Ethylhexyl)phthalate	1.38	0.34	mg/Kg wet	1.67		82.8	40-140	7.75	30	
4-Bromophenylphenylether	1.33	0.34	mg/Kg wet	1.67		80.0	40-140	5.98	30	
Butylbenzylphthalate	1.39	0.34	mg/Kg wet	1.67		83.3	40-140	8.46	30	
4-Chloroaniline	0.553	0.66	mg/Kg wet	1.67		33.2	15-140	2.69	30	V-34 †
2-Chloronaphthalene	1.01	0.34	mg/Kg wet	1.67		60.4	40-140	3.95	30	
2-Chlorophenol	1.19	0.34	mg/Kg wet	1.67		71.2	30-130	2.91	30	
Chrysene	1.30	0.17	mg/Kg wet	1.67		78.0	40-140	6.73	30	
Dibenz(a,h)anthracene	1.39	0.17	mg/Kg wet	1.67		83.4	40-140	5.37	30	
Dibenzofuran	1.22	0.34	mg/Kg wet	1.67		73.3	40-140	5.38	30	
Di-n-butylphthalate	1.32	0.34	mg/Kg wet	1.67		79.1	40-140	7.29	30	
1,2-Dichlorobenzene	1.06	0.34	mg/Kg wet	1.67		63.7	40-140	2.74	30	
1,3-Dichlorobenzene	1.03	0.34	mg/Kg wet	1.67		61.7	40-140	1.34	30	
1,4-Dichlorobenzene	1.02	0.34	mg/Kg wet	1.67		61.4	40-140	0.261	30	

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**QUALITY CONTROL**

**Semivolatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B224909 - SW-846 3546**

**LCS Dup (B224909-BSD1)**

Prepared: 03/04/19 Analyzed: 03/06/19

3,3-Dichlorobenzidine	0.906	0.17	mg/Kg wet	1.67		54.4	40-140	6.34	30	
2,4-Dichlorophenol	1.23	0.34	mg/Kg wet	1.67		73.8	30-130	1.53	30	
Diethylphthalate	1.30	0.34	mg/Kg wet	1.67		77.9	40-140	7.35	30	
2,4-Dimethylphenol	1.14	0.34	mg/Kg wet	1.67		68.4	30-130	4.45	30	
Dimethylphthalate	1.30	0.34	mg/Kg wet	1.67		77.9	40-140	4.09	30	
2,4-Dinitrophenol	1.17	0.66	mg/Kg wet	1.67		70.3	15-140	8.63	30	†
2,4-Dinitrotoluene	1.25	0.34	mg/Kg wet	1.67		75.2	40-140	8.57	30	
2,6-Dinitrotoluene	1.28	0.34	mg/Kg wet	1.67		76.8	40-140	6.18	30	
Di-n-octylphthalate	1.38	0.34	mg/Kg wet	1.67		82.8	40-140	9.44	30	
1,2-Diphenylhydrazine/Azobenzene	1.31	0.34	mg/Kg wet	1.67		78.7	40-140	4.97	30	
Fluoranthene	1.30	0.17	mg/Kg wet	1.67		77.7	40-140	7.28	30	
Fluorene	1.23	0.17	mg/Kg wet	1.67		73.5	40-140	5.65	30	
Hexachlorobenzene	1.25	0.34	mg/Kg wet	1.67		75.0	40-140	5.23	30	
Hexachlorobutadiene	1.09	0.34	mg/Kg wet	1.67		65.5	40-140	3.96	30	
Hexachloroethane	1.03	0.34	mg/Kg wet	1.67		61.6	40-140	1.87	30	
Indeno(1,2,3-cd)pyrene	1.44	0.17	mg/Kg wet	1.67		86.5	40-140	8.08	30	
Isophorone	1.19	0.34	mg/Kg wet	1.67		71.2	40-140	0.338	30	
2-Methylnaphthalene	1.17	0.17	mg/Kg wet	1.67		69.9	40-140	1.47	30	
2-Methylphenol	1.14	0.34	mg/Kg wet	1.67		68.4	30-130	3.57	30	
3/4-Methylphenol	1.08	0.34	mg/Kg wet	1.67		65.0	30-130	1.21	30	
Naphthalene	1.14	0.17	mg/Kg wet	1.67		68.7	40-140	3.68	30	
Nitrobenzene	1.13	0.34	mg/Kg wet	1.67		68.0	40-140	3.59	30	
2-Nitrophenol	1.20	0.34	mg/Kg wet	1.67		71.7	30-130	3.12	30	
4-Nitrophenol	1.27	0.66	mg/Kg wet	1.67		76.4	15-140	8.32	30	†
Pentachlorophenol	1.28	0.34	mg/Kg wet	1.67		76.5	30-130	5.67	30	
Phenanthrene	1.32	0.17	mg/Kg wet	1.67		79.1	40-140	7.31	30	
Phenol	1.19	0.34	mg/Kg wet	1.67		71.3	15-140	1.16	30	†
Pyrene	1.33	0.17	mg/Kg wet	1.67		79.9	40-140	6.94	30	
1,2,4-Trichlorobenzene	1.09	0.34	mg/Kg wet	1.67		65.3	40-140	2.48	30	
2,4,5-Trichlorophenol	1.26	0.34	mg/Kg wet	1.67		75.3	30-130	2.96	30	
2,4,6-Trichlorophenol	1.26	0.34	mg/Kg wet	1.67		75.4	30-130	2.69	30	

Surrogate: 2-Fluorophenol	4.97		mg/Kg wet	6.67		74.5	30-130			
Surrogate: Phenol-d6	4.88		mg/Kg wet	6.67		73.2	30-130			
Surrogate: Nitrobenzene-d5	2.45		mg/Kg wet	3.33		73.6	30-130			
Surrogate: 2-Fluorobiphenyl	2.54		mg/Kg wet	3.33		76.2	30-130			
Surrogate: 2,4,6-Tribromophenol	5.78		mg/Kg wet	6.67		86.7	30-130			
Surrogate: p-Terphenyl-d14	2.92		mg/Kg wet	3.33		87.7	30-130			

**Matrix Spike (B224909-MS1)**

**Source: 19C0049-02**

Prepared: 03/04/19 Analyzed: 03/07/19

Acenaphthene	0.864	0.38	mg/Kg dry	1.85	ND	46.8	40-140			
Acenaphthylene	1.04	0.38	mg/Kg dry	1.85	ND	56.4	40-140			
Acetophenone	1.02	0.75	mg/Kg dry	1.85	ND	55.0	40-140			
<b>Aniline</b>	0.362	0.75	mg/Kg dry	1.85	ND	<b>19.6</b>	* 40-140			MS-09
Anthracene	1.09	0.38	mg/Kg dry	1.85	ND	59.0	40-140			
Benzo(a)anthracene	1.42	0.38	mg/Kg dry	1.85	0.503	49.7	40-140			
Benzo(a)pyrene	1.45	0.38	mg/Kg dry	1.85	0.576	47.3	40-140			
Benzo(b)fluoranthene	1.50	0.38	mg/Kg dry	1.85	0.669	45.0	40-140			
Benzo(g,h,i)perylene	1.18	0.38	mg/Kg dry	1.85	0.431	40.4	40-140			
Benzo(k)fluoranthene	1.22	0.38	mg/Kg dry	1.85	0.253	52.1	40-140			
Bis(2-chloroethoxy)methane	1.07	0.75	mg/Kg dry	1.85	ND	57.7	40-140			
Bis(2-chloroethyl)ether	1.05	0.75	mg/Kg dry	1.85	ND	56.8	40-140			
Bis(2-chloroisopropyl)ether	1.10	0.75	mg/Kg dry	1.85	ND	59.3	40-140			

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B224909 - SW-846 3546</b>										
<b>Matrix Spike (B224909-MS1)</b>	<b>Source: 19C0049-02</b>			Prepared: 03/04/19 Analyzed: 03/07/19						
Bis(2-Ethylhexyl)phthalate	1.36	0.75	mg/Kg dry	1.85	ND	73.4	40-140			
4-Bromophenylphenylether	0.932	0.75	mg/Kg dry	1.85	ND	50.4	40-140			
Butylbenzylphthalate	1.35	0.75	mg/Kg dry	1.85	ND	73.0	40-140			
<b>4-Chloroaniline</b>	0.505	1.5	mg/Kg dry	1.85	ND	<b>27.4</b> *	40-140			MS-09, V-34
2-Chloronaphthalene	0.755	0.75	mg/Kg dry	1.85	ND	40.9	40-140			
2-Chlorophenol	0.991	0.75	mg/Kg dry	1.85	ND	53.6	30-130			
Chrysene	1.44	0.38	mg/Kg dry	1.85	0.567	47.3	40-140			
Dibenz(a,h)anthracene	0.945	0.38	mg/Kg dry	1.85	ND	51.2	40-140			
Dibenzofuran	0.933	0.75	mg/Kg dry	1.85	ND	50.5	40-140			
Di-n-butylphthalate	1.12	0.75	mg/Kg dry	1.85	ND	60.5	40-140			
1,2-Dichlorobenzene	0.899	0.75	mg/Kg dry	1.85	ND	48.6	40-140			
1,3-Dichlorobenzene	0.877	0.75	mg/Kg dry	1.85	ND	47.5	40-140			
1,4-Dichlorobenzene	0.913	0.75	mg/Kg dry	1.85	ND	49.4	40-140			
<b>3,3-Dichlorobenzidine</b>	0.491	0.38	mg/Kg dry	1.85	ND	<b>26.6</b> *	40-140			MS-09
2,4-Dichlorophenol	0.943	0.75	mg/Kg dry	1.85	ND	51.0	30-130			
Diethylphthalate	1.00	0.75	mg/Kg dry	1.85	ND	54.2	40-140			
2,4-Dimethylphenol	0.859	0.75	mg/Kg dry	1.85	ND	46.5	30-130			
Dimethylphthalate	0.934	0.75	mg/Kg dry	1.85	ND	50.6	40-140			
<b>2,4-Dinitrophenol</b>	0.495		mg/Kg dry	1.85	0.00	<b>26.8</b> *	30-130			MS-09, V-05
2,4-Dinitrotoluene	0.966	0.75	mg/Kg dry	1.85	ND	52.3	40-140			
2,6-Dinitrotoluene	0.992	0.75	mg/Kg dry	1.85	ND	53.7	40-140			
Di-n-octylphthalate	1.46	0.75	mg/Kg dry	1.85	ND	78.9	40-140			
1,2-Diphenylhydrazine/Azobenzene	1.08	0.75	mg/Kg dry	1.85	ND	58.5	40-140			
Fluoranthene	1.90	0.38	mg/Kg dry	1.85	0.892	54.7	40-140			
Fluorene	0.974	0.38	mg/Kg dry	1.85	ND	52.7	40-140			
Hexachlorobenzene	0.985	0.75	mg/Kg dry	1.85	ND	53.3	40-140			
Hexachlorobutadiene	0.905	0.75	mg/Kg dry	1.85	ND	49.0	40-140			
Hexachloroethane	0.876	0.75	mg/Kg dry	1.85	ND	47.4	40-140			
Indeno(1,2,3-cd)pyrene	1.22	0.38	mg/Kg dry	1.85	0.437	42.4	40-140			
Isophorone	1.09	0.75	mg/Kg dry	1.85	ND	58.9	40-140			
2-Methylnaphthalene	1.06	0.38	mg/Kg dry	1.85	ND	57.5	40-140			
2-Methylphenol	0.924	0.75	mg/Kg dry	1.85	ND	50.0	30-130			
3/4-Methylphenol	1.03	0.75	mg/Kg dry	1.85	ND	55.6	30-130			
Naphthalene	0.950	0.38	mg/Kg dry	1.85	ND	51.4	40-140			
Nitrobenzene	1.02	0.75	mg/Kg dry	1.85	ND	55.0	40-140			
2-Nitrophenol	0.931	0.75	mg/Kg dry	1.85	ND	50.4	30-130			
4-Nitrophenol	1.26	1.5	mg/Kg dry	1.85	ND	68.4	30-130			
<b>Pentachlorophenol</b>	0.474	0.75	mg/Kg dry	1.85	ND	<b>25.6</b> *	30-130			MS-09
Phenanthrene	1.48	0.38	mg/Kg dry	1.85	0.405	58.1	40-140			
Phenol	1.07	0.75	mg/Kg dry	1.85	ND	57.8	30-130			
Pyrene	2.22	0.38	mg/Kg dry	1.85	1.10	60.4	40-140			
1,2,4-Trichlorobenzene	0.916	0.75	mg/Kg dry	1.85	ND	49.6	40-140			
2,4,5-Trichlorophenol	0.887	0.75	mg/Kg dry	1.85	ND	48.0	30-130			
2,4,6-Trichlorophenol	0.899	0.75	mg/Kg dry	1.85	ND	48.7	30-130			
Surrogate: 2-Fluorophenol	4.11		mg/Kg dry	7.39		55.6	30-130			
Surrogate: Phenol-d6	4.49		mg/Kg dry	7.39		60.7	30-130			
Surrogate: Nitrobenzene-d5	2.17		mg/Kg dry	3.69		58.8	30-130			
Surrogate: 2-Fluorobiphenyl	1.95		mg/Kg dry	3.69		52.8	30-130			
Surrogate: 2,4,6-Tribromophenol	4.26		mg/Kg dry	7.39		57.6	30-130			
Surrogate: p-Terphenyl-d14	2.67		mg/Kg dry	3.69		72.2	30-130			

QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B224909 - SW-846 3546</b>										
<b>Matrix Spike Dup (B224909-MSD1)</b>										
		<b>Source: 19C0049-02</b>			Prepared: 03/04/19 Analyzed: 03/07/19					
Acenaphthene	0.887	0.38	mg/Kg dry	1.84	ND	48.2	40-140	2.62	30	
Acenaphthylene	1.07	0.38	mg/Kg dry	1.84	ND	58.2	40-140	2.74	30	
Acetophenone	1.04	0.75	mg/Kg dry	1.84	ND	56.2	40-140	1.83	30	
<b>Aniline</b>	0.439	0.75	mg/Kg dry	1.84	ND	<b>23.8</b>	* 40-140	19.2	30	MS-09
Anthracene	1.09	0.38	mg/Kg dry	1.84	ND	59.0	40-140	0.398	30	
Benzo(a)anthracene	1.46	0.38	mg/Kg dry	1.84	0.503	51.8	40-140	2.44	30	
Benzo(a)pyrene	1.46	0.38	mg/Kg dry	1.84	0.576	48.1	40-140	0.784	30	
Benzo(b)fluoranthene	1.51	0.38	mg/Kg dry	1.84	0.669	45.9	40-140	0.893	30	
<b>Benzo(g,h,i)perylene</b>	1.13	0.38	mg/Kg dry	1.84	0.431	<b>38.1</b>	* 40-140	3.84	30	MS-22
Benzo(k)fluoranthene	1.12	0.38	mg/Kg dry	1.84	0.253	47.3	40-140	7.77	30	
Bis(2-chloroethoxy)methane	1.03	0.75	mg/Kg dry	1.84	ND	56.0	40-140	3.21	30	
Bis(2-chloroethyl)ether	1.01	0.75	mg/Kg dry	1.84	ND	55.1	40-140	3.26	30	
Bis(2-chloroisopropyl)ether	1.07	0.75	mg/Kg dry	1.84	ND	58.2	40-140	2.17	30	
Bis(2-Ethylhexyl)phthalate	1.42	0.75	mg/Kg dry	1.84	ND	77.2	40-140	4.82	30	
4-Bromophenylphenylether	0.954	0.75	mg/Kg dry	1.84	ND	51.8	40-140	2.33	30	
Butylbenzylphthalate	1.44	0.75	mg/Kg dry	1.84	ND	78.3	40-140	6.70	30	
<b>4-Chloroaniline</b>	0.504	1.5	mg/Kg dry	1.84	ND	<b>27.4</b>	* 40-140	0.184	30	MS-09, V-34
2-Chloronaphthalene	0.879	0.75	mg/Kg dry	1.84	ND	47.7	40-140	15.1	30	
2-Chlorophenol	1.05	0.75	mg/Kg dry	1.84	ND	56.8	30-130	5.32	30	
Chrysene	1.42	0.38	mg/Kg dry	1.84	0.567	46.4	40-140	1.46	30	
Dibenz(a,h)anthracene	0.921	0.38	mg/Kg dry	1.84	ND	50.0	40-140	2.54	30	
Dibenzofuran	0.966	0.75	mg/Kg dry	1.84	ND	52.4	40-140	3.48	30	
Di-n-butylphthalate	1.11	0.75	mg/Kg dry	1.84	ND	60.5	40-140	0.331	30	
1,2-Dichlorobenzene	0.922	0.75	mg/Kg dry	1.84	ND	50.1	40-140	2.59	30	
1,3-Dichlorobenzene	0.888	0.75	mg/Kg dry	1.84	ND	48.2	40-140	1.26	30	
1,4-Dichlorobenzene	0.888	0.75	mg/Kg dry	1.84	ND	48.2	40-140	2.71	30	
<b>3,3-Dichlorobenzidine</b>	0.522	0.38	mg/Kg dry	1.84	ND	<b>28.4</b>	* 40-140	6.07	30	MS-09
2,4-Dichlorophenol	0.975	0.75	mg/Kg dry	1.84	ND	53.0	30-130	3.36	30	
Diethylphthalate	1.05	0.75	mg/Kg dry	1.84	ND	57.0	40-140	4.70	30	
2,4-Dimethylphenol	0.872	0.75	mg/Kg dry	1.84	ND	47.4	30-130	1.54	30	
Dimethylphthalate	0.980	0.75	mg/Kg dry	1.84	ND	53.2	40-140	4.76	30	
<b>2,4-Dinitrophenol</b>	0.463	1.5	mg/Kg dry	1.84	ND	<b>25.2</b>	* 30-130		30	MS-09, V-05
2,4-Dinitrotoluene	0.996	0.75	mg/Kg dry	1.84	ND	54.1	40-140	3.13	30	
2,6-Dinitrotoluene	1.02	0.75	mg/Kg dry	1.84	ND	55.2	40-140	2.53	30	
Di-n-octylphthalate	1.36	0.75	mg/Kg dry	1.84	ND	73.7	40-140	7.09	30	
1,2-Diphenylhydrazine/Azobenzene	1.07	0.75	mg/Kg dry	1.84	ND	58.1	40-140	0.948	30	
Fluoranthene	1.87	0.38	mg/Kg dry	1.84	0.892	53.0	40-140	1.86	30	
Fluorene	1.01	0.38	mg/Kg dry	1.84	ND	55.1	40-140	4.12	30	
Hexachlorobenzene	0.973	0.75	mg/Kg dry	1.84	ND	52.8	40-140	1.23	30	
Hexachlorobutadiene	0.899	0.75	mg/Kg dry	1.84	ND	48.8	40-140	0.740	30	
Hexachloroethane	0.811	0.75	mg/Kg dry	1.84	ND	44.0	40-140	7.76	30	
Indeno(1,2,3-cd)pyrene	1.17	0.38	mg/Kg dry	1.84	0.437	40.0	40-140	3.97	30	MS-22
Isophorone	1.08	0.75	mg/Kg dry	1.84	ND	58.6	40-140	0.739	30	
2-Methylnaphthalene	1.05	0.38	mg/Kg dry	1.84	ND	57.2	40-140	0.819	30	
2-Methylphenol	0.986	0.75	mg/Kg dry	1.84	ND	53.6	30-130	6.47	30	
3/4-Methylphenol	1.06	0.75	mg/Kg dry	1.84	ND	57.8	30-130	3.41	30	
Naphthalene	0.957	0.38	mg/Kg dry	1.84	ND	52.0	40-140	0.830	30	
Nitrobenzene	1.01	0.75	mg/Kg dry	1.84	ND	54.6	40-140	1.06	30	
2-Nitrophenol	0.918	0.75	mg/Kg dry	1.84	ND	49.8	30-130	1.45	30	
4-Nitrophenol	1.15	1.5	mg/Kg dry	1.84	ND	62.7	30-130	8.99	30	
<b>Pentachlorophenol</b>	0.476	0.75	mg/Kg dry	1.84	ND	<b>25.8</b>	* 30-130		30	MS-09
Phenanthrene	1.44	0.38	mg/Kg dry	1.84	0.405	56.5	40-140	2.30	30	

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**QUALITY CONTROL**

**Semivolatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B224909 - SW-846 3546**

**Matrix Spike Dup (B224909-MSD1)**

**Source: 19C0049-02**

Prepared: 03/04/19 Analyzed: 03/07/19

Phenol	1.03	0.75	mg/Kg dry	1.84	ND	55.9	30-130	3.71	30	
Pyrene	2.30	0.38	mg/Kg dry	1.84	1.10	65.5	40-140	3.95	30	
1,2,4-Trichlorobenzene	0.915	0.75	mg/Kg dry	1.84	ND	49.7	40-140	0.169	30	
2,4,5-Trichlorophenol	0.889	0.75	mg/Kg dry	1.84	ND	48.3	30-130	0.251	30	
2,4,6-Trichlorophenol	0.918	0.75	mg/Kg dry	1.84	ND	49.9	30-130	2.10	30	
Surrogate: 2-Fluorophenol	4.11		mg/Kg dry	7.36		55.9	30-130			
Surrogate: Phenol-d6	4.38		mg/Kg dry	7.36		59.5	30-130			
Surrogate: Nitrobenzene-d5	2.18		mg/Kg dry	3.68		59.1	30-130			
Surrogate: 2-Fluorobiphenyl	2.02		mg/Kg dry	3.68		54.9	30-130			
Surrogate: 2,4,6-Tribromophenol	4.13		mg/Kg dry	7.36		56.1	30-130			
Surrogate: p-Terphenyl-d14	2.85		mg/Kg dry	3.68		77.3	30-130			

**Batch B224911 - SW-846 3546**

**Blank (B224911-BLK1)**

Prepared: 03/04/19 Analyzed: 03/05/19

Acenaphthene	ND	0.17	mg/Kg wet							
Acenaphthylene	ND	0.17	mg/Kg wet							
Acetophenone	ND	0.34	mg/Kg wet							
Aniline	ND	0.34	mg/Kg wet							V-34
Anthracene	ND	0.17	mg/Kg wet							
Benzo(a)anthracene	ND	0.17	mg/Kg wet							
Benzo(a)pyrene	ND	0.17	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.17	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.17	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.17	mg/Kg wet							
Bis(2-chloroethoxy)methane	ND	0.34	mg/Kg wet							
Bis(2-chloroethyl)ether	ND	0.34	mg/Kg wet							V-20
Bis(2-chloroisopropyl)ether	ND	0.34	mg/Kg wet							
Bis(2-Ethylhexyl)phthalate	ND	0.34	mg/Kg wet							
4-Bromophenylphenylether	ND	0.34	mg/Kg wet							
Butylbenzylphthalate	ND	0.34	mg/Kg wet							
4-Chloroaniline	ND	0.66	mg/Kg wet							V-34
2-Chloronaphthalene	ND	0.34	mg/Kg wet							
2-Chlorophenol	ND	0.34	mg/Kg wet							
Chrysene	ND	0.17	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.17	mg/Kg wet							
Dibenzofuran	ND	0.34	mg/Kg wet							
Di-n-butylphthalate	ND	0.34	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.34	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.34	mg/Kg wet							
1,4-Dichlorobenzene	ND	0.34	mg/Kg wet							
3,3-Dichlorobenzidine	ND	0.17	mg/Kg wet							
2,4-Dichlorophenol	ND	0.34	mg/Kg wet							
Diethylphthalate	ND	0.34	mg/Kg wet							
2,4-Dimethylphenol	ND	0.34	mg/Kg wet							
Dimethylphthalate	ND	0.34	mg/Kg wet							
2,4-Dinitrophenol	ND	0.66	mg/Kg wet							
2,4-Dinitrotoluene	ND	0.34	mg/Kg wet							
2,6-Dinitrotoluene	ND	0.34	mg/Kg wet							
Di-n-octylphthalate	ND	0.34	mg/Kg wet							
1,2-Diphenylhydrazine/Azobenzene	ND	0.34	mg/Kg wet							V-20
Fluoranthene	ND	0.17	mg/Kg wet							
Fluorene	ND	0.17	mg/Kg wet							

**QUALITY CONTROL**

**Semivolatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B224911 - SW-846 3546</b>										
<b>Blank (B224911-BLK1)</b>										
Prepared: 03/04/19 Analyzed: 03/05/19										
Hexachlorobenzene	ND	0.34	mg/Kg wet							
Hexachlorobutadiene	ND	0.34	mg/Kg wet							
Hexachloroethane	ND	0.34	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.17	mg/Kg wet							
Isophorone	ND	0.34	mg/Kg wet							V-20
2-Methylnaphthalene	ND	0.17	mg/Kg wet							
2-Methylphenol	ND	0.34	mg/Kg wet							
3/4-Methylphenol	ND	0.34	mg/Kg wet							
Naphthalene	ND	0.17	mg/Kg wet							
Nitrobenzene	ND	0.34	mg/Kg wet							V-20
2-Nitrophenol	ND	0.34	mg/Kg wet							
4-Nitrophenol	ND	0.66	mg/Kg wet							
Pentachlorophenol	ND	0.34	mg/Kg wet							
Phenanthrene	ND	0.17	mg/Kg wet							
Phenol	ND	0.34	mg/Kg wet							V-20
Pyrene	ND	0.17	mg/Kg wet							
1,2,4-Trichlorobenzene	ND	0.34	mg/Kg wet							
2,4,5-Trichlorophenol	ND	0.34	mg/Kg wet							
2,4,6-Trichlorophenol	ND	0.34	mg/Kg wet							
Surrogate: 2-Fluorophenol	6.39		mg/Kg wet	6.67		95.8	30-130			
Surrogate: Phenol-d6	6.63		mg/Kg wet	6.67		99.5	30-130			
Surrogate: Nitrobenzene-d5	3.44		mg/Kg wet	3.33		103	30-130			
Surrogate: 2-Fluorobiphenyl	3.04		mg/Kg wet	3.33		91.3	30-130			
Surrogate: 2,4,6-Tribromophenol	5.73		mg/Kg wet	6.67		86.0	30-130			
Surrogate: p-Terphenyl-d14	3.42		mg/Kg wet	3.33		103	30-130			
<b>LCS (B224911-BS1)</b>										
Prepared: 03/04/19 Analyzed: 03/05/19										
Acenaphthene	1.29	0.17	mg/Kg wet	1.67		77.5	40-140			
Acenaphthylene	1.28	0.17	mg/Kg wet	1.67		76.7	40-140			
Acetophenone	1.38	0.34	mg/Kg wet	1.67		82.7	40-140			
Aniline	0.700	0.34	mg/Kg wet	1.67		42.0	40-140			V-34
Anthracene	1.44	0.17	mg/Kg wet	1.67		86.2	40-140			
Benzo(a)anthracene	1.30	0.17	mg/Kg wet	1.67		78.2	40-140			
Benzo(a)pyrene	1.41	0.17	mg/Kg wet	1.67		84.7	40-140			
Benzo(b)fluoranthene	1.38	0.17	mg/Kg wet	1.67		82.6	40-140			
Benzo(g,h,i)perylene	1.35	0.17	mg/Kg wet	1.67		80.8	40-140			
Benzo(k)fluoranthene	1.41	0.17	mg/Kg wet	1.67		84.5	40-140			
Bis(2-chloroethoxy)methane	1.72	0.34	mg/Kg wet	1.67		103	40-140			
Bis(2-chloroethyl)ether	1.57	0.34	mg/Kg wet	1.67		94.4	40-140			V-06
Bis(2-chloroisopropyl)ether	1.67	0.34	mg/Kg wet	1.67		100	40-140			
Bis(2-Ethylhexyl)phthalate	1.63	0.34	mg/Kg wet	1.67		97.8	40-140			
4-Bromophenylphenylether	1.33	0.34	mg/Kg wet	1.67		79.6	40-140			
Butylbenzylphthalate	1.59	0.34	mg/Kg wet	1.67		95.6	40-140			
4-Chloroaniline	0.641	0.66	mg/Kg wet	1.67		38.4	15-140			V-34 †
2-Chloronaphthalene	1.19	0.34	mg/Kg wet	1.67		71.4	40-140			
2-Chlorophenol	1.31	0.34	mg/Kg wet	1.67		78.6	30-130			
Chrysene	1.36	0.17	mg/Kg wet	1.67		81.7	40-140			
Dibenz(a,h)anthracene	1.20	0.17	mg/Kg wet	1.67		72.3	40-140			
Dibenzofuran	1.29	0.34	mg/Kg wet	1.67		77.6	40-140			
Di-n-butylphthalate	1.51	0.34	mg/Kg wet	1.67		90.5	40-140			
1,2-Dichlorobenzene	1.18	0.34	mg/Kg wet	1.67		70.7	40-140			
1,3-Dichlorobenzene	1.15	0.34	mg/Kg wet	1.67		69.1	40-140			



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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B224911 - SW-846 3546

LCS (B224911-BS1)

Prepared: 03/04/19 Analyzed: 03/05/19

1,4-Dichlorobenzene	1.16	0.34	mg/Kg wet	1.67		69.5	40-140			
3,3-Dichlorobenzidine	0.823	0.17	mg/Kg wet	1.67		49.4	40-140			
2,4-Dichlorophenol	1.18	0.34	mg/Kg wet	1.67		70.7	30-130			
Diethylphthalate	1.38	0.34	mg/Kg wet	1.67		82.6	40-140			
2,4-Dimethylphenol	1.34	0.34	mg/Kg wet	1.67		80.6	30-130			
Dimethylphthalate	1.36	0.34	mg/Kg wet	1.67		81.4	40-140			
2,4-Dinitrophenol	0.979	0.66	mg/Kg wet	1.67		58.8	15-140			†
2,4-Dinitrotoluene	1.31	0.34	mg/Kg wet	1.67		78.4	40-140			
2,6-Dinitrotoluene	1.34	0.34	mg/Kg wet	1.67		80.3	40-140			
Di-n-octylphthalate	1.56	0.34	mg/Kg wet	1.67		93.6	40-140			
1,2-Diphenylhydrazine/Azobenzene	1.77	0.34	mg/Kg wet	1.67		106	40-140			V-06
Fluoranthene	1.38	0.17	mg/Kg wet	1.67		82.8	40-140			
Fluorene	1.32	0.17	mg/Kg wet	1.67		79.2	40-140			
Hexachlorobenzene	1.27	0.34	mg/Kg wet	1.67		76.2	40-140			
Hexachlorobutadiene	1.12	0.34	mg/Kg wet	1.67		67.1	40-140			
Hexachloroethane	1.25	0.34	mg/Kg wet	1.67		75.2	40-140			
Indeno(1,2,3-cd)pyrene	1.32	0.17	mg/Kg wet	1.67		79.1	40-140			
Isophorone	1.53	0.34	mg/Kg wet	1.67		91.6	40-140			V-06
2-Methylnaphthalene	1.28	0.17	mg/Kg wet	1.67		76.6	40-140			
2-Methylphenol	1.38	0.34	mg/Kg wet	1.67		82.5	30-130			
3/4-Methylphenol	1.35	0.34	mg/Kg wet	1.67		80.9	30-130			
Naphthalene	1.29	0.17	mg/Kg wet	1.67		77.2	40-140			
Nitrobenzene	1.46	0.34	mg/Kg wet	1.67		87.7	40-140			V-06
2-Nitrophenol	1.32	0.34	mg/Kg wet	1.67		79.5	30-130			
4-Nitrophenol	1.35	0.66	mg/Kg wet	1.67		80.9	15-140			†
Pentachlorophenol	1.38	0.34	mg/Kg wet	1.67		82.6	30-130			
Phenanthrene	1.42	0.17	mg/Kg wet	1.67		85.2	40-140			
Phenol	1.42	0.34	mg/Kg wet	1.67		85.4	15-140			V-06 †
Pyrene	1.45	0.17	mg/Kg wet	1.67		87.0	40-140			
1,2,4-Trichlorobenzene	1.18	0.34	mg/Kg wet	1.67		70.6	40-140			
2,4,5-Trichlorophenol	1.23	0.34	mg/Kg wet	1.67		73.5	30-130			
2,4,6-Trichlorophenol	1.28	0.34	mg/Kg wet	1.67		76.6	30-130			
Surrogate: 2-Fluorophenol	5.77		mg/Kg wet	6.67		86.5	30-130			
Surrogate: Phenol-d6	5.93		mg/Kg wet	6.67		88.9	30-130			
Surrogate: Nitrobenzene-d5	3.12		mg/Kg wet	3.33		93.7	30-130			
Surrogate: 2-Fluorobiphenyl	2.81		mg/Kg wet	3.33		84.4	30-130			
Surrogate: 2,4,6-Tribromophenol	5.53		mg/Kg wet	6.67		82.9	30-130			
Surrogate: p-Terphenyl-d14	3.00		mg/Kg wet	3.33		90.0	30-130			

LCS Dup (B224911-BS1)

Prepared: 03/04/19 Analyzed: 03/05/19

Acenaphthene	1.26	0.17	mg/Kg wet	1.67		75.4	40-140	2.77	30	
Acenaphthylene	1.24	0.17	mg/Kg wet	1.67		74.5	40-140	2.94	30	
Acetophenone	1.33	0.34	mg/Kg wet	1.67		80.0	40-140	3.37	30	
Aniline	0.654	0.34	mg/Kg wet	1.67		39.2 *	40-140	6.80	30	L-07, V-34
Anthracene	1.43	0.17	mg/Kg wet	1.67		85.6	40-140	0.699	30	
Benzo(a)anthracene	1.29	0.17	mg/Kg wet	1.67		77.6	40-140	0.668	30	
Benzo(a)pyrene	1.43	0.17	mg/Kg wet	1.67		86.0	40-140	1.59	30	
Benzo(b)fluoranthene	1.38	0.17	mg/Kg wet	1.67		82.9	40-140	0.387	30	
Benzo(g,h,i)perylene	1.43	0.17	mg/Kg wet	1.67		86.1	40-140	6.28	30	
Benzo(k)fluoranthene	1.40	0.17	mg/Kg wet	1.67		83.8	40-140	0.855	30	
Bis(2-chloroethoxy)methane	1.61	0.34	mg/Kg wet	1.67		96.7	40-140	6.35	30	
Bis(2-chloroethyl)ether	1.47	0.34	mg/Kg wet	1.67		88.3	40-140	6.63	30	V-06

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B224911 - SW-846 3546</b>										
<b>LCS Dup (B224911-BSD1)</b>										
					Prepared: 03/04/19 Analyzed: 03/05/19					
Bis(2-chloroisopropyl)ether	1.57	0.34	mg/Kg wet	1.67		94.5	40-140	5.76	30	
Bis(2-Ethylhexyl)phthalate	1.62	0.34	mg/Kg wet	1.67		97.0	40-140	0.842	30	
4-Bromophenylphenylether	1.33	0.34	mg/Kg wet	1.67		79.9	40-140	0.276	30	
Butylbenzylphthalate	1.60	0.34	mg/Kg wet	1.67		96.2	40-140	0.626	30	
4-Chloroaniline	0.621	0.66	mg/Kg wet	1.67		37.2	15-140	3.17	30	V-34 †
2-Chloronaphthalene	1.16	0.34	mg/Kg wet	1.67		69.6	40-140	2.44	30	
2-Chlorophenol	1.26	0.34	mg/Kg wet	1.67		75.3	30-130	4.29	30	
Chrysene	1.37	0.17	mg/Kg wet	1.67		82.0	40-140	0.318	30	
Dibenz(a,h)anthracene	1.29	0.17	mg/Kg wet	1.67		77.2	40-140	6.63	30	
Dibenzofuran	1.26	0.34	mg/Kg wet	1.67		75.8	40-140	2.40	30	
Di-n-butylphthalate	1.50	0.34	mg/Kg wet	1.67		89.7	40-140	0.844	30	
1,2-Dichlorobenzene	1.15	0.34	mg/Kg wet	1.67		68.9	40-140	2.55	30	
1,3-Dichlorobenzene	1.13	0.34	mg/Kg wet	1.67		68.0	40-140	1.60	30	
1,4-Dichlorobenzene	1.13	0.34	mg/Kg wet	1.67		68.1	40-140	2.06	30	
3,3-Dichlorobenzidine	0.816	0.17	mg/Kg wet	1.67		48.9	40-140	0.895	30	
2,4-Dichlorophenol	1.19	0.34	mg/Kg wet	1.67		71.1	30-130	0.592	30	
Diethylphthalate	1.38	0.34	mg/Kg wet	1.67		82.6	40-140	0.0243	30	
2,4-Dimethylphenol	1.28	0.34	mg/Kg wet	1.67		76.7	30-130	4.98	30	
Dimethylphthalate	1.34	0.34	mg/Kg wet	1.67		80.6	40-140	0.987	30	
2,4-Dinitrophenol	1.08	0.66	mg/Kg wet	1.67		64.6	15-140	9.47	30	†
2,4-Dinitrotoluene	1.29	0.34	mg/Kg wet	1.67		77.6	40-140	0.949	30	
2,6-Dinitrotoluene	1.35	0.34	mg/Kg wet	1.67		81.2	40-140	1.07	30	
Di-n-octylphthalate	1.56	0.34	mg/Kg wet	1.67		93.8	40-140	0.192	30	
1,2-Diphenylhydrazine/Azobenzene	1.69	0.34	mg/Kg wet	1.67		102	40-140	4.45	30	V-06
Fluoranthene	1.38	0.17	mg/Kg wet	1.67		82.9	40-140	0.145	30	
Fluorene	1.30	0.17	mg/Kg wet	1.67		78.2	40-140	1.24	30	
Hexachlorobenzene	1.25	0.34	mg/Kg wet	1.67		75.2	40-140	1.32	30	
Hexachlorobutadiene	1.08	0.34	mg/Kg wet	1.67		64.6	40-140	3.86	30	
Hexachloroethane	1.22	0.34	mg/Kg wet	1.67		73.3	40-140	2.45	30	
Indeno(1,2,3-cd)pyrene	1.38	0.17	mg/Kg wet	1.67		82.9	40-140	4.72	30	
Isophorone	1.42	0.34	mg/Kg wet	1.67		85.4	40-140	6.94	30	V-06
2-Methylnaphthalene	1.25	0.17	mg/Kg wet	1.67		75.0	40-140	2.09	30	
2-Methylphenol	1.34	0.34	mg/Kg wet	1.67		80.2	30-130	2.90	30	
3/4-Methylphenol	1.28	0.34	mg/Kg wet	1.67		76.5	30-130	5.61	30	
Naphthalene	1.24	0.17	mg/Kg wet	1.67		74.1	40-140	4.04	30	
Nitrobenzene	1.38	0.34	mg/Kg wet	1.67		83.1	40-140	5.41	30	V-06
2-Nitrophenol	1.30	0.34	mg/Kg wet	1.67		78.0	30-130	1.88	30	
4-Nitrophenol	1.36	0.66	mg/Kg wet	1.67		81.8	15-140	1.08	30	†
Pentachlorophenol	1.43	0.34	mg/Kg wet	1.67		85.6	30-130	3.52	30	
Phenanthrene	1.42	0.17	mg/Kg wet	1.67		85.0	40-140	0.235	30	
Phenol	1.37	0.34	mg/Kg wet	1.67		82.4	15-140	3.55	30	V-06 †
Pyrene	1.44	0.17	mg/Kg wet	1.67		86.7	40-140	0.322	30	
1,2,4-Trichlorobenzene	1.13	0.34	mg/Kg wet	1.67		67.9	40-140	3.90	30	
2,4,5-Trichlorophenol	1.24	0.34	mg/Kg wet	1.67		74.3	30-130	1.08	30	
2,4,6-Trichlorophenol	1.30	0.34	mg/Kg wet	1.67		78.2	30-130	2.09	30	
Surrogate: 2-Fluorophenol	5.54		mg/Kg wet	6.67		83.1	30-130			
Surrogate: Phenol-d6	5.62		mg/Kg wet	6.67		84.4	30-130			
Surrogate: Nitrobenzene-d5	2.94		mg/Kg wet	3.33		88.3	30-130			
Surrogate: 2-Fluorobiphenyl	2.72		mg/Kg wet	3.33		81.5	30-130			
Surrogate: 2,4,6-Tribromophenol	5.52		mg/Kg wet	6.67		82.8	30-130			
Surrogate: p-Terphenyl-d14	3.02		mg/Kg wet	3.33		90.5	30-130			

QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B224911 - SW-846 3546</b>										
<b>Matrix Spike (B224911-MS1)</b>	<b>Source: 19C0049-22</b>			Prepared: 03/04/19 Analyzed: 03/05/19						
Acenaphthene	1.03	0.20	mg/Kg dry	1.92	ND	53.8	40-140			
Acenaphthylene	1.18	0.20	mg/Kg dry	1.92	0.163	53.0	40-140			
Acetophenone	1.13	0.39	mg/Kg dry	1.92	ND	58.8	40-140			
<b>Aniline</b>	0.396	0.39	mg/Kg dry	1.92	ND	<b>20.6</b> *	40-140			MS-09, V-34
Anthracene	1.20	0.20	mg/Kg dry	1.92	0.117	56.6	40-140			
Benzo(a)anthracene	1.47	0.20	mg/Kg dry	1.92	0.490	51.3	40-140			
Benzo(a)pyrene	1.60	0.20	mg/Kg dry	1.92	0.529	55.9	40-140			
Benzo(b)fluoranthene	1.53	0.20	mg/Kg dry	1.92	0.604	48.1	40-140			
Benzo(g,h,i)perylene	1.58	0.20	mg/Kg dry	1.92	0.251	69.2	40-140			
Benzo(k)fluoranthene	1.29	0.20	mg/Kg dry	1.92	0.259	53.8	40-140			
Bis(2-chloroethoxy)methane	1.44	0.39	mg/Kg dry	1.92	ND	74.9	40-140			
Bis(2-chloroethyl)ether	1.28	0.39	mg/Kg dry	1.92	ND	66.8	40-140			V-06
Bis(2-chloroisopropyl)ether	1.35	0.39	mg/Kg dry	1.92	ND	70.3	40-140			
Bis(2-Ethylhexyl)phthalate	1.47	0.39	mg/Kg dry	1.92	ND	76.3	40-140			
4-Bromophenylphenylether	1.03	0.39	mg/Kg dry	1.92	ND	53.8	40-140			
Butylbenzylphthalate	1.52	0.39	mg/Kg dry	1.92	ND	79.3	40-140			
<b>4-Chloroaniline</b>	0.540	0.76	mg/Kg dry	1.92	ND	<b>28.1</b> *	40-140			MS-09, V-34
2-Chloronaphthalene	0.940	0.39	mg/Kg dry	1.92	ND	49.0	40-140			
2-Chlorophenol	1.05	0.39	mg/Kg dry	1.92	ND	54.5	30-130			
Chrysene	1.52	0.20	mg/Kg dry	1.92	0.559	50.2	40-140			
Dibenz(a,h)anthracene	1.06	0.20	mg/Kg dry	1.92	ND	55.0	40-140			
Dibenzofuran	1.08	0.39	mg/Kg dry	1.92	ND	56.2	40-140			
Di-n-butylphthalate	1.20	0.39	mg/Kg dry	1.92	ND	62.5	40-140			
1,2-Dichlorobenzene	0.990	0.39	mg/Kg dry	1.92	ND	51.6	40-140			
1,3-Dichlorobenzene	0.966	0.39	mg/Kg dry	1.92	ND	50.3	40-140			
1,4-Dichlorobenzene	0.970	0.39	mg/Kg dry	1.92	ND	50.5	40-140			
<b>3,3-Dichlorobenzidine</b>	0.457	0.20	mg/Kg dry	1.92	ND	<b>23.8</b> *	40-140			MS-09
2,4-Dichlorophenol	0.971	0.39	mg/Kg dry	1.92	ND	50.6	30-130			
Diethylphthalate	1.11	0.39	mg/Kg dry	1.92	ND	57.7	40-140			
2,4-Dimethylphenol	1.24	0.39	mg/Kg dry	1.92	ND	64.6	30-130			
Dimethylphthalate	1.10	0.39	mg/Kg dry	1.92	ND	57.4	40-140			
<b>2,4-Dinitrophenol</b>	0.278	0.76	mg/Kg dry	1.92	ND	<b>14.5</b> *	30-130			MS-09
2,4-Dinitrotoluene	0.992	0.39	mg/Kg dry	1.92	ND	51.7	40-140			
2,6-Dinitrotoluene	1.08	0.39	mg/Kg dry	1.92	ND	56.3	40-140			
Di-n-octylphthalate	1.25	0.39	mg/Kg dry	1.92	ND	65.3	40-140			
1,2-Diphenylhydrazine/Azobenzene	1.34	0.39	mg/Kg dry	1.92	ND	70.1	40-140			V-06
Fluoranthene	2.01	0.20	mg/Kg dry	1.92	0.798	63.4	40-140			
Fluorene	1.13	0.20	mg/Kg dry	1.92	ND	58.8	40-140			
Hexachlorobenzene	0.924	0.39	mg/Kg dry	1.92	ND	48.1	40-140			
Hexachlorobutadiene	0.943	0.39	mg/Kg dry	1.92	ND	49.1	40-140			
Hexachloroethane	1.02	0.39	mg/Kg dry	1.92	ND	53.2	40-140			
Indeno(1,2,3-cd)pyrene	1.41	0.20	mg/Kg dry	1.92	0.246	60.8	40-140			
Isophorone	1.26	0.39	mg/Kg dry	1.92	ND	65.9	40-140			V-06
2-Methylnaphthalene	1.09	0.20	mg/Kg dry	1.92	ND	57.0	40-140			
2-Methylphenol	1.13	0.39	mg/Kg dry	1.92	ND	59.1	30-130			
3/4-Methylphenol	1.07	0.39	mg/Kg dry	1.92	ND	55.9	30-130			
Naphthalene	1.12	0.20	mg/Kg dry	1.92	ND	58.2	40-140			
Nitrobenzene	1.23	0.39	mg/Kg dry	1.92	ND	64.0	40-140			V-06
2-Nitrophenol	1.11	0.39	mg/Kg dry	1.92	ND	57.6	30-130			
4-Nitrophenol	1.03	0.76	mg/Kg dry	1.92	ND	53.7	30-130			
Pentachlorophenol	0.646	0.39	mg/Kg dry	1.92	ND	33.6	30-130			
Phenanthrene	1.61	0.20	mg/Kg dry	1.92	0.624	51.4	40-140			

QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B224911 - SW-846 3546</b>										
<b>Matrix Spike (B224911-MS1)</b>	<b>Source: 19C0049-22</b>			Prepared: 03/04/19 Analyzed: 03/05/19						
Phenol	1.15	0.39	mg/Kg dry	1.92	ND	59.9	30-130			V-06
Pyrene	2.59	0.20	mg/Kg dry	1.92	1.15	74.9	40-140			
1,2,4-Trichlorobenzene	0.985	0.39	mg/Kg dry	1.92	ND	51.3	40-140			
2,4,5-Trichlorophenol	0.946	0.39	mg/Kg dry	1.92	ND	49.3	30-130			
2,4,6-Trichlorophenol	0.990	0.39	mg/Kg dry	1.92	ND	51.6	30-130			
Surrogate: 2-Fluorophenol	4.66		mg/Kg dry	7.68		60.7	30-130			
Surrogate: Phenol-d6	4.72		mg/Kg dry	7.68		61.5	30-130			
Surrogate: Nitrobenzene-d5	2.59		mg/Kg dry	3.84		67.6	30-130			
Surrogate: 2-Fluorobiphenyl	2.39		mg/Kg dry	3.84		62.2	30-130			
Surrogate: 2,4,6-Tribromophenol	4.08		mg/Kg dry	7.68		53.2	30-130			
Surrogate: p-Terphenyl-d14	2.76		mg/Kg dry	3.84		72.0	30-130			
<b>Matrix Spike Dup (B224911-MSD1)</b>	<b>Source: 19C0049-22</b>			Prepared: 03/04/19 Analyzed: 03/05/19						
Acenaphthene	1.16	0.20	mg/Kg dry	1.95	ND	59.3	40-140	11.5	30	
Acenaphthylene	1.33	0.20	mg/Kg dry	1.95	0.163	59.9	40-140	12.0	30	
Acetophenone	1.24	0.40	mg/Kg dry	1.95	ND	63.3	40-140	9.12	30	
<b>Aniline</b>	0.444	0.40	mg/Kg dry	1.95	ND	<b>22.8</b> *	40-140	11.4	30	MS-09, V-34
Anthracene	1.29	0.20	mg/Kg dry	1.95	0.117	60.1	40-140	6.96	30	
Benzo(a)anthracene	1.53	0.20	mg/Kg dry	1.95	0.490	53.2	40-140	3.56	30	
Benzo(a)pyrene	1.69	0.20	mg/Kg dry	1.95	0.529	59.7	40-140	5.55	30	
Benzo(b)fluoranthene	1.61	0.20	mg/Kg dry	1.95	0.604	51.3	40-140	4.94	30	
Benzo(g,h,i)perylene	1.19	0.20	mg/Kg dry	1.95	0.251	48.0	40-140	28.3	30	
Benzo(k)fluoranthene	1.37	0.20	mg/Kg dry	1.95	0.259	56.9	40-140	5.87	30	
Bis(2-chloroethoxy)methane	1.53	0.40	mg/Kg dry	1.95	ND	78.6	40-140	6.47	30	
Bis(2-chloroethyl)ether	1.36	0.40	mg/Kg dry	1.95	ND	69.8	40-140	6.16	30	V-06
Bis(2-chloroisopropyl)ether	1.47	0.40	mg/Kg dry	1.95	ND	75.3	40-140	8.44	30	
Bis(2-Ethylhexyl)phthalate	1.60	0.40	mg/Kg dry	1.95	ND	82.1	40-140	8.87	30	
4-Bromophenylphenylether	1.11	0.40	mg/Kg dry	1.95	ND	57.0	40-140	7.36	30	
Butylbenzylphthalate	1.70	0.40	mg/Kg dry	1.95	ND	87.3	40-140	11.2	30	
<b>4-Chloroaniline</b>	0.581	0.77	mg/Kg dry	1.95	ND	<b>29.8</b> *	40-140	7.39	30	MS-09, V-34
2-Chloronaphthalene	1.10	0.40	mg/Kg dry	1.95	ND	56.2	40-140	15.3	30	
2-Chlorophenol	1.18	0.40	mg/Kg dry	1.95	ND	60.5	30-130	12.1	30	
Chrysene	1.66	0.20	mg/Kg dry	1.95	0.559	56.4	40-140	8.61	30	
Dibenz(a,h)anthracene	0.863	0.20	mg/Kg dry	1.95	ND	44.2	40-140	20.1	30	
Dibenzofuran	1.19	0.40	mg/Kg dry	1.95	ND	61.1	40-140	9.97	30	
Di-n-butylphthalate	1.31	0.40	mg/Kg dry	1.95	ND	67.3	40-140	9.14	30	
1,2-Dichlorobenzene	1.03	0.40	mg/Kg dry	1.95	ND	53.0	40-140	4.33	30	
1,3-Dichlorobenzene	1.02	0.40	mg/Kg dry	1.95	ND	52.1	40-140	5.09	30	
1,4-Dichlorobenzene	1.02	0.40	mg/Kg dry	1.95	ND	52.0	40-140	4.62	30	
<b>3,3-Dichlorobenzidine</b>	0.596	0.20	mg/Kg dry	1.95	ND	<b>30.5</b> *	40-140	26.4	30	MS-09
2,4-Dichlorophenol	1.09	0.40	mg/Kg dry	1.95	ND	55.7	30-130	11.2	30	
Diethylphthalate	1.26	0.40	mg/Kg dry	1.95	ND	64.4	40-140	12.8	30	
2,4-Dimethylphenol	1.25	0.40	mg/Kg dry	1.95	ND	64.2	30-130	0.939	30	
Dimethylphthalate	1.23	0.40	mg/Kg dry	1.95	ND	62.8	40-140	10.7	30	
<b>2,4-Dinitrophenol</b>	0.496	0.77	mg/Kg dry	1.95	ND	<b>25.4</b> *	30-130		30	MS-09
2,4-Dinitrotoluene	1.17	0.40	mg/Kg dry	1.95	ND	60.1	40-140	16.7	30	
2,6-Dinitrotoluene	1.25	0.40	mg/Kg dry	1.95	ND	63.8	40-140	14.2	30	
Di-n-octylphthalate	1.40	0.40	mg/Kg dry	1.95	ND	71.8	40-140	11.0	30	
1,2-Diphenylhydrazine/Azobenzene	1.48	0.40	mg/Kg dry	1.95	ND	75.8	40-140	9.49	30	V-06
Fluoranthene	1.82	0.20	mg/Kg dry	1.95	0.798	52.4	40-140	10.1	30	
Fluorene	1.26	0.20	mg/Kg dry	1.95	ND	64.5	40-140	10.9	30	
Hexachlorobenzene	0.982	0.40	mg/Kg dry	1.95	ND	50.3	40-140	6.04	30	

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**QUALITY CONTROL**

**Semivolatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B224911 - SW-846 3546</b>										
<b>Matrix Spike Dup (B224911-MSD1)</b>										
		<b>Source: 19C0049-22</b>			Prepared: 03/04/19 Analyzed: 03/05/19					
Hexachlorobutadiene	0.980	0.40	mg/Kg dry	1.95	ND	50.2	40-140	3.87	30	
Hexachloroethane	1.08	0.40	mg/Kg dry	1.95	ND	55.1	40-140	5.16	30	
Indeno(1,2,3-cd)pyrene	1.15	0.20	mg/Kg dry	1.95	0.246	46.3	40-140	20.5	30	
Isophorone	1.36	0.40	mg/Kg dry	1.95	ND	69.7	40-140	7.37	30	V-06
2-Methylnaphthalene	1.18	0.20	mg/Kg dry	1.95	ND	60.3	40-140	7.31	30	
2-Methylphenol	1.40	0.40	mg/Kg dry	1.95	ND	71.7	30-130	20.9	30	
3/4-Methylphenol	1.21	0.40	mg/Kg dry	1.95	ND	62.2	30-130	12.2	30	
Naphthalene	1.18	0.20	mg/Kg dry	1.95	ND	60.5	40-140	5.46	30	
Nitrobenzene	1.30	0.40	mg/Kg dry	1.95	ND	66.4	40-140	5.33	30	V-06
2-Nitrophenol	1.27	0.40	mg/Kg dry	1.95	ND	64.8	30-130	13.5	30	
4-Nitrophenol	1.30	0.77	mg/Kg dry	1.95	ND	66.4	30-130	22.8	30	
Pentachlorophenol	0.867	0.40	mg/Kg dry	1.95	ND	44.4	30-130	29.2	30	
Phenanthrene	1.60	0.20	mg/Kg dry	1.95	0.624	49.9	40-140	0.785	30	
Phenol	1.29	0.40	mg/Kg dry	1.95	ND	65.9	30-130	11.2	30	V-06
Pyrene	2.65	0.20	mg/Kg dry	1.95	1.15	76.8	40-140	2.32	30	
1,2,4-Trichlorobenzene	1.02	0.40	mg/Kg dry	1.95	ND	52.1	40-140	3.28	30	
2,4,5-Trichlorophenol	1.09	0.40	mg/Kg dry	1.95	ND	55.6	30-130	13.7	30	
2,4,6-Trichlorophenol	1.16	0.40	mg/Kg dry	1.95	ND	59.5	30-130	15.9	30	
Surrogate: 2-Fluorophenol	5.07		mg/Kg dry	7.81		65.0	30-130			
Surrogate: Phenol-d6	5.22		mg/Kg dry	7.81		66.9	30-130			
Surrogate: Nitrobenzene-d5	2.75		mg/Kg dry	3.90		70.3	30-130			
Surrogate: 2-Fluorobiphenyl	2.56		mg/Kg dry	3.90		65.6	30-130			
Surrogate: 2,4,6-Tribromophenol	4.69		mg/Kg dry	7.81		60.0	30-130			
Surrogate: p-Terphenyl-d14	3.07		mg/Kg dry	3.90		78.7	30-130			

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**QUALITY CONTROL**

**Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B224905 - SW-846 3540C</b>										
<b>Blank (B224905-BLK1)</b>										
Prepared: 03/04/19 Analyzed: 03/06/19										
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							R-05
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							R-05
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							R-05
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	0.194		mg/Kg wet	0.200		97.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.189		mg/Kg wet	0.200		94.6	30-150			
Surrogate: Tetrachloro-m-xylene	0.183		mg/Kg wet	0.200		91.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.182		mg/Kg wet	0.200		91.1	30-150			
<b>LCS (B224905-BS1)</b>										
Prepared: 03/04/19 Analyzed: 03/06/19										
Aroclor-1016	0.17	0.020	mg/Kg wet	0.200		84.5	40-140			
Aroclor-1016 [2C]	0.17	0.020	mg/Kg wet	0.200		86.6	40-140			R-05
Aroclor-1260	0.17	0.020	mg/Kg wet	0.200		85.4	40-140			R-05
Aroclor-1260 [2C]	0.16	0.020	mg/Kg wet	0.200		82.1	40-140			R-05
Surrogate: Decachlorobiphenyl	0.185		mg/Kg wet	0.200		92.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.184		mg/Kg wet	0.200		92.2	30-150			
Surrogate: Tetrachloro-m-xylene	0.165		mg/Kg wet	0.200		82.4	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.165		mg/Kg wet	0.200		82.6	30-150			
<b>LCS Dup (B224905-BSD1)</b>										
Prepared: 03/04/19 Analyzed: 03/06/19										
Aroclor-1016	0.22	0.020	mg/Kg wet	0.200		110	40-140	26.4	30	
Aroclor-1016 [2C]	0.24	0.020	mg/Kg wet	0.200		118	40-140	30.7	* 30	R-05
Aroclor-1260	0.26	0.020	mg/Kg wet	0.200		132	40-140	42.9	* 30	R-05
Aroclor-1260 [2C]	0.25	0.020	mg/Kg wet	0.200		126	40-140	42.4	* 30	R-05
Surrogate: Decachlorobiphenyl	0.293		mg/Kg wet	0.200		146	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.295		mg/Kg wet	0.200		147	30-150			
Surrogate: Tetrachloro-m-xylene	0.0473		mg/Kg wet	0.200		23.7	* 30-150			S-26
Surrogate: Tetrachloro-m-xylene [2C]	0.0472		mg/Kg wet	0.200		23.6	* 30-150			S-26



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**QUALITY CONTROL**

**Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B224905 - SW-846 3540C</b>										
<b>Matrix Spike (B224905-MS1)</b>										
<b>Source: 19C0049-21</b> Prepared: 03/04/19 Analyzed: 03/06/19										
Aroclor-1016	0.27	0.091	mg/Kg dry	0.226	ND	117	40-140			
Aroclor-1016 [2C]	0.23	0.091	mg/Kg dry	0.226	ND	101	40-140			R-05
Aroclor-1260	0.20	0.091	mg/Kg dry	0.226	ND	90.3	40-140			R-05
Aroclor-1260 [2C]	0.19	0.091	mg/Kg dry	0.226	ND	84.7	40-140			R-05
Surrogate: Decachlorobiphenyl	0.183		mg/Kg dry	0.226		80.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.180		mg/Kg dry	0.226		79.4	30-150			
Surrogate: Tetrachloro-m-xylene	0.211		mg/Kg dry	0.226		93.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.208		mg/Kg dry	0.226		91.7	30-150			
<b>Matrix Spike Dup (B224905-MSD1)</b>										
<b>Source: 19C0049-21</b> Prepared: 03/04/19 Analyzed: 03/06/19										
Aroclor-1016	0.23	0.090	mg/Kg dry	0.224	ND	101	40-140	15.4	50	
Aroclor-1016 [2C]	0.22	0.090	mg/Kg dry	0.224	ND	99.3	40-140	2.55	50	R-05
Aroclor-1260	0.20	0.090	mg/Kg dry	0.224	ND	88.2	40-140	3.41	50	R-05
Aroclor-1260 [2C]	0.19	0.090	mg/Kg dry	0.224	ND	84.6	40-140	1.00	50	R-05
Surrogate: Decachlorobiphenyl	0.182		mg/Kg dry	0.224		81.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.179		mg/Kg dry	0.224		80.1	30-150			
Surrogate: Tetrachloro-m-xylene	0.203		mg/Kg dry	0.224		90.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.200		mg/Kg dry	0.224		89.3	30-150			
<b>Batch B224907 - SW-846 3540C</b>										
<b>Blank (B224907-BLK1)</b>										
Prepared: 03/04/19 Analyzed: 03/06/19										
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							R-05
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							R-05
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	0.202		mg/Kg wet	0.200		101	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.226		mg/Kg wet	0.200		113	30-150			
Surrogate: Tetrachloro-m-xylene	0.192		mg/Kg wet	0.200		95.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.190		mg/Kg wet	0.200		94.9	30-150			

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B224907 - SW-846 3540C</b>										
<b>LCS (B224907-BS1)</b>										
Prepared: 03/04/19 Analyzed: 03/06/19										
Aroclor-1016	0.18	0.020	mg/Kg wet	0.200		89.1	40-140			
Aroclor-1016 [2C]	0.17	0.020	mg/Kg wet	0.200		85.3	40-140			
Aroclor-1260	0.17	0.020	mg/Kg wet	0.200		87.4	40-140			R-05
Aroclor-1260 [2C]	0.18	0.020	mg/Kg wet	0.200		89.3	40-140			R-05
Surrogate: Decachlorobiphenyl	0.210		mg/Kg wet	0.200		105	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.236		mg/Kg wet	0.200		118	30-150			
Surrogate: Tetrachloro-m-xylene	0.201		mg/Kg wet	0.200		100	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.199		mg/Kg wet	0.200		99.3	30-150			
<b>LCS Dup (B224907-BSD1)</b>										
Prepared: 03/04/19 Analyzed: 03/06/19										
Aroclor-1016	0.20	0.020	mg/Kg wet	0.200		99.8	40-140	11.4	30	
Aroclor-1016 [2C]	0.21	0.020	mg/Kg wet	0.200		104	40-140	19.8	30	
Aroclor-1260	0.24	0.020	mg/Kg wet	0.200		122	40-140	33.1	* 30	R-05
Aroclor-1260 [2C]	0.25	0.020	mg/Kg wet	0.200		125	40-140	33.4	* 30	R-05
Surrogate: Decachlorobiphenyl	0.292		mg/Kg wet	0.200		146	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.331		mg/Kg wet	0.200		165	* 30-150			S-26
Surrogate: Tetrachloro-m-xylene	0.0799		mg/Kg wet	0.200		39.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0781		mg/Kg wet	0.200		39.0	30-150			
<b>Matrix Spike (B224907-MS1)</b>										
<b>Source: 19C0049-01</b>										
Prepared: 03/04/19 Analyzed: 03/07/19										
Aroclor-1016	0.25	0.085	mg/Kg dry	0.212	ND	119	40-140			
Aroclor-1016 [2C]	0.26	0.085	mg/Kg dry	0.212	ND	124	40-140			
Aroclor-1260	0.23	0.085	mg/Kg dry	0.212	ND	109	40-140			R-05
Aroclor-1260 [2C]	0.18	0.085	mg/Kg dry	0.212	ND	85.0	40-140			R-05
Surrogate: Decachlorobiphenyl	0.174		mg/Kg dry	0.212		82.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.163		mg/Kg dry	0.212		76.8	30-150			
Surrogate: Tetrachloro-m-xylene	0.203		mg/Kg dry	0.212		95.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.190		mg/Kg dry	0.212		89.9	30-150			
<b>Matrix Spike Dup (B224907-MSD1)</b>										
<b>Source: 19C0049-01</b>										
Prepared: 03/04/19 Analyzed: 03/07/19										
Aroclor-1016	0.23	0.087	mg/Kg dry	0.218	ND	105	40-140	9.21	50	
Aroclor-1016 [2C]	0.22	0.087	mg/Kg dry	0.218	ND	100	40-140	18.5	50	
Aroclor-1260	0.22	0.087	mg/Kg dry	0.218	ND	99.4	40-140	6.71	50	R-05
Aroclor-1260 [2C]	0.17	0.087	mg/Kg dry	0.218	ND	79.8	40-140	3.41	50	R-05
Surrogate: Decachlorobiphenyl	0.179		mg/Kg dry	0.218		81.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.170		mg/Kg dry	0.218		77.9	30-150			
Surrogate: Tetrachloro-m-xylene	0.203		mg/Kg dry	0.218		93.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.183		mg/Kg dry	0.218		84.1	30-150			

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**QUALITY CONTROL**

**Petroleum Hydrocarbons Analyses - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B224908 - SW-846 3546</b>										
<b>Blank (B224908-BLK1)</b>										
					Prepared: 03/04/19 Analyzed: 03/07/19					
TPH (C9-C36)	ND	8.3	mg/Kg wet							
Surrogate: 2-Fluorobiphenyl	2.31		mg/Kg wet	3.33		69.3	40-140			
<b>LCS (B224908-BS1)</b>										
					Prepared: 03/04/19 Analyzed: 03/07/19					
TPH (C9-C36)	25.0	8.3	mg/Kg wet	33.3		75.0	40-140			
Surrogate: 2-Fluorobiphenyl	2.48		mg/Kg wet	3.33		74.4	40-140			
<b>LCS Dup (B224908-BSD1)</b>										
					Prepared: 03/04/19 Analyzed: 03/07/19					
TPH (C9-C36)	27.5	8.3	mg/Kg wet	33.3		82.4	40-140	9.48	30	
Surrogate: 2-Fluorobiphenyl	2.71		mg/Kg wet	3.33		81.3	40-140			
<b>Matrix Spike (B224908-MS1)</b>										
			<b>Source: 19C0049-01</b>		Prepared: 03/04/19 Analyzed: 03/07/19					
TPH (C9-C36)	245	93	mg/Kg dry	37.3	251	-15.3 *	40-140			MS-19
Surrogate: 2-Fluorobiphenyl	2.22		mg/Kg dry	3.73		59.7	40-140			
<b>Matrix Spike Dup (B224908-MSD1)</b>										
			<b>Source: 19C0049-01</b>		Prepared: 03/04/19 Analyzed: 03/07/19					
TPH (C9-C36)	398	93	mg/Kg dry	37.2	251	395 *	40-140	47.4 *	30	MS-19
Surrogate: 2-Fluorobiphenyl	1.82		mg/Kg dry	3.72		49.0	40-140			
<b>Batch B224910 - SW-846 3546</b>										
<b>Blank (B224910-BLK1)</b>										
					Prepared: 03/04/19 Analyzed: 03/06/19					
TPH (C9-C36)	ND	8.3	mg/Kg wet							
Surrogate: 2-Fluorobiphenyl	2.67		mg/Kg wet	3.33		80.2	40-140			
<b>LCS (B224910-BS1)</b>										
					Prepared: 03/04/19 Analyzed: 03/06/19					
TPH (C9-C36)	27.5	8.3	mg/Kg wet	33.3		82.6	40-140			
Surrogate: 2-Fluorobiphenyl	2.90		mg/Kg wet	3.33		86.9	40-140			
<b>LCS Dup (B224910-BSD1)</b>										
					Prepared: 03/04/19 Analyzed: 03/06/19					
TPH (C9-C36)	26.4	8.3	mg/Kg wet	33.3		79.2	40-140	4.19	30	
Surrogate: 2-Fluorobiphenyl	2.73		mg/Kg wet	3.33		81.8	40-140			

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**QUALITY CONTROL**

**Metals Analyses (Total) - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B224882 - SW-846 7471</b>										
<b>Blank (B224882-BLK1)</b> Prepared: 03/04/19 Analyzed: 03/06/19										
Mercury	ND	0.025	mg/Kg wet							
<b>LCS (B224882-BS1)</b> Prepared: 03/04/19 Analyzed: 03/06/19										
Mercury	3.30	0.36	mg/Kg wet	3.71		89.1	65-135			
<b>LCS Dup (B224882-BSD1)</b> Prepared: 03/04/19 Analyzed: 03/06/19										
Mercury	3.23	0.38	mg/Kg wet	3.71		87.0	65-135	2.35	30	
<b>Batch B224884 - SW-846 7471</b>										
<b>Blank (B224884-BLK1)</b> Prepared: 03/04/19 Analyzed: 03/06/19										
Mercury	ND	0.025	mg/Kg wet							
<b>LCS (B224884-BS1)</b> Prepared: 03/04/19 Analyzed: 03/06/19										
Mercury	3.32	0.38	mg/Kg wet	3.71		89.5	65-135			
<b>LCS Dup (B224884-BSD1)</b> Prepared: 03/04/19 Analyzed: 03/06/19										
Mercury	3.57	0.38	mg/Kg wet	3.71		96.3	65-135	7.33	30	
<b>Duplicate (B224884-DUP1)</b> <b>Source: 19C0049-04</b> Prepared: 03/04/19 Analyzed: 03/06/19										
Mercury	ND	0.030	mg/Kg dry		0.0363			NC	35	
<b>Matrix Spike (B224884-MS1)</b> <b>Source: 19C0049-04</b> Prepared: 03/04/19 Analyzed: 03/06/19										
Mercury	0.406	0.028	mg/Kg dry	0.368	0.0363	101	75-125			
<b>Batch B224886 - SW-846 3050B</b>										
<b>Blank (B224886-BLK1)</b> Prepared: 03/04/19 Analyzed: 03/05/19										
Antimony	ND	1.7	mg/Kg wet							
Arsenic	ND	1.7	mg/Kg wet							
Barium	ND	1.7	mg/Kg wet							
Beryllium	ND	0.17	mg/Kg wet							
Cadmium	ND	0.17	mg/Kg wet							
Chromium	ND	0.33	mg/Kg wet							
Lead	ND	0.50	mg/Kg wet							
Nickel	ND	0.33	mg/Kg wet							
Selenium	ND	3.3	mg/Kg wet							
Silver	ND	0.33	mg/Kg wet							
Thallium	ND	1.7	mg/Kg wet							
Vanadium	ND	0.67	mg/Kg wet							
Zinc	ND	0.67	mg/Kg wet							

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**QUALITY CONTROL**

**Metals Analyses (Total) - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B224886 - SW-846 3050B**

**LCS (B224886-BS1)**

Prepared: 03/04/19 Analyzed: 03/05/19

Antimony	69.7	4.9	mg/Kg wet	89.6		77.7	3.3-196.4			
Arsenic	185	4.9	mg/Kg wet	202		91.5	82.7-117.3			
Barium	260	4.9	mg/Kg wet	270		96.4	82.6-117.8			
Beryllium	96.0	0.49	mg/Kg wet	96.8		99.2	83.4-116.7			
Cadmium	137	0.49	mg/Kg wet	141		96.9	83-117			
Chromium	159	0.99	mg/Kg wet	167		95.2	81.4-118			
Lead	67.4	1.5	mg/Kg wet	73.8		91.4	82.9-117.1			
Nickel	90.1	0.99	mg/Kg wet	89.4		101	82.9-117.5			
Selenium	40.1	9.9	mg/Kg wet	49.9		80.3	79.2-120.6			
Silver	71.1	0.99	mg/Kg wet	71.1		100	79.7-120.1			
Thallium	64.5	4.9	mg/Kg wet	58.5		110	80.7-119.5			
Vanadium	51.1	2.0	mg/Kg wet	58.2		87.9	79-121			
Zinc	250	2.0	mg/Kg wet	264		94.7	80.7-119.3			

**LCS Dup (B224886-BSD1)**

Prepared: 03/04/19 Analyzed: 03/05/19

Antimony	71.8	4.9	mg/Kg wet	89.6		80.1	3.3-196.4	3.03	30	
Arsenic	189	4.9	mg/Kg wet	202		93.3	82.7-117.3	1.94	30	
Barium	265	4.9	mg/Kg wet	270		98.1	82.6-117.8	1.75	30	
Beryllium	94.0	0.49	mg/Kg wet	96.8		97.1	83.4-116.7	2.12	30	
Cadmium	136	0.49	mg/Kg wet	141		96.3	83-117	0.665	30	
Chromium	161	0.97	mg/Kg wet	167		96.1	81.4-118	1.00	30	
Lead	69.7	1.5	mg/Kg wet	73.8		94.4	82.9-117.1	3.32	30	
Nickel	89.6	0.97	mg/Kg wet	89.4		100	82.9-117.5	0.525	30	
Selenium	40.5	9.7	mg/Kg wet	49.9		81.2	79.2-120.6	1.07	30	
Silver	73.5	0.97	mg/Kg wet	71.1		103	79.7-120.1	3.25	30	
Thallium	64.2	4.9	mg/Kg wet	58.5		110	80.7-119.5	0.448	30	
Vanadium	52.8	1.9	mg/Kg wet	58.2		90.7	79-121	3.15	30	
Zinc	254	1.9	mg/Kg wet	264		96.2	80.7-119.3	1.55	30	

**MRL Check (B224886-MRL1)**

Prepared: 03/04/19 Analyzed: 03/05/19

Lead	0.536	0.49	mg/Kg wet	0.494		109	80-120			
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**Batch B224899 - SW-846 3050B**

**Blank (B224899-BLK1)**

Prepared: 03/04/19 Analyzed: 03/06/19

Antimony	ND	1.7	mg/Kg wet							
Arsenic	ND	1.7	mg/Kg wet							
Barium	ND	1.7	mg/Kg wet							
Beryllium	ND	0.17	mg/Kg wet							
Cadmium	ND	0.17	mg/Kg wet							
Chromium	ND	0.33	mg/Kg wet							
Lead	ND	0.50	mg/Kg wet							
Nickel	ND	0.33	mg/Kg wet							
Selenium	ND	3.3	mg/Kg wet							
Silver	ND	0.33	mg/Kg wet							
Thallium	ND	1.7	mg/Kg wet							
Vanadium	ND	0.67	mg/Kg wet							
Zinc	ND	0.67	mg/Kg wet							

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**QUALITY CONTROL**

**Metals Analyses (Total) - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B224899 - SW-846 3050B</b>										
<b>LCS (B224899-BS1)</b>										
Prepared: 03/04/19 Analyzed: 03/06/19										
Antimony	69.0	5.0	mg/Kg wet	89.6		77.0	3.3-196.4			
Arsenic	194	5.0	mg/Kg wet	202		96.3	82.7-117.3			
Barium	277	5.0	mg/Kg wet	270		103	82.6-117.8			
Beryllium	96.8	0.50	mg/Kg wet	96.8		100	83.4-116.7			
Cadmium	139	0.50	mg/Kg wet	141		98.5	83-117			
Chromium	167	1.0	mg/Kg wet	167		99.8	81.4-118			
Lead	72.2	1.5	mg/Kg wet	73.8		97.8	82.9-117.1			
Nickel	91.4	1.0	mg/Kg wet	89.4		102	82.9-117.5			
Selenium	44.7	10	mg/Kg wet	49.9		89.5	79.2-120.6			
Silver	79.6	1.0	mg/Kg wet	71.1		112	79.7-120.1			
Thallium	66.4	5.0	mg/Kg wet	58.5		114	80.7-119.5			
Vanadium	54.1	2.0	mg/Kg wet	58.2		93.0	79-121			
Zinc	265	2.0	mg/Kg wet	264		100	80.7-119.3			
<b>LCS Dup (B224899-BSD1)</b>										
Prepared: 03/04/19 Analyzed: 03/06/19										
Antimony	68.3	5.1	mg/Kg wet	89.6		76.2	3.3-196.4	1.04	30	
Arsenic	185	5.1	mg/Kg wet	202		91.8	82.7-117.3	4.79	30	
Barium	268	5.1	mg/Kg wet	270		99.2	82.6-117.8	3.51	30	
Beryllium	95.0	0.51	mg/Kg wet	96.8		98.2	83.4-116.7	1.83	30	
Cadmium	135	0.51	mg/Kg wet	141		95.9	83-117	2.68	30	
Chromium	160	1.0	mg/Kg wet	167		95.8	81.4-118	4.00	30	
Lead	70.5	1.5	mg/Kg wet	73.8		95.5	82.9-117.1	2.40	30	
Nickel	89.4	1.0	mg/Kg wet	89.4		100	82.9-117.5	2.24	30	
Selenium	42.4	10	mg/Kg wet	49.9		85.1	79.2-120.6	5.14	30	
Silver	76.1	1.0	mg/Kg wet	71.1		107	79.7-120.1	4.53	30	
Thallium	63.2	5.1	mg/Kg wet	58.5		108	80.7-119.5	5.03	30	
Vanadium	52.4	2.0	mg/Kg wet	58.2		90.0	79-121	3.26	30	
Zinc	257	2.0	mg/Kg wet	264		97.5	80.7-119.3	2.72	30	
<b>Duplicate (B224899-DUP1)</b>										
<b>Source: 19C0049-23</b>										
Prepared: 03/04/19 Analyzed: 03/06/19										
Antimony	ND	1.9	mg/Kg dry		ND			NC	35	
Arsenic	6.54	1.9	mg/Kg dry		5.78			12.3	35	
Barium	31.1	1.9	mg/Kg dry		27.7			11.4	35	
Beryllium	0.385	0.19	mg/Kg dry		0.374			3.01	35	
Cadmium	0.406	0.19	mg/Kg dry		0.392			3.47	35	
Chromium	15.7	0.38	mg/Kg dry		16.1			2.33	35	
Lead	34.0	0.57	mg/Kg dry		31.6			7.23	35	
Nickel	10.8	0.38	mg/Kg dry		10.8			0.320	35	
Selenium	ND	3.8	mg/Kg dry		ND			NC	35	
Silver	ND	0.38	mg/Kg dry		ND			NC	35	
Thallium	ND	1.9	mg/Kg dry		ND			NC	35	
Vanadium	19.1	0.76	mg/Kg dry		19.4			1.65	35	
Zinc	36.8	0.76	mg/Kg dry		37.7			2.41	35	



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**QUALITY CONTROL**

**Metals Analyses (Total) - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B224899 - SW-846 3050B**

**MRL Check (B224899-MRL1)**

Prepared: 03/04/19 Analyzed: 03/06/19

Lead	0.558	0.49	mg/Kg wet	0.492		113	80-120			
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**Matrix Spike (B224899-MS1)**

**Source: 19C0049-23**

Prepared: 03/04/19 Analyzed: 03/06/19

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Antimony</b>	8.09	1.9	mg/Kg dry	18.8	ND	<b>43.0</b> *	75-125			MS-07
Arsenic	24.1	1.9	mg/Kg dry	18.8	5.78	97.1	75-125			
Barium	47.4	1.9	mg/Kg dry	18.8	27.7	105	75-125			
Beryllium	18.7	0.19	mg/Kg dry	18.8	0.374	97.4	75-125			
Cadmium	18.3	0.19	mg/Kg dry	18.8	0.392	95.0	75-125			
Chromium	35.9	0.38	mg/Kg dry	18.8	16.1	105	75-125			
Lead	50.0	0.56	mg/Kg dry	18.8	31.6	97.7	75-125			
Nickel	30.3	0.38	mg/Kg dry	18.8	10.8	103	75-125			
Selenium	14.8	3.8	mg/Kg dry	18.8	ND	78.6	75-125			
Silver	20.7	0.38	mg/Kg dry	18.8	ND	110	75-125			
<b>Thallium</b>	24.2	1.9	mg/Kg dry	18.8	ND	<b>129</b> *	75-125			MS-14
Vanadium	39.1	0.75	mg/Kg dry	18.8	19.4	105	75-125			
Zinc	73.2	0.75	mg/Kg dry	37.6	37.7	94.3	75-125			

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**QUALITY CONTROL**

**Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B224798 - SW-846 9045C</b>										
<b>LCS (B224798-BS1)</b>				Prepared & Analyzed: 03/01/19						
pH	6.00		pH Units	6.00		100	90-110			
<b>Duplicate (B224798-DUP1)</b>				<b>Source: 19C0049-04</b>		Prepared & Analyzed: 03/01/19				
pH	8.3		pH Units		8.3			0.0606	5	
<b>Batch B224806 - SW-846 9045C</b>										
<b>LCS (B224806-BS1)</b>				Prepared & Analyzed: 03/01/19						
pH	6.01		pH Units	6.00		100	90-110			
<b>LCS (B224806-BS2)</b>				Prepared & Analyzed: 03/01/19						
pH	6.01		pH Units	6.00		100	90-110			
<b>Duplicate (B224806-DUP1)</b>				<b>Source: 19C0049-15</b>		Prepared & Analyzed: 03/01/19				
pH	8.0		pH Units		8.1			0.498	5	
<b>Duplicate (B224806-DUP2)</b>				<b>Source: 19C0049-12</b>		Prepared & Analyzed: 03/01/19				
pH	7.9		pH Units		7.9			0.139	5	
<b>Batch B224810 - % Solids</b>										
<b>Duplicate (B224810-DUP7)</b>				<b>Source: 19C0049-05</b>		Prepared: 03/02/19 Analyzed: 03/03/19				
% Solids	89.7		% Wt		89.7			0.0405	20	
<b>Batch B224816 - SW-846 9014</b>										
<b>Blank (B224816-BLK1)</b>				Prepared: 03/02/19 Analyzed: 03/05/19						
Reactive Cyanide	ND	0.40	mg/Kg							
<b>LCS (B224816-BS1)</b>				Prepared: 03/02/19 Analyzed: 03/05/19						
Reactive Cyanide	9.5	0.40	mg/Kg	10.0		95.4	83.6-111			
<b>Batch B224817 - SW-846 9030A</b>										
<b>Blank (B224817-BLK1)</b>				Prepared: 03/02/19 Analyzed: 03/05/19						
Reactive Sulfide	ND	2.0	mg/Kg							
<b>LCS (B224817-BS1)</b>				Prepared: 03/02/19 Analyzed: 03/05/19						
Reactive Sulfide	15	2.0	mg/Kg	14.8		100	54.9-121			

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**QUALITY CONTROL**

**Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B224951 - SM21-22 2510B Modified</b>										
<b>Blank (B224951-BLK1)</b> Prepared & Analyzed: 03/05/19										
Specific conductance	ND	2.0	µmhos/cm							
<b>LCS (B224951-BS1)</b> Prepared & Analyzed: 03/05/19										
Specific conductance	180		µmhos/cm	192		95.7	90-110			
<b>Batch B225002 - SW-846 9014</b>										
<b>Blank (B225002-BLK1)</b> Prepared: 03/05/19 Analyzed: 03/06/19										
Reactive Cyanide	ND	0.40	mg/Kg							
<b>LCS (B225002-BS1)</b> Prepared: 03/05/19 Analyzed: 03/06/19										
Reactive Cyanide	9.5	0.40	mg/Kg	10.0		95.4	83.6-111			
<b>Batch B225003 - SW-846 9030A</b>										
<b>Blank (B225003-BLK1)</b> Prepared: 03/05/19 Analyzed: 03/06/19										
Reactive Sulfide	ND	2.0	mg/Kg							
<b>LCS (B225003-BS1)</b> Prepared: 03/05/19 Analyzed: 03/06/19										
Reactive Sulfide	14	2.0	mg/Kg	14.8		97.3	54.9-121			
<b>Batch B225154 - SM21-22 2510B Modified</b>										
<b>Blank (B225154-BLK1)</b> Prepared & Analyzed: 03/07/19										
Specific conductance	ND	2.0	µmhos/cm							
<b>LCS (B225154-BS1)</b> Prepared & Analyzed: 03/07/19										
Specific conductance	190		µmhos/cm	192		102	90-110			
<b>Duplicate (B225154-DUP1)</b> Source: 19C0049-01 Prepared & Analyzed: 03/07/19										
Specific conductance	8.3	2.0	µmhos/cm		8.1			2.69	21	
<b>Batch B225268 - SM21-22 2510B Modified</b>										
<b>Blank (B225268-BLK1)</b> Prepared & Analyzed: 03/08/19										
Specific conductance	ND	2.0	µmhos/cm							
<b>LCS (B225268-BS1)</b> Prepared & Analyzed: 03/08/19										
Specific conductance	190		µmhos/cm	192		100	90-110			

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**QUALITY CONTROL**

**Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B225268 - SM21-22 2510B Modified**

**Duplicate (B225268-DUP1)**

**Source: 19C0049-22**

Prepared & Analyzed: 03/08/19

Specific conductance	16	2.0	µmhos/cm		11			35.0	*	21	R-02
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**IDENTIFICATION SUMMARY  
FOR SINGLE COMPONENT ANALYTES**

LCS

*SW-846 8082A*

Lab Sample ID:           B224905-BS1                                Date(s) Analyzed:           03/06/2019                     03/06/2019          

Instrument ID (1):           ECD4                                                Instrument ID (2):           ECD4          

GC Column (1):                                      ID:                                      (mm)                      GC Column (2):                                      ID:                                      (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.17	
	2	0.000	-0.030	0.030	0.17	0.0
Aroclor-1260	1	0.000	-0.030	0.030	0.17	
	2	0.000	-0.030	0.030	0.16	6.1

**IDENTIFICATION SUMMARY  
FOR SINGLE COMPONENT ANALYTES**

LCS Dup

*SW-846 8082A*

Lab Sample ID:                     B224905-BSD1                                          Date(s) Analyzed:           03/06/2019                     03/06/2019          

Instrument ID (1):                     ECD4                                          Instrument ID (2):                     ECD4                    

GC Column (1):                      ID:                      (mm)                      GC Column (2):                      ID:                      (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.22	
	2	0.000	-0.030	0.030	0.24	8.7
Aroclor-1260	1	0.000	-0.030	0.030	0.26	
	2	0.000	-0.030	0.030	0.25	3.9



**IDENTIFICATION SUMMARY  
FOR SINGLE COMPONENT ANALYTES**  
*SW-846 8082A*

**Matrix Spike**

Lab Sample ID:                   B224905-MS1                                        Date(s) Analyzed:           03/06/2019                     03/06/2019          

Instrument ID (1):                   ECD4                                        Instrument ID (2):                   ECD4                  

GC Column (1):                      ID:                      (mm)                      GC Column (2):                      ID:                      (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.27	
	2	0.000	-0.030	0.030	0.23	16.0
Aroclor-1260	1	0.000	-0.030	0.030	0.20	
	2	0.000	-0.030	0.030	0.19	5.1

**IDENTIFICATION SUMMARY  
FOR SINGLE COMPONENT ANALYTES**

**Matrix Spike Dup**

*SW-846 8082A*

Lab Sample ID:                     B224905-MSD1                                          Date(s) Analyzed:           03/06/2019                     03/06/2019          

Instrument ID (1):                     ECD4                                          Instrument ID (2):                     ECD4                    

GC Column (1):                      ID:                      (mm)                      GC Column (2):                      ID:                      (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.23	
	2	0.000	-0.030	0.030	0.22	4.4
Aroclor-1260	1	0.000	-0.030	0.030	0.20	
	2	0.000	-0.030	0.030	0.19	5.1

**IDENTIFICATION SUMMARY  
FOR SINGLE COMPONENT ANALYTES**  
*SW-846 8082A*

<b>LCS</b>
------------

Lab Sample ID: B224907-BS1 Date(s) Analyzed: 03/06/2019 03/06/2019

Instrument ID (1): \_\_\_\_\_ Instrument ID (2): \_\_\_\_\_

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.18	
	2	0.000	-0.030	0.030	0.17	5.7
Aroclor-1260	1	0.000	-0.030	0.030	0.17	
	2	0.000	-0.030	0.030	0.18	0.0





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**IDENTIFICATION SUMMARY  
FOR SINGLE COMPONENT ANALYTES**

<b>Matrix Spike</b>
---------------------

*SW-846 8082A*

Lab Sample ID: B224907-MS1 Date(s) Analyzed: 03/07/2019 03/07/2019

Instrument ID (1): \_\_\_\_\_ Instrument ID (2): \_\_\_\_\_

GC Column (1): \_\_\_\_\_ ID: \_\_\_\_\_ (mm) GC Column (2): \_\_\_\_\_ ID: \_\_\_\_\_ (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.25	
	2	0.000	-0.030	0.030	0.26	3.9
Aroclor-1260	1	0.000	-0.030	0.030	0.23	
	2	0.000	-0.030	0.030	0.18	24.4

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**IDENTIFICATION SUMMARY  
FOR SINGLE COMPONENT ANALYTES**

**Matrix Spike Dup**

*SW-846 8082A*

Lab Sample ID: B224907-MSD1 Date(s) Analyzed: 03/07/2019 03/07/2019

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.23	
	2	0.000	-0.030	0.030	0.22	4.4
Aroclor-1260	1	0.000	-0.030	0.030	0.22	
	2	0.000	-0.030	0.030	0.17	25.6



**FLAG/QUALIFIER SUMMARY**

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
L-04	Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the low side.
L-07	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
L-14	Compound classified by MA CAM as difficult with acceptable recoveries of 40-160%. Recovery does not meet 70-130% criteria but does meet difficult compound criteria.
MS-07	Matrix spike recovery is outside of control limits. Analysis is in control based on laboratory fortified blank recovery. Possibility of sample matrix effects that lead to low bias for reported result or non-homogeneous sample aliquot cannot be eliminated.
MS-09	Matrix spike recovery and/or matrix spike duplicate recovery outside of control limits. Possibility of sample matrix effects that lead to a low bias for reported result or non-homogeneous sample aliquots cannot be eliminated.
MS-14	Matrix spike recovery is outside of control limits. Data validation is not affected since sample result is "not detected" and recovery bias is on the high side for this compound.
MS-19	Sample to spike ratio is greater than or equal to 4:1. Spiked amount is not representative of the native amount in the sample. Appropriate or meaningful recoveries cannot be calculated.
MS-22	Either matrix spike or MS duplicate is outside of control limits, but the other is within limits. RPD between the two MS/MSD results is within method specified criteria.
O-32	A dilution was performed as part of the standard analytical procedure.
R-02	Duplicate RPD is outside of control limits. Outlier can be attributed to sample non-homogeneity encountered during sample prep.
R-05	Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.
RL-08	Elevated reporting limit due to sample matrix interference. MA CAM reporting limit not met.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.
S-26	Surrogate outside of control limits.
V-05	Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.
V-06	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side for this compound.
V-16	Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.
V-20	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.
V-34	Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
<b>SW-846 1030 in Soil</b>	
Ignitability	NY,NH,CT,NC,ME,VA
<b>SW-846 6010D in Soil</b>	
Antimony	CT,NH,NY,ME,VA,NC
Arsenic	CT,NH,NY,ME,VA,NC
Barium	CT,NH,NY,ME,VA,NC
Beryllium	CT,NH,NY,ME,VA,NC
Cadmium	CT,NH,NY,ME,VA,NC
Chromium	CT,NH,NY,ME,VA,NC
Lead	CT,NH,NY,AIHA,ME,VA,NC
Nickel	CT,NH,NY,ME,VA,NC
Selenium	CT,NH,NY,ME,VA,NC
Silver	CT,NH,NY,ME,VA,NC
Thallium	CT,NH,NY,ME,VA,NC
Vanadium	CT,NH,NY,ME,VA,NC
Zinc	CT,NH,NY,ME,VA,NC
<b>SW-846 7471B in Soil</b>	
Mercury	CT,NH,NY,NC,ME,VA
<b>SW-846 8082A in Soil</b>	
Aroclor-1016	CT,NH,NY,ME,NC,VA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1221	CT,NH,NY,ME,NC,VA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1232	CT,NH,NY,ME,NC,VA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1242	CT,NH,NY,ME,NC,VA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1248	CT,NH,NY,ME,NC,VA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1254	CT,NH,NY,ME,NC,VA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1260	CT,NH,NY,ME,NC,VA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1262	NY,NC,VA
Aroclor-1262 [2C]	NY,NC,VA
Aroclor-1268	NY,NC,VA
Aroclor-1268 [2C]	NY,NC,VA
<b>SW-846 8260C in Soil</b>	
Acetone	CT,NH,NY,ME
Benzene	CT,NH,NY,ME
Bromobenzene	NH,NY,ME
Bromochloromethane	NH,NY,ME
Bromodichloromethane	CT,NH,NY,ME
Bromoform	CT,NH,NY,ME
Bromomethane	CT,NH,NY,ME
2-Butanone (MEK)	CT,NH,NY,ME

**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
<i>SW-846 8260C in Soil</i>	
n-Butylbenzene	CT,NH,NY,ME
sec-Butylbenzene	CT,NH,NY,ME
tert-Butylbenzene	CT,NH,NY,ME
Carbon Disulfide	CT,NH,NY,ME
Carbon Tetrachloride	CT,NH,NY,ME
Chlorobenzene	CT,NH,NY,ME
Chlorodibromomethane	CT,NH,NY,ME
Chloroethane	CT,NH,NY,ME
Chloroform	CT,NH,NY,ME
Chloromethane	CT,NH,NY,ME
2-Chlorotoluene	CT,NH,NY,ME
4-Chlorotoluene	CT,NH,NY,ME
1,2-Dibromo-3-chloropropane (DBCP)	NY
Dibromomethane	NH,NY,ME
1,2-Dichlorobenzene	CT,NH,NY,ME
1,3-Dichlorobenzene	CT,NH,NY,ME
1,4-Dichlorobenzene	CT,NH,NY,ME
Dichlorodifluoromethane (Freon 12)	NY,ME
1,1-Dichloroethane	CT,NH,NY,ME
1,2-Dichloroethane	CT,NH,NY,ME
1,1-Dichloroethylene	CT,NH,NY,ME
cis-1,2-Dichloroethylene	CT,NH,NY,ME
trans-1,2-Dichloroethylene	CT,NH,NY,ME
1,2-Dichloropropane	CT,NH,NY,ME
1,3-Dichloropropane	NH,NY,ME
2,2-Dichloropropane	NH,NY,ME
1,1-Dichloropropene	NH,NY,ME
cis-1,3-Dichloropropene	CT,NH,NY,ME
trans-1,3-Dichloropropene	CT,NH,NY,ME
1,4-Dioxane	NY
Ethylbenzene	CT,NH,NY,ME
Hexachlorobutadiene	NH,NY,ME
2-Hexanone (MBK)	CT,NH,NY,ME
Isopropylbenzene (Cumene)	CT,NH,NY,ME
p-Isopropyltoluene (p-Cymene)	NH,NY
Methyl tert-Butyl Ether (MTBE)	NH,NY
Methylene Chloride	CT,NH,NY,ME
4-Methyl-2-pentanone (MIBK)	CT,NH,NY
Naphthalene	NH,NY,ME
n-Propylbenzene	NH,NY
Styrene	CT,NH,NY,ME
1,1,1,2-Tetrachloroethane	CT,NH,NY,ME
1,1,2,2-Tetrachloroethane	CT,NH,NY,ME
Tetrachloroethylene	CT,NH,NY,ME
Toluene	CT,NH,NY,ME
1,2,3-Trichlorobenzene	NY
1,2,4-Trichlorobenzene	NH,NY,ME

**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
<b>SW-846 8260C in Soil</b>	
1,1,1-Trichloroethane	CT,NH,NY,ME
1,1,2-Trichloroethane	CT,NH,NY,ME
Trichloroethylene	CT,NH,NY,ME
Trichlorofluoromethane (Freon 11)	CT,NH,NY,ME
1,2,3-Trichloropropane	NH,NY,ME
1,2,4-Trimethylbenzene	CT,NH,NY,ME
1,3,5-Trimethylbenzene	CT,NH,NY,ME
Vinyl Chloride	CT,NH,NY,ME
m+p Xylene	CT,NH,NY,ME
o-Xylene	CT,NH,NY,ME
<b>SW-846 8270D in Soil</b>	
Acenaphthene	CT,NY,NH
Acenaphthylene	CT,NY,NH
Acetophenone	NY,NH
Aniline	NY,NH
Anthracene	CT,NY,NH
Benzo(a)anthracene	CT,NY,NH
Benzo(a)pyrene	CT,NY,NH
Benzo(b)fluoranthene	CT,NY,NH
Benzo(g,h,i)perylene	CT,NY,NH
Benzo(k)fluoranthene	CT,NY,NH
Bis(2-chloroethoxy)methane	CT,NY,NH
Bis(2-chloroethyl)ether	CT,NY,NH
Bis(2-chloroisopropyl)ether	CT,NY,NH
Bis(2-Ethylhexyl)phthalate	CT,NY,NH
4-Bromophenylphenylether	CT,NY,NH
Butylbenzylphthalate	CT,NY,NH
4-Chloroaniline	CT,NY,NH
2-Chloronaphthalene	CT,NY,NH
2-Chlorophenol	CT,NY,NH
Chrysene	CT,NY,NH
Dibenz(a,h)anthracene	CT,NY,NH
Dibenzofuran	CT,NY,NH
Di-n-butylphthalate	CT,NY,NH
1,2-Dichlorobenzene	NY,NH
1,3-Dichlorobenzene	NY,NH
1,4-Dichlorobenzene	NY,NH
3,3-Dichlorobenzidine	CT,NY,NH
2,4-Dichlorophenol	CT,NY,NH
Diethylphthalate	CT,NY,NH
2,4-Dimethylphenol	CT,NY,NH
Dimethylphthalate	CT,NY,NH
2,4-Dinitrophenol	CT,NY,NH
2,4-Dinitrotoluene	CT,NY,NH
2,6-Dinitrotoluene	CT,NY,NH
Di-n-octylphthalate	CT,NY,NH

**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
<b><i>SW-846 8270D in Soil</i></b>	
1,2-Diphenylhydrazine/Azobenzene	NY,NH
Fluoranthene	CT,NY,NH
Fluorene	NY,NH
Hexachlorobenzene	CT,NY,NH
Hexachlorobutadiene	CT,NY,NH
Hexachloroethane	CT,NY,NH
Indeno(1,2,3-cd)pyrene	CT,NY,NH
Isophorone	CT,NY,NH
2-Methylnaphthalene	CT,NY,NH
2-Methylphenol	CT,NY,NH
3/4-Methylphenol	CT,NY,NH
Naphthalene	CT,NY,NH
Nitrobenzene	CT,NY,NH
2-Nitrophenol	CT,NY,NH
4-Nitrophenol	CT,NY,NH
Pentachlorophenol	CT,NY,NH
Phenanthrene	CT,NY,NH
Phenol	CT,NY,NH
Pyrene	CT,NY,NH
1,2,4-Trichlorobenzene	CT,NY,NH
2,4,5-Trichlorophenol	CT,NY,NH
2,4,6-Trichlorophenol	CT,NY,NH
<b><i>SW-846 8270D in Water</i></b>	
Acenaphthene	CT,NY,NH
Acenaphthylene	CT,NY,NH
Acetophenone	NY
Aniline	CT,NY
Anthracene	CT,NY,NH
Benzo(a)anthracene	CT,NY,NH
Benzo(a)pyrene	CT,NY,NH
Benzo(b)fluoranthene	CT,NY,NH
Benzo(g,h,i)perylene	CT,NY,NH
Benzo(k)fluoranthene	CT,NY,NH
Bis(2-chloroethoxy)methane	CT,NY,NH
Bis(2-chloroethyl)ether	CT,NY,NH
Bis(2-chloroisopropyl)ether	CT,NY,NH
Bis(2-Ethylhexyl)phthalate	CT,NY,NH
4-Bromophenylphenylether	CT,NY,NH
Butylbenzylphthalate	CT,NY,NH
4-Chloroaniline	CT,NY,NH
2-Chloronaphthalene	CT,NY,NH
2-Chlorophenol	CT,NY,NH
Chrysene	CT,NY,NH
Dibenz(a,h)anthracene	CT,NY,NH
Dibenzofuran	CT,NY,NH
Di-n-butylphthalate	CT,NY,NH

**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
<i>SW-846 8270D in Water</i>	
1,2-Dichlorobenzene	CT,NY,NH
1,3-Dichlorobenzene	CT,NY,NH
1,4-Dichlorobenzene	CT,NY,NH
3,3-Dichlorobenzidine	CT,NY,NH
2,4-Dichlorophenol	CT,NY,NH
Diethylphthalate	CT,NY,NH
2,4-Dimethylphenol	CT,NY,NH
Dimethylphthalate	CT,NY,NH
2,4-Dinitrophenol	CT,NY,NH
2,4-Dinitrotoluene	CT,NY,NH
2,6-Dinitrotoluene	CT,NY,NH
Di-n-octylphthalate	CT,NY,NH
1,2-Diphenylhydrazine/Azobenzene	NY
Fluoranthene	CT,NY,NH
Fluorene	NY,NH
Hexachlorobenzene	CT,NY,NH
Hexachlorobutadiene	CT,NY,NH
Hexachloroethane	CT,NY,NH
Indeno(1,2,3-cd)pyrene	CT,NY,NH
Isophorone	CT,NY,NH
2-Methylnaphthalene	CT,NY,NH
2-Methylphenol	CT,NY,NH
3/4-Methylphenol	CT,NY,NH
Naphthalene	CT,NY,NH
Nitrobenzene	CT,NY,NH
2-Nitrophenol	CT,NY,NH
4-Nitrophenol	CT,NY,NH
Pentachlorophenol	CT,NY,NH
Phenanthrene	CT,NY,NH
Phenol	CT,NY,NH
Pyrene	CT,NY,NH
1,2,4-Trichlorobenzene	CT,NY,NH
2,4,5-Trichlorophenol	CT,NY,NH
2,4,6-Trichlorophenol	CT,NY,NH



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The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2005	100033	03/1/2020
MA	Massachusetts DEP	M-MA100	06/30/2019
CT	Connecticut Department of Public Health	PH-0567	09/30/2019
NY	New York State Department of Health	10899 NELAP	04/1/2019
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2020
RI	Rhode Island Department of Health	LAO00112	12/30/2019
NC	North Carolina Div. of Water Quality	652	12/31/2019
NJ	New Jersey DEP	MA007 NELAP	06/30/2019
FL	Florida Department of Health	E871027 NELAP	06/30/2019
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2019
ME	State of Maine	2011028	06/9/2019
VA	Commonwealth of Virginia	460217	12/14/2019
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2019
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2019
NC-DW	North Carolina Department of Health	25703	07/31/2019

Company Name: **Vertex**  
Address: **one congress st, Boston MA 02114**  
Phone: **781-552-6000**  
Project Name: **Wayland**  
Project Location: **Wayland MA**  
Project Number: **40047**  
Project Manager: **K. Searson**  
Con-Test Quote Name/Number:  
Invoice Recipient: **K. Searson**  
Sampled By: **K. Searson**

**Retention Period / Turnaround Time**  
7-Day  10-Day   
Due Date: **3/1/19**

**Post Approval Required**  
1-Day  3-Day   
2-Day  4-Day

**Data Delivery**  
Format: PDF  EXCEL   
Other: **EDD**  
CLP Like Data Pkg Required:   
Email To: **K. Searson@vertexeng.com**  
Fax To #:

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	Composite	Grab	Matrix Code	Conc Code	VEG 8240	SWC 8270	TPH 8100	MEP14 METALS	PCB 8082 via Soxhlet	190/low React / Sp C
<del>11</del>	<del>TP-P7(0-5)</del>	<del>03/01/19</del>	<del>1225</del>	<del>Y</del>		<del>S</del>		<del>X</del>	<del>S</del>	<del>S</del>	<del>S</del>	<del>S</del>	<del>S</del>
<del>12</del>	<del>TP-P7(5-10)</del>		<del>1115</del>										
<del>13</del>	<del>TP-E7(0-5)</del>		<del>1200</del>										
<del>14</del>	<del>TP-E7(5-10)</del>		<del>1205</del>										
<del>15</del>	<del>TP-E6(0-5)</del>		<del>1215</del>										
<del>16</del>	<del>TP-E6(5-10)</del>		<del>1220</del>										
<del>17</del>	<del>TP-F5(0-5)</del>		<del>1240</del>										
<del>18</del>	<del>TP-F5(5-10)</del>		<del>1245</del>										
<del>19</del>	<del>TP-E5(0-5)</del>		<del>1310</del>										
<del>20</del>	<del>TP-G5(5-10)</del>		<del>1315</del>										

**# of Containers**  
**2 Preservation Code**  
**3 Container Code**

**Discolored/Total Samples**  
 Field Filtered  
 Lab to Filter

**Groundwater Samples**  
 Field Filtered  
 Lab to Filter

- 1 Matrix Codes:**  
GW = Ground Water  
WW = Waste Water  
DW = Drinking Water  
A = Air  
S = Soil  
SL = Sludge  
SOL = Solid  
O = Other (please define)

- 2 Preservation Codes:**  
I = Iced  
H = HCL  
M = Methanol  
N = Nitric Acid  
S = Sulfuric Acid  
B = Sodium Bisulfate  
X = Sodium Hydroxide  
T = Sodium Thiosulfate  
O = Other (please define)

- 3 Container Codes:**  
A = Amber Glass  
G = Glass  
P = Plastic  
ST = Sterile  
V = Vial  
S = Summa Canister  
T = Tedlar Bag  
O = Other (please define)

Comments:

Please use the following codes to indicate possible sample concentration within the Conc Code column above:  
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature) **[Signature]** Date/Time: **03/01/19 1537**

Received by: (signature) **[Signature]** Date/Time: **03/01/19 1631**

Relinquished by: (signature) **[Signature]** Date/Time: **3/1/19 1834**

Received by: (signature) **[Signature]** Date/Time: **3-1-19 1834**

**Detection Limit Requirements**  
MA

**Special Requirements**  
 MA MCP Required  
 MCP Certification Form Required  
 CT RCP Required  
 RCP Certification Form Required  
 MA State DW Required

**Other**  
PWSID #



Relinquished by: (signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_

Received by: (signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_

**Project Entity**

Government  Municipality  MWRA  WRTA  
 Federal  21 J  School  
 City  Brownfield  MBTA

**Other**  
 Chromatogram  
 AIHA-LAP, LLC

**PCB ONLY**  
 Soxhlet  
 Non Soxhlet

I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples \_\_\_\_\_



**con-test**  
ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

**Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False**

Client Vortex

Received By CR Date 3-1-19 Time 1834

How were the samples received? In Cooler T No Cooler \_\_\_\_\_ On Ice T No Ice \_\_\_\_\_  
Direct from Sampling \_\_\_\_\_ Ambient \_\_\_\_\_ Melted Ice \_\_\_\_\_

Were samples within Temperature? 2-6°C T By Gun # 3 Actual Temp - 2.3 5.5  
By Blank # \_\_\_\_\_ Actual Temp - \_\_\_\_\_

Was Custody Seal Intact? NA Were Samples Tampered with? NA  
Was COC Relinquished? T Does Chain Agree With Samples? T

Are there broken/leaking/loose caps on any samples? F

Is COC in ink/ Legible? T Were samples received within holding time? T

Did COC include all pertinent Information? Client T Analysis T Sampler Name T  
Project T ID's T Collection Dates/Times T

Are Sample labels filled out and legible? T

Are there Lab to Filters? F

Are there Rushes? CR TF

Are there Short Holds? T

Is there enough Volume? T

Is there Headspace where applicable? T

Proper Media/Containers Used? T

Were trip blanks received? F

Do all samples have the proper pH? NA

Who was notified? \_\_\_\_\_

Who was notified? \_\_\_\_\_

Who was notified? Micros

MS/MSD? F

Is splitting samples required? F

On COC? F

Acid \_\_\_\_\_ Base \_\_\_\_\_

Vials	#	Containers:	#	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear
Meoh-	<u>25</u>	250 mL Amb.		250 mL Plastic		4oz Amb/Clear
Bisulfate-	<u>50</u>	Flashpoint		Col./Bacteria		2oz Amb/Clear
DI-		Other Glass		Other Plastic		Encore
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:
Sulfuric-		Perchlorate		Ziplock		

**Unused Media**

Vials	#	Containers:	#	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear
DI-		Other Plastic		Other Glass		Encore
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:
Sulfuric-		Perchlorate		Ziplock		

Comments:



March 3, 2021

Kristen Sarson  
Vertex Engineering - Boston  
100 North Washington St. Suite 302  
Boston, MA 02114

Project Location: 434 Boston Post Road, Wayland, MA  
Client Job Number:  
Project Number: 46047  
Laboratory Work Order Number: 21B1166

Enclosed are results of analyses for samples received by the laboratory on February 26, 2021. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jessica L. Hoffman  
Project Manager

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Vertex Engineering - Boston  
 100 North Washington St. Suite 302  
 Boston, MA 02114  
 ATTN: Kristen Sarson

REPORT DATE: 3/3/2021

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 46047

**ANALYTICAL SUMMARY**

WORK ORDER NUMBER: 21B1166

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: 434 Boston Post Road, Wayland, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
<del>TP-B4 (5-10)_TCLP</del>	<del>21B1166-01</del>	<del>Soil</del>	<del></del>	<del>SM 2540G</del>	
				SW-846 1311	
				SW-846 6010D	
<del>TP-D6 (5-10)_TCLP</del>	<del>21B1166-02</del>	<del>Soil</del>	<del></del>	<del>SM 2540G</del>	
				SW-846 1311	
				SW-846 6010D	
TP-E7 (0-5)_TCLP	21B1166-03	Soil		SM 2540G	
				SW-846 1311	
				SW-846 6010D	
TP-E7 (5-10)_TCLP	21B1166-04	Soil		SM 2540G	
				SW-846 1311	
				SW-846 6010D	
<del>TP-D3 (5-10)_TCLP</del>	<del>21B1166-05</del>	<del>Soil</del>	<del></del>	<del>SM 2540G</del>	
				SW-846 1311	
				SW-846 6010D	
<del>TP-C6 (5-10)_TPH1</del>	<del>21B1166-06</del>	<del>Soil</del>	<del></del>	<del>SM 2540G</del>	
				SW-846 8100 Modified	
<del>TP-C6 (5-10)_TPH2</del>	<del>21B1166-07</del>	<del>Soil</del>	<del></del>	<del>SM 2540G</del>	
				SW-846 8100 Modified	
<del>TP-C6 (5-10)_TPH3</del>	<del>21B1166-08</del>	<del>Soil</del>	<del></del>	<del>SM 2540G</del>	
				SW-846 8100 Modified	
<del>TP-C6 (5-10)_TPH4</del>	<del>21B1166-09</del>	<del>Soil</del>	<del></del>	<del>SM 2540G</del>	
				SW-846 8100 Modified	

**CASE NARRATIVE SUMMARY**

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

REVISED REPORT 03-03-21: Per client request the IDs for samples 21B1166-03 and 04 have been changed.  
For method 6010 (TCLP), only Pb was requested and reported.

**SW-846 8100 Modified**

TPH (C9-C36) is quantitated against a calibration made with a diesel standard.

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Jessica L. Hoffman  
Project Manager

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 434 Boston Post Road, Wayland, M Sample Description:

Work Order: 21B1166

Date Received: 2/26/2021

Field Sample #: TP-E7 (0-5)\_TCLP

Sampled: 2/26/2021 09:45

Sample ID: 21B1166-03

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/PHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.9		% Wt	1		SM 2540G	2/26/21	2/27/21 8:37	AVF

Project Location: 434 Boston Post Road, Wayland, M Sample Description:

Work Order: 21B1166

Date Received: 2/26/2021

Field Sample #: TP-E7 (0-5)\_TCLP

Sampled: 2/26/2021 09:45

Sample ID: 21B1166-03

Sample Matrix: Soil

## TCLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	10	0.10	mg/L	1		SW-846 6010D	3/1/21	3/2/21 13:59	MJH

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 434 Boston Post Road, Wayland, M    Sample Description:

Work Order: 21B1166

Date Received: 2/26/2021

Field Sample #: TP-E7 (5-10)\_TCLP

Sampled: 2/26/2021 09:50

Sample ID: 21B1166-04

Sample Matrix: Soil

**Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	90.5		% Wt	1		SM 2540G	2/26/21	2/27/21 8:37	AVF

Project Location: 434 Boston Post Road, Wayland, M Sample Description:

Work Order: 21B1166

Date Received: 2/26/2021

Field Sample #: TP-E7 (5-10)\_TCLP

Sampled: 2/26/2021 09:50

Sample ID: 21B1166-04

Sample Matrix: Soil

## TCLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	12	0.10	mg/L	1		SW-846 6010D	3/1/21	3/2/21 14:05	MJH



**Sample Extraction Data**
**Prep Method: % Solids    Analytical Method: SM 2540G**

Lab Number [Field ID]	Batch	Date
21B1166-01 [TP-B4 (5-10)_TCLP]	B277190	02/26/21
21B1166-02 [TP-D6 (5-10)_TCLP]	B277190	02/26/21
21B1166-03 [TP-E7 (0-5)_TCLP]	B277190	02/26/21
21B1166-04 [TP-E7 (5-10)_TCLP]	B277190	02/26/21
21B1166-05 [TP-D3 (5-10)_TCLP]	B277190	02/26/21

**Prep Method: % Solids    Analytical Method: SM 2540G**

Lab Number [Field ID]	Batch	Date
21B1166-06 [TP-C6 (5-10)_TPH1]	B277194	02/27/21
21B1166-07 [TP-C6 (5-10)_TPH2]	B277194	02/27/21
21B1166-08 [TP-C6 (5-10)_TPH3]	B277194	02/27/21
21B1166-09 [TP-C6 (5-10)_TPH4]	B277194	02/27/21

**Prep Method: SW-846 3010A    Analytical Method: SW-846 6010D    Leachates were extracted on 2/27/2021 per SW-846 1311 in Batch B277200**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21B1166-01 [TP-B4 (5-10)_TCLP]	B277251	50.0	50.0	03/01/21
21B1166-02 [TP-D6 (5-10)_TCLP]	B277251	50.0	50.0	03/01/21
21B1166-03 [TP-E7 (0-5)_TCLP]	B277251	50.0	50.0	03/01/21
21B1166-04 [TP-E7 (5-10)_TCLP]	B277251	50.0	50.0	03/01/21
21B1166-05 [TP-D3 (5-10)_TCLP]	B277251	50.0	50.0	03/01/21

**Prep Method: SW-846 3546    Analytical Method: SW-846 8100 Modified**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
21B1166-06 [TP-C6 (5-10)_TPH1]	B277195	30.1	1.00	02/27/21
21B1166-07 [TP-C6 (5-10)_TPH2]	B277195	30.4	1.00	02/27/21
21B1166-08 [TP-C6 (5-10)_TPH3]	B277195	30.3	1.00	02/27/21
21B1166-09 [TP-C6 (5-10)_TPH4]	B277195	30.4	1.00	02/27/21

**QUALITY CONTROL**
**Petroleum Hydrocarbons Analyses - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B277195 - SW-846 3546</b>									
<b>Blank (B277195-BLK1)</b>					Prepared: 02/27/21 Analyzed: 03/01/21				
TPH (C9-C36)	ND	8.3	mg/Kg wet						
Surrogate: 2-Fluorobiphenyl	1.86		mg/Kg wet	3.33		55.8 40-140			
<b>LCS (B277195-BS1)</b>					Prepared: 02/27/21 Analyzed: 03/01/21				
TPH (C9-C36)	23.9	8.3	mg/Kg wet	33.3		71.7 40-140			
Surrogate: 2-Fluorobiphenyl	2.64		mg/Kg wet	3.33		79.3 40-140			
<b>LCS Dup (B277195-BSD1)</b>					Prepared: 02/27/21 Analyzed: 03/01/21				
TPH (C9-C36)	23.0	8.3	mg/Kg wet	33.3		69.1 40-140	3.75	30	
Surrogate: 2-Fluorobiphenyl	2.44		mg/Kg wet	3.33		73.1 40-140			

**QUALITY CONTROL**

**Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

**Batch B277190 - % Solids**

**Duplicate (B277190-DUP1)**

**Source: 21B1166-01**

Prepared: 02/26/21 Analyzed: 02/27/21

% Solids	82.8		% Wt		87.1			5.06	10	
----------	------	--	------	--	------	--	--	------	----	--

**QUALITY CONTROL**
**TCLP - Metals Analyses - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B277251 - SW-846 3010A</b>										
<b>Blank (B277251-BLK1)</b>				Prepared: 03/01/21 Analyzed: 03/02/21						
Lead	ND	0.10	mg/L							
<b>LCS (B277251-BS1)</b>				Prepared: 03/01/21 Analyzed: 03/02/21						
Lead	0.491	0.10	mg/L	0.500		98.2	80-120			
<b>LCS Dup (B277251-BSD1)</b>				Prepared: 03/01/21 Analyzed: 03/02/21						
Lead	0.493	0.10	mg/L	0.500		98.7	80-120	0.526	20	

**FLAG/QUALIFIER SUMMARY**

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
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**SW-846 6010D in Water**

Lead	NY,CT,ME,NC,NH,VA
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Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2021
CT	Connecticut Department of Public Health	PH-0165	12/31/2022
NY	New York State Department of Health	10899 NELAP	04/1/2021
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2022
RI	Rhode Island Department of Health	LAO00112	12/30/2021
NC	North Carolina Div. of Water Quality	652	12/31/2021
NJ	New Jersey DEP	MA007 NELAP	06/30/2021
FL	Florida Department of Health	E871027 NELAP	06/30/2021
VT	Vermont Department of Health Lead Laboratory	LL720741	07/30/2021
ME	State of Maine	MA00100	06/9/2021
VA	Commonwealth of Virginia	460217	12/14/2021
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2021
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2021
NC-DW	North Carolina Department of Health	25703	07/31/2021
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2021
MI	Dept. of Env, Great Lakes, and Energy	9100	09/6/2021





Phone: 413-525-2332  
 Fax: 413-525-6405  
 Email: info@contestlabs.com

http://www.contestlabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street  
 East Longmeadow, MA 01028

Doc # 381 Rev 2\_06262019

Address: Vertex Companies, 100 N Washington St  
 Phone: 781-417-5300 Suite 302, Boston, MA  
 Project Name: Rivers Edge  
 Project Location: 424 Boston Post Road, Weyland, MA  
 Project Number: 46047  
 Project Manager: Krisun Sarson  
 Con-Test Quote Name/Number:  
 Invoice Recipient:  
 Sampled By: Machline Jeffers

Required Turnaround Time		Discarded Samples	
7-Day <input type="checkbox"/>	10-Day <input type="checkbox"/>	<input type="radio"/> Field Filtered	<input type="radio"/> Lab to Filter
PFAS 10-Day (std) <input type="checkbox"/>	Due Date:	<input type="radio"/> Field Filtered	<input type="radio"/> Lab to Filter
Rush-Approval Required		Orthophosphate Samples	
1-Day <input checked="" type="checkbox"/>	3-Day <input type="checkbox"/>	<input type="radio"/> Field Filtered	<input type="radio"/> Lab to Filter
2-Day <input type="checkbox"/>	4-Day <input type="checkbox"/>	<input type="radio"/> Field Filtered	<input type="radio"/> Lab to Filter
Data Delivery			
Format:	PDF <input checked="" type="checkbox"/>	EXCEL <input checked="" type="checkbox"/>	
Other:	<u>LOUIS</u>		
CLP Like Data Pkg Required:	<input type="checkbox"/>		
Email To:	<u>Ksarson@Vertex-eng.com</u>		
Fax To #:			

ANALYSIS REQUESTED																					
VIALS	GLASS	PLASTIC	BACTERIA	ENCORE																	

<sup>2</sup> Preservation Code

Total Number Of:

VIALS \_\_\_\_\_

GLASS \_\_\_\_\_

PLASTIC \_\_\_\_\_

BACTERIA \_\_\_\_\_

ENCORE \_\_\_\_\_

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

\*Contest is not responsible for missing samples from prepackaged coolers

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	CDMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE
<del>1</del>	<del>TP-B4(5-10)-TCLP</del>	<del>8:20</del>	<del>8:20</del>	<del>comp</del>	<del>S</del>	<del>1</del>	<del>1</del>				
<del>2</del>	<del>TP-D6(5-10)-TCLP</del>	<del>9:30</del>	<del>9:30</del>								
<del>3</del>	<del>TP-E7(0-5)-TCLP</del>	<del>9:45</del>	<del>9:45</del>								
<del>4</del>	<del>TP-G7(5-10)-TCLP</del>	<del>9:50</del>	<del>9:50</del>								
<del>5</del>	<del>TP-D3(5-10)-TCLP</del>	<del>10:19</del>	<del>10:19</del>								
<del>6</del>	<del>TP-C6(5-10)-TAL1</del>	<del>8:45</del>	<del>8:45</del>								
<del>7</del>	<del>TP-C6(5-10)-TAL2</del>	<del>8:54</del>	<del>8:54</del>								
<del>8</del>	<del>TP-C6(5-10)-TAL3</del>	<del>9:05</del>	<del>9:05</del>								
<del>9</del>	<del>TP-C6(5-10)-TAL4</del>	<del>9:15</del>	<del>9:15</del>								

TCLP lead  
TPH

Relinquished by: (signature) [Signature] Date/Time: 2/10/21 12:50

Received by: (signature) [Signature] Date/Time: 2/24/21 12:50

Relinquished by: (signature) [Signature] Date/Time: 2/24/21 16:36

Received by: (signature) [Signature] Date/Time: 4/4/21 11:30

Client Comments:

Detection Limit Requirements	Special Requirements
MA <input checked="" type="checkbox"/>	MA MCP Required <input checked="" type="checkbox"/>
	MCP Certification Permit Required <input type="checkbox"/>
	IL MCP Required <input type="checkbox"/>
	MCP Certification Permit Required <input type="checkbox"/>
	MA State Use Required <input type="checkbox"/>

Please use the following codes to indicate possible sample concentration within the Conc Code column above:  
 H - High; M - Medium; L - Low; C - Clean; U - Unknown

per client please change sample IDS  
 21B1166-03/TP-G7 (0-5)\_TCLP - please update to TP-E7 (0-5)\_TCLP And  
 21B1166-04/TP-G7 (5-10)\_TCLP - please update to TP-E7 (5-10)\_TCLP  
 JLH 3/3/2021

Project Entity

Government <input type="checkbox"/>	Municipality <input type="checkbox"/>	MWRA <input type="checkbox"/>	WRTA <input type="checkbox"/>	Other <input type="checkbox"/>
Federal <input type="checkbox"/>	21 J <input type="checkbox"/>	School <input type="checkbox"/>		<input type="checkbox"/> Chromatogram
City <input type="checkbox"/>	Brownfield <input type="checkbox"/>	MBTA <input type="checkbox"/>		<input type="checkbox"/> AIHA-LAP, LLC

RELAC and AIHA-LAP, LLC Accredited

PCB ONLY

Soxhlet

Non Soxhlet

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples \_\_\_\_\_



**con-test**  
ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

**Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False**

Client Vertex

Received By [Signature] Date 2/20/21 Time 1630

How were the samples received? In Cooler  No Cooler \_\_\_\_\_ On Ice  No Ice \_\_\_\_\_  
Direct from Sampling \_\_\_\_\_ Ambient \_\_\_\_\_ Melted Ice \_\_\_\_\_

Were samples within Temperature? 2-6°C  By Gun # 3 Actual Temp - 4.4  
By Blank # \_\_\_\_\_ Actual Temp - \_\_\_\_\_

Was Custody Seal Intact? n/a Were Samples Tampered with? n/a  
Was COC Relinquished?  Does Chain Agree With Samples?

Are there broken/leaking/loose caps on any samples?

Is COC in ink/ Legible?  Were samples received within holding time?

Did COC include all pertinent Information? Client  Analysis  Sampler Name   
Project  ID's  Collection Dates/Times

Are Sample labels filled out and legible?

Are there Lab to Filters?

Are there Rushes?

Are there Short Holds?

Is there enough Volume?

Is there Headspace where applicable? n/a

Proper Media/Containers Used?

Were trip blanks received?

Do all samples have the proper pH?

Who was notified? \_\_\_\_\_

Who was notified? Enice

Who was notified? \_\_\_\_\_

MS/MSD?

Is splitting samples required?

On COC?

Acid n/a Base n/a

Vials	#	Containers:	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic	16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic	8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic	4oz Amb/Clear
Bisulfate-		Flashpoint		Col./Bacteria	2oz Amb/Clear
DI-		Other Glass		Other Plastic	Encore
Thiosulfate-		SOC Kit		Plastic Bag	Frozen:
Sulfuric-		Perchlorate		Ziplock	

**Unused Media**

Vials	#	Containers:	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic	16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic	8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic	4oz Amb/Clear
Bisulfate-		Col./Bacteria		Flashpoint	2oz Amb/Clear
DI-		Other Plastic		Other Glass	Encore
Thiosulfate-		SOC Kit		Plastic Bag	Frozen:
Sulfuric-		Perchlorate		Ziplock	

Comments:

**MADEP MCP Analytical Method Report Certification Form**

Laboratory Name: Con-Test, a Pace Analytical Laboratory Project #: 21B1166  
 Project Location: 434 Boston Post Road, Wayland, MA RTN: \_\_\_\_\_

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]  
21B1166-01 thru 21B1166-09

Matrices: Soil

**CAM Protocol (check all that below)**

8260 VOC CAM II A ( )	7470/7471 Hg CAM III B ( )	MassDEP VPH CAM IV A ( )	8082 PCB CAM V A ( )	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )
8270 SVOC CAM II B ( )	7010 Metals CAM III C ( )	MassDEP VPH CAM IV C ( )	8081 Pesticides CAM V B ( )	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
6010 Metals CAM III A (X)	6020 Metals CAM III D ( )	MassDEP EPH CAM IV B ( )	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )

**Affirmative response to Questions A through F is required for "Presumptive Certainty" status**

<b>A</b>	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>B</b>	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>C</b>	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>D</b>	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>E a</b>	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	<input type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>E b</b>	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>F</b>	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>

**A response to questions G, H and I below is required for "Presumptive Certainty" status**

<b>G</b>	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
----------	---	--

**Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

<b>H</b>	Were all QC performance standards specified in the CAM protocol(s) achieved?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>I</b>	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <sup>1</sup>

<sup>1</sup> All Negative responses must be addressed in an attached Environmental Laboratory case narrative.

**I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.**

Signature: *Lisa Worthington* Position: Technical Representative  
 Printed Name: Lisa A. Worthington Date: 03/03/21

March 9, 2021

Kristen Sarson  
Vertex Engineering - Boston  
100 North Washington St. Suite 302  
Boston, MA 02114

Project Location: 394 Boston Post Rd, Wayland, MA  
Client Job Number:  
Project Number: 67404  
Laboratory Work Order Number: 21C0390

Enclosed are results of analyses for samples received by the laboratory on March 8, 2021. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jessica L. Hoffman  
Project Manager

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39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

 Vertex Engineering - Boston  
 100 North Washington St. Suite 302  
 Boston, MA 02114  
 ATTN: Kristen Sarson

REPORT DATE: 3/9/2021

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 67404

**ANALYTICAL SUMMARY**

WORK ORDER NUMBER: 21C0390

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: 394 Boston Post Rd, Wayland, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
TP-E7 (0-5)_N	21C0390-01	Soil		SM 2540G SW-846 6010D	
TP-E7 (5-10)_N	21C0390-02	Soil		SM 2540G SW-846 6010D	
TP-E7 (0-5)_E	21C0390-03	Soil		SM 2540G SW-846 6010D	
TP-E7 (5-10)_E	21C0390-04	Soil		SM 2540G SW-846 6010D	
TP-E7 (0-5)_S	21C0390-05	Soil		SM 2540G SW-846 6010D	
TP-E7 (5-10)_S	21C0390-06	Soil		SM 2540G SW-846 6010D	
TP-E7 (0-5)_W	21C0390-07	Soil		SM 2540G SW-846 6010D	
TP-E7 (5-10)_W	21C0390-08	Soil		SM 2540G SW-846 6010D	
TP-C6 (5-10)_TPH 5	21C0390-09	Soil		SM 2540G SW-846 8100 Modified	
TP-C5 (5-10)_TPH 1	21C0390-10	Soil		SM 2540G SW-846 8100 Modified	



**CASE NARRATIVE SUMMARY**

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

**SW-846 8100 Modified**

TPH (C9-C36) is quantitated against a calibration made with a diesel standard.

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington  
Technical Representative

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0390

Date Received: 3/8/2021

Field Sample #: TP-E7 (0-5)\_N

Sampled: 3/8/2021 08:20

Sample ID: 21C0390-01

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	76	0.54	mg/Kg dry	1		SW-846 6010D	3/9/21	3/9/21 13:05	AJL

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0390

Date Received: 3/8/2021

Field Sample #: TP-E7 (0-5)\_N

Sampled: 3/8/2021 08:20

Sample ID: 21C0390-01

Sample Matrix: Soil

**Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	90.8		% Wt	1		SM 2540G	3/8/21	3/9/21 8:38	AVF

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0390

Date Received: 3/8/2021

Field Sample #: TP-E7 (5-10)\_N

Sampled: 3/8/2021 08:25

Sample ID: 21C0390-02

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	170	0.51	mg/Kg dry	1		SW-846 6010D	3/9/21	3/9/21 13:11	AJL

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0390

Date Received: 3/8/2021

**Field Sample #: TP-E7 (5-10)\_N**

Sampled: 3/8/2021 08:25

**Sample ID: 21C0390-02**

Sample Matrix: Soil

**Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	91.8		% Wt	1		SM 2540G	3/8/21	3/9/21 8:38	AVF

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0390

Date Received: 3/8/2021

Field Sample #: TP-E7 (0-5)\_E

Sampled: 3/8/2021 09:30

Sample ID: 21C0390-03

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	180	0.58	mg/Kg dry	1		SW-846 6010D	3/9/21	3/9/21 13:18	AJL



39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0390

Date Received: 3/8/2021

Field Sample #: TP-E7 (0-5)\_E

Sampled: 3/8/2021 09:30

Sample ID: 21C0390-03

Sample Matrix: Soil

**Conventional Chemistry Parameters by EPA/PHA/SW-846 Methods (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.1		% Wt	1		SM 2540G	3/8/21	3/9/21 8:38	AVF

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0390

Date Received: 3/8/2021

Field Sample #: TP-E7 (5-10)\_E

Sampled: 3/8/2021 09:35

Sample ID: 21C0390-04

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	25	0.53	mg/Kg dry	1		SW-846 6010D	3/9/21	3/9/21 13:25	AJL

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0390

Date Received: 3/8/2021

Field Sample #: TP-E7 (5-10)\_E

Sampled: 3/8/2021 09:35

Sample ID: 21C0390-04

Sample Matrix: Soil

**Conventional Chemistry Parameters by EPA/PHA/SW-846 Methods (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.4		% Wt	1		SM 2540G	3/8/21	3/9/21 8:39	AVF

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0390

Date Received: 3/8/2021

Field Sample #: TP-E7 (0-5)\_S

Sampled: 3/8/2021 10:55

Sample ID: 21C0390-05

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	29	0.55	mg/Kg dry	1		SW-846 6010D	3/9/21	3/9/21 13:32	AJL

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0390

Date Received: 3/8/2021

Field Sample #: TP-E7 (0-5)\_S

Sampled: 3/8/2021 10:55

Sample ID: 21C0390-05

Sample Matrix: Soil

**Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	87.5		% Wt	1		SM 2540G	3/8/21	3/9/21 8:39	AVF

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0390

Date Received: 3/8/2021

Field Sample #: TP-E7 (5-10)\_S

Sampled: 3/8/2021 11:00

Sample ID: 21C0390-06

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	19	0.53	mg/Kg dry	1		SW-846 6010D	3/9/21	3/9/21 13:38	AJL



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Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0390

Date Received: 3/8/2021

Field Sample #: TP-E7 (5-10)\_S

Sampled: 3/8/2021 11:00

Sample ID: 21C0390-06

Sample Matrix: Soil

**Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	90.9		% Wt	1		SM 2540G	3/8/21	3/9/21 8:39	AVF

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0390

Date Received: 3/8/2021

Field Sample #: TP-E7 (0-5)\_W

Sampled: 3/8/2021 11:45

Sample ID: 21C0390-07

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	43	0.58	mg/Kg dry	1		SW-846 6010D	3/9/21	3/9/21 13:57	AJL

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0390

Date Received: 3/8/2021

Field Sample #: TP-E7 (0-5)\_W

Sampled: 3/8/2021 11:45

Sample ID: 21C0390-07

Sample Matrix: Soil

**Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.0		% Wt	1		SM 2540G	3/8/21	3/9/21 8:40	AVF

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0390

Date Received: 3/8/2021

Field Sample #: TP-E7 (5-10)\_W

Sampled: 3/8/2021 11:50

Sample ID: 21C0390-08

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	19	0.54	mg/Kg dry	1		SW-846 6010D	3/9/21	3/9/21 14:04	AJL

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0390

Date Received: 3/8/2021

Field Sample #: TP-E7 (5-10)\_W

Sampled: 3/8/2021 11:50

Sample ID: 21C0390-08

Sample Matrix: Soil

**Conventional Chemistry Parameters by EPA/PHA/SW-846 Methods (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	87.7		% Wt	1		SM 2540G	3/8/21	3/9/21 8:40	AVF

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Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0390

Date Received: 3/8/2021

Field Sample #: TP-C6 (5-10)\_TPH 5

Sampled: 3/8/2021 12:30

Sample ID: 21C0390-09

Sample Matrix: Soil

**Petroleum Hydrocarbons Analyses**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	230	9.5	mg/Kg dry	1		SW-846 8100 Modified	3/8/21	3/9/21 10:19	RDD
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
2-Fluorobiphenyl	47.1	40-140			3/9/21 10:19				



39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0390

Date Received: 3/8/2021

**Field Sample #: TP-C6 (5-10)\_TPH 5**

Sampled: 3/8/2021 12:30

**Sample ID: 21C0390-09**

Sample Matrix: Soil

**Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	87.1		% Wt	1		SM 2540G	3/8/21	3/9/21 8:40	AVF

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0390

Date Received: 3/8/2021

Field Sample #: TP-C5 (5-10)\_TPH 1

Sampled: 3/8/2021 12:50

Sample ID: 21C0390-10

Sample Matrix: Soil

**Petroleum Hydrocarbons Analyses**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	240	9.4	mg/Kg dry	1		SW-846 8100 Modified	3/8/21	3/9/21 10:39	RDD
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
2-Fluorobiphenyl	47.2	40-140			3/9/21 10:39				

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Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0390

Date Received: 3/8/2021

**Field Sample #: TP-C5 (5-10)\_TPH 1**

Sampled: 3/8/2021 12:50

**Sample ID: 21C0390-10**

Sample Matrix: Soil

**Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	86.7		% Wt	1		SM 2540G	3/8/21	3/9/21 8:41	AVF

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**Sample Extraction Data**
**Prep Method: % Solids    Analytical Method: SM 2540G**

Lab Number [Field ID]	Batch	Date
21C0390-01 [TP-E7 (0-5)_N]	B277679	03/08/21
21C0390-02 [TP-E7 (5-10)_N]	B277679	03/08/21
21C0390-03 [TP-E7 (0-5)_E]	B277679	03/08/21
21C0390-04 [TP-E7 (5-10)_E]	B277679	03/08/21
21C0390-05 [TP-E7 (0-5)_S]	B277679	03/08/21
21C0390-06 [TP-E7 (5-10)_S]	B277679	03/08/21
21C0390-07 [TP-E7 (0-5)_W]	B277679	03/08/21
21C0390-08 [TP-E7 (5-10)_W]	B277679	03/08/21
21C0390-09 [TP-C6 (5-10)_TPH 5]	B277679	03/08/21
21C0390-10 [TP-C5 (5-10)_TPH 1]	B277679	03/08/21

**Prep Method: SW-846 3050B    Analytical Method: SW-846 6010D**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
21C0390-01 [TP-E7 (0-5)_N]	B277689	1.52	50.0	03/09/21
21C0390-02 [TP-E7 (5-10)_N]	B277689	1.59	50.0	03/09/21
21C0390-03 [TP-E7 (0-5)_E]	B277689	1.51	50.0	03/09/21
21C0390-04 [TP-E7 (5-10)_E]	B277689	1.59	50.0	03/09/21
21C0390-05 [TP-E7 (0-5)_S]	B277689	1.55	50.0	03/09/21
21C0390-06 [TP-E7 (5-10)_S]	B277689	1.55	50.0	03/09/21
21C0390-07 [TP-E7 (0-5)_W]	B277689	1.52	50.0	03/09/21
21C0390-08 [TP-E7 (5-10)_W]	B277689	1.60	50.0	03/09/21

**Prep Method: SW-846 3546    Analytical Method: SW-846 8100 Modified**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
21C0390-09 [TP-C6 (5-10)_TPH 5]	B277614	30.2	1.00	03/08/21
21C0390-10 [TP-C5 (5-10)_TPH 1]	B277614	30.8	1.00	03/08/21

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**QUALITY CONTROL**
**Petroleum Hydrocarbons Analyses - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B277614 - SW-846 3546</b>									
<b>Blank (B277614-BLK1)</b>					Prepared: 03/08/21 Analyzed: 03/09/21				
TPH (C9-C36)	ND	8.1	mg/Kg wet						
Surrogate: 2-Fluorobiphenyl	4.07		mg/Kg wet	3.26		125 40-140			
<b>LCS (B277614-BS1)</b>					Prepared: 03/08/21 Analyzed: 03/09/21				
TPH (C9-C36)	28.2	8.3	mg/Kg wet	33.1		85.2 40-140			
Surrogate: 2-Fluorobiphenyl	2.14		mg/Kg wet	3.31		64.7 40-140			
<b>LCS Dup (B277614-BSD1)</b>					Prepared: 03/08/21 Analyzed: 03/09/21				
TPH (C9-C36)	31.7	8.2	mg/Kg wet	33.0		96.0 40-140	11.5	30	
Surrogate: 2-Fluorobiphenyl	2.40		mg/Kg wet	3.30		72.6 40-140			

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**QUALITY CONTROL**
**Metals Analyses (Total) - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B277689 - SW-846 3050B</b>										
<b>Blank (B277689-BLK1)</b>										
Prepared & Analyzed: 03/09/21										
Lead	ND	0.48	mg/Kg wet							
<b>LCS (B277689-BS1)</b>										
Prepared & Analyzed: 03/09/21										
Lead	125	1.5	mg/Kg wet	140		89.2	82.9-117.1			
<b>LCS Dup (B277689-BSD1)</b>										
Prepared & Analyzed: 03/09/21										
Lead	119	1.4	mg/Kg wet	140		84.9	82.9-117.1	4.98	30	
<b>Reference (B277689-SRM1) MRL CHECK</b>										
Prepared & Analyzed: 03/09/21										
Lead	0.550	0.49	mg/Kg wet	0.489		112	80-120			



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**QUALITY CONTROL**
**Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	----------------	--------------	-------

**Batch B277679 - % Solids**
**Duplicate (B277679-DUP1)**
**Source: 21C0390-10**

Prepared: 03/08/21 Analyzed: 03/09/21

% Solids	85.3		% Wt		86.7		1.56	10
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39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

**FLAG/QUALIFIER SUMMARY**

- \* QC result is outside of established limits.
  - † Wide recovery limits established for difficult compound.
  - ‡ Wide RPD limits established for difficult compound.
  - # Data exceeded client recommended or regulatory level
  - ND Not Detected
  - RL Reporting Limit is at the level of quantitation (LOQ)
  - DL Detection Limit is the lower limit of detection determined by the MDL study
  - MCL Maximum Contaminant Level
- Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
- No results have been blank subtracted unless specified in the case narrative section.

**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
---------	----------------

*SW-846 6010D in Soil*

Lead CT,NH,NY,AIHA,ME,VA,NC

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2021
CT	Connecticut Department of Public Health	PH-0165	12/31/2022
NY	New York State Department of Health	10899 NELAP	04/1/2021
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2022
RI	Rhode Island Department of Health	LAO00112	12/30/2021
NC	North Carolina Div. of Water Quality	652	12/31/2021
NJ	New Jersey DEP	MA007 NELAP	06/30/2021
FL	Florida Department of Health	E871027 NELAP	06/30/2021
VT	Vermont Department of Health Lead Laboratory	LL720741	07/30/2021
ME	State of Maine	MA00100	06/9/2021
VA	Commonwealth of Virginia	460217	12/14/2021
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2021
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2021
NC-DW	North Carolina Department of Health	25703	07/31/2021
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2021
MI	Dept. of Env, Great Lakes, and Energy	9100	09/6/2021



I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples \_\_\_\_\_



**con-test**  
ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

**Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False**

Client Vortex  
 Received By [Signature] Date 3/18/21 Time 1645

How were the samples received?  
 In Cooler T No Cooler \_\_\_\_\_ On Ice T No Ice \_\_\_\_\_  
 Direct from Sampling \_\_\_\_\_ Ambient \_\_\_\_\_ Melted Ice \_\_\_\_\_

Were samples within Temperature? 2-6°C T By Gun # 3 Actual Temp - 32  
 By Blank # \_\_\_\_\_ Actual Temp - \_\_\_\_\_

Was Custody Seal Intact? T Were Samples Tampered with? n/a  
 Was COC Relinquished? T Does Chain Agree With Samples? T

Are there broken/leaking/loose caps on any samples? F

Is COC in ink/ Legible? T Were samples received within holding time? T  
 Did COC include all pertinent Information? Client T Analysis T Sampler Name T  
 Project T ID's T Collection Dates/Times T

Are Sample labels filled out and legible? T  
 Are there Lab to Filters? F Who was notified? \_\_\_\_\_  
 Are there Rushes? T Who was notified? Ashly  
 Are there Short Holds? F Who was notified? \_\_\_\_\_  
 Is there enough Volume? T  
 Is there Headspace where applicable? n/a MS/MSD? F  
 Proper Media/Containers Used? T Is splitting samples required? F  
 Were trip blanks received? F On COC? F  
 Do all samples have the proper pH? Acid n/a Base n/a

Vials	#	Containers:	#	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear
Bisulfate-		Flashpoint		Col./Bacteria		2oz Amb/Clear
DI-		Other Glass		Other Plastic		Encore
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:
Sulfuric-		Perchlorate		Ziplock		

**Unused Media**

Vials	#	Containers:	#	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear
DI-		Other Plastic		Other Glass		Encore
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:
Sulfuric-		Perchlorate		Ziplock		

Comments:

March 11, 2021

Kristen Sarson  
Vertex Engineering - Boston  
100 North Washington St. Suite 302  
Boston, MA 02114

Project Location: 394 Boston Post Rd, Wayland, MA  
Client Job Number:  
Project Number: 67404  
Laboratory Work Order Number: 21C0391

Enclosed are results of analyses for samples received by the laboratory on March 8, 2021. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jessica L. Hoffman  
Project Manager



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39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Vertex Engineering - Boston  
 100 North Washington St. Suite 302  
 Boston, MA 02114  
 ATTN: Kristen Sarson

REPORT DATE: 3/11/2021

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 67404

**ANALYTICAL SUMMARY**

WORK ORDER NUMBER: 21C0391

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: 394 Boston Post Rd, Wayland, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
TP-E7 (0-5)_N	21C0391-01	Soil		SM 2540G SW-846 6010D	
TP-E7 (5-10)_N	21C0391-02	Soil		SM 2540G SW-846 6010D	
TP-E7 (0-5)_E	21C0391-03	Soil		SM 2540G SW-846 6010D	
TP-E7 (5-10)_E	21C0391-04	Soil		SM 2540G SW-846 6010D	
TP-E7 (0-5)_S	21C0391-05	Soil		SM 2540G SW-846 6010D	
TP-E7 (5-10)_S	21C0391-06	Soil		SM 2540G SW-846 6010D	
TP-E7 (0-5)_W	21C0391-07	Soil		SM 2540G SW-846 6010D	
TP-E7 (5-10)_W	21C0391-08	Soil		SM 2540G SW-846 6010D	

**CASE NARRATIVE SUMMARY**

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington  
Technical Representative

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0391

Date Received: 3/8/2021

Field Sample #: TP-E7 (0-5)\_N

Sampled: 3/8/2021 08:20

Sample ID: 21C0391-01

Sample Matrix: Soil

**Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	90.8		% Wt	1		SM 2540G	3/9/21	3/9/21 10:49	YS

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0391

Date Received: 3/8/2021

Field Sample #: TP-E7 (0-5)\_N

Sampled: 3/8/2021 08:20

Sample ID: 21C0391-01

Sample Matrix: Soil

**TCLP - Metals Analyses**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	0.12	0.10	mg/L	1		SW-846 6010D	3/10/21	3/11/21 14:09	AJL

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0391

Date Received: 3/8/2021

Field Sample #: TP-E7 (5-10)\_N

Sampled: 3/8/2021 08:25

Sample ID: 21C0391-02

Sample Matrix: Soil

**Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	91.8		% Wt	1		SM 2540G	3/9/21	3/9/21 10:49	YS



39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0391

Date Received: 3/8/2021

Field Sample #: TP-E7 (5-10)\_N

Sampled: 3/8/2021 08:25

Sample ID: 21C0391-02

Sample Matrix: Soil

**TCLP - Metals Analyses**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	4.4	0.10	mg/L	1		SW-846 6010D	3/10/21	3/11/21 14:14	AJL

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0391

Date Received: 3/8/2021

Field Sample #: TP-E7 (0-5)\_E

Sampled: 3/8/2021 09:30

Sample ID: 21C0391-03

Sample Matrix: Soil

**Conventional Chemistry Parameters by EPA/PHA/SW-846 Methods (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.1		% Wt	1		SM 2540G	3/9/21	3/9/21 10:49	YS

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 394 Boston Post Rd, Wayland, MA      Sample Description:

Work Order: 21C0391

Date Received: 3/8/2021

Field Sample #: TP-E7 (0-5)\_E

Sampled: 3/8/2021 09:30

Sample ID: 21C0391-03

Sample Matrix: Soil

**TCLP - Metals Analyses**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	1.0	0.10	mg/L	1		SW-846 6010D	3/10/21	3/11/21 14:19	AJL

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0391

Date Received: 3/8/2021

Field Sample #: TP-E7 (5-10)\_E

Sampled: 3/8/2021 09:35

Sample ID: 21C0391-04

Sample Matrix: Soil

**Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.4		% Wt	1		SM 2540G	3/9/21	3/9/21 10:49	YS

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0391

Date Received: 3/8/2021

Field Sample #: TP-E7 (5-10)\_E

Sampled: 3/8/2021 09:35

Sample ID: 21C0391-04

Sample Matrix: Soil

**TCLP - Metals Analyses**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	ND	0.10	mg/L	1		SW-846 6010D	3/10/21	3/11/21 14:24	AJL

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0391

Date Received: 3/8/2021

Field Sample #: TP-E7 (0-5)\_S

Sampled: 3/8/2021 10:55

Sample ID: 21C0391-05

Sample Matrix: Soil

**Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	87.5		% Wt	1		SM 2540G	3/9/21	3/9/21 10:49	YS



39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0391

Date Received: 3/8/2021

Field Sample #: TP-E7 (0-5)\_S

Sampled: 3/8/2021 10:55

Sample ID: 21C0391-05

Sample Matrix: Soil

**TCLP - Metals Analyses**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	ND	0.10	mg/L	1		SW-846 6010D	3/10/21	3/11/21 14:29	AJL

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0391

Date Received: 3/8/2021

Field Sample #: TP-E7 (5-10)\_S

Sampled: 3/8/2021 11:00

Sample ID: 21C0391-06

Sample Matrix: Soil

**Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	90.9		% Wt	1		SM 2540G	3/9/21	3/9/21 10:49	YS

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0391

Date Received: 3/8/2021

Field Sample #: TP-E7 (5-10)\_S

Sampled: 3/8/2021 11:00

Sample ID: 21C0391-06

Sample Matrix: Soil

**TCLP - Metals Analyses**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	ND	0.10	mg/L	1		SW-846 6010D	3/10/21	3/11/21 14:04	AJL

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0391

Date Received: 3/8/2021

Field Sample #: TP-E7 (0-5)\_W

Sampled: 3/8/2021 11:45

Sample ID: 21C0391-07

Sample Matrix: Soil

**Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.0		% Wt	1		SM 2540G	3/9/21	3/9/21 10:49	YS

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0391

Date Received: 3/8/2021

Field Sample #: TP-E7 (0-5)\_W

Sampled: 3/8/2021 11:45

Sample ID: 21C0391-07

Sample Matrix: Soil

**TCLP - Metals Analyses**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	ND	0.10	mg/L	1		SW-846 6010D	3/10/21	3/11/21 14:34	AJL

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0391

Date Received: 3/8/2021

Field Sample #: TP-E7 (5-10)\_W

Sampled: 3/8/2021 11:50

Sample ID: 21C0391-08

Sample Matrix: Soil

**Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	87.7		% Wt	1		SM 2540G	3/9/21	3/9/21 10:49	YS



39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 394 Boston Post Rd, Wayland, MA    Sample Description:

Work Order: 21C0391

Date Received: 3/8/2021

Field Sample #: TP-E7 (5-10)\_W

Sampled: 3/8/2021 11:50

Sample ID: 21C0391-08

Sample Matrix: Soil

**TCLP - Metals Analyses**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	ND	0.10	mg/L	1		SW-846 6010D	3/10/21	3/11/21 14:39	AJL

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

**Sample Extraction Data**
**Prep Method: % Solids    Analytical Method: SM 2540G**

Lab Number [Field ID]	Batch	Date
21C0391-01 [TP-E7 (0-5)_N]	B277691	03/09/21
21C0391-02 [TP-E7 (5-10)_N]	B277691	03/09/21
21C0391-03 [TP-E7 (0-5)_E]	B277691	03/09/21
21C0391-04 [TP-E7 (5-10)_E]	B277691	03/09/21
21C0391-05 [TP-E7 (0-5)_S]	B277691	03/09/21
21C0391-06 [TP-E7 (5-10)_S]	B277691	03/09/21
21C0391-07 [TP-E7 (0-5)_W]	B277691	03/09/21
21C0391-08 [TP-E7 (5-10)_W]	B277691	03/09/21

**Prep Method: SW-846 3010A    Analytical Method: SW-846 6010A    Samples were extracted on 3/9/2021 per SW-846 1311 in Batch B277728**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21C0391-01 [TP-E7 (0-5)_N]	B277799	50.0	50.0	03/10/21
21C0391-02 [TP-E7 (5-10)_N]	B277799	50.0	50.0	03/10/21
21C0391-03 [TP-E7 (0-5)_E]	B277799	50.0	50.0	03/10/21
21C0391-04 [TP-E7 (5-10)_E]	B277799	50.0	50.0	03/10/21
21C0391-05 [TP-E7 (0-5)_S]	B277799	50.0	50.0	03/10/21
21C0391-06 [TP-E7 (5-10)_S]	B277799	50.0	50.0	03/10/21
21C0391-07 [TP-E7 (0-5)_W]	B277799	50.0	50.0	03/10/21
21C0391-08 [TP-E7 (5-10)_W]	B277799	50.0	50.0	03/10/21

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

**QUALITY CONTROL**
**TCLP - Metals Analyses - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B277799 - SW-846 3010A</b>										
<b>Blank (B277799-BLK1)</b>				Prepared: 03/10/21 Analyzed: 03/11/21						
Lead	ND	0.10	mg/L							
<b>LCS (B277799-BS1)</b>				Prepared: 03/10/21 Analyzed: 03/11/21						
Lead	0.420	0.10	mg/L	0.500		84.1	80-120			
<b>LCS Dup (B277799-BSD1)</b>				Prepared: 03/10/21 Analyzed: 03/11/21						
Lead	0.438	0.10	mg/L	0.500		87.6	80-120	4.05	20	
<b>Matrix Spike (B277799-MS1)</b>				<b>Source: 21C0391-06</b> Prepared: 03/10/21 Analyzed: 03/11/21						
Lead	0.462	0.10	mg/L	0.500	0.00968	90.5	75-125			

---

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**FLAG/QUALIFIER SUMMARY**

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
---------	----------------

*SW-846 6010D in Water*

Lead NY,CT,ME,NC,NH,VA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2021
CT	Connecticut Department of Public Health	PH-0165	12/31/2022
NY	New York State Department of Health	10899 NELAP	04/1/2021
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2022
RI	Rhode Island Department of Health	LAO00112	12/30/2021
NC	North Carolina Div. of Water Quality	652	12/31/2021
NJ	New Jersey DEP	MA007 NELAP	06/30/2021
FL	Florida Department of Health	E871027 NELAP	06/30/2021
VT	Vermont Department of Health Lead Laboratory	LL720741	07/30/2021
ME	State of Maine	MA00100	06/9/2021
VA	Commonwealth of Virginia	460217	12/14/2021
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2021
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2021
NC-DW	North Carolina Department of Health	25703	07/31/2021
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2021
MI	Dept. of Env, Great Lakes, and Energy	9100	09/6/2021

2100391



Phone: 413-525-2332  
Fax: 413-525-6405  
Email: info@contestlabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street  
East Longmeadow, MA 01028

Company Name: Velfrey  
Address: 100 N. Washington St, Suite 302 Boston, MA  
Phone:  
Project Name:  
Project Location: 394 Boston Post Rd, Weyland, MA  
Project Number: 781-917-5360  
Project Manager: Kristen Sarson  
Con-Test Quote Name/Number: 67404  
Invoice Recipient: Velfrey  
Sampled By: J. Golden

Requested Turnaround Time		Dissolved Phase Samples	
7-Day <input type="checkbox"/>	10-Day <input type="checkbox"/>	<input type="radio"/> Field Filtered	
PFAS 10-Day (std) <input type="checkbox"/>	Due Date:	<input type="radio"/> Lab to Filter	
Rush Approval Required		On/Off Phosphate Samples	
1-Day <input checked="" type="checkbox"/>	3-Day <input type="checkbox"/>	<input type="radio"/> Field Filtered	
2-Day <input type="checkbox"/>	4-Day <input type="checkbox"/>	<input type="radio"/> Lab to Filter	
Date Delivered			
Format:	PDF <input checked="" type="checkbox"/>	EXCEL <input checked="" type="checkbox"/>	
Other:	<u>Equis</u>		
CLP Like Data Pkg Required:	<input type="checkbox"/>		
Email To:	<u>Ksarson@velfreyeng.com</u>		
Fax To #:			

ANALYSIS REQUESTED

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	Total Pb	TCLP Pb	TPH
1	TP-E7(0-5)-N	3/8/21	0800	Comp	Soil							X	X	
2	TP-E7(5-10)-N		0825									X	X	
3	TP-E7(6-5)-E		0930									X	X	
4	TP-E7(5-10)-E		0935									X	X	
5	TP-E7(0-5)-S		1055									X	X	
6	TP-E7(5-10)-S		1100									X	X	
7	TP-E7(0-5)-W		1145									X	X	
8	TP-E7(5-10)-W		1150									X	X	
	TP-C6(5-10).TPH5		12:30											X
	TP-C5(5-10).TPH2		12:50											X

2 Preservation Code														
Course Use Only														
Total Number Of:														
VIALS														
GLASS														
PLASTIC														
BACTERIA														
ENCORE														
Glassware in the fridge? Y / N														
Glassware in freezer? Y / N														
Prepackaged Cooler? Y / N														
*Contest is not responsible for missing samples from prepacked coolers														

totals and TPH are on a different work order. JLH 3/9/2021

**1 Matrix Codes:**  
 GW = Ground Water  
 WW = Waste Water  
 DW = Drinking Water  
 A = Air  
 S = Soil  
 SL = Sludge  
 SOL = Solid  
 O = Other (please define)

Relinquished by: (signature) [Signature] Date/Time: 3/8/21 1500  
 Received by: (signature) [Signature] Date/Time: 3/8/21 1500  
 Relinquished by: (signature) [Signature] Date/Time: 3/8/21 1645  
 Received by: (signature) [Signature] Date/Time: 3/8/21 1645  
 Relinquished by: (signature) [Signature] Date/Time: 3/8/21 1645  
 Received by: (signature) [Signature] Date/Time: 3/8/21 1645  
 Relinquished by: (signature) [Signature] Date/Time: 3/8/21 1645  
 Received by: (signature) [Signature] Date/Time: 3/8/21 1645

Client Comments:  
Total PB - 24 hour TAT  
TCLP PB - 72 hour TAT  
TPH - 24 hour TAT

Detection Limit Requirements	Special Requirements
HA <input type="checkbox"/>	MA MCP Required <input type="checkbox"/>
CF <input type="checkbox"/>	CF MCP Required <input type="checkbox"/>
Other: <input type="checkbox"/>	PLP Core Treatment Traps Required <input type="checkbox"/>
	MA Metals DW Required <input type="checkbox"/>

Please use the following codes to indicate possible sample concentration within the Conc Code column above:  
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Project Entity

Government <input type="checkbox"/>	Municipality <input type="checkbox"/>	MWRA <input type="checkbox"/>	WRTA <input type="checkbox"/>
Federal <input type="checkbox"/>	21 J <input type="checkbox"/>	School <input type="checkbox"/>	Other <input type="checkbox"/>
City <input type="checkbox"/>	Brownfield <input type="checkbox"/>	MBTA <input type="checkbox"/>	<input type="checkbox"/> Chromatogram
			<input type="checkbox"/> AIHA-LAP, LLC

**2 Preservation Codes:**  
 I = Iced  
 H = HCL  
 M = Methanol  
 N = Nitric Acid  
 S = Sulfuric Acid  
 B = Sodium Bisulfate  
 X = Sodium Hydroxide  
 T = Sodium Thiosulfate  
 O = Other (please define)

**PCB ONLY**  
 Soxhlet  
 Non Soxhlet

Comments:

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples \_\_\_\_\_



**con-test**  
ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

**Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False**

Client Vortex  
 Received By [Signature] Date 3/18/21 Time 1645

How were the samples received? In Cooler T No Cooler \_\_\_\_\_ On Ice T No Ice \_\_\_\_\_  
 Direct from Sampling \_\_\_\_\_ Ambient \_\_\_\_\_ Melted Ice \_\_\_\_\_

Were samples within Temperature? 2-6°C T By Gun # 3 Actual Temp - 32  
 By Blank # \_\_\_\_\_ Actual Temp - \_\_\_\_\_

Was Custody Seal Intact? na Were Samples Tampered with? na  
 Was COC Relinquished? T Does Chain Agree With Samples? T

Are there broken/leaking/loose caps on any samples? F

Is COC in ink/ Legible? T Were samples received within holding time? T  
 Did COC include all pertinent information? Client T Analysis T Sampler Name T  
 Project T ID's T Collection Dates/Times T

Are Sample labels filled out and legible? T  
 Are there Lab to Filters? F Who was notified? \_\_\_\_\_  
 Are there Rushes? T Who was notified? Ashly  
 Are there Short Holds? F Who was notified? \_\_\_\_\_  
 Is there enough Volume? T  
 Is there Headspace where applicable? na MS/MSD? F  
 Proper Media/Containers Used? T Is splitting samples required? F  
 Were trip blanks received? F On COC? F  
 Do all samples have the proper pH? \_\_\_\_\_ Acid na Base na

Vials	#	Containers:	#	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear
Bisulfate-		Flashpoint		Col./Bacteria		2oz Amb/Clear
DI-		Other Glass		Other Plastic		Encore
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:
Sulfuric-		Perchlorate		Ziplock		

**Unused Media**

Vials	#	Containers:	#	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear
DI-		Other Plastic		Other Glass		Encore
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:
Sulfuric-		Perchlorate		Ziplock		

Comments:



## CERTIFICATE OF ANALYSIS

Steve Winters  
United Retek  
47 South Maple Street  
Bellingham, MA 02019

**RE: Rivers Edge Wayland MA (21-08)**  
**ESS Laboratory Work Order Number: 21D0382**

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.



Laurel Stoddard  
Laboratory Director

**REVIEWED**

By ESS Laboratory at 12:35 pm, Apr 15, 2021

**Analytical Summary**

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



*CERTIFICATE OF ANALYSIS*

Client Name: United Retek  
Client Project ID: Rivers Edge Wayland MA

ESS Laboratory Work Order: 21D0382

**SAMPLE RECEIPT**

The following samples were received on April 13, 2021 for the analyses specified on the enclosed Chain of Custody Record.

<b>Lab Number</b>	<b>Sample Name</b>	<b>Matrix</b>	<b>Analysis</b>
21D0382-01	1 Cell-E7	Soil	1311, 1311/6010C
21D0382-02	2 Cell-E7	Soil	1311, 1311/6010C



CERTIFICATE OF ANALYSIS

Client Name: United Retek  
Client Project ID: Rivers Edge Wayland MA

ESS Laboratory Work Order: 21D0382

**PROJECT NARRATIVE**

**No unusual observations noted.**

**End of Project Narrative.**

**DATA USABILITY LINKS**

*To ensure you are viewing the most current version of the documents below, please clear your internet cookies for [www.ESSLaboratory.com](http://www.ESSLaboratory.com). Consult your IT Support personnel for information on how to clear your internet cookies.*

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



*CERTIFICATE OF ANALYSIS*

Client Name: United Retek  
Client Project ID: Rivers Edge Wayland MA

ESS Laboratory Work Order: 21D0382

**CURRENT SW-846 METHODOLOGY VERSIONS**

**Analytical Methods**

- 1010A - Flashpoint
- 6010C - ICP
- 6020A - ICP MS
- 7010 - Graphite Furnace
- 7196A - Hexavalent Chromium
- 7470A - Aqueous Mercury
- 7471B - Solid Mercury
- 8011 - EDB/DBCP/TCP
- 8015C - GRO/DRO
- 8081B - Pesticides
- 8082A - PCB
- 8100M - TPH
- 8151A - Herbicides
- 8260B - VOA
- 8270D - SVOA
- 8270D SIM - SVOA Low Level
- 9014 - Cyanide
- 9038 - Sulfate
- 9040C - Aqueous pH
- 9045D - Solid pH (Corrosivity)
- 9050A - Specific Conductance
- 9056A - Anions (IC)
- 9060A - TOC
- 9095B - Paint Filter
- MADEP 04-1.1 - EPH
- MADEP 18-2.1 - VPH

**Prep Methods**

- 3005A - Aqueous ICP Digestion
- 3020A - Aqueous Graphite Furnace / ICP MS Digestion
- 3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
- 3060A - Solid Hexavalent Chromium Digestion
- 3510C - Separatory Funnel Extraction
- 3520C - Liquid / Liquid Extraction
- 3540C - Manual Soxhlet Extraction
- 3541 - Automated Soxhlet Extraction
- 3546 - Microwave Extraction
- 3580A - Waste Dilution
- 5030B - Aqueous Purge and Trap
- 5030C - Aqueous Purge and Trap
- 5035A - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



*CERTIFICATE OF ANALYSIS*

Client Name: United Retek  
Client Project ID: Rivers Edge Wayland MA  
Client Sample ID: 1 Cell-E7  
Date Sampled: 04/13/21 00:00  
Percent Solids: N/A

ESS Laboratory Work Order: 21D0382  
ESS Laboratory Sample ID: 21D0382-01  
Sample Matrix: Soil  
Units: mg/L

Extraction Method: 3005A TCLP

**1311 TCLP Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>TCLP Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Lead	0.093 (0.050)		1311/6010C		1	KJK	04/14/21 21:36	50	50	DD11338



*CERTIFICATE OF ANALYSIS*

Client Name: United Retek  
Client Project ID: Rivers Edge Wayland MA  
Client Sample ID: 1 Cell-E7  
Date Sampled: 04/13/21 00:00  
Percent Solids: N/A  
Initial Volume: 100  
Final Volume: 2000  
Extraction Method: 1311

ESS Laboratory Work Order: 21D0382  
ESS Laboratory Sample ID: 21D0382-01  
Sample Matrix: Soil  
Units: °C  
Analyst: NAR  
Prepared: 4/13/21 19:35

**TCLP Extraction by 1311**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Batch</u>
Temperature (Min C)	20.1 (N/A)		1311		1	NAR	04/14/21 11:40	DD11341
Temperature (Max C)	21.9 (N/A)		1311		1	NAR	04/14/21 11:40	DD11341
Temperature (Range)	Temperature is not within 23 +/-2 °C. (N/A)							



*CERTIFICATE OF ANALYSIS*

Client Name: United Retek  
Client Project ID: Rivers Edge Wayland MA  
Client Sample ID: 2 Cell-E7  
Date Sampled: 04/13/21 00:00  
Percent Solids: N/A

ESS Laboratory Work Order: 21D0382  
ESS Laboratory Sample ID: 21D0382-02  
Sample Matrix: Soil  
Units: mg/L

Extraction Method: 3005A TCLP

**1311 TCLP Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>TCLP Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Lead	ND (0.050)		1311/6010C		1	KJK	04/14/21 21:38	50	50	DD11338





*CERTIFICATE OF ANALYSIS*

Client Name: United Retek  
Client Project ID: Rivers Edge Wayland MA  
Client Sample ID: 2 Cell-E7  
Date Sampled: 04/13/21 00:00  
Percent Solids: N/A  
Initial Volume: 100  
Final Volume: 2000  
Extraction Method: 1311

ESS Laboratory Work Order: 21D0382  
ESS Laboratory Sample ID: 21D0382-02  
Sample Matrix: Soil  
Units: °C  
Analyst: NAR  
Prepared: 4/13/21 19:35

**TCLP Extraction by 1311**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Batch</u>
Temperature (Min C)	20.1 (N/A)		1311		1	NAR	04/14/21 11:40	DD11341
Temperature (Max C)	21.9 (N/A)		1311		1	NAR	04/14/21 11:40	DD11341
Temperature (Range)	Temperature is not within 23 +/-2 °C. (N/A)							



*CERTIFICATE OF ANALYSIS*

Client Name: United Retek  
Client Project ID: Rivers Edge Wayland MA

ESS Laboratory Work Order: 21D0382

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
<b>1311 TCLP Metals</b>										
<b>Batch DD11338 - 3005A_TCLP</b>										
<b>Blank</b>										
Lead	ND	0.050	mg/L							
<b>Blank</b>										
Lead	ND	0.050	mg/L							
<b>LCS</b>										
Lead	0.497	0.050	mg/L	0.5000		99	80-120			
<b>LCS Dup</b>										
Lead	0.496	0.050	mg/L	0.5000		99	80-120	0.2	20	



*CERTIFICATE OF ANALYSIS*

Client Name: United Retek  
Client Project ID: Rivers Edge Wayland MA

ESS Laboratory Work Order: 21D0382

**Notes and Definitions**

- Z18 Temperature is not within 23 +/-2 °C.
- U Analyte included in the analysis, but not detected
- ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- LOD Limit of Detection
- LOQ Limit of Quantitation
- DL Detection Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- NR No Recovery
- [CALC] Calculated Analyte
- SUB Subcontracted analysis; see attached report
- RL Reporting Limit
- EDL Estimated Detection Limit
- MF Membrane Filtration
- MPN Most Probably Number
- TNTC Too numerous to Count
- CFU Colony Forming Units



*CERTIFICATE OF ANALYSIS*

Client Name: United Retek  
Client Project ID: Rivers Edge Wayland MA

ESS Laboratory Work Order: 21D0382

**ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS**

**ENVIRONMENTAL**

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

[http://www.ct.gov/dph/lib/dph/environmental\\_health/environmental\\_laboratories/pdf/OutofStateCommercialLaboratories.pdf](http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf)

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002

<http://www.maine.gov/dhhs/meecd/environmental-health/dwp/partners/labCert.shtml>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

[http://datamine2.state.nj.us/DEP\\_OPRA/OpraMain/pi\\_main?mode=pi\\_by\\_site&sort\\_order=PI\\_NAMEA&Select+a+Site:=58715](http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715)

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

<http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx>

## ESS Laboratory Sample and Cooler Receipt Checklist

Client: United Retek - TB

ESS Project ID: 21D0382

Shipped/Delivered Via: ESS Courier

Date Received: 4/13/2021

Project Due Date: 4/15/2021

Days for Project: 2 Day

1. Air bill manifest present?  No  
Air No.: NA
2. Were custody seals present?  No
3. Is radiation count <100 CPM?  Yes
4. Is a Cooler Present?  Yes  
Temp: 1.2 Iced with: Ice
5. Was COC signed and dated by client?  Yes

6. Does COC match bottles?  Yes
7. Is COC complete and correct?  Yes
8. Were samples received intact?  Yes
9. Were labs informed about **short holds & rushes**?  Yes /  No /  NA
10. Were any analyses received outside of hold time?  Yes /  No

11. Any Subcontracting needed? Yes  No   
ESS Sample IDs: \_\_\_\_\_  
Analysis: \_\_\_\_\_  
TAT: \_\_\_\_\_

12. Were VOAs received? Yes  No   
a. Air bubbles in aqueous VOAs? Yes / No  
b. Does methanol cover soil completely? Yes / No / NA

13. Are the samples properly preserved?  Yes /  No  
a. If metals preserved upon receipt: Date: \_\_\_\_\_ Time: \_\_\_\_\_ By: \_\_\_\_\_  
b. Low Level VOA vials frozen: Date: \_\_\_\_\_ Time: \_\_\_\_\_ By: \_\_\_\_\_

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes  No   
a. Was there a need to contact the client? Yes  No   
Who was contacted? \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ By: \_\_\_\_\_

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
1	153099	Yes	N/A	Yes	8 oz jar	NP	
2	153100	Yes	N/A	Yes	8 oz jar	NP	

**2nd Review**

- Were all containers scanned into storage/lab? Initials TD
- Are barcode labels on correct containers?  Yes /  No
- Are all Flashpoint stickers attached/container ID # circled?  Yes /  No /  NA
- Are all Hex Chrome stickers attached?  Yes /  No /  NA
- Are all QC stickers attached?  Yes /  No /  NA
- Are VOA stickers attached if bubbles noted?  Yes /  No /  NA

Completed By: [Signature]  
Reviewed By: [Signature]

Date & Time: 4/13/21 1819  
Date & Time: 4/13/21 1835



**ATTACHMENT 3:  
IN-SITU CHEMICAL  
STABILIZATION SDS**



## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Product form : Mixture  
 Product name : Phos- 5®  
 Product code : AMMGA, BDMGA  
 Formula : H<sub>3</sub>PO<sub>4</sub> (Phosphoric acid)  
 Synonyms : h

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Industrial use  
 Agricultural chemical

### 1.3. Details of the supplier of the safety data sheet

C S , Inc.  
 1 7 ( )  
 h \ "  
 7 U ° "  
 T 800- /  
 U o) o

### 1.4. Emergency telephone number

Emergency number : 800-424-9300  
 CHEMTREC

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### GHS-US classification

Acute Tox. 4 (Oral) H302  
 Skin Corr. 1A H314  
 Eye Dam. 1 H318  
 Carc. 1A H350  
 STOT SE 3 H335  
 Aquatic Acute 2 H401

## 2.2. Label elements

### GHS-US labelling

Hazard pictograms (GHS-US)



Signal word (GHS-US)

: Danger

Hazard statements (GHS-US)

: H302 - Harmful if swallowed  
 H314 - Causes severe skin burns and eye damage  
 H318 - Causes serious eye damage  
 H335 - May cause respiratory irritation  
 H350 - May cause cancer  
 H401 - Toxic to aquatic life

Precautionary statements (GHS-US)

: P201 - Obtain special instructions before use  
 P202 - Do not handle until all safety precautions have been read and understood  
 P260 - Do not breathe fume, mist, vapours, spray  
 P264 - Wash hands and forearms thoroughly after handling  
 P270 - Do not eat, drink or smoke when using this product  
 P271 - Use only outdoors or in a well-ventilated area  
 P273 - Avoid release to the environment  
 P280 - Wear eye protection, face protection, protective gloves, protective clothing  
 P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting  
 P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
 P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
 P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 P308+P313 - IF exposed or concerned: Get medical advice/attention  
 P310 - Immediately call a POISON CENTER or doctor  
 P330 - If swallowed, rinse mouth  
 P363 - Wash contaminated clothing before reuse  
 P403+P233 - Store in a well-ventilated place. Keep container tightly closed  
 P405 - Store locked up  
 P501 - Dispose of contents/container according to local, regional, national, and international regulations

### 2.3. Other hazards

Hazardous to the aquatic environment

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixture

Name	Product identifier	%	GHS-US classification
Phosphoric acid	(CAS No.) 7664-38-2	72 - 77	Acute Tox. 4 (Oral), H302 Skin Corr. 1A, H314 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 2, H401
Sulfuric acid	(CAS No.) 7664-93-9	2.5 - 4	Acute Tox. 2 (Inhalation:dust,mist), H330 Skin Corr. 1A, H314 Eye Dam. 1, H318 Carc. 1A, H350
Fluorides, as F		0.4 - 0.7	Not classified

Note: AMMGA Typical Nutrient Strength is 53.5% (as P<sub>2</sub>O<sub>5</sub>)

Note: BDMGA Typical Nutrient Strength is 53.5% (as P<sub>2</sub>O<sub>5</sub>)

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

- First-aid measures general : If exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : Using proper respiratory protection, immediately move the exposed person to fresh air. Keep at rest and in a position comfortable for breathing. Give oxygen or artificial respiration if necessary. Seek immediate medical advice. Symptoms may be delayed.
- First-aid measures after skin contact : Remove/Take off immediately all contaminated clothing. Rinse immediately with plenty of water (for at least 15 minutes). Seek medical attention immediately if exposure is severe. Obtain medical attention if irritation develops or persists. Wash contaminated clothing before reuse.
- First-aid measures after eye contact : Immediately rinse with water for a prolonged period (at least 15 minutes) while holding the eyelids wide open. Seek medical attention immediately if exposure is severe. Obtain medical attention if irritation develops or persists.
- First-aid measures after ingestion : If swallowed, do not induce vomiting. Seek medical advice immediately and show this container or label.

### 4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries : Corrosive. Causes burns. Harmful if swallowed.
- Symptoms/injuries after inhalation : Causes severe respiratory irritation if inhaled. Symptoms may include: Burning of nose and throat, constriction of airway, difficulty breathing, shortness of breath, bronchial spasms, chest pain, and pink frothy sputum. Contact may cause immediate severe irritation progressing quickly to chemical burns. May cause pulmonary edema. Symptoms may be delayed.
- Symptoms/injuries after skin contact : Contact may cause immediate severe irritation progressing quickly to chemical burns.

Symptoms/injuries after eye contact	: Contact may cause immediate severe irritation progressing quickly to chemical burns. Can cause blindness.
Symptoms/injuries after ingestion	: May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. Swallowing a small quantity of this material will result in serious health hazard.
Chronic symptoms	: Repeated or prolonged inhalation may damage lungs. Prolonged and repeated contact will eventually cause permanent tissue damage and effects such as erosion of teeth, lesions on the skin, tracheo-bronchitis, mouth inflammation, conjunctivitis, and gastritis. Repeated or prolonged inhalation of mist may cause cancer.

#### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media	: Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media	: Do not get water inside containers. Do not apply water stream directly at source of leak. Do not use a heavy water stream. A direct water stream will cause violent splattering and generation of heat.

#### 5.2. Special hazards arising from the substance or mixture

Fire hazard	: Not flammable. Under conditions of fire this material may produce: Oxides of phosphorus; Phosphine; Sulphur oxides.
Explosion hazard	: Product is not explosive.

#### 5.3. Advice for firefighters

Firefighting instructions	: Keep upwind. Use water spray or fog for cooling exposed containers. If water is added to concentrated acid, violent splattering can occur, and considerable heat may be generated. Cool non-leaking, fire-exposed containers with water spray.
Protection during firefighting	: Firefighters must use full bunker gear including NIOSH-approved positive pressure self-contained breathing apparatus to protect against potential hazardous combustion or decomposition products.
Other information	: Do not allow run-off from fire fighting to enter drains or water courses.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

Protective equipment	: Use recommended respiratory protection. Wear suitable protective clothing, gloves and eye/face protection.
Emergency procedures	: Stop leak if safe to do so. Eliminate ignition sources. Evacuate unnecessary personnel. Ventilate area. Keep upwind.

**6.1.2. For emergency responders**

- Protective equipment : Use recommended respiratory protection. Wear suitable protective clothing, gloves and eye/face protection.
- Emergency procedures : Stop leak if safe to do so. Eliminate ignition sources. Evacuate unnecessary personnel. Ventilate area.

**6.2. Environmental precautions**

If spill could potentially enter any waterway, including intermittent dry creeks, contact the U.S. COAST GUARD NATIONAL RESPONSE CENTER at 800-424-8802. In case of accident or road spill notify CHEMTREC at 800-424-9300. In other countries call CHEMTREC at (International code) +1-703-527-3887.

**6.3. Methods and material for containment and cleaning up**

- For containment : Contain any spills with dikes or inert absorbents to prevent migration and entry into sewers or streams. Do not allow into drains or water courses or dispose of where ground or surface waters may be affected.
- Methods for cleaning up : Ventilate area. Small quantities of liquid spill: take up in non-combustible inert absorbent material and shovel into container for disposal. Collect absorbed material and place into a sealed, labelled container to be disposed at an appropriate disposal facility according to current applicable laws and regulations and product characteristics at the time of disposal.
- Liquid spill: neutralize with powdered limestone or sodium bicarbonate.
- Practice good housekeeping – spillage can be slippery on smooth surface either wet or dry.

**6.4. Reference to other sections**

No additional information available

**SECTION 7: Handling and storage****7.1. Precautions for safe handling**

- Precautions for safe handling : Avoid all eye and skin contact and do not breathe vapour and mist. Wear recommended personal protective equipment. Ensure there is adequate ventilation. Keep away from heat and sources of ignition. Employ good maintenance practices to prevent leaks. Use good process control measures to prevent releases. Do not add water to acid. When diluting, always add acid to water. Causes severe burns.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety procedures. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Wash contaminated clothing before reuse.

**7.2. Conditions for safe storage, including any incompatibilities**

- Storage conditions : Store in dry, cool area. Store in a well-ventilated place. Keep away from combustible materials. Diking of storage tanks is recommended.
- Incompatible materials : Avoid contact with combustibles and reactive materials.
- Prohibitions on mixed storage : Keep away from (strong) bases.
- Storage area : Store in dry, cool area. Store in a well-ventilated place. Keep away from combustible materials.

### 7.3. Specific end use(s)

Industrial use. Agricultural chemical.

## SECTION 8: Exposure controls/personal protection


### 8.1. Control parameters

<b>Sulfuric acid (7664-93-9)</b>		
USA ACGIH	TWA	0.2 mg/m <sup>3</sup> (thoracic fraction)
USA NIOSH	IDLH	15 mg/m <sup>3</sup>
USA NIOSH	TWA	1 mg/m <sup>3</sup>
USA OSHA	TWA	1 mg/m <sup>3</sup>
Alberta	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)
British Columbia	TWA	0.2 mg/m <sup>3</sup> (thoracic, contained in strong inorganic acid mists)
Manitoba	TWA	0.2 mg/m <sup>3</sup> (thoracic fraction)
New Brunswick	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)
Newfoundland & Labrador	TWA	0.2 mg/m <sup>3</sup> (thoracic fraction)
Northwest Territories	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)
Nova Scotia	TWA	0.2 mg/m <sup>3</sup> (thoracic fraction)
Nunavut	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)
Ontario	TWA	0.2 mg/m <sup>3</sup> (thoracic)
Prince Edward Island	TWA	0.2 mg/m <sup>3</sup> (thoracic fraction)
Quebec	TWAEV / STEV	1 mg/m <sup>3</sup> (TWAEV), 3 mg/m <sup>3</sup> (STEV)
Saskatchewan	TWA / STEL	0.2 mg/m <sup>3</sup> (TWA, thoracic fraction), 0.6 mg/m <sup>3</sup> (STEL, thoracic fraction)
Yukon	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 1 mg/m <sup>3</sup> (STEL)

<b>Phosphoric acid (7664-38-2)</b>		
USA ACGIH	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)
USA NIOSH	IDLH	1000 mg/m <sup>3</sup>
USA NIOSH	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)
USA OSHA	TWA	1 mg/m <sup>3</sup>
Alberta	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)
British Columbia	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)
Manitoba	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)
New Brunswick	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)
Newfoundland & Labrador	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)

<b>Phosphoric acid (7664-38-2)</b>		
Northwest Territories	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)
Nova Scotia	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)
Nunavut	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)
Ontario	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)
Prince Edward Island	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)
Quebec	TWAEV / STEV	1 mg/m <sup>3</sup> (TWAEV), 3 mg/m <sup>3</sup> (STEV)
Saskatchewan	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 3 mg/m <sup>3</sup> (STEL)
Yukon	TWA / STEL	1 mg/m <sup>3</sup> (TWA), 1 mg/m <sup>3</sup> (STEL)

## 8.2. Exposure controls

Appropriate engineering controls	: Provide sufficient ventilation to keep vapors below the permissible exposure limit. Ensure adequate ventilation, especially in confined areas. Packaging and unloading areas and open processing equipment may require mechanical exhaust systems. Corrosion-proof construction recommended.
Personal protective equipment	: Protective goggles. Face shield. Gas mask at concentration in the air >> TLV. Protective clothing.
	
Hand protection	: Impermeable protective gloves, such as: nitrile, neoprene, or PVC. Wear gauntlet gloves. Check glove manufacturer's permeation / degradation information.
Eye protection	: Chemical safety goggles and full face shield. Do not wear contact lenses. For increased protection, use supplied-air acid hood.
Skin and body protection	: Wear suitable protective clothing. Wear acid-resistant suit with acid-resistant apron, boots.
Respiratory protection	: Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits. Use respirator approved for acid fumes and mist.
Environmental exposure controls	: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Viscous
Colour	: Amber to black
Odour	: Acrid
Odour threshold	: No data available
pH	: 1 – 1.5



pH solution	: 1 – 10 g/l
Molecular mass	: 98 g/mol (Phosphoric acid)
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 136 - 163 °C (277 - 326 °F)
Flash point	: No data available
Self ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: 2 - 6 mm Hg at 25 °C (77 °F)
Relative vapour density at 20 °C	: No data available
Relative density	: 1.7 at 24 °C (75 °F)
Bulk Density	: 14 lb/gal
Solubility	: Water: Miscible
Log Pow	: No data available
Log Kow	: No data available
Viscosity	: 90-125 cP at 24 °C (75 °F) (53% P <sub>2</sub> O <sub>5</sub> ) 60-90 cP at 38 °C (100 °F) (53% P <sub>2</sub> O <sub>5</sub> )
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

## 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Product is hygroscopic. Acidic liquids, such as this material, may react with metals and release hydrogen gas.

### 10.2. Chemical stability

Stable at standard temperature and pressure.

### 10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

### 10.4. Conditions to avoid

Protect from moisture. Avoid high temperatures.

### 10.5. Incompatible materials

Avoid contact with bases, aluminum, copper, mild steel, brass, and bronze.

### 10.6. Hazardous decomposition products

Under conditions of fire this material may produce: Oxides of phosphorus; Phosphine; Sulphur oxides.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Harmful if swallowed.

<b>Sulfuric acid (7664-93-9)</b>	
LD50 oral rat	2140 mg/kg
LC50 inhalation rat (mg/l)	0.36 mg/l 4 h (reported as 510 mg/m <sup>3</sup> /2 h)
LC50 inhalation rat (ppm)	86.75 ppm 4 h (reported as 347 ppm/1 h)

<b>Phosphoric acid (7664-38-2)</b>	
LD50 oral rat	1530 mg/kg
LD50 dermal rabbit	2730 mg/kg
LC50 inhalation rat (mg/l)	> 850 mg/m <sup>3</sup> (Exposure time: 1 h)

Skin corrosion/irritation : Causes severe skin burns and eye damage.

pH: 1 – 1.5

Serious eye damage/irritation : Causes serious eye damage.

pH: 1 – 1.5

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : May cause cancer<sup>1</sup>.

<b>Sulfuric acid (7664-93-9)</b>	
IARC group	1

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : May cause respiratory irritation.

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

## SECTION 12: Ecological information

### 12.1. Toxicity

<b>Ecotoxicity</b>	<b>EPA Ecological Toxicity rating :</b>	High
	<b>Acute Toxicity to Fish:</b>	( <i>L. macrochirus</i> (bluegill sunfish)) 96-hr static: LC <sub>50</sub> = pH 3.0–3.5.
	<b>Chronic Toxicity to Fish:</b>	Mosquito fish: LD <sub>50</sub> =138 mg/L; 96 hours (CAS# 7664-38-2) ( <i>Daphnia magna</i> ) 12-hr static: EC <sub>50</sub> = pH 4.6; ( <i>Daphnia pulex</i> ) 12-hr static: EC <sub>50</sub> = pH 4.1; ( <i>Gammarus pulex</i> ) 12-hr static: LC <sub>50</sub> = pH 3.4
	<b>Acute Toxicity to Aquatic Invertebrates:</b>	( <i>Daphnia magna</i> ) 12-hr static: EC <sub>50</sub> = pH 4.6; ( <i>Daphnia pulex</i> ) 12-hr static: EC <sub>50</sub> = pH 4.1; ( <i>Gammarus pulex</i> ) 12-hr static: LC <sub>50</sub> = pH 3.4
	<b>Chronic Toxicity to Aquatic Invertebrates:</b>	No data available
	<b>Toxicity to Aquatic Plants:</b>	Dangerous to aquatic plants at high concentrations.

<sup>1</sup> "The International Agency for Research on Cancer (IARC) classified "strong inorganic acid mists containing sulfuric acid" as a Category 1 carcinogen, a substance that is "carcinogenic to humans". The National Toxicity Program classified "strong inorganic acid mists containing sulfuric acid" as a "known human carcinogen". These classifications are for strong inorganic acid mists only and do not apply to sulfuric acid or sulfuric acid solutions. The basis for the classifications rest on several epidemiology studies which have several deficiencies. These studies did not account for exposure to other substances, some known to be animal or potential human carcinogens, social influences (smoking, etc.) and included small numbers of subjects. Based on the overall weight of evidence from all human and chronic animal studies, no definitive causal relationship between sulfuric acid mist exposure and respiratory tract tumors has been shown. When handling this material avoid the creation of mist.

	<b>Toxicity to Bacteria:</b>	(Activated sludge): EC <sub>50</sub> = pH 2.55.
	<b>Toxicity to Soil Dwelling Organisms:</b>	No data available
	<b>Toxicity to Terrestrial Plants:</b>	(Peas, beans, beets, rapeseed and weeds) Sprayed with 15-20% solution of H <sub>3</sub> PO <sub>4</sub> : Foliage was destroyed on all plants.
<b>Environmental Fate:</b>	<b>Stability in Water:</b>	Ionic dissociation in water.
	<b>Stability in Soil:</b>	Dissolves some soil material (carbonates).
	<b>Transport and Distribution:</b>	Under acidic soil conditions, sparsely soluble phosphates tend to solubilize and may migrate to water.
<b>Toxicity:</b>	Inorganic phosphates have the potential to increase the growth of freshwater algae, whose eventual death will reduce the available oxygen for aquatic life.	
<b>Degradation Products:</b>	<b>Biodegradation:</b>	Under anaerobic conditions, microorganisms may degrade the product to phosphine.
	<b>Photodegradation:</b>	No data available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Sewage disposal recommendations : This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

Waste disposal recommendations : Place in a appropriate container and dispose of contaminated material at a licenced site.

Additional information : Dispose of waste material in accordance with all local, regional, national, and international regulations.

## SECTION 14: Transport information

In accordance with DOT / TDG / ADR / RID / ADNR / IMDG / ICAO / IATA

### 14.1. UN number

UN-No.(DOT) : 1805

DOT NA no. UN1805

### 14.2. UN proper shipping name

DOT Proper Shipping Name : Phosphoric Acid Solution

Department of Transportation (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136

Hazard Classes

Hazard labels (DOT) : 8 - Corrosive substances



Packing group (DOT) : III - Minor Danger

DOT Special Provisions (49 CFR 172.102) : **A7** - Steel packagings must be corrosion-resistant or have protection against corrosion

**IB3** - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).

**N34** - Aluminum construction materials are not authorized for any part of a packaging which is normally in contact with the hazardous material.

**T4** - See Table (172.102(7))

**TP1**- TP1 The maximum degree of filling must not exceed the degree of filling determined by the following:

$$\left( \text{Degree of filling} = \frac{97}{1 + \alpha (t_r - t_f)} \right)$$

Where:

$t_r$  is the maximum mean bulk temperature during transport, and  $t_f$  is the temperature in degrees celsius of the liquid during filling (For additional clarification, see 49 CFR 172.102(8)).

DOT Packaging Exceptions (49 CFR 173.xxx) : 154

DOT Packaging Non Bulk (49 CFR 173.xxx) : 203

DOT Packaging Bulk (49 CFR 173.xxx) : 241

### 14.3. Additional information

Emergency Response Guide (ERG) Number : 154

Reportable Quantity : 5000 pounds (at 100% Phosphoric Acid)

Other information : No supplementary information available.

### Overland transport

No additional information available

### Transport by sea

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

### Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 5 L

DOT Quantity Limitations Cargo : 60 L  
 aircraft only (49 CFR 175.75)

IATA ERG Number : 8L

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

<b>AmberPhos-54®</b>	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

<b>Sulfuric acid (7664-93-9)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Listed on SARA Section 302 (Specific toxic chemical listings)	
Listed on SARA Section 313 (Specific toxic chemical listings)	
SARA Section 302 Threshold Planning Quantity (TPQ)	1000 lb
SARA Section 313 - Emission Reporting	1.0 % (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)

<b>Phosphoric acid (7664-38-2)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

### 15.2. US State regulations

The following states have an OSH program approved by OSHA. If you are located in any of these states you may be under state jurisdiction rather than federal jurisdiction and your state may have more stringent requirements than OSHA. You should consult your state regulations to ensure compliance.

Alaska	Indiana	Minnesota	North Carolina	Utah
Arizona	Iowa	Nevada	Oregon	Vermont
California	Kentucky	New Mexico	Puerto Rico	*Virgin Islands
*Connecticut	Maryland	*New Jersey	South Carolina	Virginia
Hawaii	Michigan	*New York	Tennessee	Washington
*Illinois				Wyoming

\*The state plans in these states apply only to public sector employers. In these states private sector employers are subject to USOL – OSHA jurisdiction. All other state plans apply to both public and private sector employers.

<b>Sulfuric acid (7664-93-9)</b>
U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Acute
U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Chronic
U.S. - California - Toxic Air Contaminant List (AB 1807, AB 2728)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Hawaii - Occupational Exposure Limits - STELs
U.S. - Hawaii - Occupational Exposure Limits - TWAs
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
U.S. - Idaho - Occupational Exposure Limits - TWAs

U.S. - Illinois - Toxic Air Contaminant Carcinogens  
U.S. - Illinois - Toxic Air Contaminants  
U.S. - Louisiana - Reportable Quantity List for Pollutants  
U.S. - Maine - Air Pollutants - Hazardous Air Pollutants  
U.S. - Massachusetts - Allowable Ambient Limits (AALs)  
U.S. - Massachusetts - Allowable Threshold Concentrations (ATCs)  
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Conc. - Reporting Category 1  
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Conc. - Reporting Category 2  
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity  
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1  
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2  
U.S. - Massachusetts - Right To Know List  
U.S. - Massachusetts - Threshold Effects Exposure Limits (TEELs)  
U.S. - Massachusetts - Toxics Use Reduction Act  
U.S. - Michigan - Occupational Exposure Limits - TWAs  
U.S. - Michigan - Polluting Materials List  
U.S. - Minnesota - Chemicals of High Concern  
U.S. - Minnesota - Hazardous Substance List  
U.S. - Minnesota - Permissible Exposure Limits - TWAs  
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour  
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual  
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances  
U.S. - New Jersey - Environmental Hazardous Substances List  
U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - New Jersey - Special Health Hazards Substances List  
U.S. - New York - Occupational Exposure Limits - TWAs  
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances  
U.S. - North Carolina - Control of Toxic Air Pollutants  
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour  
U.S. - Ohio - Extremely Hazardous Substances - Threshold Quantities  
U.S. - Oregon - Permissible Exposure Limits - TWAs  
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List  
U.S. - Pennsylvania - RTK (Right to Know) List  
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - 1-Hour  
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - Annual  
U.S. - South Carolina - Toxic Air Pollutants - Maximum Allowable Concentrations  
U.S. - South Carolina - Toxic Air Pollutants - Pollutant Categories  
U.S. - Tennessee - Occupational Exposure Limits - TWAs  
U.S. - Texas - Effects Screening Levels - Long Term  
U.S. - Texas - Effects Screening Levels - Short Term  
U.S. - Vermont - Permissible Exposure Limits - TWAs  
U.S. - Washington - Permissible Exposure Limits - STELs  
U.S. - Washington - Permissible Exposure Limits - TWAs  
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Height 25 Ft to Less Than 40 Ft  
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Height 40 Ft to Less Than 75 Ft  
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 75 Feet or Greater  
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights Less Than 25 Feet

**Phosphoric acid (7664-38-2)**

U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Chronic  
U.S. - California - Toxic Air Contaminant List (AB 1807, AB 2728)  
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)  
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)  
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities  
U.S. - Hawaii - Occupational Exposure Limits - STELs  
U.S. - Hawaii - Occupational Exposure Limits - TWAs  
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations  
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)  
U.S. - Idaho - Occupational Exposure Limits - TWAs  
U.S. - Louisiana - Reportable Quantity List for Pollutants  
U.S. - Massachusetts - Allowable Ambient Limits (AALs)  
U.S. - Massachusetts - Allowable Threshold Concentrations (ATCs)  
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Conc. - Reporting Category 1  
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Conc. - Reporting Category 2  
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity  
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1  
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2  
U.S. - Massachusetts - Right To Know List  
U.S. - Massachusetts - Threshold Effects Exposure Limits (TELs)  
U.S. - Massachusetts - Toxics Use Reduction Act  
U.S. - Michigan - Occupational Exposure Limits - STELs  
U.S. - Michigan - Occupational Exposure Limits - TWAs  
U.S. - Michigan - Polluting Materials List  
U.S. - Minnesota - Chemicals of High Concern  
U.S. - Minnesota - Hazardous Substance List  
U.S. - Minnesota - Permissible Exposure Limits - STELs  
U.S. - Minnesota - Permissible Exposure Limits - TWAs  
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour  
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual  
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances  
U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - New Jersey - Special Health Hazards Substances List  
U.S. - New York - Occupational Exposure Limits - TWAs  
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances  
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 1-Hour  
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour  
U.S. - Oregon - Permissible Exposure Limits - TWAs  
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List  
U.S. - Pennsylvania - RTK (Right to Know) List  
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - Annual  
U.S. - South Carolina - Toxic Air Pollutants - Maximum Allowable Concentrations  
U.S. - South Carolina - Toxic Air Pollutants - Pollutant Categories  
U.S. - Tennessee - Occupational Exposure Limits - STELs  
U.S. - Tennessee - Occupational Exposure Limits - TWAs  
U.S. - Texas - Effects Screening Levels - Long Term  
U.S. - Texas - Effects Screening Levels - Short Term



U.S. - Vermont - Permissible Exposure Limits - STELS  
 U.S. - Vermont - Permissible Exposure Limits - TWAs  
 U.S. - Washington - Permissible Exposure Limits - STELS  
 U.S. - Washington - Permissible Exposure Limits - TWAs  
 U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Height 25 Ft to Less Than 40 Ft  
 U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Height 40 Ft to Less Than 75 Ft  
 U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 75 Feet or Greater  
 U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights Less Than 25 Feet

### 15.3. Canadian regulations

#### AmberPhos-54®

WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class E - Corrosive Material
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#### Sulfuric acid (7664-93-9)

Listed on the Canadian DSL (Domestic Substances List) inventory.  
 Listed on the Canadian Ingredient Disclosure List – Disclosure at 1%

WHMIS Classification	Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects Class E - Corrosive Material
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#### Phosphoric acid (7664-38-2)

Listed on the Canadian DSL (Domestic Substances List) inventory.  
 Listed on the Canadian Ingredient Disclosure List – Disclosure at 1%

WHMIS Classification	Class E - Corrosive Material
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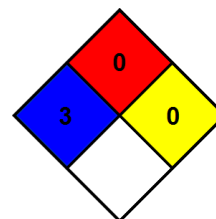
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

## SECTION 16: Other information

NFPA health hazard : 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.

NFPA fire hazard : 0 - Materials that will not burn.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



Full text of H-phrases:

Acute Tox. 2 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 2
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 2	Hazardous to the aquatic environment - Acute Hazard Category 2
Carc. 1A	Carcinogenicity Category 1A
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Skin Corr. 1A	skin corrosion/irritation Category 1A
STOT SE 3	Specific target organ toxicity (single exposure) Category 3

H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H330	Fatal if inhaled
H335	May cause respiratory irritation
H350	May cause cancer

Previous MSDS Number: MSDS 46 – h

SDS US (GHS HazCom 2012)

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