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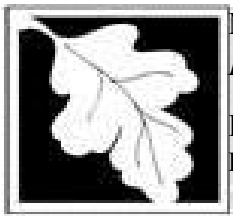
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Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC 104 12

PERMANENT AND TEMPORARY SOLUTION STATEMENT

Pursuant to 310 CMR 40.1000 (Subpart J)

Release Tracking Number

3 - 36458

For sites with multiple RTNs, enter the Primary RTN above.

A. SITE LOCATION:

1. Site Name/Location Aid: CORNER OF MASS AVE. & WALDEN ST.
2. Street Address: 2072 MASSACHUSETTS AVENUE
3. City/Town: CAMBRIDGE 4. ZIP Code: 021400000
5. Coordinates: a. Latitude: N 42.39106 b. Longitude: W 71.12328
- ☐ 6. 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 all that apply)

1. List Submittal Date of the Permanent or Temporary Solution Statement, or RAO Statement (if previously submitted): mm/dd/yyyy
- ☒ 2. Submit a **Permanent or Temporary Solution Statement**
- ☐ a. Check here if this Permanent or Temporary Solution Statement covers additional Release Tracking Numbers (RTNs). RTNs that have been previously linked to a Tier Classified Primary RTN do not need to be listed here.
- b. Provide the additional Release Tracking Number(s) covered by this - -
- ☐ 3. Submit a **Revised Permanent or Temporary Solution Statement** (or revised RAO Statement)
- ☐ a. Check here if this Revised Permanent or Temporary Solution Statement covers additional Release Tracking Numbers (RTNs), not listed on the Permanent or Temporary Solution Statement or previously submitted Revised Permanent or Temporary Solution Statements. RTNs that have been previously linked to a Tier Classified Primary RTN do not need to be listed here.
- b. Provide the additional Release Tracking Number(s) covered by this - -
- ☐ 4. Submit a **Permanent or Temporary Solution Partial Statement**
- Check above box, if any Response Actions remain to be taken to address conditions associated with this disposal site having the Primary RTN listed in the header section of this transmittal form. This Permanent or Temporary Solution Statement will record only a Permanent or Temporary Solution-Partial Statement for that RTN. A final Permanent or Temporary Solution Statement will need to be submitted that references all Permanent or Temporary Solution-Partial Statements and, if applicable, covers any remaining conditions not covered by the Permanent or Temporary Solution-Partial Statements.
- Also, specify if you are an Eligible Person or Tenant pursuant to M.G.L. c. 21 s.2, and have no further obligation to conduct response actions on the remaining portion(s) of the disposal site:
- ☐ a. Eligible Person ☐ b. Eligible Tenant
- ☐ 5. Submit a **Revised Permanent or Temporary Solution Partial Statement** (or revised RAO-Partial Statement)
- ☐ 6. Submit an optional **Phase I Completion Statement** supporting the Permanent or Temporary Solution Statement
- ☐ 7. Submit a **Periodic Review Opinion evaluating the status of a Temporary Solution**, as specified in 310 CMR 40.1051 (Section F is optional)
- ☐ 8. Submit a **Retraction** of a previously submitted **Permanent or Temporary Solution Statement** (or RAO Statement) (Sections E & F are not required)

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



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C. DESCRIPTION OF RESPONSE ACTIONS: (check all that apply; for volumes, list cumulative amounts)

- | | |
|---|---|
| <input checked="" type="checkbox"/> 1. Assessment and/or Monitoring Only | <input type="checkbox"/> 2. Temporary Covers or Caps |
| <input type="checkbox"/> 3. Deployment of Absorbent or Containment Materials | <input type="checkbox"/> 4. Treatment of Water Supplies |
| <input type="checkbox"/> 5. Structure Venting System/HVAC Modification System | <input type="checkbox"/> 6. Engineered Barrier |
| <input type="checkbox"/> 7. Product or NAPL Recovery | <input type="checkbox"/> 8. Fencing and Sign Posting |
| <input type="checkbox"/> 9. Groundwater Treatment Systems | <input type="checkbox"/> 10. Soil Vapor Extraction |
| <input type="checkbox"/> 11. Remedial Additives | <input type="checkbox"/> 12. Air Sparging |
| <input type="checkbox"/> 13. Active Exposure Pathway Mitigation System | <input type="checkbox"/> 14. Passive Exposure Pathway Mitigation System |
| <input type="checkbox"/> 15. Monitored Natural Attenuation | <input type="checkbox"/> 16. In-Situ Chemical Oxidation |
| <input type="checkbox"/> 17. Removal of Contaminated Soils | |

- | | | | |
|--|---------------------------------------|---------------------------------|-------|
| <input type="checkbox"/> a. Re-use, Recycling or Treatment | <input type="checkbox"/> i. On Site | Estimated volume in cubic yards | _____ |
| | <input type="checkbox"/> ii. Off Site | Estimated volume in cubic yards | _____ |

ii. Facility Name: _____ Town: _____ State: _____

iii. Facility Name: _____ Town: _____ State: _____

iii. Describe:

- ☐ b. Landfill _____

- | | | |
|-----------------------------------|---------------------------------|-------|
| <input type="checkbox"/> i. Cover | Estimated volume in cubic yards | _____ |
|-----------------------------------|---------------------------------|-------|

Facility Name: _____ Town: _____ State: _____

- | | | |
|---------------------------------------|---------------------------------|-------|
| <input type="checkbox"/> ii. Disposal | Estimated volume in cubic yards | _____ |
|---------------------------------------|---------------------------------|-------|

Facility Name: _____ Town: _____ State: _____

- ☐ 18. Removal of Drums, Tanks or Containers:

a. Describe Quantity and Amount:

b. Facility Name: _____ Town: _____ State: _____

c. Facility Name: _____ Town: _____ State: _____

- ☐ 19. Removal of Other Contaminated Media:

a. Specify Type and Volume:

b. Facility Name: _____ Town: _____ State: _____

c. Facility Name: _____ Town: _____ State: _____



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C. DESCRIPTION OF RESPONSE ACTIONS (cont.): (check all that apply; for volumes, list cumulative amounts)

☐ 20. Other Response Actions:

Describe:

☐ 21. Use of Innovative Technologies:

Describe:

D. SITE USE:

1. Are the response actions that are the subject of this submittal associated with the *redevelopment*, *reuse* or the *major expansion of the current use* of property(ies) impacted by the presence of oil and/or hazardous materials?

☒ a. Yes ☐ b. No ☐ c. Don't know

2. Is the property a *vacant or under-utilized commercial or industrial* property ("a brownfield property")?

☐ a. Yes ☒ b. No ☐ c. Don't know

3. Will funds from a state or federal brownfield incentive program be used on one or more of the property(ies) within the disposal site?

☐ a. Yes ☒ b. No ☐ c. Don't know If Yes, identify program(s):

4. Has a Covenant Not to Sue been obtained or sought?

☐ a. Yes ☐ b. No ☒ c. Don't know

5. Check all applicable categories that apply to the person making this submittal:

☐ a. Redevelopment Agency or Authority

☐ b. Community Development Corporation

☐ c. Economic Development and Industrial Corporation

☒ d. Private Developer

☐ e. Fiduciary

☐ f. Secured Lender

☐ g. Municipality

☐ h. Potential Buyer (non-owner)

☐ i. Other, describe:

This data will be used by MassDEP for information purposes only, and does not represent or create any legal commitment, obligation or liability on the part of the party or person providing this data to MassDEP.

E. PERMANENT OR TEMPORARY SOLUTION CATEGORY:

Specify the category of Solution that applies to the Disposal Site, or Site of the Threat of Release. Select either **1, 2, or 3.**

☒ **1. Permanent Solution with No Conditions** (check one)

☐ a. A threat of release has been eliminated.

☐ b. All contamination has been reduced to Natural Background levels.

☒ c. A condition of No Significant Risk exists or has been achieved with no Activity and Use Limitation or other limitations, assumptions, or conditions (310 CMR 40.1013).



PERMANENT AND TEMPORARY SOLUTION STATEMENT

Pursuant to 310 CMR 40.1000 (Subpart J)

Release Tracking Number

3 - 36458

For sites with multiple RTNs, enter the Primary RTN above.

E. PERMANENT OR TEMPORARY SOLUTION CATEGORY (cont.):

☐ **2. Permanent Solution with Conditions** (check a and/or b):

☐ a. **An AUL has been implemented** pursuant to 310 CMR 1012(2) (check one)

☐ i. Required pursuant to 310 CMR 40.1012(2)

Is the AUL required because the Permanent Solution relies on an Active Exposure Pathway Mitigation Measure pursuant to CMR 310 40.1025?

☐ 1. Yes ☐ 2. No

☐ ii. Optionally implemented pursuant to 310 CMR 40.1012(3)

☐ b. **Limitations or conditions apply** pursuant to 310 CMR 40.1013 (check all that apply):

☐ i. Gardening Best Management Practices (BMPs) for non-commercial gardening in a residential setting

☐ ii. Concentrations of Oil and Hazardous Material consistent with Anthropogenic Background

☐ iii. Residual contamination in a Public or Railroad Right-of-Way

☐ iv. Groundwater contamination would exceed GW-2 Standards except for the absence of an occupied building or structure

☐ **3. Temporary Solution** (check a or b /and c)

☐ a. Response actions to achieve a Permanent Solution **are not currently feasible**

☐ b. Response actions to achieve a Permanent Solution **are feasible** and are being continued toward a Permanent Solution

☐ c. Does the Temporary Solution rely on an Active Exposure Pathway Mitigation Measure pursuant to 310 CMR 40.1026?

☐ i. Yes ☐ ii. No

F. PERMANENT AND TEMPORARY SOLUTION INFORMATION:

1. Specify the Risk Characterization Method(s) used to achieve the Permanent or Temporary Solution, described above:

☒ a. Method 1 ☐ b. Method 2 ☐ c. Method 3

☐ d. Method Not Applicable-Contamination reduced to or consistent with background, or Threat of Release abated

2. Specify all Soil Category(ies) applicable. More than one Soil Category may apply at a Site. Be sure to check off all **APPLICABLE** categories:

☐ a. S-1/GW-1 ☐ d. S-2/GW-1 ☐ g. S-3/GW-1 ☐ j. Not Applicable

☒ b. S-1/GW-2 ☒ e. S-2/GW-2 ☒ h. S-3/GW-2

☒ c. S-1/GW-3 ☒ f. S-2/GW-3 ☒ i. S-3/GW-3

3. Specify all Groundwater Category(ies) impacted. A site may impact more than one Groundwater Category. Be sure to check off all **IMPACTED** categories:

☐ a. GW-1 ☒ b. GW-2 ☒ c. GW-3 ☐ d. No Groundwater Impacted



PERMANENT AND TEMPORARY SOLUTION STATEMENT

Pursuant to 310 CMR 40.1000 (Subpart J)

Release Tracking Number

3 - 36458

For sites with multiple RTNs, enter the Primary RTN above.

F. PERMANENT AND TEMPORARY SOLUTION INFORMATION (cont.):

- ☐ 4. Check here if the risk assessment includes any changes to the groundwater category pursuant to 310 CMR 40.0932(5)(a) through (e). Check all conditions that apply:
- ☐ a. An Interim Wellhead Protection Area does not apply based on a hydrogeologic evaluation (310 CMR 40.0932(5)(a))
 - ☐ b. Groundwater was determined not to be in a Potentially Productive Aquifer or is not feasible to be developed as a drinking water supply (310 CMR 40.0932(5)(b))
 - ☐ c. A Non-Potential Drinking Water Source Area determination was made (310 CMR 40.0932(5)(c))
 - ☐ d. Existing private wells were permanently closed (310 CMR 40.0932(5)(d))
 - ☐ e. Groundwater is located within a Zone A, but is not hydrogeologically connected to a drinking water supply (310 CMR 40.0932(5)(e))
- ☐ 5. Check here if the Permanent or Temporary Solution supports a finding of No Significant Risk for petroleum in a GW-1 area pursuant to 310 CMR 40.0924(2)(b)3.
6. Specify whether remediation was conducted:
- ☐ a. Check here if soil remediation was conducted.
 - ☐ b. Check here if groundwater remediation was conducted.
 - ☐ c. Check here if other remediation was conducted.
Specify: _____
7. Specify whether the analytical data used to support the Permanent or Temporary Solution used the Compendium of Analytical Methods (CAM):
- ☒ a. CAM used to support all analytical data.
 - ☐ b. CAM used to support some of the analytical data.
 - ☐ c. CAM not used.
- ☒ 8. Check here to indicate that the Permanent or Temporary Solution Statement includes a Data Usability Assessment and Data Representativeness Evaluation pursuant to 310 CMR 40.1056.
9. Estimate the number of acres this Permanent or Temporary Solution Statement applies to: 0.2



Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC 104 12

PERMANENT AND TEMPORARY SOLUTION STATEMENT

Pursuant to 310 CMR 40.1000 (Subpart J)

Release Tracking Number

3 - 36458

For sites with multiple RTNs, enter the Primary RTN above.

G. LSP SIGNATURE AND STAMP:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal 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,

> if Section B indicates that either a **Permanent or Temporary Solution Statement, Phase I Completion Statement and/or Periodic Review Opinion** is being provided, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified 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#: 9185
2. First Name: SAMUEL W 3. Last Name: BUTCHER
4. Telephone: 7818781272 5. Ext.: 6. Email:
7. Signature: SAMUEL W BUTCHER
8. Date: 10/7/2020 9. LSP Stamp: mm/dd/yyyy



H. PERSON MAKING SUBMITTAL:

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: CC HRE 2072 MASS AVE LLC
3. Contact First Name: JASON 4. Last Name: KORB
5. Street: 1087 BEACON STREET, SUITE 302 6. Title:
7. City/Town: NEWTON 8. State: MA 9. ZIP Code: 024590000
10. Telephone: 6175136320 11. Ext.: 12. Email: jkorb@capstonecommunities.com



PERMANENT AND TEMPORARY SOLUTION STATEMENT

Pursuant to 310 CMR 40.1000 (Subpart J)

Release Tracking Number

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For sites with multiple RTNs, enter the Primary RTN above.

I. RELATIONSHIP TO RELEASE OR THREAT OF RELEASE OF PERSON MAKING SUBMITTAL:

☐ Check here to change relationship

☒ 1. RP or PRP ☒ a. Owner ☐ b. Operator ☐ c. Generator ☐ d. Transporter

☐ e. Other RP or PRP Specify: _____

☐ 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 Making Submittal Specify Relationship: _____

J. REQUIRED ATTACHMENT AND SUBMITTALS:

☐ 1. Check here if the Permanent or Temporary Solution on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.

☐ 2. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the submittal of a Permanent or Temporary Solution Statement that relies on the public way/rail right-of-way exemption from the requirements of an AUL.

☒ 3. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the submittal of a Permanent or Temporary Solution Statement with instructions on how to obtain a full copy of the report.

☒ 4. Check here to certify that documentation is attached specifying the location of the Site, or the location and boundaries of the Disposal Site subject to this Permanent or Temporary Solution Statement. If submitting a Permanent or Temporary Solution Statement for a PORTION of a Disposal Site, you must document the location and boundaries for both the portion subject to this submittal and, to the extent defined, the entire Disposal Site.

☒ 5. Check here to certify that, pursuant to 310 CMR 40.1406, notice was provided to the owner(s) of each property within the disposal site boundaries, or notice was not required because the disposal site boundaries are limited to property owned by the party conducting response actions. (check all that apply)

☐ a. Notice was provided prior to, or concurrent with the submittal of a Phase II Completion Statement to the Department.

☐ b. Notice was provided prior to, or concurrent with the submittal of this Permanent or Temporary Solution Statement to the Department.

☒ c. Notice not required. d. Total number of property owners notified, if applicable: _____

☐ 6. Check here if you are submitting one or more AULs. You must submit an AUL Transmittal Form (BWSC113) and a copy of each implemented AUL related to this Permanent Solution or Temporary Solution Statement. Specify the type of AUL(s) below: (required for Permanent Solution with Conditions Statements where an AUL is being implemented)

☐ a. Notice of Activity and Use Limitation b. Number of Notices submitted: _____

☐ c. Grant of Environmental Restriction d. Number of Grants submitted: _____

☒ 7. If a Permanent Solution Compliance Fee is required for any of the RTNs listed on this transmittal form, check here to certify that a Permanent Solution Compliance Fee was submitted to DEP, P. O. Box 4062, Boston, MA 02211.

☐ 8. Check here if any non-updatable information provided on this form is incorrect, e.g. Site Address/Location Aid. Send corrections to bwsc.edep@state.ma.us.

☒ 9. Check here to certify that the LSP Opinion containing the material facts, data, and other information is attached.

Permanent Solution Statement

2072 Massachusetts Avenue
Cambridge, Massachusetts
RTN 3-36458

September 2020

Prepared for
CC HRE 2072 Mass Ave LLC
c/o Capstone Communities LLC
1087 Beacon Street, Suite 302,
Newton Center, MA 02459



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An Employee-Owned Company

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Tables

Table 1	Soil Sampling Results and EPCs
Table 2	Groundwater Sampling Results and EPCs

Appendices

Appendix A	Boring Logs
Appendix B	Analytical Laboratory Reports
Appendix C	Public Notifications

List of Acronyms

Loureiro	Loureiro Engineering Associates, Inc.
RTN	Release Tracking Number
Mass GIS	Massachusetts Geographic Information System
MCP	Massachusetts Contingency Plan
bgs	Below Ground Surface
NEBC	New England Boring Contractors
PID	Photoionization Detector
eV	Electron Volt
VOC	Volatile Organic Compound
SVOC	Semi-Volatile Organic Compound
PCB	Polychlorinated Biphenyls
TPH	Total Petroleum Hydrocarbons
EPH	Extractable Petroleum Hydrocarbons
VPH	Volatile Petroleum Hydrocarbons
MassDEP	Massachusetts Department of Environmental Protection
PCE	Tetrachloroethene
Cis-1,2-DCE	Cis-1,2-Dichloroethene
GEO	GeoLogic Earth Exploration, Inc.
TCE	Trichloroethene
ug/l	Micrograms per Liter
RNF	Release Notification Form
CAM	Compendium Analytical Methods
AES	Atlantic Environmental Sciences, Inc.
CSM	Conceptual Site Model
PERC	Tetrachloroethylene
RC	Risk Characterization
NSR	No Significant Risk

COC	Constituent of Concern
MMCL	Massachusetts Maximum Contaminant Level
ORSGL	Office of Research and Standards Drinking Water Guidelines
EPC	Exposure Point Concentration
LDL	Laboratory Detection Limit
RAO	Response Action Outcome
LSP	Licensed Site Professional

1. INTRODUCTION

Loureiro Engineering Associates, Inc. (Loureiro) prepared this Permanent Solution Statement to document activities performed for Release Tracking Number (RTN) 3-36458 at 2072 Massachusetts Avenue, Cambridge, Massachusetts (the Site). A Site Locus Map, Site Map and Massachusetts Geographic Information System (MassGIS) Priority Resource Map are provided as Figures 1, 2 and 3, respectively. This report submittal is prepared in accordance with the requirements for determining the sufficiency of Permanent Solution achievement as outlined in Section 310 CMR 40.1000 of the Massachusetts Contingency Plan (MCP). A condition of “No Significant Risk” exists and a Permanent Solution has been achieved at the location. The release meets a Permanent Solution with No Conditions Statement condition as per the MCP.

1.1 Release, Notification & Site Condition Description

The Site is located at 2072 Massachusetts Avenue in Cambridge, Massachusetts as presented in the attached Figure 1. The approximate geographic coordinates are: latitude W 71° 7' 23.7" and longitude N 42° 23' 27.9". The Site is accessible by vehicular traffic from Massachusetts Avenue and Walden Street. The Site is surrounded by commercial properties to the north, east and west, as well as residential properties to the south and east. Immediately abutting the property are the North Cambridge Senior Centre and Cambridge Housing Authority to the east, Massachusetts Avenue to the north, Walden Street to the west and a parking lot to the south. The Site consists of approximately 0.2 acres of land located in northern Cambridge. The Property is occupied by an 1,860 square foot single-story restaurant, a paved driveway, and paved parking area.

The topography across the Site is generally flat with a slight decrease in elevation to the west toward Walden Street. The Property is not located in a high or medium yield aquifer, and no high or medium yield aquifers are mapped within 1,000 feet of the Site. According to the Cambridge Board of Health, no drinking water wells are present within the Site's vicinity. The average depth to groundwater was measured to be 11.5 feet below ground surface (bgs).

On May 7, 2020, Loureiro oversaw the advancement of three soil borings by New England Boring Contractors (NEBC) of Derry, New Hampshire to perform soil pre-characterization in support of a planned redevelopment of the Site. With the understanding that the Site has limited storage

areas, soil was pre-characterized (i.e., prior to excavation) as an effort to expedite its excavation and offsite management. These geotechnical borings were completed concurrently with Loureiro's environmental investigation and identified as HA20-1, HA20-2 and HA20-3. Soil borings were advance using a truck-mounted GEFCO Strata Star 15 direct push rig and sampled using a 2-foot split spoon. Soil samples were field-screened using a photoionization detector (PID) equipped with a 10.6 electron volt (eV) lamp for the presence of volatile organic compounds (VOCs).

Based upon field-screened data and visual characterization, a composite soil sample was collected from a 2-foot interval for laboratory analyses from each soil boring. These samples were collected from the identified urban fill layer.

Asphalt was approximately 4 to 6 inches thick across the Site. In general, soils within the urban fill (upper) layer consisted of darker brown fine to medium sand with little to some gravel. Urban fill was generally observed in the 0 to 10 feet bgs interval, with a maximum depth of 10 feet bgs. In general, natural soils (lower layer) consisted of lighter brown fine to medium sand with trace clay and iron staining throughout. Brick and/or coal/coal ash debris were observed in all three soil borings. A plan of soil boring locations is provided in Figure 2. Refer to Appendix A for accompanying soil boring logs.

Composite soil samples were submitted to Alpha Analytical Laboratories of Westborough, Massachusetts for analysis of the following: semi-volatile organic compounds (SVOCs) by EPA Method 8270, VOCs by EPA Method 5035, MCP 14 metals, polychlorinated biphenyls (PCBs) by EPA Method 8082A, total petroleum hydrocarbons (TPH) by EPA Method 8015, extractable petroleum hydrocarbons (EPH) by method EPH-19-2.1, volatile petroleum hydrocarbons (VPH) by Method VPH-18-2.1, chlorinated pesticides by EPA Method 8081, chlorinated herbicides by EPA Method 815, reactivity, conductivity, pH, and ignitability.

To aid in determining the best waste disposal options for the soil, Loureiro compared the soil analytical results to the MCP Soil Standard Reporting Category (RCS-1), promulgated and published in the Massachusetts Oil and Hazardous Materials List (310 CMR 40.1600); and to the standards set forth in the Massachusetts Department of Environmental Protection (MassDEP) Policy COMM-97-001; for the reuse or disposal of Contaminated Soil at Massachusetts Landfills.

Laboratory analytical results indicated soil constituents primarily consist of EPH, VOCs, SVOCs, metals, TPH, and low concentrations of chlorinated pesticides and PCBs. Lead and tetrachloroethene (PCE) were detected in all three soil samples; low concentrations were detected in HA20-1 and HA20-3 and concentrations above MCP RCS-1 were detected in HA20-2. PCBs Aroclor 1254 and Aroclor 1260 were reported above laboratory detection limits in one of the three samples collected (HA20-2), but below applicable standards. Chlorinated pesticide 4,4'-DDD was detected above laboratory detection limits in boring HA20-2, but below applicable standards. Chlorinated herbicides and VPH were not detected above laboratory reporting limits. Additionally, none of the samples submitted for analysis were ignitable. Refer to Table 1 for a summary of select analytical results. Refer to Attachment B for accompanying laboratory analytical reports.

The sample collected from HA20-2, where PCE was detected at a concentration higher than detected in other areas of the Site and above MCP RSC-1, was reanalyzed to confirm the results. The reanalyzed sample confirmed the presence of PCE at a concentration above MCP RCS-1. Additionally, cis-1,2-dichloroethene (cis-1,2-DCE) was detected in the reanalyzed sample at a concentration above MCP RCS-1.

To further assess the presence of chlorinated VOCs in soil and groundwater across the Site, four additional soil borings, with three finished as groundwater monitoring wells, were installed under the supervision of Loureiro personnel on July 13, 2020. The soil borings were advanced by GeoLogic Earth Exploration, Inc. (GEO) of Norfolk, Massachusetts using a truck-mounted direct push rig. Soil samples were field-screened using a PID equipped with a 10.6 eV lamp for the presence of VOCs. Soil borings were identified as LEA-B1 through LEA-B4 with soil borings LEA-B1 through LEA-B3 finished as monitoring wells and identified as LEA-MW-1 through LEA-MW-3, respectively.

Based upon field-screened data and visual characterizations, a composite soil sample was collected from a 2-foot interval for laboratory analyses from each soil boring. Soil samples were collected at a depth of 4-6 feet bgs at LEA-B1 (fill layer), 12-14 feet bgs at LEA-B2 (native layer), 6-8 feet bgs at LEA-B3 (fill layer) and 4-6 feet bgs at LEA-B4 (fill layer). Soil characteristics observed were similar to those observed during the May 2020 sampling as described above. Refer to Figure 2 for the locations of the soil borings and monitoring wells and to Appendix A for soil boring logs.

Composite soil samples were submitted to Alpha Analytical Laboratories for analysis of the VOCs by EPA Method 5035. No VOCs were detected in LEA-B2 above laboratory reporting limits. Laboratory analytical results detected PCE in the soil samples collected from LEA-B1, LEA-B3 and LEA-B4 at low concentrations, below MCP RCS-1. No other VOCs were detected above laboratory reporting limits in soil sample LEA-B1. Trichloroethene (TCE) and cis-1,2-DCE were detected in LEA-B3 and LEA-B4 at low concentrations, below MCP RCS-1. A tabulated summary of soil sampling results is located in Table 1.

Loureiro returned to the Site on July 21, 2020 to collect groundwater samples from the newly installed monitoring wells. Groundwater samples were collected using a low-flow technique in accordance with Loureiro's Standard Operating Procedure for Low Flow (Low-Stress) Liquid Sample Collection and Field Analysis. Field parameters were obtained at the initiation of purging which included pH, temperature, specific conductance, and turbidity. Purging was performed using a variable speed peristaltic pump with disposable polyethylene tubing, taking care to minimize aeration. A sample was collected from each well and submitted to Absolute Resource Associates of Portsmouth, New Hampshire for VOC analysis by EPA Method 8260.

No VOCs were detected above laboratory reporting limits in groundwater samples collected from LEA-MW-1 and LEA-MW-3. PCE and TCE were detected in the groundwater sample collected from LEA-MW-2 at concentrations of 2 micrograms per liter (ug/L), below the Groundwater Standard Reporting Category (RCGW-1) of 5 ug/L for both constituents. Refer to Table 2 for a summary of groundwater analytical data.

Based on the data collected during limited subsurface investigations, lead, PCE and cis-1,2-DCE were detected in soil at sample location HA20-2 at concentrations above the applicable RCS-1 standard triggering a 120-day notification requirement. In accordance with 310 CMR 40.0315 a release to the environment indicated by the measurement of one or more hazardous materials in soil or groundwater in an amount equal to or greater than the applicable Reportable Concentration was reported to the MassDEP on August 20, 2020 through the submittal of BWSC 103 Release Notification Form (RNF) through MassDEP's eDEP online filing system. On August 25, 2020, RTN 3-36458 was assigned to the release. No additional subsurface investigations/sampling have been conducted since the submittal of the RNF and assignment of RTN 3-36458.

2. DATA USABILITY EVALUATION

A Data Usability Evaluation documents that the data relied upon is scientifically valid and defensible. Loureiro utilized the MassDEP's *MCP Representativeness Evaluations and Data Usability Assessments*, Policy #WSC-07-350, dated September 19, 2007, to determine the data is Compendium Analytical Methods (CAM) Compliant. The data achieved Presumptive Certainty meaning the data reached a sufficient level of precision, accuracy, and sensitivity to support the Permanent Solution.

2.1 Conceptual Site Model

Based on a review of a *Phase I Environmental Site Assessment (ESA) Update* for 2072 Massachusetts Avenue, Cambridge, Massachusetts completed by Atlantic Environmental Sciences, Inc. (AES) dated, March 12, 2018 and the results of the assessment work recently completed by Loureiro, Loureiro developed the following conceptual site model (CSM) to describe the nature and extent of the lead and chlorinated VOCs detected in soil.

Based on information provided in AES's Phase I ESA, historically the Site was utilized for residential and commercial use between 1888 and 1950 and for commercial use since 1996. City Directory listings identified Kentucky Fried Chicken restaurant as located at the Site between 1975 and 1999. Darul Kabab, a Bangladeshi/Indian/Pakistani restaurant and current occupant has been operating at the Site since 2010. There is no historical evidence of use or storage of oil or hazardous materials at the Site and no evidence of occupants (e.g., gas stations, dry cleaners) who might have used such materials.

Currently the Site is surrounded by commercial properties to the north, east and west, as well as residential properties to the south and east. Immediately abutting the property is the North Cambridge Senior Centre and Cambridge Housing Authority to the east, Massachusetts Avenue to the north, Walden Street to the west and a parking lot to the south. Historically, Walden Cleaners was located at 2090 Massachusetts Avenue, approximately 75 feet northwest of the Site from approximately 1971 through 2018. According to AES's Phase I ESA, Walden Cleaners had one

Tetrachloroethylene (PERC) Dry Cleaning machine and during 2016 and 2017 Walden Cleaners purchased 35 gallons of PERC and disposed of 500 gallons of waste PERC. A gas station located at 2055 Massachusetts Avenue, approximately 100 feet northeast of the Site operated from approximately 1950 to 2006 and was associated with two releases resulting in the submission of Class A-2 RAOs. Additionally, based on a review of Sanborn Maps included in AES's Phase I ESA, a filling station was located approximately 50 feet east of the Site in 1935 and was converted into an auto sales business by 1950.

In support of a planned redevelopment of the Site, soil samples were collected from three geotechnical soil borings to perform soil pre-characterization in an effort to expedite soil excavation and offsite management during redevelopment. Analytical results detected lead and PCE in one of the soil samples collected from the fill layer at concentrations above the applicable RCS-1 standard. The sample collected from HA20-2 where PCE was detected at a concentration higher than detected in other areas of the Site and above MCP RSC-1 was reanalyzed to confirm the results. The reanalyzed sample confirmed the presence of PCE at a concentration above MCP RCS-1. Additionally, cis-1,2-DCE was detected in the reanalyzed samples at a concentration above MCP RCS-1.

To further assess the presence of chlorinated VOCs in soil and groundwater across the Site, four additional soil borings with three completed as groundwater monitoring wells were installed. One soil sample was collected from each soil boring, with three samples collected from the fill layer and one sample collected from a native layer located below the fill layer and analyzed for VOCs. No VOCs were detected above laboratory reporting limits in the soil sample collected from the native layer (LEA-B2). Laboratory analytical results detected PCE in the soil samples collected from the fill layer (LEA-B1, LEA-B3 and LEA-B4) at low concentrations, below MCP RCS-1. No other VOCs were detected above laboratory reporting limits in soil sample LEA-B1. TCE and cis-1,2-DCE were detected in LEA-B3 and LEA-B4 at low concentrations, below MCP RCS-1.

To assess groundwater conditions at the Site, groundwater samples were collected from the three newly installed monitoring wells and submitted for laboratory analysis of VOCs. No VOCs were detected above laboratory reporting limits in the groundwater samples collected from monitoring

wells LEA-MW-1 and LEA-MW-3. PCE and TCE were detected in the groundwater sample collected from LEA-MW-2 at concentrations of 2 ug/L, below applicable RCGW-2 standards.

Based on the data collected during the subsurface investigation conducted by Loureiro between May and July 2020, lead, PCE and cis-1,2-DCE were detected in soil collected from soil boring HA20-2 at concentrations above the applicable RCS-1 standard triggering a 120-day notification requirement. Notification of the 120-day notification requirement was conveyed to the MassDEP on August 20, 2020 through the submittal of BWSC 103 RNF via eDEP online filing system. On August 25, 2020, RTN 3-36458 was assigned to the release. No additional subsurface investigations/sampling have been conducted since the submittal of the RNF and assignment of RTN 3-36458.

Based on information collected to date and the Site's historic use as residential and commercial use with no indication of businesses that would have utilized chlorinated VOCs or metals, Loureiro concludes that the chlorinated VOCs and lead detected in on-Site soils is associated with an off-Site source(s) or related to the on-Site fill material. Properties in proximity to the Site that based on historical usages may have utilized chlorinated VOCs include 2090 Massachusetts Avenue (formerly operated as a drycleaner from approximately 1971 to 2018), and 2050 Massachusetts Avenue (operated as a filling station/auto sales from 1935-1950s). The lead detected in the on-Site soils could be associated with the fill material located at the Site or from historical usage of 2050 Massachusetts Avenue as a filling station in 1935.

Based on the assessment conducted to date, HA20-2 was the only location where concentrations of lead and chlorinated VOCs were detected in soils above applicable Method 1 Standards. Low levels of lead and chlorinated VOCs were identified below applicable Method 1 S-1 Standards at additional locations in the fill layer. No chlorinated VOCs were detected above laboratory detection limits in the soil sample collected from the native soil layer at location LEA-B2. No chlorinated VOCs were detected in groundwater above applicable Method 1 GW-2 and GW-3 Standards. Given the low levels of contaminants detected in groundwater, all below Method 1 GW-2 and GW-3 standards, Loureiro considers the release to have impacted soil primarily.

2.2 Use of Field Screening Data for Soil Sampling

During the initial and follow-up Site investigation activities, field screening in the form of visual/olfactory observations were used to identify potentially impacted soil. Loureiro also used a PID to confirm olfactory and visual observations and screen for the presence of VOCs. Soil samples were collected from the intervals where the highest PID readings were detected and/or based on visual/olfactory observations and submitted for laboratory analysis.

2.3 Use of Field Chemistry Parameters for Groundwater Sampling

During the groundwater sampling event, low flow sampling techniques and field chemistry parameters were used to evaluate when water-purging activities from the wells was representative of subsurface conditions and not the annular space around the wells. Field chemistry parameters were stable prior to collecting samples for laboratory VOC analysis in accordance with low-flow sampling requirements and are considered representative of groundwater quality within the Site.

2.4 Sampling Rationale

Loureiro collected several soil and groundwater samples. Soil samples were initially collected from soil borings HA20-1, HA20-2 and HA20-3 to determine soil conditions across the Site for soil pre-characterization associated with a planned redevelopment of the Site that would require soil excavation/offsite disposal. Following the detection of lead, PCE, and cis-1,2-DCE in the soil sample collected from HA20-2 above RCS-1, soil borings LEA-B1 through LEA-B4 were installed in locations not previously assessed to further assess soil conditions throughout the Site. Soil borings LEA-B1 through LEA-B3 were finished as groundwater monitoring wells LEA-MW-1 through LEA-MW-3, respectively. Groundwater samples were collected from the newly installed groundwater monitoring wells to assess groundwater conditions across the Site.

2.5 Number and Spatial Distribution of Samples

The Site consists of approximately 0.2 acres of land with a portion of the Site occupied by an 1,860 square foot building. A total of seven soil borings with three finished as groundwater monitoring wells were installed across the Site, providing good coverage and distribution across the property.

Loureiro collected a total of seven soil samples from soil borings installed across the Site. Three groundwater samples were also collected from three groundwater monitoring wells installed across the Site. All samples were collected utilizing proper procedure and methodology. All samples were collected to determine the extent of the lead and chlorinated VOCs detected above RCS-1 in soil boring HA20-2. The number of soil samples supported by soil screening results was sufficient for the size of the property/release area.

Groundwater samples were collected from recently installed groundwater monitoring wells installed throughout the Site. The locations of the wells were chosen to provide Site-wide coverage and wells were installed proximal to the Site building and to the adjacent residential building to the east with one installed in the presumed downgradient direction.

Loureiro believes that the number and locations of samples are considered appropriate for the purposes of this report, based upon the above information and the analytical sampling results.

2.6 Temporal Distribution of Samples

The temporal distribution of the soil samples is not considered to be a limiting factor with regard to the Site characterization. Based on the availability of data from the soil sampling events temporal distribution is considered adequate for the data quality objectives of the sampling program.

2.7 Completeness

Completeness is a measure of the amount of valid data obtained compared to the amount expected under normal conditions. If the completeness goal is 100%, this means that all samples collected and submitted to the laboratory must be useable in support of the Permanent Solution Statement.

In summary, all data used to support of this Permanent Solution Statement is considered adequately representative of the spatial and temporal data at the Site, and has acceptable accuracy, precision and sensitivity.

2.8 **Inconsistency and Uncertainty**

Inconsistent information and sources of uncertainty that may undermine the Permanent Solution Statement must be identified and discussed as part of the Data Usability Evaluation. No inconsistency or uncertainty was identified between field observations or screening data and the laboratory.

2.9 **Information Considered Unrepresentative**

This section identifies information that was not used to support the Permanent Solution Statement, because it was determined to be unrepresentative or no longer representative of disposal site conditions. Loureiro considers all soil and groundwater analytical data collected during the subsurface investigations implemented at the Site between May and July 2020 representative of Site conditions, scientifically valid and defensible, and of sufficient level of precision, accuracy, and completeness to support this Permanent Solution Statement.

3. NATURE AND EXTENT OF OIL AND HAZARDOUS MATERIALS

3.1 Nature of the Release

Based on information collected to date and the Site's historic use as residential and commercial use with no indication of businesses that would have utilized chlorinated VOCs or metals, Loureiro concludes that the chlorinated VOCs and lead detected in on-Site soils is associated with an off-Site source(s) or related to the on-Site fill material. Properties in proximity to the Site that based on historical usages may have utilized chlorinated VOCs include 2090 Massachusetts Avenue (formerly operated as a drycleaner from approximately 1971 to 2018), and 2050 Massachusetts Avenue (operated as a filling station/auto sales from 1935-1950s). The lead detected in the on-Site soils could be associated with the fill material located at the Site or from historical usage of 2050 Massachusetts Avenue as a filling station in 1935.

The impact to on-Site soils was identified in May 2020 during subsurface investigations conducted to pre-characterize soils prior to redevelopment of the Site. Based on additional soil and groundwater assessment conducted to determine nature and extent of the identified release condition, no Method 1 GW-2 or GW-3 Standards were exceeded and HA20-2 was the only location where concentrations of lead and cis-1,2-DCE in soil were detected above Method 1 S-1/GW-2 Standards. Loureiro presumes, based on the information collected during the investigations, that the elevated chlorinated VOC and lead contamination is limited to soils in the area of the Site proximal to HA20-2. Based on data collected we consider the release to have primarily impacted soil.

3.2 Extent of Soil Impacts

The impact to on-Site soils was identified during soil pre-characterization activities conducted in May 2020 during the installation/sampling of three soil borings. To assess nature and extent, four additional soil borings were installed across the Site and soil samples collected. Throughout the investigations, Loureiro collected a total of seven soil samples throughout the Site. Based on a review of the soil data collected, impacts to on-Site soil above applicable Method 1 Standards are

limited to the area proximal to soil boring HA20-2. The locations of the soil samples are presented on Figure 2 attached, and soil analyses are summarized on Table 1.

3.3 Extent of Groundwater Impacts

Loureiro collected a total of three groundwater samples for VOC analysis during the investigation, from newly installed groundwater monitoring wells LEA-1 through LEA-3. No VOCs were detected in any of the groundwater monitoring wells at concentrations above the applicable GW-2 and GW-3 standards. Based on the sampling results, groundwater has not been significantly impacted by the release. The locations of the groundwater monitoring wells are presented on Figure 2 attached and groundwater analyses are summarized on Table 2.

3.4 Disposal Site Boundary

The disposal site conservatively consists of the entire parcel property located at 2072 Massachusetts Avenue.

4. RISK CHARACTERIZATION

Loureiro completed a Method 1 Risk Characterization (RC) at the Site to determine if Site conditions represent a condition of No Significant Risk (NSR). The Method 1 RC was used to characterize the risk of harm to health, public welfare and the environmental at the Site, where assessment activities determined that the presence of contamination is limited to soil and groundwater. The following risk characterization evaluated soil and groundwater. The Method 1 RC was completed in accordance with 310 CMR 40.0970 and a separate characterization of the risk to public safety was completed in accordance with 310 CMR 40.0960.

4.1 Data Used in the Risk Characterization

The objective of the Method 1 RC was to determine if concentrations of OHM at the Site represent a Condition of No Significant Risk under current and foreseeable future Site Conditions based on a foreseeable residential use of the Site.

The analytical data representative of current conditions for the Site was evaluated for use in the Method 1 RC. The soil and groundwater samples were collected throughout the Site and in the immediate area of where exceedences of applicable standards were identified. All data collected between May and July 2020 were determined to be representative of current conditions and utilized in the Method 1 RC.

4.2 Risk to Human Health

4.2.1 Current and Reasonably Foreseeable Use and Groundwater and Soil Categories

The Site is currently occupied by a restaurant; however, the Site is slated to be redeveloped into a multi-family residential property. For the purpose of the RC Loureiro assumed that future foreseeable uses could include multi-family residential at the Site. Under current and future foreseeable conditions, potential receptors at the Site would include, employees that work at the Site, future on-Site residents including children, off-Site residents that live near-by, visitors, trespassers, utility workers and construction workers. Potential future on-Site children residing at the Site would be the most sensitive receptors, therefore, risks calculated for a potential future on-Site child resident were considered protective of potential risks to the other current and future

foreseeable receptors. The RC assumed children and adult's frequency and intensity of use of the area is high and that there would be no on-Site restricted uses or activities.

There are no surface water features located within 500 feet of the Site. There are no designated Potentially Productive Aquifers, Zone II Areas, Sole Source Aquifers, Public Water Supply wells, Interim Wellhead Protection Areas, and/or Zone A surface water supply areas located within ½-mile of the Site. Additionally, no wetland, certified vernal pools, fish habitats or threatened/endangered species habitats or protected open spaces are located within 500 feet of the Site.

Per 310 CMR 40.0932 Loureiro determined that the applicable groundwater categories at the Site for current and reasonably foreseeable Site Activities and Uses are Method 1 GW-2 and GW-3.

The Site is not located within a current drinking water source area or within a potential drinking water source area and therefore category GW-1 is not applicable to the Site. The average annual depth to groundwater at the Site is less than 15 feet and located within 30 feet of an existing building, therefore, category GW-2 is applicable to the Site. Groundwater is considered a potential source of discharge to surface water at all Sites and therefore category GW-3 is applicable to the Site.

Per 310 CMR 40.0933 it was determined that soil categories applicable to the Site for current and reasonably foreseeable Site Activities and Uses are S-1, S-2 and S-3. As S-1 is the soil category associated with the highest exposure potential in comparison to S-2 and S-3, it was selected as the applicable soil category for the RC.

4.2.2 Hazard Identification

4.2.2.1 Identification of Constituents of Concern

During initial subsurface investigations conducted in May 2020 to pre-characterize soil prior to redevelopment of the Site, soil samples were analyzed for a wide array of parameters to determine appropriate handling/disposal including, SVOCs, VOCs, metals PCBs, TPH, EPH, VPH, and chlorinated pesticides and herbicides. During this initial investigation lead and PCE were detected

at concentrations above applicable RCS-1 standards. Follow up investigations focused on chlorinated VOCs.

As a conservative approach, all constituents detected above laboratory detection limits were considered Constituents of Concern (COCs). The following COCs were identified for soil: C₁₉-C₃₆ aliphatics, C₁₁-C₂₂ aromatics, naphthalene, acenaphthene, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, benzo(a)anthracene, benzo(a)pyrene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benzo(ghi)perylene, dibenzo(a,h)anthracene, 2-mehylnaphthalene, 4,4'-DDD, 4,4'-DDT, chlordane, aroclor 1254, aroclor 1260, total PCBs, arsenic, barium, beryllium, chromium, lead, mercury, nickel, vanadium, zinc, PCE, TCE, cis-1,2-DCE, and TPH. The following COCs were identified for groundwater: PCE and TCE.

4.2.2.2 Identification of Suitably Analogous Standards

Applicable or suitably analogous standards are formally promulgated standards intended to protect human health and the environment from adverse effects of hazardous agents. Such standards are medium-specific. In accordance with MassDEP policy, MCP Method 1 Risk Characterization standards were utilized in the Method 1 RC conducted for the Site. As described above, the Method 1 S-1 soil category and the Method 1 GW-2 groundwater categories were selected as the applicable soil and groundwater categories for the RC.

Federal and state drinking water standards (such as Massachusetts Maximum Contaminant Levels [MMCLs]) are applicable or suitably analogous enforceable standards for sites classified as GW-1. Drinking water guidelines (e.g., MassDEP Office of Research and Standards Drinking Water Guidelines [ORSGL]) are not enforceable standards. The drinking water standards are applicable to a site, if the site groundwater is categorized as GW-1. The GW-1 category is not applicable to Site groundwater. Therefore, drinking water standards are not applicable to the subject Site. Massachusetts Surface Water Quality Standards are applicable or suitably analogous standards to a site, if surface water is present and potentially impacted by a site. The potential for impact to surface water related to the Site has not been identified. Therefore, surface water quality standards are not applicable to the Site.

4.2.3 Exposure Assessment and Calculation of Exposure Point Concentrations

The objectives of the Exposure Assessment are to qualitatively and quantitatively describe the settings and conditions under which human exposures to Site OHM may reasonably be expected to occur. Achieving these goals entails the identification of receptors that may be on-Site, evaluation of exposure pathways, and the calculation of Exposure Point Concentrations (EPCs) to which receptors may be exposed.

Exposure profiles provide a narrative description of how exposures may occur at the Site. The profiles identify factors related to potential exposures and estimate their magnitude. These factors include variables such as the receptors' body weights, intake rates, frequency of exposure, and duration of exposure. Exposure profiles are provided for each receptor identified under current and reasonably foreseeable future uses of the Site.

The Site is currently used as a restaurant, however it is slated for redevelopment for multi-family residential purposes and therefore there is no presumed restriction on exposure currently or in the future. Loureiro presumes that construction activity will also occur. Therefore, Loureiro presumes the residential and construction exposure scenarios are appropriately representative and protective. Exposure to soil and groundwater were evaluated.

Exposure points represent the locations where human or ecological receptors may come into contact with OHM at a site. These locations may be either single discrete points or areas/zones of affected media. Within the Method 1 RC the entire Site was considered representative of exposure points for soil and for groundwater, each individual groundwater sampling point was considered its own exposure point. No hot spots were identified at the Site. Potential human receptors were identified based on the current and reasonably foreseeable future use of the Site. As described above, the RC assumed children and adults' frequency and intensity of use of the area is high and that there would be no on-Site restricted uses or activities.

The exposure routes describe how a receptor may contact contaminants. The exposure routes identified for analysis in this Method 1 RC are ingestion of soil and dermal adsorption of constituents from soil and groundwater in contact with the skin and inhalation of soil particles by future children and adults residing at the Site and construction workers.

Exposure factors are numerical estimates of the magnitude and duration of exposures that a receptor may have to COCs. The EPCs were determined as follows. For each contaminant detected in soil samples collected across the Site, the arithmetic mean was calculated to determine the EPC for each contaminant of concern. As a conservative approach, if a contaminant was not detected above the laboratory detection limit (LDL), one-half the LDL was used as the concentration in the calculation. As a conservative approach, the Site groundwater EPCs were considered the highest concentration of each contaminant detected at any groundwater sampling point. Refer to Tables 1 and 2 for EPCs calculated for Site soils and groundwater, respectively.

4.2.4 Comparison of Exposure Point Concentrations to MCP Method 1 Standards

The EPCs calculated for Site soils and groundwater were then compared to the applicable promulgated MCP Method 1 Standards. As discussed above, the most conservative soil and groundwater standards determined to be applicable to the Site were S-1 and GW-2 and GW-3, respectively. As shown in Table 1 all soil EPCs were below the applicable S-1/GW-2 and S-1/GW-3 standard. As shown in Table 2 all groundwater EPCs were below the applicable Method 1 GW-2 and GW-3 standards.

No EPCs were greater than the applicable Method 1 Soil and Groundwater Standards. The Method 1 RC conducted for the Site soils and groundwater demonstrated that a condition of no significant risk of harm to health, public welfare and the environment exists.

4.3 Risk to Safety

The risk of harm to safety, as described in 310 CMR 40.0960, was evaluated for the Site. The following observations concerning the Site apply to release-related conditions at the Site and the relevant criteria set forth in Section 40.0960 of the MCP:

1. There are no rusted or corroded drums or containers, open pits, lagoons, or other dangerous structures at the Site;
2. There is no threat of fire or explosion from the presence of explosive vapors resulting from a release of OHM at the Site; and

3. There are no uncontained materials at the Site exhibiting the characteristics of corrosivity, reactivity, or flammability as described at 310 CMR 40.0347.

Therefore, there is not a risk of harm to safety due to release-related conditions at the Site.

5. PUBLIC INVOLVEMENT

Pursuant to the Public Involvement Requirements for Permanent Solution Statements as described in 310 CMR 40.1403 and 310 CMR 40.1406, the Chief Municipal Officer and Board of Health have been notified of the availability of this submittal. Refer to Appendix C for a copy of the notifications.

6. PERMANENT SOLUTION WITHOUT CONDITIONS

Based on subsurface investigations conducted at the Site and the completion of a Method 1 RC it has been determined that the release meets a Permanent Solution with No Conditions Statement condition per the MCP. It was determined that there is no on-Site source, no plumes of contaminants, and that a condition of no significant risk of harm to health, public welfare and the environment exists. A risk characterization was performed to quantify the risk to public health, safety welfare and the environment and demonstrates that a condition of No Significant Risk is present for current and foreseeable future use. Loureiro presumed no restrictions on future use to demonstrate this condition of no significant risk. Therefore, a Permanent Solution with No Conditions as per the MCP exists. In addition, it does not depend on ongoing maintenance, operations, or monitoring. Finally, this Permanent Solution with No Conditions Report addresses the extent of the release and is not dependent on any other Response Action Outcome (RAO)/Permanent Solutions.

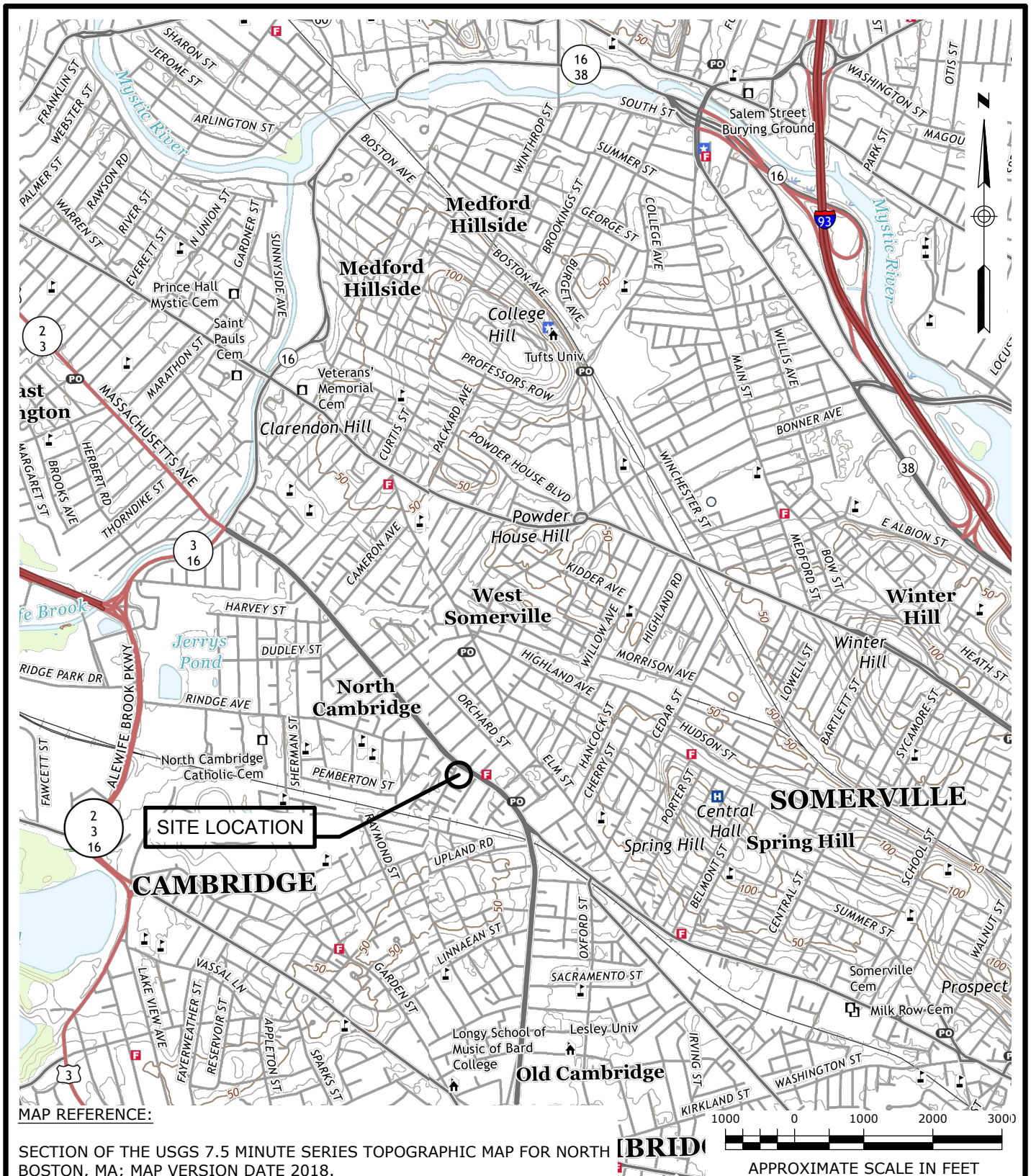
7. LICENSED SITE PROFESSIONAL (LSP) OPINION

A Permanent Solution With no Conditions Form (BWSC-104) was submitted through MassDEP's eDEP online filing system simultaneously with the uploading of this report to eDEP. The form provides the signature and seal of the Massachusetts Licensed Site Professional (LSP) of record for this release, Samuel Butcher (LSP # 9185). The Permanent Solution Without Conditions Report certifies that, in the LSP's opinion, a condition of "No Significant Risk" to human health, public welfare, and the environment now exists at the release location under RTN 3-36458. Loureiro performed response actions in accordance with the MCP. As a result, no public safety or imminent hazard condition exists at the release location. Therefore, a condition of No Significant Risk exists at the Site and a Permanent Solution Without Conditions is appropriate for the release.

8. FEASIBILITY OF ACHIEVING BACKGROUND

Since the activities completed under this assessment did not reduce contamination to prerelease conditions and as documented herein Loureiro presumes lead and chlorinated VOC contamination remains across the Site. Removal of effected soil would require significant excavation and would likely require engineering support or partial demolition and reconstruction of the existing building. Alternative remedial strategies, including in-situ treatments would be time-consuming and expensive. Loureiro understands from conversations with the property-owner that in the near future the Site will be redeveloped. At that time, some soil excavation activities will be conducted and will reduce contamination in the areas excavated, with soil being handled/disposed of in accordance with 310 CMR 40.0030.

FIGURES



Loureiro Engineering Associates, Inc.
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 An Employee Owned Company • www.Loureiro.com

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SITE LOCUS

CC HRE 2072 MASSACHUSETTS AVENUE
 2072 Massachusetts Avenue, Cambridge, MA

PREPARED FOR:

CC HRE 2072 Mass Ave LLC

SCALE

1" = 2,000'±

COMM. NO.

13MA0.01

DATE

06/01/2020

Figure 1

MassDEP - Bureau of Waste Site Cleanup

Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

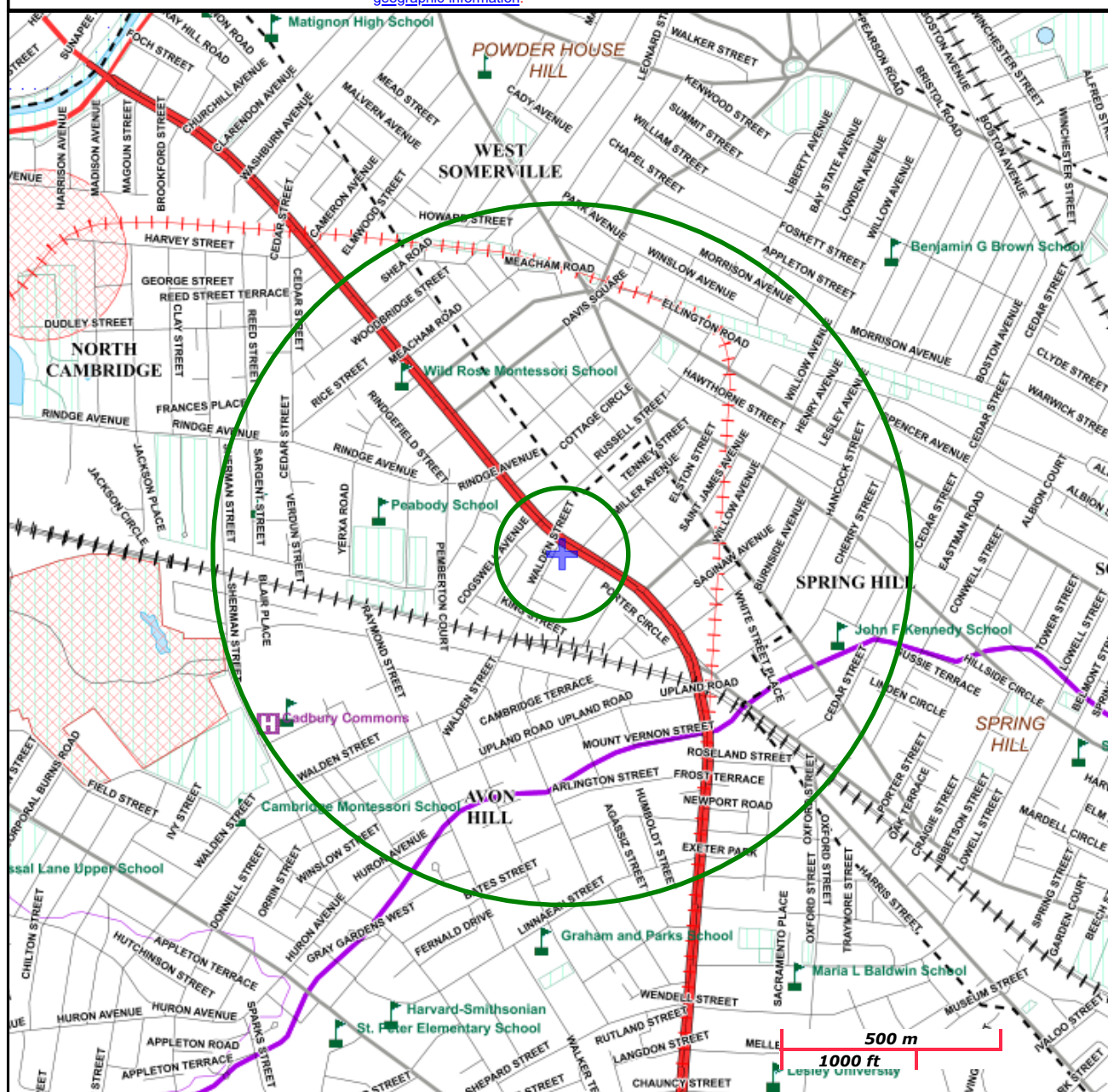
Site Information:

FIGURE 3
2072 MASSACHUSETTS AVENUE CAMBRIDGE, MA
3-000036458
NAD83 UTM Meters:
4695382mN, 325233mE (Zone: 19)
September 1, 2020

The information shown is the best available at the date of printing. However, it may be incomplete. The responsible party and LSP are ultimately responsible for ascertaining the true conditions surrounding the site. Metadata for data layers shown on this map can be found at:
<https://www.mass.gov/orgs/massgis-bureau-of-geographic-information>



MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail

Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct

Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam

Aquifers: Medium Yield, High Yield, EPA Sole Source

Non Potential Drinking Water Source Area: Medium, High (Yield)

PWS Protection Areas: Zone II, IWPA, Zone A

Hydrography: Open Water, PWS Reservoir, Tidal Flat

Wetlands: Freshwater, Saltwater, Cranberry Bog

FEMA 100yr Floodplain; Protected Open Space; ACEC

Est. Rare Wetland Wildlife Hab; Vernal Pool: Cert, Potential

Solid Waste Landfill; PWS: Com. GW, SW, Emerg., Non-Com.

TABLES

TABLE 1
Soil Sampling Results and EPCs
2072 Massachusetts Avenue
Cambridge, Massachusetts
Comm. No. 13MA0.01

LOCATION SAMPLING DATE LAB SAMPLE ID SAMPLE TYPE SAMPLE DEPTH (ft.)					HA20-2 5/7/2020 L2019321-01 SOIL 4'-6'		CONC. USED TO CALC. EPC	HA20-1 5/8/2020 L2019321-02 SOIL 2'-4'		CONC. USED TO CALC. EPC	HA20-3 5/11/2020 L2019321-03 SOIL 6'-8'		CONC. USED TO CALC. EPC	HA20-2 5/7/2020 L2021888-01 SOIL 4'-6'		CONC. USED TO CALC. EPC
	MA-UCL5-14	RCS-1-14	SI/G2-14	SI/G3-14	Units	Results	Qual	Results	Qual		Results	Qual		Results	Qual	
Extractable Petroleum Hydrocarbons																
C9-C18 Aliphatics	20000	1000	1000	1000	mg/kg	7.18	U	7.26	U		7.08	U		-	-	-
C19-C36 Aliphatics	20000	3000	3000	3000	mg/kg	57		124		124	90.7		90.7	-	-	-
C11-C22 Aromatics					mg/kg	50.6		47.5		47.5	91.4		91.4	-	-	-
C11-C22 Aromatics, Adjusted	10000	1000	1000	1000	mg/kg	42.7	U	42.7	U	46.7	65.1		65.1	-	-	-
Naphthalene	10000	4	20	500	mg/kg	0.359	U	0.1795	U	0.1815	0.401		0.401	-	-	-
2-Methylnaphthalene	5000	0.7	80	300	mg/kg	0.359	U	0.363	U		0.354	U		-	-	-
Acenaphthylene	10000	600	10	10	mg/kg	0.359	U	0.363	U		0.354	U		-	-	-
Acenaphthene	10000	4	1000	1000	mg/kg	0.359	U	0.1795	U	0.1815	0.591		0.591	-	-	-
Fluorene	10000	1000	1000	1000	mg/kg	0.359	U	0.1795	U	0.1815	0.724		0.724	-	-	-
Phenanthrene	10000	10	500	500	mg/kg	1.15		1.15		0.1815	5.8		5.8	-	-	-
Anthracene	10000	1000	1000	1000	mg/kg	0.359	U	0.1795	U	0.1815	1.19		1.19	-	-	-
Fluoranthene	10000	1000	1000	1000	mg/kg	1.41		1.41		0.401	4.56		4.56	-	-	-
Pyrene	10000	1000	1000	1000	mg/kg	1.43		1.43		0.439	4.38		4.38	-	-	-
Benzo(a)anthracene	3000	7	7	7	mg/kg	0.711		0.711	U	0.1815	1.73		1.73	-	-	-
Chrysene	10000	70	70	70	mg/kg	0.799		0.799	U	0.1815	1.88		1.88	-	-	-
Benzo(b)fluoranthene	3000	7	7	7	mg/kg	0.834		0.834	U	0.1815	1.66		1.66	-	-	-
Benzo(k)fluoranthene	10000	70	70	70	mg/kg	0.359	U	0.1795	U	0.1815	0.665		0.665	-	-	-
Benzo(a)pyrene	300	2	2	2	mg/kg	0.623		0.623	U	0.1815	1.32		1.32	-	-	-
Indeno(1,2,3-cd)Pyrene	3000	7	7	7	mg/kg	0.466		0.466	U	0.1815	0.735		0.735	-	-	-
Dibenz(a,h)anthracene	300	0.7	0.7	0.7	mg/kg	0.359	U	0.363	U		0.354	U		-	-	-
Benzo(ghi)perylene	10000	1000	1000	1000	mg/kg	0.504		0.504	U	0.1815	0.687		0.687	-	-	-
General Chemistry																
Specific Conductance @ 25 C					umhos/cm	110		87			87			-	-	-
Solids, Total					%	92.4		87.8			89.5			92.4		
pH (H)					SI	8.9		8.2			8			-	-	-
Cyanide, Reactive					mg/kg	10	U	10	U		10	U		-	-	-
Sulfide, Reactive					mg/kg	10	U	10	U		10	U		-	-	-
Ignitability of Solids																
Ignitability						NI		NI			NI			-	-	-
MCP Chlorinated Herbicides																
MCP					mg/kg	3.6	U	3.8	U		3.6	U		-	-	-
MCPA	100				mg/kg	3.6	U	3.8	U		3.6	U		-	-	-
Dalapon	1000				mg/kg	0.036	U	0.038	U		0.036	U		-	-	-
Dicamba	500				mg/kg	0.036	U	0.038	U		0.036	U		-	-	-
Dichloroprop					mg/kg	0.036	U	0.038	U		0.036	U		-	-	-
2,4-D	100				mg/kg	0.036	U	0.038	U		0.036	U		-	-	-
2,4-DB	100				mg/kg	0.036	U	0.038	U		0.036	U		-	-	-
2,4,5-T	100				mg/kg	0.036	U	0.038	U		0.036	U		-	-	-
2,4,5-TP (Silvex)	100				mg/kg	0.036	U	0.038	U		0.036	U		-	-	-
MCP Organochlorine Pesticides																
Delta-BHC	10				mg/kg	0.00169	U	0.018	U		0.0174	U		-	-	-
Lindane	600	0.003	1	0.5	mg/kg	0.000563	U	0.00601	U		0.0058	U		-	-	-
Alpha-BHC	50				mg/kg	0.000704	U	0.00751	U		0.00724	U		-	-	-
Beta-BHC	10				mg/kg	0.00169	U	0.018	U		0.0174	U		-	-	-
Heptachlor	100	0.3	0.3	0.3	mg/kg	0.000844	U	0.00901	U		0.0087	U		-	-	-
Aldrin	30	0.08	0.08	0.08	mg/kg	0.00169	U	0.018	U		0.0174	U		-	-	-
Heptachlor epoxide	10	0.1	0.1	0.1	mg/kg	0.00317	U	0.0338	U		0.0326	U		-	-	-
Endrin ketone	200	10	10	10	mg/kg	0.000704	U	0.00751	U		0.00724	U		-	-	-
Endrin ketone					mg/kg	0.00169	U	0.018	U		0.0174	U		-	-	-
Dieldrin	30	0.08	0.08	0.08	mg/kg	0.00106	U	0.0113	U		0.0109	U		-	-	-
4,4'-DDE	600	6	6	6	mg/kg	0.00169	U	0.018	U		0.0174	U		-	-	-
4,4'-DDD	600	8	8	8	mg/kg	0.00548		0.00548	U	0.009	0.0174	U	0.0087	-	-	-
4,4'-DDT	600	6	6	6	mg/kg	0.00716	IP	0.00716	U	0.0169	0.0326	U	0.0163	-	-	-
Endosulfan I	5000	0.5	300	1	mg/kg	0.00169	U	0.018	U		0.0174	U		-	-	-
Endosulfan II	5000	0.5	300	1	mg/kg	0.00169	U	0.018	U		0.0174	U		-	-	-
Endosulfan sulfate					mg/kg	0.000704	U	0.00751	U		0.00724	U		-	-	-
Methoxychlor	4000	200	200	200	mg/kg	0.00317	U	0.0338	U		0.0326	U		-	-	-
Chlordane	600	0.7	5	5	mg/kg	0.0509	P	0.0509	U	0.075	0.145	U	0.0725	-	-	-
Hexachlorobenzene	8	0.7	0.7	0.7	mg/kg	0.00169	U	0.018	U		0.0174	U		-	-	-
MCP Polychlorinated Biphenyls																
Aroclor 1016	100	1	1	1	mg/kg	0.036	U	0.037	U		0.0355	U		-	-	-
Aroclor 1221	100	1	1	1	mg/kg	0.036	U	0.037	U		0.0355	U		-	-	-
Aroclor 1232	100	1	1	1	mg/kg	0.036	U	0.037	U		0.0355	U		-	-	-
Aroclor 1242	100	1	1	1	mg/kg	0.036	U	0.037	U		0.0355	U		-	-	-
Aroclor 1248	100	1	1	1	mg/kg	0.036	U	0.037	U		0.0355	U		-	-	-
Aroclor 1254	100	1	1	1	mg/kg	0.0506		0.0506	U	0.0185	0.0355	U	0.01775	-	-	-
Aroclor 1260	100	1	1	1	mg/kg	0.0421		0.0421	U	0.0185	0.0355	U	0.01775	-	-	-
Aroclor 1262	100	1	1	1	mg/kg	0.036	U	0.037	U		0.0355	U		-	-	-
Aroclor 1268	100	1	1	1	mg/kg	0.036	U	0.037	U		0.0355	U		-	-	-
PCBs, Total	100	1	1	1	mg/kg	0.0927		0.0927	U	0.0185	0.0355	U	0.01775	-	-	-
MCP Semivolatile Organics																
Acenaphthene	10000	4	1000	1000	mg/kg	0.22		0.22	U	0.075	0.15	U	0.075	-	-	-
1,2,4-Trichlorobenzene	10000	2	6	700	mg/kg	0.18	U	0.19	U		0.18	U		-	-	-
Hexachlorobenzene	8	0.7	0.7	0.7	mg/kg	0.074	U	0.079	U		0.077	U		-	-	-
Bis(2-chloroethyl)ether	800	0.7	0.7	2	mg/kg	0.074	U	0.079	U		0.077	U		-	-	-
2-Chloronaphthalene	10000				mg/kg	0.18	U	0.19	U		0.18	U		-	-	-
1,2-Dichlorobenzene	10000	9	100	300	mg/kg	0.18	U	0.19	U		0.18	U		-	-	-
1,3-Dichlorobenzene	5000	3	100	100	mg/kg	0.18	U	0.19	U		0.18	U		-	-	-
1,4-Dichlorobenzene	10000	0.7	1	80	mg/kg	0.074	U	0.079	U		0.077	U		-	-	-
3,3'-Dichlorobenzidine	1000	3	3	3	mg/kg	0.18	U	0.19	U		0.18	U		-	-	-
2,4-Dinitrotoluene	800	0.7	2	2	mg/kg	0.074	U	0.079	U		0.077	U		-	-	-
2,6-Dinitrotoluene		100			mg/kg	0.18	U	0.19	U		0.18	U		-	-	-

TABLE 1
Soil Sampling Results and EPCs
2072 Massachusetts Avenue
Cambridge, Massachusetts
Comm. No. 13MA0.01

LOCATION SAMPLING DATE LAB SAMPLE ID SAMPLE TYPE SAMPLE DEPTH (ft.)	MA-UCL5-14	RCS-1-14	SI/G2-14	SI/G3-14	Units	HAZO-2 5/7/2020 L2019321-01 SOIL 4'-6'	CONC. USED TO CALC. EPC	HAZO-1 5/8/2020 L2019321-02 SOIL 2'-4'	CONC. USED TO CALC. EPC	HAZO-3 5/11/2020 L2019321-03 SOIL 6'-8'	CONC. USED TO CALC. EPC	HAZO-2 5/7/2020 L201888-01 SOIL 4'-6'	CONC. USED TO CALC. EPC
Azobenzene					mg/kg	0.18	U	0.19	U	0.18	U	-	-
Fluoranthene	10000	1000	1000	1000	mg/kg	2.4		0.68		1.1	1.1	-	-
4-Bromophenyl phenyl ether		100			mg/kg	0.18	U	0.19	U	0.18	U	-	-
Bis(2-chloroisopropyl) ether	10000	0.7	0.7	30	mg/kg	0.074	U	0.079	U	0.077	U	-	-
Bis(2-chloroethoxy)methane		500			mg/kg	0.19	U	0.2	U	0.2	U	-	-
Hexachlorobutadiene	1000	30	30	30	mg/kg	0.18	U	0.19	U	0.18	U	-	-
Hexachloroethane	2000	0.7	3	50	mg/kg	0.074	U	0.079	U	0.077	U	-	-
Isophorone		100			mg/kg	0.16	U	0.17	U	0.16	U	-	-
Naphthalene	10000	4	20	500	mg/kg	0.18	U	0.19	U	0.18	U	-	-
Nitrobenzene		500			mg/kg	0.16	U	0.17	U	0.16	U	-	-
Bis(2-ethylhexyl)phthalate	10000	90	90	90	mg/kg	0.18	U	0.19	U	0.18	U	-	-
Butyl benzyl phthalate		100			mg/kg	0.18	U	0.19	U	0.18	U	-	-
Di-n-butylphthalate		50			mg/kg	0.18	U	0.19	U	0.18	U	-	-
Di-n-octylphthalate		1000			mg/kg	0.18	U	0.19	U	0.18	U	-	-
Diethyl phthalate	10000	10	200	300	mg/kg	0.18	U	0.19	U	0.18	U	-	-
Dimethyl phthalate	10000	0.7	50	600	mg/kg	0.074	U	0.079	U	0.077	U	-	-
Benzo(a)anthracene	3000	7	7	7	mg/kg	1.2		0.42		0.53		-	-
Benzo(a)pyrene	300	2	2	2	mg/kg	1.1	1.2	0.39	0.42	0.44	0.53	-	-
Benzo(b)fluoranthene	3000	7	7	7	mg/kg	1.6	1.6	0.49	0.49	0.58	0.58	-	-
Benzo(k)fluoranthene	10000	70	70	70	mg/kg	0.44	0.44	0.16	0.16	0.22	0.22	-	-
Chrysene	10000	70	70	70	mg/kg	1.2	1.2	0.39	0.39	0.52	0.52	-	-
Acenaphthylene	10000		600		mg/kg	0.14	U	0.15	U	0.15	U	-	-
Anthracene	10000	1000	1000	1000	mg/kg	0.52	0.52	0.15	0.15	0.25	0.25	-	-
Benzo(g,h,i)perylene	10000	1000	1000	1000	mg/kg	0.73	0.73	0.24	0.24	0.24	0.24	-	-
Fluorene	10000	1000	1000	1000	mg/kg	0.19	0.19	0.095	0.095	0.18	0.18	-	-
Phenanthrene	10000	10	500	500	mg/kg	2.1	2.1	0.57	0.57	0.96	0.96	-	-
Dibenz(a,h)anthracene	300	0.7	0.7	0.7	mg/kg	0.15	0.15	0.079	0.079	0.0385	0.0385	-	-
Indeno(1,2,3-cd)pyrene	3000		7	7	mg/kg	0.78	0.78	0.26	0.26	0.26	0.26	-	-
Pyrene	10000	1000	1000	1000	mg/kg	2.1	2.1	0.74	0.74	0.97	0.97	-	-
Aniline		1000			mg/kg	0.21	U	0.22	U	0.22	U	-	-
4-Chloroaniline	400	1	7	3	mg/kg	0.18	U	0.19	U	0.18	U	-	-
Dibenzofuran		100			mg/kg	0.18	U	0.19	U	0.18	U	-	-
2-Methylnaphthalene	5000	0.7	80	300	mg/kg	0.074	0.074	0.079	0.079	0.077	0.077	-	-
Acetophenone		1000			mg/kg	0.18	U	0.19	U	0.18	U	-	-
2,4,6-Trichlorophenol	4000	0.7	20	20	mg/kg	0.074	U	0.079	U	0.077	U	-	-
2-Chlorophenol	3000	0.7	100	100	mg/kg	0.074	U	0.079	U	0.077	U	-	-
2,4-Dichlorophenol	8000	0.7	60	40	mg/kg	0.074	U	0.079	U	0.077	U	-	-
2,4-Dimethylphenol	10000	0.7	100	500	mg/kg	0.074	U	0.079	U	0.077	U	-	-
2-Nitrophenol		100			mg/kg	0.38	U	0.4	U	0.4	U	-	-
4-Nitrophenol		100			mg/kg	0.25	U	0.26	U	0.26	U	-	-
2,4-Dinitrophenol	8000	3	50	50	mg/kg	0.84	0.84	0.9	0.9	0.88	0.88	-	-
Pentachlorophenol	700	3	3	3	mg/kg	0.35	U	0.38	U	0.37	0.37	-	-
Phenol	10000	1	50	20	mg/kg	0.18	U	0.19	U	0.18	U	-	-
2-Methylphenol		500			mg/kg	0.18	U	0.19	U	0.18	U	-	-
3-Methylphenol/4-Methylphenol		500			mg/kg	0.25	U	0.27	U	0.26	0.26	-	-
2,4,5-Trichlorophenol	10000	4	1000	600	mg/kg	0.18	U	0.19	U	0.18	U	-	-
MCP Total Metals													
Antimony, Total	300	20	20	20	mg/kg	2.11	U	2.14	U	2.17	U	-	-
Arsenic, Total	500	20	20	20	mg/kg	4.95	4.95	5.68	5.68	5.48	5.48	-	-
Barium, Total	10000	1000	1000	1000	mg/kg	66	66	38.8	38.8	48.5	48.5	-	-
Beryllium, Total	2000	90	90	90	mg/kg	0.216	0.216	0.274	0.274	0.274	0.274	-	-
Cadmium, Total	1000	70	70	70	mg/kg	0.423	U	0.428	U	0.434	U	-	-
Chromium, Total	2000	100	100	100	mg/kg	11.6	11.6	16.6	16.6	12.2	12.2	-	-
Lead, Total	6000	200	200	200	mg/kg	238	238	84.2	84.2	180	180	-	-
Mercury, Total	300	20	20	20	mg/kg	0.127	0.127	0.154	0.154	0.111	0.111	-	-
Nickel, Total	10000	600	600	600	mg/kg	12.2	12.2	10.8	10.8	11	11	-	-
Selenium, Total	7000	400	400	400	mg/kg	2.11	U	2.14	U	2.17	U	-	-
Silver, Total	2000	100	100	100	mg/kg	0.423	U	0.428	U	0.434	U	-	-
Thallium, Total	800	8	8	8	mg/kg	2.11	U	2.14	U	2.17	U	-	-
Vanadium, Total	7000	400	400	400	mg/kg	18.1	18.1	23	23	22	22	-	-
Zinc, Total	10000	1000	1000	1000	mg/kg	128	128	59.5	59.5	96.3	96.3	-	-
MCP Volatile Organics by EPA 5035													
Methylene chloride	7000	0.1	4	400	mg/kg	0.02	U	0.0033	U	0.0032	U	0.2	U
1,1-Dichloroethane	10000	0.4	9	500	mg/kg	0.041	U	0.00066	U	0.00065	U	0.041	U
Chloroform	10000	0.2	0.2	500	mg/kg	0.061	U	0.00098	U	0.00097	U	0.061	U
Carbon tetrachloride	10000	5	5	30	mg/kg	0.041	U	0.00066	U	0.00065	U	0.041	U
1,2-Dichloropropane	10000	0.1	0.1	30	mg/kg	0.041	U	0.00066	U	0.00065	U	0.041	U
Dibromochloromethane	5000	0.005	0.03	20	mg/kg	0.041	U	0.00066	U	0.00065	U	0.041	U
1,1,2-Trichloroethane	5000	0.1	2	40	mg/kg	0.041	U	0.00066	U	0.00065	U	0.041	U
Tetrachloroethene	10000	1	10	30	mg/kg	1.6	1.6	0.0072	0.0072	0.02	0.02	2.3	2.3
Chlorobenzene	10000	1	3	100	mg/kg	0.02	U	0.00033	U	0.00032	U	0.02	U
Trichlorofluoromethane		1000			mg/kg	0.16	U	0.0026	U	0.0026	U	0.16	U
1,2-Dichloroethane	9000	0.1	0.1	20	mg/kg	0.041	U	0.00066	U	0.00065	U	0.041	U
1,1,1-Trichloroethane	10000	30	500	500	mg/kg	0.02	U	0.00033	U	0.00032	U	0.02	U
Bromodichloromethane	5000	0.1	0.1	30	mg/kg	0.02	U	0.00033	U	0.00032	U	0.02	U
trans-1,3-Dichloropropene	9000	0.01	0.4	20	mg/kg	0.041	U	0.00066	U	0.00065	U	0.041	U
cis-1,3-Dichloropropene	9000	0.01	0.4	20	mg/kg	0.02	U	0.00033	U	0.00032	U	0.02	U
1,3-Dichloropropene, Total	9000	0.01	0.4	20	mg/kg	0.02	U	0.00033	U	0.00032	U	0.02	U
1,1-Dichloropropene					mg/kg	0.02	U	0.00033	U	0.00032	U	0.02	U
Bromoform	10000	0.1	1	300	mg/kg	0.16	U	0.0026	U	0.0026	U	0.16	U
1,1,2,2-Tetrachloroethane	4000	0.005	0.02	10	mg/kg	0.02	U	0.00033	U	0.00032	U	0.02	U
Benzene	10000	2	40	40	mg/kg	0.02	U	0.00033	U	0.00032	U	0.02	U
Toluene	10000	30	500	500	mg/kg	0.041	U	0.00066	U	0.00065	U	0.041	U
Ethylbenzene	10000	40	500	500	mg/kg	0.041	U	0.00066	U	0.00065	U	0.041	U
Chloromethane		100			mg/kg	0.16	U	0.0026	U	0.0026	U	0.16	U
Bromomethane	6000	0.5	0.5	30	mg/kg	0.082	U	0.0013	U	0.0013	U	0.082	U

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LOCATION SAMPLING DATE LAB SAMPLE ID SAMPLE TYPE SAMPLE DEPTH (ft.)						HAZ0-2 5/7/2020 L2019321-01 SOIL 4'-6'		CONC. USED TO CALC. EPC	HAZ0-1 5/8/2020 L2019321-02 SOIL 2'-4'		CONC. USED TO CALC. EPC	HAZ0-3 5/11/2020 L2019321-03 SOIL 6'-8'		CONC. USED TO CALC. EPC	HAZ0-2 5/7/2020 L201888-01 SOIL 4'-6'		CONC. USED TO CALC. EPC
	MA-UCL5-14	RCS-1-14	SI/G2-14	SI/G3-14	Units	Results	Qual		Results	Qual		Results	Qual		Results	Qual	
Vinyl chloride	600	0.7	0.7	1	mg/kg	0.041	U		0.00066	U		0.00065	U		0.041	U	
Chloroethane		100			mg/kg	0.082	U		0.0013	U		0.0013	U		0.082	U	
1,1-Dichloroethene	10000	3	40	500	mg/kg	0.041	U		0.00066	U		0.00065	U		0.041	U	
trans-1,2-Dichloroethene	10000	1	1	500	mg/kg	0.061	U		0.00098	U		0.00097	U		0.061	U	
Trichloroethene	600	0.3	0.3	30	mg/kg	0.1	U	0.1	0.00033	U	0.000165	0.001	U	0.001	0.18	U	0.18
1,2-Dichlorobenzene	10000	9	100	300	mg/kg	0.082	U		0.0013	U		0.0013	U		0.082	U	
1,3-Dichlorobenzene	5000	3	100	100	mg/kg	0.082	U		0.0013	U		0.0013	U		0.082	U	
1,4-Dichlorobenzene	10000	0.7	1	80	mg/kg	0.082	U		0.0013	U		0.0013	U		0.082	U	
Methyl tert butyl ether	5000	0.1	100	100	mg/kg	0.082	U		0.0013	U		0.0013	U		0.082	U	
p,m-Xylene	10000	100	100	500	mg/kg	0.082	U		0.0013	U		0.0013	U		0.082	U	
o-Xylene	10000	100	100	500	mg/kg	0.041	U		0.00066	U		0.00065	U		0.041	U	
Xylenes, Total	10000	100	100	500	mg/kg	0.041	U		0.00066	U		0.00065	U		0.041	U	
cis-1,2-Dichloroethene	5000	0.1	0.1	100	mg/kg	0.082	U	0.082	0.00066	U	0.00033	0.00065	U	0.000325	0.14	U	0.14
1,2-Dichloroethene, Total					mg/kg	0.082	U	0.082	0.00066	U	0.00033	0.00065	U	0.000325	0.14	U	0.14
Dibromomethane		500			mg/kg	0.082	U		0.0013	U		0.0013	U		0.082	U	
1,2,3-Trichloropropane		100			mg/kg	0.082	U		0.0013	U		0.0013	U		0.082	U	
Styrene	10000	3	4	70	mg/kg	0.041	U		0.00066	U		0.00065	U		0.041	U	
Dichlorodifluoromethane		1000			mg/kg	0.41	U		0.0066	U		0.0065	U		0.41	U	
Acetone	10000	6	50	400	mg/kg	0.41	U		0.016	U		0.016	U		0.41	U	
Carbon disulfide		100			mg/kg	0.41	U		0.0066	U		0.0065	U		0.41	U	
Methyl ethyl ketone	10000	4	50	400	mg/kg	0.41	U		0.0066	U		0.0065	U		0.41	U	
Methyl isobutyl ketone	10000	0.4	50	400	mg/kg	0.41	U		0.0066	U		0.0065	U		0.41	U	
2-Hexanone		100			mg/kg	0.41	U		0.0066	U		0.0065	U		0.41	U	
Bromochloromethane					mg/kg	0.082	U		0.0013	U		0.0013	U		0.082	U	
Tetrahydrofuran		500			mg/kg	0.16	U		0.0026	U		0.0026	U		0.16	U	
2,2-Dichloropropane					mg/kg	0.082	U		0.0013	U		0.0013	U		0.082	U	
1,2-Dibromomethane	400	0.1	0.1	1	mg/kg	0.041	U		0.00066	U		0.00065	U		0.041	U	
1,3-Dichloropropane		500			mg/kg	0.082	U		0.0013	U		0.0013	U		0.082	U	
1,1,1,2-Tetrachloroethane	5000	0.1	0.1	80	mg/kg	0.02	U		0.00033	U		0.00032	U		0.02	U	
Bromobenzene		100			mg/kg	0.082	U		0.0013	U		0.0013	U		0.082	U	
n-Butylbenzene					mg/kg	0.041	U		0.00066	U		0.00065	U		0.041	U	
sec-Butylbenzene					mg/kg	0.041	U		0.00066	U		0.00065	U		0.041	U	
tert-Butylbenzene		100			mg/kg	0.082	U		0.0013	U		0.0013	U		0.082	U	
o-Chlorotoluene		100			mg/kg	0.082	U		0.0013	U		0.0013	U		0.082	U	
p-Chlorotoluene					mg/kg	0.082	U		0.0013	U		0.0013	U		0.082	U	
1,2-Dibromo-3-chloropropane		10			mg/kg	0.12	U		0.002	U		0.0019	U		0.12	U	
Hexachlorobutadiene	1000	30	30	30	mg/kg	0.16	U		0.0026	U		0.0026	U		0.16	U	
Isopropylbenzene		1000			mg/kg	0.041	U		0.00066	U		0.00065	U		0.041	U	
p-Isopropyltoluene		100			mg/kg	0.041	U		0.00066	U		0.00065	U		0.041	U	
Naphthalene	10000	4	20	500	mg/kg	0.16	U		0.0026	U		0.0026	U		0.16	U	
n-Propylbenzene		100			mg/kg	0.041	U		0.00066	U		0.00065	U		0.041	U	
1,2,3-Trichlorobenzene					mg/kg	0.082	U		0.0013	U		0.0013	U		0.082	U	
1,2,4-Trichlorobenzene	10000	2	6	700	mg/kg	0.082	U		0.0013	U		0.0013	U		0.082	U	
1,3,5-Trimethylbenzene		10			mg/kg	0.082	U		0.0013	U		0.0013	U		0.082	U	
1,2,4-Trimethylbenzene		1000			mg/kg	0.082	U		0.0013	U		0.0013	U		0.082	U	
Diethyl ether		100			mg/kg	0.082	U		0.0013	U		0.0013	U		0.082	U	
Diisopropyl Ether		100			mg/kg	0.082	U		0.0013	U		0.0013	U		0.082	U	
Ethyl Tert-Butyl Ether					mg/kg	0.082	U		0.0013	U		0.0013	U		0.082	U	
Tertiary-Amyl Methyl Ether					mg/kg	0.082	U		0.0013	U		0.0013	U		0.082	U	
1,4-Dioxane	5000	0.2	6	20	mg/kg	3.3	U		0.052	U		0.052	U		3.3	U	
Petroleum Hydrocarbon Quantitation																	
TPH (C10-C36)	10000	1000	1000	1000	mg/kg	169	U	169	398		398	184	U	92	-	-	-
Volatile Petroleum Hydrocarbons																	
CS-C8 Aliphatics					mg/kg	4.08	U		4.3	U		4.14	U		-	-	-
C9-C12 Aliphatics					mg/kg	4.08	U		4.3	U		4.14	U		-	-	-
C9-C10 Aromatics	5000	100	100	100	mg/kg	4.08	U		4.3	U		4.14	U		-	-	-
CS-C8 Aliphatics, Adjusted	5000	100	100	100	mg/kg	4.08	U		4.3	U		4.14	U		-	-	-
C9-C12 Aliphatics, Adjusted	20000	1000	1000	1000	mg/kg	4.08	U		4.3	U		4.14	U		-	-	-
Benzene	10000	2	40	40	mg/kg	0.082	U		0.086	U		0.083	U		-	-	-
Toluene	10000	30	500	500	mg/kg	0.082	U		0.086	U		0.083	U		-	-	-
Ethylbenzene	10000	40	500	500	mg/kg	0.082	U		0.086	U		0.083	U		-	-	-
p,m-Xylene	10000	100	100	500	mg/kg	0.082	U		0.086	U		0.083	U		-	-	-
o-Xylene	10000	100	100	500	mg/kg	0.082	U		0.086	U		0.083	U		-	-	-
Methyl tert butyl ether	5000	0.1	100	100	mg/kg	0.041	U		0.043	U		0.041	U		-	-	-
Naphthalene	10000	4	20	500	mg/kg	0.163	U		0.172	U		0.166	U		-	-	-

TABLE 1
Soil Sampling Results and EPCs
2072 Massachusetts Avenue
Cambridge, Massachusetts
Comm. No. 13MA0.01

LOCATION SAMPLING DATE LAB SAMPLE ID SAMPLE TYPE SAMPLE DEPTH (ft.)						LEA-B1 7/13/2020 L2029601-01 SOIL 4'-6'		CONC. USED TO CALC. EPC	LEA-B2 7/13/2020 L2029601-02 SOIL 12'-14'		CONC. USED TO CALC. EPC	LEA-B3 7/13/2020 L2029601-03 SOIL 6'-8'		CONC. USED TO CALC. EPC	LEA-B4 7/13/2020 L2029601-04 SOIL 4'-6'		CONC. USED TO CALC. EPC	EPC
	MA-UCLS-14	RCS-1-14	SI/G2-14	SI/G3-14	Units	Results	Qual		Results	Qual		Results	Qual		Results	Qual		
Extractable Petroleum Hydrocarbons																		
C9-C18 Aliphatics	20000	1000	1000	1000	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
C19-C36 Aliphatics	20000	3000	3000	3000	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	91
C11-C22 Aromatics					mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	63.2
C11-C22 Aromatics, Adjusted	10000	1000	1000	1000	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	51.5
Naphthalene	10000	4	20	500	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.254
2-Methylnaphthalene	5000	0.7	80	300	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Acenaphthylene	10000	1	600	10	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Acenaphthene	10000	4	1000	1000	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.317
Fluorene	10000	1000	1000	1000	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.362
Phenanthrene	10000	10	500	500	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	2.4
Anthracene	10000	1000	1000	1000	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.52
Fluoranthene	10000	1000	1000	1000	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	2.12
Pyrene	10000	1000	1000	1000	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	2.08
Benzo(a)anthracene	3000	7	7	7	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.87
Chrysene	10000	70	70	70	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.95
Benzo(b)fluoranthene	3000	7	7	7	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.89
Benzo(k)fluoranthene	10000	70	70	70	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.342
Benzo(a)pyrene	300	2	2	2	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.71
Indeno(1,2,3-cd)Pyrene	3000	7	7	7	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.461
Dibenzo(a,h)anthracene	300	0.7	0.7	0.7	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Benzo(ghi)perylene	10000	1000	1000	1000	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.458
General Chemistry																		
Specific Conductance @ 25 C					umhos/cm	-	-	-	-	-	-	-	-	-	-	-	-	
Solids, Total					%	88.1			90.2			93.9			89.5			
pH (H)					SU	-	-	-	-	-	-	-	-	-	-	-	-	
Cyanide, Reactive					mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Sulfide, Reactive					mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Ignitability of Solids						-	-	-	-	-	-	-	-	-	-	-	-	
Ignitability						-	-	-	-	-	-	-	-	-	-	-	-	
MCP Chlorinated Herbicides																		
MCP					mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
MCPA		100			mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Dalapon		1000			mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Dicamba		500			mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Dichloroprop					mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
2,4-D		100			mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
2,4-DB		100			mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
2,4,5-T		100			mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
2,4,5-TP (Silvex)		100			mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
MCP Organochlorine Pesticides																		
Delta-BHC		10			mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Lindane	600	0.003	1	0.5	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Alpha-BHC		50			mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Beta-BHC		10			mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Heptachlor	100	0.3	0.3	0.3	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Aldrin	30	0.08	0.08	0.08	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Heptachlor epoxide	10	0.1	0.1	0.1	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Endrin	200	10	10	10	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Endrin ketone	30	0.08	0.08	0.08	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Dieldrin	600	6	6	6	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
4,4'-DDE	600	8	8	8	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.008
4,4'-DDT	600	6	6	6	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.0135
Endosulfan I	5000	0.5	300	1	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Endosulfan II	5000	0.5	300	1	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Endosulfan sulfate					mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Methoxychlor	4000	200	200	200	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Chlordane	600	0.7	5	5	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.066
Hexachlorobenzene	8	0.7	0.7	0.7	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
MCP Polychlorinated Biphenyls																		
Aroclor 1016	100	1	1	1	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Aroclor 1221	100	1	1	1	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Aroclor 1232	100	1	1	1	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Aroclor 1242	100	1	1	1	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Aroclor 1248	100	1	1	1	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Aroclor 1254	100	1	1	1	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.0290
Aroclor 1260	100	1	1	1	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.0261
Aroclor 1262	100	1	1	1	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Aroclor 1268	100	1	1	1	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
PCBs, Total	100	1	1	1	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.0430
MCP Semivolatile Organics																		
Acenaphthene	10000	4	1000	1000	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.12
1,2,4-Trichlorobenzene	10000	2	6	700	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Hexachlorobenzene	8	0.7	0.7	0.7	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Bis(2-chloroethyl) ether	800	0.7			mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
2-Chloronaphthalene		1000			mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
1,2-Dichlorobenzene	10000	9	100	300	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
1,3-Dichlorobenzene	5000	3	100	100	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
1,4-Dichlorobenzene	10000	0.7	1	80	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
3,3'-Dichlorobenzidine	1000	3	3	3	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
2,4-Dinitrotoluene	800	0.7	2	2	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
2,6-Dinitrotoluene		100			mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	

TABLE 1
Soil Sampling Results and EPCs
2072 Massachusetts Avenue
Cambridge, Massachusetts
Comm. No. 13MA0.01

LOCATION						LEA-B1		CONC.	LEA-B2		CONC.	LEA-B3		CONC.	LEA-B4		CONC.	EPC
SAMPLING DATE						7/13/2020		USED	7/13/2020		USED	7/13/2020		USED	7/13/2020		USED	
LAB SAMPLE ID						L2029601-01		TO	L2029601-02		TO	L2029601-03		TO	L2029601-04		TO	
SAMPLE TYPE						SOIL		CALC.	SOIL		CALC.	SOIL		CALC.	SOIL		CALC.	
SAMPLE DEPTH (ft.)	MA-UCL5-14	RCS-1-14	SI/G2-14	SI/G3-14	Units	Results	4'-6'	Qual	Results	12'-14'	Qual	Results	6'-8'	Qual	Results	4'-6'	Qual	
Azobenzene		50			mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Fluoranthene	10000	1000	1000	1000	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	1.4
4-Bromophenyl phenyl ether		100			mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Bis(2-chloroisopropyl)ether	10000	0.7	0.7	30	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Bis(2-chloroethoxy)methane		500			mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Hexachlorobutadiene	1000	30	30	30	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Hexachloroethane	2000	0.7	3	50	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Isophorone		100			mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Naphthalene	10000	4	20	500	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Nitrobenzene		500			mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Bis(2-ethylhexyl)phthalate	10000	90	90	90	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Butyl benzyl phthalate		100			mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Di-n-butylphthalate		50			mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Di-n-octylphthalate		1000			mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Diethyl phthalate	10000	10	200	300	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Dimethyl phthalate	10000	0.7	50	600	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Benzo(a)anthracene	3000	7	7	7	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.7
Benzo(a)pyrene	300	2	2	2	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.6
Benzo(b)fluoranthene	3000	7	7	7	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.9
Benzo(k)fluoranthene	10000	70	70	70	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.27
Chrysene	10000	70	70	70	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.7
Acenaphthylene	10000	1	600	10	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Anthracene	10000	1000	1000	1000	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.31
Benzo(ghi)perylene	10000	1000	1000	1000	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.40
Fluorene	10000	1000	1000	1000	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.13
Phenanthrene	10000	10	500	500	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	1.2
Dibenzo(a,h)anthracene	300	0.7	0.7	0.7	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.08
Indeno(1,2,3-cd)pyrene	3000	7	7	7	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.43
Pyrene	10000	1000	1000	1000	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	1.3
Aniline		1000			mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
4-Chloroaniline	400	1	7	3	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Dibenzofuran		100			mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
2-Methylnaphthalene	5000	0.7	80	300	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.051
Acetophenone		1000			mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
2,4,6-Trichlorophenol	4000	0.7	20	20	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
2-Chlorophenol	3000	0.7	100	100	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
2,4-Dichlorophenol	8000	0.7	60	40	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
2,4-Dimethylphenol	10000	0.7	100	500	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
2-Nitrophenol		100			mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
4-Nitrophenol		100			mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
2,4-Dinitrophenol	8000	3	50	50	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Pentachlorophenol	700	3	3	3	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Phenol	10000	1	50	20	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
2-Methylphenol		500			mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
3-Methylphenol/4-Methylphenol		500			mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
2,4,5-Trichlorophenol	10000	4	1000	600	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
MCP Total Metals																		
Antimony, Total	300	20	20	20	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Arsenic, Total	500	20	20	20	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	5.37
Barium, Total	10000	1000	1000	1000	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	51
Beryllium, Total	2000	90	90	90	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.255
Cadmium, Total	1000	70	70	70	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Chromium, Total	2000	100	100	100	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	13.5
Lead, Total	6000	200	200	200	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	167
Mercury, Total	300	20	20	20	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.131
Nickel, Total	10000	600	600	600	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	11
Selenium, Total	7000	400	400	400	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Silver, Total	2000	100	100	100	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Thallium, Total	800	8	8	8	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	
Vanadium, Total	7000	400	400	400	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	21
Zinc, Total	10000	1000	1000	1000	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	94.6
MCP Volatile Organics by EPA 5035																		
Methylene chloride	7000	0.1	4	400	mg/kg	0.0031	U		0.0034	U		0.0034	U		0.004	U		
1,1-Dichloroethane	10000	0.4	9	500	mg/kg	0.00063	U		0.00068	U		0.00069	U		0.00079	U		
Chloroform	10000	0.2	0.2	500	mg/kg	0.00094	U		0.001	U		0.001	U		0.0012	U		
Carbon tetrachloride	10000	5	5	30	mg/kg	0.00063	U		0.00068	U		0.00069	U		0.00079	U		
1,2-Dichloropropane	10000	0.1	0.1	30	mg/kg	0.00063	U		0.00068	U		0.00069	U		0.00079	U		
Dibromochloromethane	5000	0.005	0.03	20	mg/kg	0.00063	U		0.00068	U		0.00069	U		0.00079	U		
1,1,2-Trichloroethane	5000	0.1	2	40	mg/kg	0.00063	U		0.00068	U		0.00069	U		0.00079	U		
Tetrachloroethene	10000	1	10	30	mg/kg	0.0018	U	0.0018	0.0034	U	0.00017	0.028	0.028	0.0069	0.0069	0.0069	0.0069	0.5
Chlorobenzene	10000	1	3	100	mg/kg	0.00031	U		0.00034	U		0.00034	U		0.0004	U		
Trichlorofluoromethane		1000			mg/kg	0.0025	U		0.0027	U		0.0028	U		0.0032	U		
1,2-Dichloroethane	9000	0.1	0.1	20	mg/kg	0.00063	U		0.00068	U		0.00069	U		0.00079	U		
1,1,1-Trichloroethane	10000	30	500	500	mg/kg	0.00031	U		0.00034	U		0.00034	U		0.0004	U		
Bromodichloromethane	5000	0.1	0.1	30	mg/kg	0.00031	U		0.00034	U		0.00034	U		0.0004	U		
trans-1,3-Dichloropropene	9000	0.01	0.4	20	mg/kg	0.00063	U		0.00068	U		0.00069	U		0.00079	U		
cis-1,3-Dichloropropene	9000	0.01	0.4	20	mg/kg	0.00031	U		0.00034	U		0.00034	U		0.0004	U		
1,3-Dichloropropene, Total	9000	0.01	0.4	20	mg/kg	0.00031	U		0.00034	U		0.00034	U		0.0004	U		
1,1-Dichloropropene					mg/kg	0.00031	U		0.00034	U		0.00034	U		0.0004	U		
Bromoform	10000	0.1	1	300	mg/kg	0.0025	U		0.0027	U		0.0028	U		0.0032	U		
1,1,2,2-Tetrachloroethane	4000	0.005	0.02	10	mg/kg	0.00031	U		0.00034	U		0.00034	U		0.0004	U		
Benzene	10000	2	40	40	mg/kg	0.00031	U		0.00034	U		0.00034	U		0.0004	U		
Toluene	10000	30	500	500	mg/kg	0.00063	U		0.00068	U		0.00069	U		0.00079	U		
Ethylbenzene	10000	40	500	500	mg/kg	0.00063	U		0.00068	U		0.00069	U		0.00079	U		
Chloromethane		100			mg/kg	0.0025	U		0.0027	U		0.0028	U		0.0032	U		

TABLE 1
Soil Sampling Results and EPCs
2072 Massachusetts Avenue
Cambridge, Massachusetts
Comm. No. 13MA0.01

LOCATION SAMPLING DATE LAB SAMPLE ID SAMPLE TYPE SAMPLE DEPTH (ft.)	MA-UCLS-14	RCS-1-14	SI/G2-14	SI/G3-14	Units	LEA-B1 7/13/2020 12029601-01 SOIL 4'-6'	CONC. USED TO CALC. EPC	LEA-B2 7/13/2020 12029601-02 SOIL 12'-14'	CONC. USED TO CALC. EPC	LEA-B3 7/13/2020 12029601-03 SOIL 6'-8'	CONC. USED TO CALC. EPC	LEA-B4 7/13/2020 12029601-04 SOIL 4'-6'	CONC. USED TO CALC. EPC	EPC
Vinyl chloride	600	0.7	0.7	1	mg/kg	0.00063	U	0.00068	U	0.00069	U	0.00079	U	
Chloroethane		100			mg/kg	0.0012	U	0.0014	U	0.0014	U	0.0016	U	
1,1-Dichloroethene	10000	3	40	500	mg/kg	0.00063	U	0.00068	U	0.00069	U	0.00079	U	
trans-1,2-Dichloroethene		1	1	500	mg/kg	0.00094	U	0.001	U	0.001	U	0.0012	U	
Trichloroethene	600	0.3	0.3	30	mg/kg	0.00031	U	0.00034	U	0.00035	U	0.00042	U	0.04
1,2-Dichlorobenzene	10000	9	100	300	mg/kg	0.0012	U	0.0014	U	0.0014	U	0.0016	U	
1,3-Dichlorobenzene	5000	3	100	100	mg/kg	0.0012	U	0.0014	U	0.0014	U	0.0016	U	
1,4-Dichlorobenzene	10000	0.7	1	80	mg/kg	0.0012	U	0.0014	U	0.0014	U	0.0016	U	
Methyl tert butyl ether	5000	0.1	100	100	mg/kg	0.0012	U	0.0014	U	0.0014	U	0.0016	U	
p/m-Xylene	10000	100	100	500	mg/kg	0.0012	U	0.0014	U	0.0014	U	0.0016	U	
o-Xylene	10000	100	100	500	mg/kg	0.00063	U	0.00068	U	0.00069	U	0.00079	U	
Xylenes, Total	10000	100	100	500	mg/kg	0.00063	U	0.00068	U	0.00069	U	0.00079	U	
cis-1,2-Dichloroethene	5000	0.1	0.1	100	mg/kg	0.00063	U	0.00068	U	0.00069	U	0.00079	U	0.03
1,2-Dichloroethene, Total					mg/kg	0.00063	U	0.00068	U	0.00069	U	0.00079	U	0.03
Dibromomethane		500			mg/kg	0.0012	U	0.0014	U	0.0014	U	0.0016	U	
1,1,1-Trichloropropane	10000	100			mg/kg	0.00063	U	0.00068	U	0.00069	U	0.00079	U	
Styrene		3	4	70	mg/kg	0.00063	U	0.00068	U	0.00069	U	0.00079	U	
Dichlorodifluoromethane		1000			mg/kg	0.0063	U	0.0068	U	0.0069	U	0.0079	U	
Acetone	10000	6	50	400	mg/kg	0.016	U	0.017	U	0.017	U	0.02	U	
Carbon disulfide		100			mg/kg	0.0063	U	0.0068	U	0.0069	U	0.0079	U	
Methyl ethyl ketone	10000	4	50	400	mg/kg	0.0063	U	0.0068	U	0.0069	U	0.0079	U	
Methyl isobutyl ketone	10000	0.4	50	400	mg/kg	0.0063	U	0.0068	U	0.0069	U	0.0079	U	
2-Hexanone		100			mg/kg	0.0063	U	0.0068	U	0.0069	U	0.0079	U	
Bromochloromethane					mg/kg	0.0012	U	0.0014	U	0.0014	U	0.0016	U	
Tetrahydrofuran		500			mg/kg	0.0025	U	0.0027	U	0.0028	U	0.0032	U	
2,2-Dichloropropane					mg/kg	0.0012	U	0.0014	U	0.0014	U	0.0016	U	
1,2-Dibromoethane	400	0.1	0.1	1	mg/kg	0.00063	U	0.00068	U	0.00069	U	0.00079	U	
1,3-Dichloropropane		500			mg/kg	0.0012	U	0.0014	U	0.0014	U	0.0016	U	
1,1,1,2-Tetrachloroethane	5000	0.1		80	mg/kg	0.00031	U	0.00034	U	0.00034	U	0.0004	U	
Bromobenzene		100			mg/kg	0.0012	U	0.0014	U	0.0014	U	0.0016	U	
n-Butylbenzene					mg/kg	0.00063	U	0.00068	U	0.00069	U	0.00079	U	
sec-Butylbenzene					mg/kg	0.00063	U	0.00068	U	0.00069	U	0.00079	U	
tert-Butylbenzene	100				mg/kg	0.0012	U	0.0014	U	0.0014	U	0.0016	U	
o-Chlorotoluene	100				mg/kg	0.0012	U	0.0014	U	0.0014	U	0.0016	U	
p-Chlorotoluene					mg/kg	0.0012	U	0.0014	U	0.0014	U	0.0016	U	
1,2-Dibromo-3-chloropropane		10			mg/kg	0.0019	U	0.002	U	0.0021	U	0.0024	U	
Hexachlorobutadiene	1000	30	30	30	mg/kg	0.0025	U	0.0027	U	0.0028	U	0.0032	U	
Isopropylbenzene		1000			mg/kg	0.00063	U	0.00068	U	0.00069	U	0.00079	U	
p-Isopropyltoluene		100			mg/kg	0.00063	U	0.00068	U	0.00069	U	0.00079	U	
Naphthalene	10000	4	20	500	mg/kg	0.0025	U	0.0027	U	0.0028	U	0.0032	U	
n-Propylbenzene		100			mg/kg	0.00063	U	0.00068	U	0.00069	U	0.00079	U	
1,2,3-Trichlorobenzene					mg/kg	0.0012	U	0.0014	U	0.0014	U	0.0016	U	
1,2,4-Trichlorobenzene	10000	2	6	700	mg/kg	0.0012	U	0.0014	U	0.0014	U	0.0016	U	
1,3,5-Trimethylbenzene		10			mg/kg	0.0012	U	0.0014	U	0.0014	U	0.0016	U	
1,2,4-Trimethylbenzene	1000				mg/kg	0.0012	U	0.0014	U	0.0014	U	0.0016	U	
Diethyl ether	100				mg/kg	0.0012	U	0.0014	U	0.0014	U	0.0016	U	
Diisopropyl Ether		100			mg/kg	0.0012	U	0.0014	U	0.0014	U	0.0016	U	
Ethyl-Tert-Butyl Ether					mg/kg	0.0012	U	0.0014	U	0.0014	U	0.0016	U	
Tertiary-Amyl Methyl Ether					mg/kg	0.0012	U	0.0014	U	0.0014	U	0.0016	U	
1,4-Dioxane	5000	0.2	6	20	mg/kg	0.05	U	0.054	U	0.055	U	0.063	U	
Petroleum Hydrocarbon Quantitation														
TPH (C10-C36)	10000	1000	1000	1000	mg/kg	-	-	-	-	-	-	-	-	220
Volatile Petroleum Hydrocarbons														
CS-C8 Aliphatics					mg/kg	-	-	-	-	-	-	-	-	
C9-C12 Aliphatics					mg/kg	-	-	-	-	-	-	-	-	
C9-C10 Aromatics	5000	100	100	100	mg/kg	-	-	-	-	-	-	-	-	
CS-C8 Aliphatics, Adjusted	5000	100	100	100	mg/kg	-	-	-	-	-	-	-	-	
C9-C12 Aliphatics, Adjusted	20000	1000	1000	1000	mg/kg	-	-	-	-	-	-	-	-	
Benzene	10000	2	40	40	mg/kg	-	-	-	-	-	-	-	-	
Toluene	10000	30	500	500	mg/kg	-	-	-	-	-	-	-	-	
Ethylbenzene	10000	40	500	500	mg/kg	-	-	-	-	-	-	-	-	
p/m-Xylene	10000	100	100	500	mg/kg	-	-	-	-	-	-	-	-	
o-Xylene	10000	100	100	500	mg/kg	-	-	-	-	-	-	-	-	
Methyl tert butyl ether	5000	0.1	100	100	mg/kg	-	-	-	-	-	-	-	-	
Naphthalene	10000	4	20	500	mg/kg	-	-	-	-	-	-	-	-	

Highlighted cells indicate an exceedance of Method 1 S-1/GW-214 or S-1/GW-314 Standards
 Greyed out rows were not considered constituents of concern

MA-UCLS-14: MCP 2014 Method 3 Upper Concentration Limits (UCLs) in Soil Criteria effective June 20, 2014.
 RCS-1-14: MCP 2014 RCS-1 Reportable Concentrations Criteria effective April 25, 2014.
 SI/G2-14: MCP 2014 Method 1 S-1/GW-2 Soil Standards Criteria effective June 20, 2014.
 SI/G3-14: MCP 2014 Method 1 S-1/GW-3 Soil Standards Criteria effective June 20, 2014.

Note: EPCs are the mean where concentrations for constituents were detected under reporting limits are calculated as half the results.

TABLE 2
Groundwater Sampling Results and EPCs
2072 Massachusetts Avenue
Cambridge, Massachusetts
Comm. No. 13MA0.01

LOCATION						LEA-MW-1	EPC	LEA-MW-2	EPC	LEA-MW-3	EPC
SAMPLING DATE						7/21/2020		21/7/2020		7/21/2020	
LAB SAMPLE ID						53979-001		53979-002		53797-003	
SAMPLE TYPE						GROUNDWATER		GROUNDWATER		GROUNDWATER	
	MA-UCLS-14	RCGW-2-14	GW-2-14	GW-3-14	Units	Results	Qual	Results	Qual	Results	Qual
MCP Volatile Organics by 8260											
Trichloroethene	50,000	5	5	5,000	ug/l	2	U	2		2	U
Tetrachloroethene	100,000	50	50	30,000	ug/l	2	U	2		2	U

Highlighted cells indicate an exceedance of Method 1 GW-2-14 or GW-3-14 Standards

MA-UCLS-14: MCP 2014 Method 3 Upper Concentration Limits (UCLs) in Groundwater Criteria effective June 20, 2014

RCGW-2-14: MCP 2014 RCGW-2 Reportable Concentrations Criteria effective April 25, 2014

GW-2-14: MCP 2014 Method 1 GW-2 Groundwater Standards Criteria effective June 20, 2014.

GW-3-14: MCP 2014 Method 1 GW-3 Groundwater Standards Criteria effective June 20, 2014.


U-Undetected at Laboratory Detection Limit


NA- Not Analyzed


EPC - For each monitoring well location the concentration detected was conservatively used as the EPC. If contaminant were not detected above the laboratory reporting limit, the laboratory reporting limit was used for the EPC.


APPENDIX A

Boring Logs

BORING LOG					
Project: CC HRE 2072 Mass Ave. Comm. No.: 13MA0.01 Client: Capstone Communities LLC Location: 2072 Mass. Ave., Cambridge, MA				Start Date 7/13/2020 End Date 7/13/2020	Boring ID LEA-B1
Contractor: Geologic Earth Explorations Method: Direct Push Rig: GeoProbe Groundwater Observations Depth: ~ 10' Date: 7/13/2020 Depth: - Date: -				Sampling Method: Macro Core Drilling Foreman: D. Roe Logged By: NJP Surface Elevation: -- Latitude: -- Longitude: --	
Depth	Sample Information			Soil Description	PID/FID (ppm)
	Sample No.	Rec / Pen (in / in)	Blows / 6 in.	Color, Primary Grain Size, Secondary Grain Sizes, Sorting, Sphericity, Angularity, Sedimentary Structure, Density, Cohesiveness, Moisture, Other	
0'-4'		40"/48"	NA	0" - 8": Asphalt 8" - 14': Light Brown, Medium to fine SAND, loose, trace gravel 14" - 23": Gray/Dark Brown, Medium to fine SAND, Rock at 18", Brick at 22" 23" - 40": Gray/Brown, CLAY, some Silt, dense	0.1 0.1
4'-8'	LEA-B1 4'-6'	34"/48"	NA	0" - 30": Gray/Brown, CLAY, trace Silt, trace gravel, very dense 30" - 34": Brown, Medium to fine SAND, trace gravel, ash, brick - Urban Fill	0.4 0.3
8'-12'		36"/48"	NA	0" - 6": Brown, Medium to fine SAND, trace gravel, ash, brick - Urban Fill 6" - 36": Light Brown with Iron staining throughout, Medium to fine SAND, uniform, loose	0.4 0.3
12'-16'		48"/48"	NA	0" - 24": Light Brown with Iron staining throughout, Medium to fine SAND, uniform, loose 24" - 48": Gray/Brown, CLAY, some Silt, dense, wet	0.4 0.3
Notes: Native soil encountered at approximately 9' bgs Groundwater encountered at approximately 10' bgs Boring terminated at 16' bgs					 Boring ID LEA-B1

BORING LOG					
Project: CC HRE 2072 Mass Ave. Comm. No.: 13MA0.01 Client: Capstone Communities LLC Location: 2072 Mass. Ave., Cambridge, MA				Start Date 7/13/2020 End Date 7/13/2020	Boring ID LEA-B2
Contractor: Geologic Earth Explorations Method: Direct Push Rig: GeoProbe Groundwater Observations Depth: ~ 12' Date: 7/13/2020 Depth: - Date: -				Sampling Method: Macro Core Drilling Foreman: D. Roe Logged By: NJP Surface Elevation: -- Latitude: -- Longitude: --	
Depth	Sample Information			Soil Description	PID/FID (ppm)
	Sample No.	Rec / Pen (in / in)	Blows / 6 in.	Color, Primary Grain Size, Secondary Grain Sizes, Sorting, Sphericity, Angularity, Sedimentary Structure, Density, Cohesiveness, Moisture, Other	
0'-4'		24"/48"	NA	0" - 5": Asphalt	0.5
				5" - 15": Brown, Medium to fine SAND, some Gravel, trace silt, brick and ash	
				15" - 17": Rock	0.3
				17" - 24": Gray/Brown, Medium to fine SAND, trace Silt, dense, non-uniform, brick and ash	
4'-8'		48"/48"	NA	0" - 48": Brown, Medium to fine SAND, trace silt, relatively dense, non-uniform, brick and ash	0.5
8'-12'		32"/48"	NA	0" - 7": Brown, Medium to fine SAND, trace silt, relatively dense, non-uniform, brick and ash	0.8
				8" - 9": Rock	
				9" - 32": Light Brown, Course to fine SAND, uniform, loose, damp, (Darker brown at 11") - Native	0.8
12'-16'	LEA-B2 12'-14'	44"/48"	NA	0" - 44": Native Sands. Various shades of brown with iron stains throughout, Course to Fine SAND, uniform, loose	1.3
16'-18'		48"/48"	NA	* Significant collapse of material in boring. Pushed 16' to 18'	1.1
				0" - 32": Native Sands. Various shades of brown with iron stains throughout, Course to Fine SAND, uniform, loose	
				32" - 48": Gray CLAY/SILT, very dense, damp	0.3
Notes: Native soil encountered at approximately 9' bgs Groundwater encountered at approximately 12' bgs Boring terminated at 18' bgs					 Boring ID LEA-B2

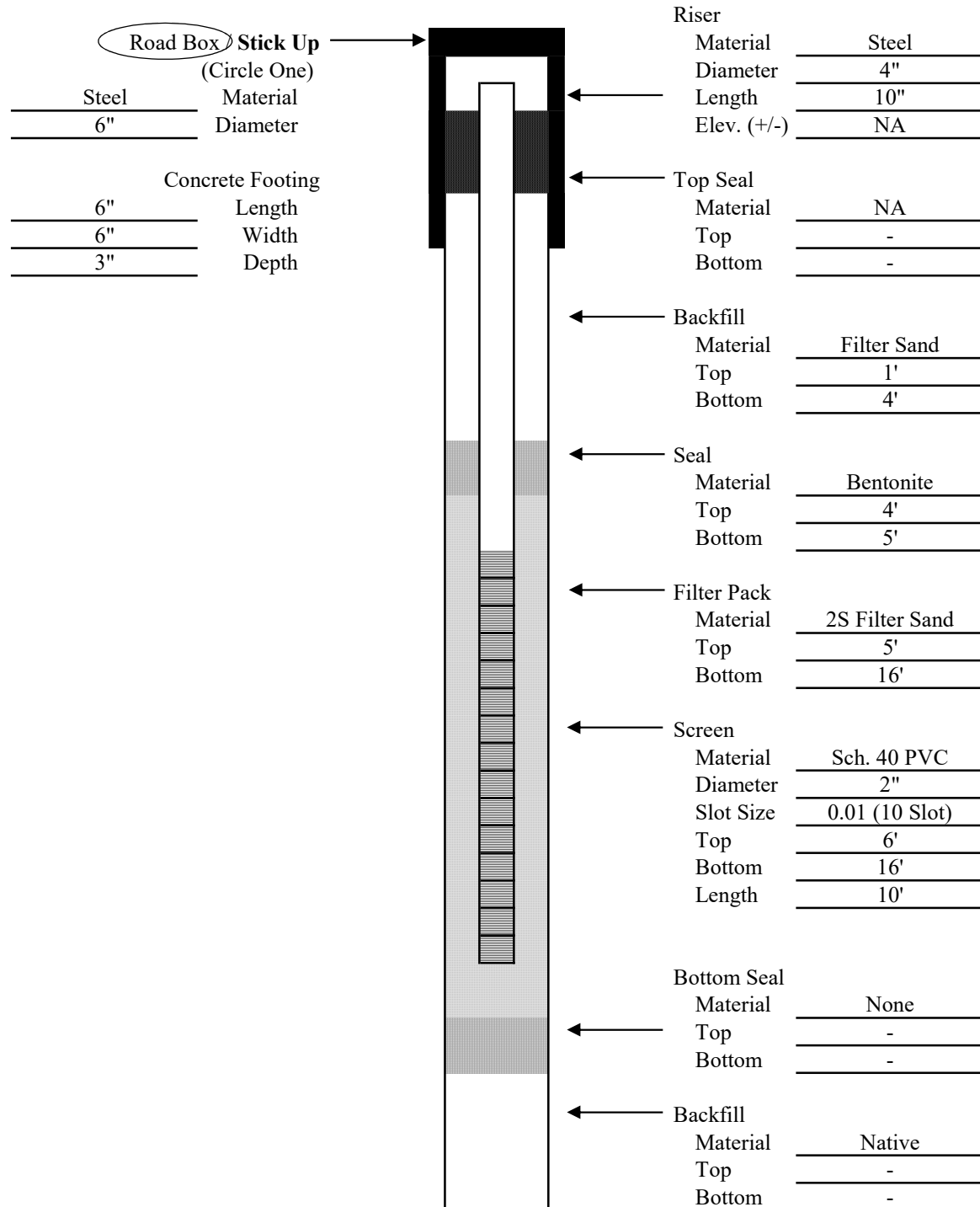
BORING LOG					
Project: CC HRE 2072 Mass Ave. Comm. No.: 13MA0.01 Client: Capstone Communities LLC Location: 2072 Mass. Ave., Cambridge, MA				Start Date 7/13/2020 End Date 7/13/2020	Boring ID LEA-B3
Contractor: Geologic Earth Explorations Method: Direct Push Rig: GeoProbe Groundwater Observations Depth: ~ 13' Date: 7/13/2020 Depth: - Date: -				Sampling Method: Macro Core Drilling Foreman: D. Roe Logged By: NJP Surface Elevation: -- Latitude: -- Longitude: --	
Depth	Sample Information			Soil Description	PID/FID (ppm)
	Sample No.	Rec / Pen (in / in)	Blows / 6 in.	Color, Primary Grain Size, Secondary Grain Sizes, Sorting, Sphericity, Angularity, Sedimentary Structure, Density, Cohesiveness, Moisture, Other	
0'-4'		34"/48"	NA	0" - 7": Asphalt 7" - 34": Brown, Medium to fine SAND, trace Gravel (1/4"-1/2"), loose, trace ash	2.6 2.6
4'-8'	LEA-B3 6'-8'	26"/48"	NA	0" - 26": Brown, Medium to fine SAND, trace ash, trace brick, sand layers throughout	3.2 3.1
8'-12'		40"/48"	NA	0" - 6": Brown, Medium to fine SAND, trace ash, trace brick, sand layers throughout 6" - 40": Native Sands, Light brown, Medium to fine SAND, layer of medium to coarse sand at 18" to 24". Red staining at 36"	1.8 0.4
12'-16'		48"/48"	NA	0" - 12": Cave-in material 12" - 48": Native Sands, Light brown with red staining throughout, Medium to fine SAND, uniform, wet	1.9 0.3
Notes: Native soil encountered at approximately 8.5' bgs Groundwater encountered at approximately 13' bgs Boring terminated at 16' bgs					 Boring ID LEA-B3

BORING LOG					
Project: CC HRE 2072 Mass Ave. Comm. No.: 13MA0.01 Client: Capstone Communities LLC Location: 2072 Mass. Ave., Cambridge, MA				Start Date 7/13/2020 End Date 7/13/2020	Boring ID LEA-B4
Contractor: Geologic Earth Explorations Method: Direct Push Rig: GeoProbe Groundwater Observations Depth: ~ 10.5' Date: 7/13/2020 Depth: - Date: -				Sampling Method: Macro Core Drilling Foreman: D. Roe Logged By: NJP Surface Elevation: -- Latitude: -- Longitude: --	
Depth	Sample Information			Soil Description	PID/FID (ppm)
	Sample No.	Rec / Pen (in / in)	Blows / 6 in.	Color, Primary Grain Size, Secondary Grain Sizes, Sorting, Sphericity, Angularity, Sedimentary Structure, Density, Cohesiveness, Moisture, Other	
0'-4'		44"/48"	NA	0" - 8": Asphalt 8" - 44": Urban Fill material, Brown, Medium to fine SAND, trace gravel, organic matter, coal ash, brick	0.3 0.9
4'-8'	LEA-B4 4'-6'	34"/48"	NA	0" - 28": Urban Fill material, Brown, Medium to fine SAND, trace gravel, organic matter, coal ash, brick, dense 28" - 34": Brick	2.2 1.9
8'-12'		36"/48"	NA	0" - 8": Urban Fill material, Brown, Medium to fine SAND, trace gravel, organic matter, coal ash, brick at 8", dense 8" - 36": Native Soils, Brown/Light Brown, Medium to fine SAND, uniform, loose	1.8 1.9
12'-15'		48"/48"	NA	0" - 24": Significant collapse of material in boring. 24" - 48": Native Soils, Brown/Light Brown with red staining throughout, Medium to fine SAND, uniform, loose	2.0 1.9
Notes: Native soil encountered at approximately 9' bgs Groundwater encountered at approximately 10.5' bgs Boring terminated at 15' bgs					 Boring ID LEA-B4

GROUNDWATER MONITORING WELL COMPLETION LOG

Page 1 of 3

Project: CC HRE 2072 Mass Ave Comm. No.: 13MA0.01 Client: Capstone Communities LLC Location: 2071 Mass Ave, Cambridge, MA		Elevation: -	Well ID LEA-MW-01
		Reference: -	
Contractor: Geologic Method: Direct Push Rig: GeoProbe	Drilling Foreman: Dylan Roe Logged By: Noah Parent Drill Date: 7/13/2020	Surface Elevation: - Latitude: - Longitude: -	



Notes:

Groundwater encountered at approximately 10' bgs



Well ID

LEA-MW-01

GROUNDWATER MONITORING WELL COMPLETION LOG

Page 2 of 3

Project: CC HRE 2072 Mass Ave Comm. No.: 13MA0.01 Client: Capstone Communities LLC Location: 2071 Mass Ave, Cambridge, MA		Elevation: - Reference: -	Well ID LEA-MW-02
Contractor: Geologic Method: Direct Push Rig: GeoProbe	Drilling Foreman: Dylan Roe Logged By: Noah Parent Drill Date: 7/13/2020	Surface Elevation: - Latitude: - Longitude: -	

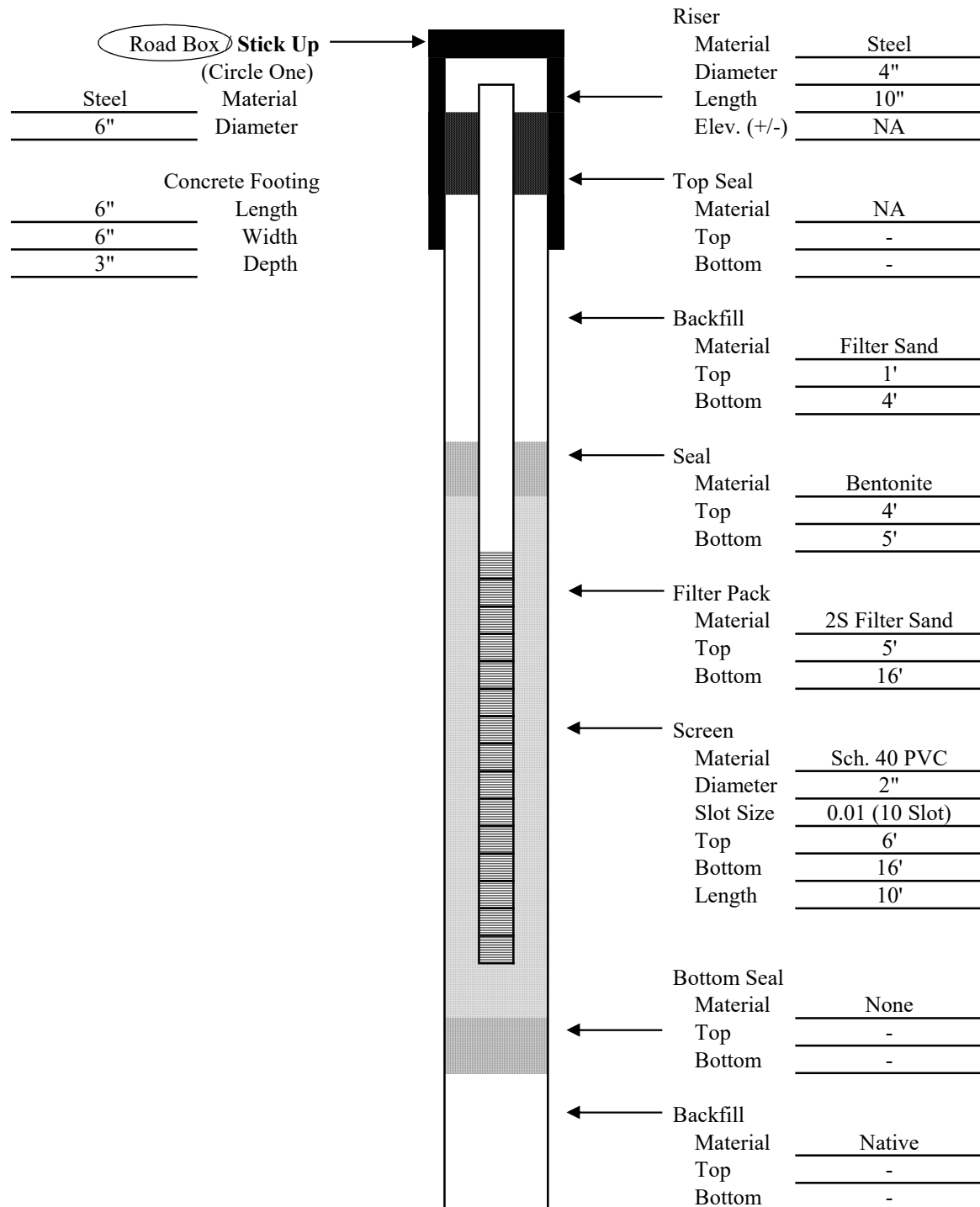
<div style="border: 1px solid black; border-radius: 50%; padding: 2px; display: inline-block;">Road Box</div> Stick Up (Circle One) <table border="0"> <tr> <td>Steel</td> <td>Material</td> </tr> <tr> <td>6"</td> <td>Diameter</td> </tr> </table> <table border="0"> <tr> <td>Concrete Footing</td> <td></td> </tr> <tr> <td>6"</td> <td>Length</td> </tr> <tr> <td>6"</td> <td>Width</td> </tr> <tr> <td>3"</td> <td>Depth</td> </tr> </table>	Steel	Material	6"	Diameter	Concrete Footing		6"	Length	6"	Width	3"	Depth		Riser Material <u>Steel</u> Diameter <u>4"</u> Length <u>10"</u> Elev. (+/-) <u>NA</u> Top Seal Material <u>NA</u> Top <u>-</u> Bottom <u>-</u> Backfill Material <u>Filter Sand</u> Top <u>1'</u> Bottom <u>4.5'</u> Seal Material <u>Bentonite</u> Top <u>4.5'</u> Bottom <u>5.5'</u> Filter Pack Material <u>2S Filter Sand</u> Top <u>5.5'</u> Bottom <u>16'</u> Screen Material <u>Sch. 40 PVC</u> Diameter <u>2"</u> Slot Size <u>0.01 (10 Slot)</u> Top <u>6.5'</u> Bottom <u>16.5'</u> Length <u>10'</u> Bottom Seal Material <u>None</u> Top <u>-</u> Bottom <u>-</u> Backfill Material <u>Native</u> Top <u>-</u> Bottom <u>-</u>
Steel	Material													
6"	Diameter													
Concrete Footing														
6"	Length													
6"	Width													
3"	Depth													

Notes: Groundwater encountered at approximately 12' bgs	 Engineering • Construction • EHS • Energy Waste • Facility Services • Laboratory
	Well ID
	LEA-MW-02

GROUNDWATER MONITORING WELL COMPLETION LOG

Page 3 of 3

Project: CC HRE 2072 Mass Ave Comm. No.: 13MA0.01 Client: Capstone Communities LLC Location: 2071 Mass Ave, Cambridge, MA		Elevation: - Reference: -	Well ID LEA-MW-03
Contractor: Geologic Method: Direct Push Rig: GeoProbe	Drilling Foreman: Dylan Roe Logged By: Noah Parent Drill Date: 7/13/2020	Surface Elevation: - Latitude: - Longitude: -	



Notes:

Groundwater encountered at approximately 13' bgs



Well ID

LEA-MW-03

APPENDIX B

Analytical Laboratory Reports

Laboratory Report



Absolute Resource *associates*

124 Heritage Avenue Portsmouth NH 03801

Lauren McKinlay
Loureiro Engineering Associates, Inc.
779 South Main Street
Manchester, NH 03102-5143

PO Number: None
Job ID: 53979
Date Received: 7/28/20

Project: CC HRE 2072 Mass Ave. 13MA0.01

Attached please find results for the analysis of the samples received on the date referenced above.

Unless otherwise noted in the attached report, the analyses performed met the requirements of Absolute Resource Associates' Quality Assurance Plan. The Standard Operating Procedures are based upon USEPA SW-846, USEPA Methods for Chemical Analysis of Water and Wastewater, Standard Methods for the Examination of Water and Wastewater and other recognized methodologies. The results contained in this report pertain only to the samples as indicated on the chain of custody.

Absolute Resource Associates maintains certification with the agencies listed below. The reported results apply to the sample(s) in the condition as received at the time the laboratory took custody. This report shall not be reproduced except in full and with approval from the laboratory. The liability of ARA is limited to the cost of the requested analyses, unless otherwise agreed upon in writing.

We appreciate the opportunity to provide laboratory services. If you have any questions regarding the enclosed report, please contact the laboratory and we will be glad to assist you.

Sincerely,
Absolute Resource Associates



Aaron DeWees
Chief Operating Officer

Date of Approval: 8/6/2020
Total number of pages: 23

Absolute Resource Associates Certifications

New Hampshire 1732
Maine NH902

Massachusetts M-NH902

Sample Association Table

Field ID	Matrix	Date-Time Sampled	Lab#	Analysis
LEA-MW-1	Water	7/21/2020 8:35	53979-001	VOCs in water by 8260
LEA-MW-2	Water	7/21/2020 12:10	53979-002	VOCs in water by 8260
LEA-MW-3	Water	7/21/2020 10:50	53979-003	VOCs in water by 8260
Trip Blank	Water	7/21/2020 0:00	53979-004	VOCs in water by 8260

Project ID: CC HRE 2072 Mass Ave. 13MA0.01

Job ID: 53979

Sample#: 53979-001

Sample ID: LEA-MW-1

Matrix: Water

Received on ice at 0°C, in satisfactory condition.

Sampled: 7/21/20 8:35

Parameter	Reporting		Instr Dil'n		Analyst	Prep	Analysis			Reference
	Result	Limit	Units	Factor		Date	Batch	Date	Time	
dichlorodifluoromethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
chloromethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
vinyl chloride	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
bromomethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
chloroethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
trichlorofluoromethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
diethyl ether	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
acetone	< 10	10	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
1,1-dichloroethene	< 1	1	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
methylene chloride	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
carbon disulfide	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
methyl t-butyl ether (MTBE)	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
trans-1,2-dichloroethene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
isopropyl ether (DIPE)	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
ethyl t-butyl ether (ETBE)	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
1,1-dichloroethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
t-butanol (TBA)	< 30	30	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
2-butanone (MEK)	< 10	10	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
2,2-dichloropropane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
cis-1,2-dichloroethene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
chloroform	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
bromochloromethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
tetrahydrofuran (THF)	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
1,1,1-trichloroethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
1,1-dichloropropene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
t-amyl-methyl ether (TAME)	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
carbon tetrachloride	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
1,2-dichloroethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
benzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
trichloroethene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
1,2-dichloropropane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
bromodichloromethane	< 0.6	0.6	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
1,4-dioxane	< 50	50	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
dibromomethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
4-methyl-2-pentanone (MIBK)	< 10	10	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
cis-1,3-dichloropropene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
toluene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
trans-1,3-dichloropropene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
2-hexanone	< 10	10	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
1,1,2-trichloroethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
1,3-dichloropropane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
tetrachloroethene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D

Project ID: CC HRE 2072 Mass Ave. 13MA0.01

Job ID: 53979

Sample#: 53979-001

Sample ID: LEA-MW-1

Matrix: Water

Received on ice at 0°C, in satisfactory condition.

Sampled: 7/21/20 8:35

Parameter	Reporting		Instr Dil'n		Analyst	Prep Date	Analysis			Reference
	Result	Limit	Units	Factor			Batch	Date	Time	
dibromochloromethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
1,2-dibromoethane (EDB)	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
chlorobenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
1,1,1,2-tetrachloroethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
ethylbenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
m&p-xylenes	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
o-xylene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
styrene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
bromoform	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
isopropylbenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
1,1,2,2-tetrachloroethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
1,2,3-trichloropropane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
n-propylbenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
bromobenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
1,3,5-trimethylbenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
2-chlorotoluene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
4-chlorotoluene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
tert-butylbenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
1,2,4-trimethylbenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
sec-butylbenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
1,3-dichlorobenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
4-isopropyltoluene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
1,4-dichlorobenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
1,2-dichlorobenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
n-butylbenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
1,2-dibromo-3-chloropropane (DBCP)	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
1,2,4-trichlorobenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
hexachlorobutadiene	< 0.5	0.5	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
naphthalene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
1,2,3-trichlorobenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
Surrogate Recovery		Limits								
dibromofluoromethane SUR	104	78-114	%	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
toluene-D8 SUR	99	88-110	%	1	LMM		2003142	8/3/20	15:32	SW5030C8260D
4-bromofluorobenzene SUR	105	86-115	%	1	LMM		2003142	8/3/20	15:32	SW5030C8260D

Project ID: CC HRE 2072 Mass Ave. 13MA0.01

Job ID: 53979

Sample#: 53979-002

Sample ID: LEA-MW-2

Matrix: Water

Received on ice at 0°C, in satisfactory condition.

Sampled: 7/21/20 12:10

Parameter	Reporting		Instr Dil'n		Analyst	Prep	Analysis			Reference
	Result	Limit	Units	Factor		Date	Batch	Date	Time	
dichlorodifluoromethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
chloromethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
vinyl chloride	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
bromomethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
chloroethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
trichlorofluoromethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
diethyl ether	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
acetone	< 10	10	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
1,1-dichloroethene	< 1	1	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
methylene chloride	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
carbon disulfide	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
methyl t-butyl ether (MTBE)	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
trans-1,2-dichloroethene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
isopropyl ether (DIPE)	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
ethyl t-butyl ether (ETBE)	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
1,1-dichloroethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
t-butanol (TBA)	< 30	30	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
2-butanone (MEK)	< 10	10	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
2,2-dichloropropane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
cis-1,2-dichloroethene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
chloroform	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
bromochloromethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
tetrahydrofuran (THF)	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
1,1,1-trichloroethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
1,1-dichloropropene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
t-amyl-methyl ether (TAME)	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
carbon tetrachloride	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
1,2-dichloroethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
benzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
trichloroethene	2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
1,2-dichloropropane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
bromodichloromethane	< 0.6	0.6	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
1,4-dioxane	< 50	50	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
dibromomethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
4-methyl-2-pentanone (MIBK)	< 10	10	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
cis-1,3-dichloropropene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
toluene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
trans-1,3-dichloropropene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
2-hexanone	< 10	10	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
1,1,2-trichloroethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
1,3-dichloropropane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
tetrachloroethene	2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D

Project ID: CC HRE 2072 Mass Ave. 13MA0.01

Job ID: 53979

Sample#: 53979-002

Sample ID: LEA-MW-2

Matrix: Water

Received on ice at 0°C, in satisfactory condition.

Sampled: 7/21/20 12:10

Sampled: 7/21/20 12:10		Reporting		Instr Dil'n		Prep	Analysis			
Parameter	Result	Limit	Units	Factor	Analyst	Date	Batch	Date	Time	Reference
dibromochloromethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
1,2-dibromoethane (EDB)	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
chlorobenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
1,1,1,2-tetrachloroethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
ethylbenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
m&p-xylenes	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
o-xylene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
styrene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
bromoform	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
isopropylbenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
1,1,2,2-tetrachloroethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
1,2,3-trichloropropane	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
n-propylbenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
bromobenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
1,3,5-trimethylbenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
2-chlorotoluene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
4-chlorotoluene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
tert-butylbenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
1,2,4-trimethylbenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
sec-butylbenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
1,3-dichlorobenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
4-isopropyltoluene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
1,4-dichlorobenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
1,2-dichlorobenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
n-butylbenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
1,2-dibromo-3-chloropropane (DBCP)	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
1,2,4-trichlorobenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
hexachlorobutadiene	< 0.5	0.5	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
naphthalene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
1,2,3-trichlorobenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
Surrogate Recovery		Limits								
dibromofluoromethane SUR	101	78-114	%	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
toluene-D8 SUR	95	88-110	%	1	LMM		2003142	8/3/20	15:59	SW5030C8260D
4-bromofluorobenzene SUR	102	86-115	%	1	LMM		2003142	8/3/20	15:59	SW5030C8260D

Project ID: CC HRE 2072 Mass Ave. 13MA0.01

Job ID: 53979

Sample#: 53979-003

Sample ID: LEA-MW-3

Matrix: Water

Received on ice at 0°C, in satisfactory condition.

Sampled: 7/21/20 10:50

Sampled: 7/21/20 10:50		Reporting		Instr Dil'n		Prep	Analysis			
Parameter	Result	Limit	Units	Factor	Analyst	Date	Batch	Date	Time	Reference
dichlorodifluoromethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
chloromethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
vinyl chloride	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
bromomethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
chloroethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
trichlorofluoromethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
diethyl ether	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
acetone	< 10	10	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
1,1-dichloroethene	< 1	1	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
methylene chloride	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
carbon disulfide	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
methyl t-butyl ether (MTBE)	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
trans-1,2-dichloroethene	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
isopropyl ether (DIPE)	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
ethyl t-butyl ether (ETBE)	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
1,1-dichloroethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
t-butanol (TBA)	< 30	30	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
2-butanone (MEK)	< 10	10	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
2,2-dichloropropane	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
cis-1,2-dichloroethene	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
chloroform	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
bromochloromethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
tetrahydrofuran (THF)	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
1,1,1-trichloroethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
1,1-dichloropropene	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
t-amyl-methyl ether (TAME)	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
carbon tetrachloride	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
1,2-dichloroethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
benzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
trichloroethene	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
1,2-dichloropropane	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
bromodichloromethane	< 0.6	0.6	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
1,4-dioxane	< 50	50	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
dibromomethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
4-methyl-2-pentanone (MIBK)	< 10	10	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
cis-1,3-dichloropropene	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
toluene	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
trans-1,3-dichloropropene	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
2-hexanone	< 10	10	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
1,1,2-trichloroethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
1,3-dichloropropane	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
tetrachloroethene	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D

Project ID: CC HRE 2072 Mass Ave. 13MA0.01

Job ID: 53979

Sample#: 53979-003

Sample ID: LEA-MW-3

Matrix: Water

Received on ice at 0°C, in satisfactory condition.

Sampled: 7/21/20 10:50

Sampled: 7/21/20 10:50		Reporting		Instr Dil'n		Prep	Analysis			
Parameter	Result	Limit	Units	Factor	Analyst	Date	Batch	Date	Time	Reference
dibromochloromethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
1,2-dibromoethane (EDB)	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
chlorobenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
1,1,1,2-tetrachloroethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
ethylbenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
m&p-xylenes	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
o-xylene	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
styrene	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
bromoform	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
isopropylbenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
1,1,2,2-tetrachloroethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
1,2,3-trichloropropane	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
n-propylbenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
bromobenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
1,3,5-trimethylbenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
2-chlorotoluene	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
4-chlorotoluene	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
tert-butylbenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
1,2,4-trimethylbenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
sec-butylbenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
1,3-dichlorobenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
4-isopropyltoluene	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
1,4-dichlorobenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
1,2-dichlorobenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
n-butylbenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
1,2-dibromo-3-chloropropane (DBCP)	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
1,2,4-trichlorobenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
hexachlorobutadiene	< 0.5	0.5	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
naphthalene	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
1,2,3-trichlorobenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
Surrogate Recovery		Limits								
dibromofluoromethane SUR	103	78-114	%	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
toluene-D8 SUR	96	88-110	%	1	LMM		2003142	8/3/20	16:26	SW5030C8260D
4-bromofluorobenzene SUR	103	86-115	%	1	LMM		2003142	8/3/20	16:26	SW5030C8260D

Project ID: CC HRE 2072 Mass Ave. 13MA0.01

Job ID: 53979

Sample#: 53979-004

Sample ID: Trip Blank

Matrix: Water

Received on ice at 0°C, in satisfactory condition.

Sampled: 7/21/20 0:00

Parameter	Reporting		Instr Dil'n		Analyst	Prep Date	Analysis			Reference
	Result	Limit	Units	Factor			Batch	Date	Time	
dichlorodifluoromethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
chloromethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
vinyl chloride	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
bromomethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
chloroethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
trichlorofluoromethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
diethyl ether	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
acetone	< 10	10	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
1,1-dichloroethene	< 1	1	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
methylene chloride	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
carbon disulfide	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
methyl t-butyl ether (MTBE)	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
trans-1,2-dichloroethene	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
isopropyl ether (DIPE)	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
ethyl t-butyl ether (ETBE)	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
1,1-dichloroethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
t-butanol (TBA)	< 30	30	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
2-butanone (MEK)	< 10	10	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
2,2-dichloropropane	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
cis-1,2-dichloroethene	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
chloroform	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
bromochloromethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
tetrahydrofuran (THF)	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
1,1,1-trichloroethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
1,1-dichloropropene	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
t-amyl-methyl ether (TAME)	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
carbon tetrachloride	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
1,2-dichloroethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
benzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
trichloroethene	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
1,2-dichloropropane	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
bromodichloromethane	< 0.6	0.6	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
1,4-dioxane	< 50	50	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
dibromomethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
4-methyl-2-pentanone (MIBK)	< 10	10	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
cis-1,3-dichloropropene	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
toluene	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
trans-1,3-dichloropropene	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
2-hexanone	< 10	10	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
1,1,2-trichloroethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
1,3-dichloropropane	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
tetrachloroethene	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D

Project ID: CC HRE 2072 Mass Ave. 13MA0.01

Job ID: 53979

Sample#: 53979-004

Sample ID: Trip Blank

Matrix: Water

Received on ice at 0°C, in satisfactory condition.

Sampled: 7/21/20 0:00

Sampled: 7/21/20 0:00		Reporting		Instr Dil'n		Prep	Analysis			
Parameter	Result	Limit	Units	Factor	Analyst	Date	Batch	Date	Time	Reference
dibromochloromethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
1,2-dibromoethane (EDB)	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
chlorobenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
1,1,1,2-tetrachloroethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
ethylbenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
m&p-xylenes	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
o-xylene	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
styrene	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
bromoform	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
isopropylbenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
1,1,2,2-tetrachloroethane	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
1,2,3-trichloropropane	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
n-propylbenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
bromobenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
1,3,5-trimethylbenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
2-chlorotoluene	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
4-chlorotoluene	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
tert-butylbenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
1,2,4-trimethylbenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
sec-butylbenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
1,3-dichlorobenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
4-isopropyltoluene	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
1,4-dichlorobenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
1,2-dichlorobenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
n-butylbenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
1,2-dibromo-3-chloropropane (DBCP)	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
1,2,4-trichlorobenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
hexachlorobutadiene	< 0.5	0.5	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
naphthalene	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
1,2,3-trichlorobenzene	< 2	2	ug/L	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
Surrogate Recovery		Limits								
dibromofluoromethane SUR	102	78-114	%	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
toluene-D8 SUR	96	88-110	%	1	LMM		2003142	8/3/20	12:22	SW5030C8260D
4-bromofluorobenzene SUR	98	86-115	%	1	LMM		2003142	8/3/20	12:22	SW5030C8260D

Quality Control Report



124 Heritage Avenue Unit 16
Portsmouth, NH 03801
www.absoluteresourceassociates.com

MassDEP Analytical Protocol Certification Form

Laboratory Name: Absolute Resource Associates

Project #: 13MA0.01

Project Location: Massachusetts

RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s): 53979

Matrices: ☒ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other:

CAM Protocol (check all that apply below):

8260 VOC CAM II A <input checked="" type="checkbox"/>	7470/7471 Hg CAM III B <input type="checkbox"/>	MassDEP VPH (GC/PID/FID) CAM IV A <input type="checkbox"/>	8082 PCB CAM V A <input type="checkbox"/>	9014 Total Cyanide/PAC CAM VI A <input type="checkbox"/>	6860 Perchlorate CAM VIII B <input type="checkbox"/>
8270 SVOC CAM II B <input type="checkbox"/>	7010 Metals CAM III C <input type="checkbox"/>	MassDEP VPH (GC/MS) CAM IV C <input type="checkbox"/>	8081 Pesticides CAM V B <input type="checkbox"/>	7196 Hex Cr CAM VI B <input type="checkbox"/>	MassDEP APH CAM IX A <input type="checkbox"/>
6010 Metals CAM III A <input type="checkbox"/>	6020 Metals CAM III D <input type="checkbox"/>	MassDEP EPH CAM IV B <input type="checkbox"/>	8151 Herbicides CAM V C <input type="checkbox"/>	8330 Explosives CAM VIII A <input type="checkbox"/>	TO-15 VOC CAM IX B <input type="checkbox"/>

Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status

A	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
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
C	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
D	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
E	VPH, EPH, APH, and TO-15 only a. 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). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
F	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

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	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 ¹
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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.

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹

¹All negative responses must be addressed in an attached laboratory 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, is accurate and complete.

Signature: 

Position: Chief Operating Officer

Printed Name: Aaron DeWees

Date: 8/5/20

Sample Integrity Table

Parameter	Method	Matrix	Minimum Volume	Recommended Container(s)	Required Preservation	Holding Time
Volatile Organics	EPA 8260	Aqueous	40mL	2 x 40mL VOA Vials with Teflon lined septa	Cool to $\leq 6^{\circ}\text{C}$ 1:1 HCl to pH <2	14 Days
Volatile Organics	EPA 8260	Solid	40mL	1 x 40mL VOA Vial with 10mLs Methanol <u>and</u> 1 unpreserved container for percent moisture	Cool to $\leq 6^{\circ}\text{C}$ Methanol	14 Days
Semivolatile Organics	EPA 8270	Aqueous	1L	1L Amber Glass Bottle w/Teflon liner	Cool to $\leq 6^{\circ}\text{C}$	7 Days
Semivolatile Organics	EPA 8270	Solid	20g	4oz Amber Glass Jar w/Teflon liner	Cool to $\leq 6^{\circ}\text{C}$	14 Days
Organochlorine Pesticides	EPA 8081	Aqueous	1L	1L Amber Glass Bottle w/Teflon liner	Cool to $\leq 6^{\circ}\text{C}$	7 Days
Organochlorine Pesticides	EPA 8081	Solid	20g	4oz Glass Jar w/Teflon liner	Cool to $\leq 6^{\circ}\text{C}$	14 Days
PCBs	EPA 8082	Aqueous	1L	1L Amber Glass Bottle w/Teflon liner	Cool to $\leq 6^{\circ}\text{C}$	365 Days
PCBs	EPA 8082	Solid	20g	4oz Glass Jar w/Teflon liner	Cool to $\leq 6^{\circ}\text{C}$	365 Days
Herbicides (subcontracted)	EPA 8151	Aqueous	1L	1L Amber Glass Bottle w/Teflon liner	Cool to $\leq 6^{\circ}\text{C}$	7 Days
Herbicides (subcontracted)	EPA 8151	Solid	30g	4oz Glass Jar w/Teflon liner	Cool to $\leq 6^{\circ}\text{C}$	14 Days
MA DEP VPH	MADEP VPH	Aqueous	40mL	2 x 40mL VOA Vials with Teflon lined septa	Cool to $\leq 6^{\circ}\text{C}$ 1:1 HCl to pH <2	14 Days
MA DEP VPH	MADEP VPH	Solid	40mL	1 x 40mL VOA Vial with 10mLs Methanol <u>and</u> 1 unpreserved container for percent moisture	Cool to $\leq 6^{\circ}\text{C}$ Methanol	28 Days
MA DEP EPH	MADEP EPH	Aqueous	1L	1L Amber Glass Bottle w/Teflon liner	Cool to $\leq 6^{\circ}\text{C}$ 1:1 HCl to pH <2	14 Days
MA DEP EPH	MADEP EPH	Solid	30g	4oz Amber Glass Jar w/Teflon liner	Cool to $\leq 6^{\circ}\text{C}$	14 Days
Total Metals	EPA 6010	Aqueous	100mL	250mL Polyethylene Bottle	1:1 HNO_3 to pH <2	180 Days
Dissolved Metals	EPA 6010	Aqueous	100mL	250mL Polyethylene Bottle	Filter First 1:1 HNO_3 to pH <2	180 Days
Total Metals	EPA 6010	Solid	15g	4oz Glass Jar w/Teflon liner	Cool to $\leq 6^{\circ}\text{C}$	180 Days
Total Mercury (may be combined with Total Metals)	EPA 7470	Aqueous	100mL	125mL Polyethylene Bottle	1:1 HNO_3 to pH <2	28 Days
Total Mercury (may be combined with Total Metals)	EPA 7471	Solid	15g	4oz Glass Jar w/Teflon liner	Cool to $\leq 6^{\circ}\text{C}$	28 Days
Chromium, Hexavalent	EPA 7196	Aqueous	100mL	125mL Polyethylene Bottle	Cool to $\leq 6^{\circ}\text{C}$ (NH_4) $_2\text{SO}_4$ buffer	28 Days
Chromium, Hexavalent (subcontract)	EPA 7196	Solid	15g	4oz Glass Jar w/Teflon liner	Cool to $\leq 6^{\circ}\text{C}$	30 Days
Cyanide, Total	EPA 9014	Aqueous	125mL	125mL Polyethylene Bottle	Cool to $\leq 6^{\circ}\text{C}$ 1:1 NaOH to pH >8	14 Days
Cyanide, Total	EPA 9014	Solid	15g	4oz Glass Jar w/Teflon liner	Cool to $\leq 6^{\circ}\text{C}$	14 Days

Absolute Resource Associates
124 Heritage Avenue Unit 16
Portsmouth, NH 03801
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Case Narrative

Lab # 53979

Sample Receiving and Chain of Custody Discrepancies

Samples were received in acceptable condition, between 0 and 6 degrees C, on ice, and in accordance with sample handling, preservation and integrity guidelines.

Calibration

VOC: See the included table for a list of compounds quantitated by quadratic equation.

Method Blank

No exceptions noted.

Surrogate Recoveries

No exceptions noted.

Laboratory Control Sample Results

No exceptions noted.

Matrix Spike/Matrix Spike Duplicate/Duplicate Results

Not requested for this project.

Other

No other exceptions noted.

MassDEP Analytical Protocol Certification Form Questions A through I

No explanation is needed for Questions A through I answered in the affirmative.



Quantitation by Quadratic Equation
Lab # 53979

VOC: Quantitation of the following compounds was based on a quadratic equation:

Bromomethane

Acetone

Bromoform

naphthalene

GLOSSARY

%R	Percent Recovery
BLK	Blank (Method Blank, Preparation Blank)
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CRM	Certified Reference Material (associated with solid Metals samples)
CRMD	Certified Reference Material Duplicate (associated with solid Metals samples)
Dil'n	Dilution
DL	Detection Limit
DUP	Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection
LOQ	Limit of Quantitation
MB	Methanol Blank (associated with solid VOC samples)
MLCS	Methanol Laboratory Control Sample (associated with solid VOC samples)
MLCSD	Methanol Laboratory Control Sample Duplicate (associated with solid VOC samples)
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PB	Preparation Blank
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference
SUR	Surrogate



124 Heritage Avenue Unit 16
Portsmouth, NH 03801

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- QC Report -

Method	QC ID	Parameter	Associated Sample	Result	Units	Amt Added	%R	Limits	RPD	RPD Limit
SW5030C8260D	BLK2003142	dichlorodifluoromethane		<	2	ug/L				
		chloromethane		<	2	ug/L				
		vinyl chloride		<	2	ug/L				
		bromomethane		<	2	ug/L				
		chloroethane		<	2	ug/L				
		trichlorofluoromethane		<	2	ug/L				
		diethyl ether		<	2	ug/L				
		acetone		<	10	ug/L				
		1,1-dichloroethene		<	1	ug/L				
		methylene chloride		<	2	ug/L				
		carbon disulfide		<	2	ug/L				
		methyl t-butyl ether (MTBE)		<	2	ug/L				
		trans-1,2-dichloroethene		<	2	ug/L				
		isopropyl ether (DIPE)		<	2	ug/L				
		ethyl t-butyl ether (ETBE)		<	2	ug/L				
		1,1-dichloroethane		<	2	ug/L				
		t-butanol (TBA)		<	30	ug/L				
		2-butanone (MEK)		<	10	ug/L				
		2,2-dichloropropane		<	2	ug/L				
		cis-1,2-dichloroethene		<	2	ug/L				
		chloroform		<	2	ug/L				
		bromochloromethane		<	2	ug/L				
		tetrahydrofuran (THF)		<	2	ug/L				
		1,1,1-trichloroethane		<	2	ug/L				
		1,1-dichloropropene		<	2	ug/L				
		t-amyl-methyl ether (TAME)		<	2	ug/L				
		carbon tetrachloride		<	2	ug/L				
		1,2-dichloroethane		<	2	ug/L				
		benzene		<	2	ug/L				
		trichloroethene		<	2	ug/L				
		1,2-dichloropropane		<	2	ug/L				
		bromodichloromethane		<	0.6	ug/L				
		1,4-dioxane		<	50	ug/L				
		dibromomethane		<	2	ug/L				
		4-methyl-2-pentanone (MIBK)		<	10	ug/L				
		cis-1,3-dichloropropene		<	2	ug/L				
		toluene		<	2	ug/L				
		trans-1,3-dichloropropene		<	2	ug/L				
		2-hexanone		<	10	ug/L				
		1,1,2-trichloroethane		<	2	ug/L				
		1,3-dichloropropane		<	2	ug/L				
		tetrachloroethene		<	2	ug/L				
		dibromochloromethane		<	2	ug/L				
		1,2-dibromoethane (EDB)		<	2	ug/L				
		chlorobenzene		<	2	ug/L				
		1,1,1,2-tetrachloroethane		<	2	ug/L				
		ethylbenzene		<	2	ug/L				

Method	QC ID	Parameter	Associated Sample	Result	Units	Amt Added	%R	Limits	RPD	RPD Limit
SW5030C8260D	BLK2003142	m&p-xylenes		<	2	ug/L				
		o-xylene		<	2	ug/L				
		styrene		<	2	ug/L				
		bromoform		<	2	ug/L				
		isopropylbenzene		<	2	ug/L				
		1,1,2,2-tetrachloroethane		<	2	ug/L				
		1,2,3-trichloropropane		<	2	ug/L				
		n-propylbenzene		<	2	ug/L				
		bromobenzene		<	2	ug/L				
		1,3,5-trimethylbenzene		<	2	ug/L				
		2-chlorotoluene		<	2	ug/L				
		4-chlorotoluene		<	2	ug/L				
		tert-butylbenzene		<	2	ug/L				
		1,2,4-trimethylbenzene		<	2	ug/L				
		sec-butylbenzene		<	2	ug/L				
		1,3-dichlorobenzene		<	2	ug/L				
		4-isopropyltoluene		<	2	ug/L				
		1,4-dichlorobenzene		<	2	ug/L				
		1,2-dichlorobenzene		<	2	ug/L				
		n-butylbenzene		<	2	ug/L				
		1,2-dibromo-3-chloropropane (DBCP)		<	2	ug/L				
		1,2,4-trichlorobenzene		<	2	ug/L				
		hexachlorobutadiene		<	0.5	ug/L				
		naphthalene		<	2	ug/L				
		1,2,3-trichlorobenzene		<	2	ug/L				
		dibromofluoromethane SUR		104	%			78	114	
		toluene-D8 SUR		99	%			88	110	
		4-bromofluorobenzene SUR		100	%			86	115	

Method	QC ID	Parameter	Associated Sample	Result	Units	Amt Added	%R	Limits	RPD	RPD Limit
SW5030C8260D	LCS2003142	dichlorodifluoromethane		18	ug/L	20	90	70	130	
		chloromethane		18	ug/L	20	92	70	130	
		vinyl chloride		19	ug/L	20	96	70	130	
		bromomethane		20	ug/L	20	100	70	130	
		chloroethane		19	ug/L	20	96	70	130	
		trichlorofluoromethane		21	ug/L	20	103	70	130	
		diethyl ether		18	ug/L	20	89	70	130	
		acetone		21	ug/L	20	104	70	130	
		1,1-dichloroethene		20	ug/L	20	101	70	130	
		methylene chloride		19	ug/L	20	97	70	130	
		carbon disulfide		19	ug/L	20	93	70	130	
		methyl t-butyl ether (MTBE)		20	ug/L	20	102	70	130	
		trans-1,2-dichloroethene		20	ug/L	20	101	70	130	
		isopropyl ether (DIPE)		20	ug/L	20	99	70	130	
		ethyl t-butyl ether (ETBE)		19	ug/L	20	94	70	130	
		1,1-dichloroethane		20	ug/L	20	99	70	130	
		t-butanol (TBA)		100	ug/L	100	100	70	130	
		2-butanone (MEK)		17	ug/L	20	86	70	130	
		2,2-dichloropropane		19	ug/L	20	93	70	130	
		cis-1,2-dichloroethene		20	ug/L	20	101	70	130	
		chloroform		20	ug/L	20	101	70	130	
		bromochloromethane		20	ug/L	20	102	70	130	
		tetrahydrofuran (THF)		19	ug/L	20	94	70	130	
		1,1,1-trichloroethane		20	ug/L	20	101	70	130	
		1,1-dichloropropene		19	ug/L	20	97	70	130	
		t-amyl-methyl ether (TAME)		19	ug/L	20	94	70	130	
		carbon tetrachloride		21	ug/L	20	104	70	130	
		1,2-dichloroethane		20	ug/L	20	101	70	130	
		benzene		19	ug/L	20	95	70	130	
		trichloroethene		20	ug/L	20	98	70	130	
		1,2-dichloropropane		19	ug/L	20	95	70	130	
		bromodichloromethane		20	ug/L	20	99	70	130	
		1,4-dioxane	<	50	ug/L	40	101	70	130	
		dibromomethane		21	ug/L	20	103	70	130	
		4-methyl-2-pentanone (MIBK)		20	ug/L	20	100	70	130	
		cis-1,3-dichloropropene		19	ug/L	20	97	70	130	
		toluene		19	ug/L	20	95	70	130	
		trans-1,3-dichloropropene		19	ug/L	20	94	70	130	
		2-hexanone		19	ug/L	20	97	70	130	
		1,1,2-trichloroethane		20	ug/L	20	99	70	130	
		1,3-dichloropropane		21	ug/L	20	103	70	130	
		tetrachloroethene		22	ug/L	20	109	70	130	
		dibromochloromethane		21	ug/L	20	105	70	130	
		1,2-dibromoethane (EDB)		21	ug/L	20	105	70	130	
		chlorobenzene		21	ug/L	20	105	70	130	
		1,1,1,2-tetrachloroethane		22	ug/L	20	109	70	130	
		ethylbenzene		20	ug/L	20	99	70	130	
		m&p-xylenes		40	ug/L	40	100	70	130	
		o-xylene		21	ug/L	20	104	70	130	

Method	QC ID	Parameter	Associated Sample	Result	Units	Amt Added	%R	Limits	RPD	RPD Limit
SW5030C8260D	LCS2003142	styrene		20	ug/L	20	99	70	130	
		bromoform		23	ug/L	20	115	70	130	
		isopropylbenzene		21	ug/L	20	104	70	130	
		1,1,2,2-tetrachloroethane		20	ug/L	20	99	70	130	
		1,2,3-trichloropropane		20	ug/L	20	102	70	130	
		n-propylbenzene		20	ug/L	20	100	70	130	
		bromobenzene		21	ug/L	20	105	70	130	
		1,3,5-trimethylbenzene		20	ug/L	20	101	70	130	
		2-chlorotoluene		21	ug/L	20	106	70	130	
		4-chlorotoluene		20	ug/L	20	99	70	130	
		tert-butylbenzene		20	ug/L	20	102	70	130	
		1,2,4-trimethylbenzene		20	ug/L	20	100	70	130	
		sec-butylbenzene		20	ug/L	20	100	70	130	
		1,3-dichlorobenzene		21	ug/L	20	103	70	130	
		4-isopropyltoluene		21	ug/L	20	105	70	130	
		1,4-dichlorobenzene		21	ug/L	20	104	70	130	
		1,2-dichlorobenzene		21	ug/L	20	103	70	130	
		n-butylbenzene		20	ug/L	20	98	70	130	
		1,2-dibromo-3-chloropropane (DBCP)		19	ug/L	20	96	70	130	
		1,2,4-trichlorobenzene		21	ug/L	20	104	70	130	
		hexachlorobutadiene		22	ug/L	20	108	70	130	
		naphthalene		23	ug/L	20	113	70	130	
		1,2,3-trichlorobenzene		22	ug/L	20	108	70	130	
		dibromofluoromethane SUR		105	%			78	114	
		toluene-D8 SUR		99	%			88	110	
		4-bromofluorobenzene SUR		107	%			86	115	

Method	QC ID	Parameter	Associated Sample	Result	Units	Amt Added	%R	Limits	RPD	RPD Limit
SW5030C8260D	LCSD2003142	dichlorodifluoromethane		17	ug/L	20	87	70 130	3	20
		chloromethane		18	ug/L	20	90	70 130	2	20
		vinyl chloride		19	ug/L	20	95	70 130	2	20
		bromomethane		19	ug/L	20	94	70 130	6	20
		chloroethane		18	ug/L	20	92	70 130	4	20
		trichlorofluoromethane		20	ug/L	20	99	70 130	4	20
		diethyl ether		18	ug/L	20	91	70 130	2	20
		acetone		21	ug/L	20	104	70 130	1	20
		1,1-dichloroethene		20	ug/L	20	99	70 130	1	20
		methylene chloride		19	ug/L	20	97	70 130	0	20
		carbon disulfide		18	ug/L	20	91	70 130	1	20
		methyl t-butyl ether (MTBE)		21	ug/L	20	104	70 130	2	20
		trans-1,2-dichloroethene		20	ug/L	20	100	70 130	1	20
		isopropyl ether (DIPE)		20	ug/L	20	99	70 130	0	20
		ethyl t-butyl ether (ETBE)		20	ug/L	20	99	70 130	5	20
		1,1-dichloroethane		19	ug/L	20	97	70 130	2	20
		t-butanol (TBA)		98	ug/L	100	98	70 130	2	20
		2-butanone (MEK)		18	ug/L	20	89	70 130	4	20
		2,2-dichloropropane		18	ug/L	20	89	70 130	4	20
		cis-1,2-dichloroethene		20	ug/L	20	100	70 130	1	20
		chloroform		20	ug/L	20	100	70 130	1	20
		bromochloromethane		20	ug/L	20	102	70 130	0	20
		tetrahydrofuran (THF)		19	ug/L	20	94	70 130	0	20
		1,1,1-trichloroethane		20	ug/L	20	98	70 130	3	20
		1,1-dichloropropene		19	ug/L	20	93	70 130	4	20
		t-amyl-methyl ether (TAME)		19	ug/L	20	95	70 130	1	20
		carbon tetrachloride		20	ug/L	20	101	70 130	3	20
		1,2-dichloroethane		20	ug/L	20	101	70 130	0	20
		benzene		19	ug/L	20	94	70 130	2	20
		trichloroethene		20	ug/L	20	98	70 130	1	20
		1,2-dichloropropane		19	ug/L	20	94	70 130	1	20
		bromodichloromethane		20	ug/L	20	100	70 130	1	20
		1,4-dioxane	<	50	ug/L	40	102	70 130	1	20
		dibromomethane		21	ug/L	20	103	70 130	0	20
		4-methyl-2-pentanone (MIBK)		20	ug/L	20	102	70 130	2	20
		cis-1,3-dichloropropene		19	ug/L	20	96	70 130	1	20
		toluene		19	ug/L	20	93	70 130	2	20
		trans-1,3-dichloropropene		19	ug/L	20	97	70 130	3	20
		2-hexanone		20	ug/L	20	101	70 130	4	20
		1,1,2-trichloroethane		20	ug/L	20	100	70 130	1	20
		1,3-dichloropropane		21	ug/L	20	106	70 130	3	20
		tetrachloroethene		22	ug/L	20	108	70 130	1	20
		dibromochloromethane		21	ug/L	20	107	70 130	2	20
		1,2-dibromoethane (EDB)		21	ug/L	20	107	70 130	2	20
		chlorobenzene		21	ug/L	20	107	70 130	1	20
		1,1,1,2-tetrachloroethane		22	ug/L	20	112	70 130	2	20
		ethylbenzene		20	ug/L	20	99	70 130	0	20
		m&p-xylenes		40	ug/L	40	101	70 130	1	20
		o-xylene		21	ug/L	20	105	70 130	1	20

Method	QC ID	Parameter	Associated Sample	Result	Units	Amt Added	%R	Limits	RPD	RPD Limit
SW5030C8260D	LCSD2003142	styrene		20	ug/L	20	102	70 130	2	20
		bromoform		24	ug/L	20	118	70 130	2	20
		isopropylbenzene		21	ug/L	20	104	70 130	1	20
		1,1,2,2-tetrachloroethane		20	ug/L	20	100	70 130	1	20
		1,2,3-trichloropropane		21	ug/L	20	103	70 130	2	20
		n-propylbenzene		20	ug/L	20	98	70 130	2	20
		bromobenzene		21	ug/L	20	103	70 130	1	20
		1,3,5-trimethylbenzene		20	ug/L	20	99	70 130	2	20
		2-chlorotoluene		21	ug/L	20	103	70 130	3	20
		4-chlorotoluene		20	ug/L	20	98	70 130	2	20
		tert-butylbenzene		20	ug/L	20	100	70 130	1	20
		1,2,4-trimethylbenzene		20	ug/L	20	99	70 130	1	20
		sec-butylbenzene		20	ug/L	20	98	70 130	2	20
		1,3-dichlorobenzene		21	ug/L	20	103	70 130	0	20
		4-isopropyltoluene		21	ug/L	20	103	70 130	2	20
		1,4-dichlorobenzene		21	ug/L	20	103	70 130	0	20
		1,2-dichlorobenzene		20	ug/L	20	102	70 130	1	20
		n-butylbenzene		20	ug/L	20	98	70 130	0	20
		1,2-dibromo-3-chloropropane (DBCP)		20	ug/L	20	100	70 130	4	20
		1,2,4-trichlorobenzene		21	ug/L	20	107	70 130	3	20
		hexachlorobutadiene		22	ug/L	20	111	70 130	3	20
		naphthalene		24	ug/L	20	121	70 130	7	20
		1,2,3-trichlorobenzene		23	ug/L	20	116	70 130	7	20
		dibromofluoromethane SUR		103	%			78 114		
		toluene-D8 SUR		99	%			88 110		
		4-bromofluorobenzene SUR		109	%			86 115		



ANALYTICAL REPORT

Lab Number:	L2019321
Client:	Loureiro Engineering Associates, Inc. 779 South Main Street Manchester, NH 03102
ATTN:	Sam Butcher
Phone:	(603) 625-8899
Project Name:	CC HRE 2072 MASS AVE
Project Number:	13MA0.01
Report Date:	05/18/20

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2019321-01	HAZO-2	SOIL	CAMBRIDGE,MA	05/07/20 09:15	05/11/20
L2019321-02	HAZO-1	SOIL	CAMBRIDGE,MA	05/08/20 10:00	05/11/20
L2019321-03	HAZO-3	SOIL	CAMBRIDGE,MA	05/11/20 08:50	05/11/20

Project Name: CC HRE 2072 MASS AVE

Lab Number: L2019321

Project Number: 13MA0.01

Report Date: 05/18/20

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	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?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	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?"	YES
E a.	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).	YES
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	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)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

The initial calibration, associated with L2019321-02, utilized a quadratic fit for acetone.

In reference to question G:

L2019321-01: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The initial calibration, associated with L2019321-02, did not meet the method required minimum response factor on the lowest calibration standard for 4-methyl-2-pentanone (0.0647) and 1,4-dioxane (0.0014), as well as the average response factor for 4-methyl-2-pentanone and 1,4-dioxane. In addition, the initial calibration verification is outside acceptance criteria for dichlorodifluoromethane (43%).

The initial calibration, associated with L2019321-01 and -03, did not meet the method required minimum response factor on the lowest calibration standard for 2-butanone (0.0753) and 4-methyl-2-pentanone (0.0725), as well as the average response factor for 2-butanone and 4-methyl-2-pentanone. In addition, the initial calibration verification is outside acceptance criteria for dichlorodifluoromethane (155%).

The continuing calibration standards, associated with L2019321-01, -02, and -03, are outside the acceptance criteria for several compounds; however, they are within overall method allowances. A copy of the continuing calibration standards is included as an addendum to this report.

Pesticides

In reference to question G:

L2019321-02 and -03: The sample has elevated detection limits due to the dilution required by the sample matrix. One or more of the target analytes did not achieve the requested CAM reporting limits.

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

Case Narrative (continued)

Total Metals

In reference to question H:

The WG1369846-2/-3 LCS/LCSD RPD, associated with L2019321-01 through -03, is above the acceptance criteria for mercury (32%).

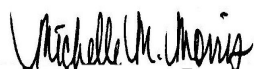
Non-MCP Related Narratives

Petroleum Hydrocarbon Quantitation

L2019321-01, -02, and -03: The sample has an elevated detection limit due to the dilution required by the sample matrix.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Michelle M. Morris

Title: Technical Director/Representative

Date: 05/18/20

QC OUTLIER SUMMARY REPORT

Project Name: CC HRE 2072 MASS AVE

Project Number: 13MA0.01

Lab Number: L2019321

Report Date: 05/18/20

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics by EPA 5035 High - Westborough Lab								
8260C	Batch QC	WG1370879-3	1,1,2,2-Tetrachloroethane	LCS	68	70-130	01	potential low bias
8260C	Batch QC	WG1370879-3	Chloroethane	LCS	57	70-130	01	potential low bias
8260C	Batch QC	WG1370879-4	1,1,2,2-Tetrachloroethane	LCSD	68	70-130	01	potential low bias
8260C	Batch QC	WG1370879-4	Vinyl chloride	LCSD	69	70-130	01	potential low bias
8260C	Batch QC	WG1370879-4	Chloroethane	LCSD	57	70-130	01	potential low bias
MCP Volatile Organics by EPA 5035 Low - Westborough Lab								
8260C	Batch QC	WG1370600-3	Dichlorodifluoromethane	LCS	65	70-130	02	potential low bias
8260C	Batch QC	WG1370600-3	Acetone	LCS	69	70-130	02	potential low bias
8260C	Batch QC	WG1370600-4	Dichlorodifluoromethane	LCSD	58	70-130	02	potential low bias
8260C	Batch QC	WG1370600-4	Acetone	LCSD	64	70-130	02	potential low bias
8260C	Batch QC	WG1370877-3	1,1,2,2-Tetrachloroethane	LCS	68	70-130	03	potential low bias
8260C	Batch QC	WG1370877-3	Chloroethane	LCS	57	70-130	03	potential low bias
8260C	Batch QC	WG1370877-4	1,1,2,2-Tetrachloroethane	LCSD	68	70-130	03	potential low bias
8260C	Batch QC	WG1370877-4	Vinyl chloride	LCSD	69	70-130	03	potential low bias
8260C	Batch QC	WG1370877-4	Chloroethane	LCSD	57	70-130	03	potential low bias
MCP Semivolatile Organics - Westborough Lab								
8270D	Batch QC	WG1369953-2	Aniline	LCS	34	40-140	01-03	potential low bias
8270D	Batch QC	WG1369953-3	Aniline	LCSD	38	40-140	01-03	potential low bias
Volatile Petroleum Hydrocarbons - Westborough Lab								
VPH-18-2.1	HAZO-1	L2019321-02	2,5-Dibromotoluene-PID	Surrogate	135	70-130	-	potential high bias
VPH-18-2.1	HAZO-1	L2019321-02	2,5-Dibromotoluene-FID	Surrogate	134	70-130	-	potential high bias
MCP Polychlorinated Biphenyls - Westborough Lab								
8082A	HAZO-3	L2019321-03	Decachlorobiphenyl (A)	Surrogate	26	30-150	-	potential low bias
MCP Total Metals - Mansfield Lab								
7471B	Batch QC	WG1369846-3	Mercury, Total	LCSD	32	30	01-03	non-directional bias

ORGANICS

VOLATILES

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-01
Client ID: HAZO-2
Sample Location: CAMBRIDGE,MA

Date Collected: 05/07/20 09:15
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 05/14/20 12:46
Analyst: AD
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	200	--	1
1,1-Dichloroethane	ND		ug/kg	41	--	1
Chloroform	ND		ug/kg	61	--	1
Carbon tetrachloride	ND		ug/kg	41	--	1
1,2-Dichloropropane	ND		ug/kg	41	--	1
Dibromochloromethane	ND		ug/kg	41	--	1
1,1,2-Trichloroethane	ND		ug/kg	41	--	1
Tetrachloroethene	1600		ug/kg	20	--	1
Chlorobenzene	ND		ug/kg	20	--	1
Trichlorofluoromethane	ND		ug/kg	160	--	1
1,2-Dichloroethane	ND		ug/kg	41	--	1
1,1,1-Trichloroethane	ND		ug/kg	20	--	1
Bromodichloromethane	ND		ug/kg	20	--	1
trans-1,3-Dichloropropene	ND		ug/kg	41	--	1
cis-1,3-Dichloropropene	ND		ug/kg	20	--	1
1,3-Dichloropropene, Total	ND		ug/kg	20	--	1
1,1-Dichloropropene	ND		ug/kg	20	--	1
Bromoform	ND		ug/kg	160	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	20	--	1
Benzene	ND		ug/kg	20	--	1
Toluene	ND		ug/kg	41	--	1
Ethylbenzene	ND		ug/kg	41	--	1
Chloromethane	ND		ug/kg	160	--	1
Bromomethane	ND		ug/kg	82	--	1
Vinyl chloride	ND		ug/kg	41	--	1
Chloroethane	ND		ug/kg	82	--	1
1,1-Dichloroethene	ND		ug/kg	41	--	1
trans-1,2-Dichloroethene	ND		ug/kg	61	--	1

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-01
Client ID: HAZO-2
Sample Location: CAMBRIDGE,MA

Date Collected: 05/07/20 09:15
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Trichloroethene	100		ug/kg	20	--	1
1,2-Dichlorobenzene	ND		ug/kg	82	--	1
1,3-Dichlorobenzene	ND		ug/kg	82	--	1
1,4-Dichlorobenzene	ND		ug/kg	82	--	1
Methyl tert butyl ether	ND		ug/kg	82	--	1
p/m-Xylene	ND		ug/kg	82	--	1
o-Xylene	ND		ug/kg	41	--	1
Xylenes, Total	ND		ug/kg	41	--	1
cis-1,2-Dichloroethene	82		ug/kg	41	--	1
1,2-Dichloroethene, Total	82		ug/kg	41	--	1
Dibromomethane	ND		ug/kg	82	--	1
1,2,3-Trichloropropane	ND		ug/kg	82	--	1
Styrene	ND		ug/kg	41	--	1
Dichlorodifluoromethane	ND		ug/kg	410	--	1
Acetone	ND		ug/kg	410	--	1
Carbon disulfide	ND		ug/kg	410	--	1
Methyl ethyl ketone	ND		ug/kg	410	--	1
Methyl isobutyl ketone	ND		ug/kg	410	--	1
2-Hexanone	ND		ug/kg	410	--	1
Bromochloromethane	ND		ug/kg	82	--	1
Tetrahydrofuran	ND		ug/kg	160	--	1
2,2-Dichloropropane	ND		ug/kg	82	--	1
1,2-Dibromoethane	ND		ug/kg	41	--	1
1,3-Dichloropropane	ND		ug/kg	82	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	20	--	1
Bromobenzene	ND		ug/kg	82	--	1
n-Butylbenzene	ND		ug/kg	41	--	1
sec-Butylbenzene	ND		ug/kg	41	--	1
tert-Butylbenzene	ND		ug/kg	82	--	1
o-Chlorotoluene	ND		ug/kg	82	--	1
p-Chlorotoluene	ND		ug/kg	82	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	120	--	1
Hexachlorobutadiene	ND		ug/kg	160	--	1
Isopropylbenzene	ND		ug/kg	41	--	1
p-Isopropyltoluene	ND		ug/kg	41	--	1
Naphthalene	ND		ug/kg	160	--	1
n-Propylbenzene	ND		ug/kg	41	--	1

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-01
Client ID: HAZO-2
Sample Location: CAMBRIDGE,MA

Date Collected: 05/07/20 09:15
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	82	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	82	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	82	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	82	--	1
Diethyl ether	ND		ug/kg	82	--	1
Diisopropyl Ether	ND		ug/kg	82	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	82	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	82	--	1
1,4-Dioxane	ND		ug/kg	3300	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	100		70-130

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-02
Client ID: HAZO-1
Sample Location: CAMBRIDGE,MA

Date Collected: 05/08/20 10:00
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 05/13/20 23:34
Analyst: JC
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.3	--	1
1,1-Dichloroethane	ND		ug/kg	0.66	--	1
Chloroform	ND		ug/kg	0.98	--	1
Carbon tetrachloride	ND		ug/kg	0.66	--	1
1,2-Dichloropropane	ND		ug/kg	0.66	--	1
Dibromochloromethane	ND		ug/kg	0.66	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.66	--	1
Tetrachloroethene	7.2		ug/kg	0.33	--	1
Chlorobenzene	ND		ug/kg	0.33	--	1
Trichlorofluoromethane	ND		ug/kg	2.6	--	1
1,2-Dichloroethane	ND		ug/kg	0.66	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.33	--	1
Bromodichloromethane	ND		ug/kg	0.33	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.66	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.33	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.33	--	1
1,1-Dichloropropene	ND		ug/kg	0.33	--	1
Bromoform	ND		ug/kg	2.6	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.33	--	1
Benzene	ND		ug/kg	0.33	--	1
Toluene	ND		ug/kg	0.66	--	1
Ethylbenzene	ND		ug/kg	0.66	--	1
Chloromethane	ND		ug/kg	2.6	--	1
Bromomethane	ND		ug/kg	1.3	--	1
Vinyl chloride	ND		ug/kg	0.66	--	1
Chloroethane	ND		ug/kg	1.3	--	1
1,1-Dichloroethene	ND		ug/kg	0.66	--	1
trans-1,2-Dichloroethene	ND		ug/kg	0.98	--	1

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-02
Client ID: HAZO-1
Sample Location: CAMBRIDGE,MA

Date Collected: 05/08/20 10:00
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.33	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.3	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.3	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.3	--	1
Methyl tert butyl ether	ND		ug/kg	1.3	--	1
p/m-Xylene	ND		ug/kg	1.3	--	1
o-Xylene	ND		ug/kg	0.66	--	1
Xylenes, Total	ND		ug/kg	0.66	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.66	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.66	--	1
Dibromomethane	ND		ug/kg	1.3	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.3	--	1
Styrene	ND		ug/kg	0.66	--	1
Dichlorodifluoromethane	ND		ug/kg	6.6	--	1
Acetone	ND		ug/kg	16	--	1
Carbon disulfide	ND		ug/kg	6.6	--	1
Methyl ethyl ketone	ND		ug/kg	6.6	--	1
Methyl isobutyl ketone	ND		ug/kg	6.6	--	1
2-Hexanone	ND		ug/kg	6.6	--	1
Bromochloromethane	ND		ug/kg	1.3	--	1
Tetrahydrofuran	ND		ug/kg	2.6	--	1
2,2-Dichloropropane	ND		ug/kg	1.3	--	1
1,2-Dibromoethane	ND		ug/kg	0.66	--	1
1,3-Dichloropropane	ND		ug/kg	1.3	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.33	--	1
Bromobenzene	ND		ug/kg	1.3	--	1
n-Butylbenzene	ND		ug/kg	0.66	--	1
sec-Butylbenzene	ND		ug/kg	0.66	--	1
tert-Butylbenzene	ND		ug/kg	1.3	--	1
o-Chlorotoluene	ND		ug/kg	1.3	--	1
p-Chlorotoluene	ND		ug/kg	1.3	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.0	--	1
Hexachlorobutadiene	ND		ug/kg	2.6	--	1
Isopropylbenzene	ND		ug/kg	0.66	--	1
p-Isopropyltoluene	ND		ug/kg	0.66	--	1
Naphthalene	ND		ug/kg	2.6	--	1
n-Propylbenzene	ND		ug/kg	0.66	--	1

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-02
Client ID: HAZO-1
Sample Location: CAMBRIDGE,MA

Date Collected: 05/08/20 10:00
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.3	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.3	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.3	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.3	--	1
Diethyl ether	ND		ug/kg	1.3	--	1
Diisopropyl Ether	ND		ug/kg	1.3	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.3	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.3	--	1
1,4-Dioxane	ND		ug/kg	52	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	116		70-130
Dibromofluoromethane	101		70-130

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-03
Client ID: HAZO-3
Sample Location: CAMBRIDGE,MA

Date Collected: 05/11/20 08:50
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 05/14/20 10:14
Analyst: JC
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.2	--	1
1,1-Dichloroethane	ND		ug/kg	0.65	--	1
Chloroform	ND		ug/kg	0.97	--	1
Carbon tetrachloride	ND		ug/kg	0.65	--	1
1,2-Dichloropropane	ND		ug/kg	0.65	--	1
Dibromochloromethane	ND		ug/kg	0.65	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.65	--	1
Tetrachloroethene	20		ug/kg	0.32	--	1
Chlorobenzene	ND		ug/kg	0.32	--	1
Trichlorofluoromethane	ND		ug/kg	2.6	--	1
1,2-Dichloroethane	ND		ug/kg	0.65	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.32	--	1
Bromodichloromethane	ND		ug/kg	0.32	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.65	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.32	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.32	--	1
1,1-Dichloropropene	ND		ug/kg	0.32	--	1
Bromoform	ND		ug/kg	2.6	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.32	--	1
Benzene	ND		ug/kg	0.32	--	1
Toluene	ND		ug/kg	0.65	--	1
Ethylbenzene	ND		ug/kg	0.65	--	1
Chloromethane	ND		ug/kg	2.6	--	1
Bromomethane	ND		ug/kg	1.3	--	1
Vinyl chloride	ND		ug/kg	0.65	--	1
Chloroethane	ND		ug/kg	1.3	--	1
1,1-Dichloroethene	ND		ug/kg	0.65	--	1
trans-1,2-Dichloroethene	ND		ug/kg	0.97	--	1

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-03
Client ID: HAZO-3
Sample Location: CAMBRIDGE,MA

Date Collected: 05/11/20 08:50
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	1.0		ug/kg	0.32	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.3	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.3	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.3	--	1
Methyl tert butyl ether	ND		ug/kg	1.3	--	1
p/m-Xylene	ND		ug/kg	1.3	--	1
o-Xylene	ND		ug/kg	0.65	--	1
Xylenes, Total	ND		ug/kg	0.65	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.65	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.65	--	1
Dibromomethane	ND		ug/kg	1.3	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.3	--	1
Styrene	ND		ug/kg	0.65	--	1
Dichlorodifluoromethane	ND		ug/kg	6.5	--	1
Acetone	ND		ug/kg	16	--	1
Carbon disulfide	ND		ug/kg	6.5	--	1
Methyl ethyl ketone	ND		ug/kg	6.5	--	1
Methyl isobutyl ketone	ND		ug/kg	6.5	--	1
2-Hexanone	ND		ug/kg	6.5	--	1
Bromochloromethane	ND		ug/kg	1.3	--	1
Tetrahydrofuran	ND		ug/kg	2.6	--	1
2,2-Dichloropropane	ND		ug/kg	1.3	--	1
1,2-Dibromoethane	ND		ug/kg	0.65	--	1
1,3-Dichloropropane	ND		ug/kg	1.3	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.32	--	1
Bromobenzene	ND		ug/kg	1.3	--	1
n-Butylbenzene	ND		ug/kg	0.65	--	1
sec-Butylbenzene	ND		ug/kg	0.65	--	1
tert-Butylbenzene	ND		ug/kg	1.3	--	1
o-Chlorotoluene	ND		ug/kg	1.3	--	1
p-Chlorotoluene	ND		ug/kg	1.3	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	1.9	--	1
Hexachlorobutadiene	ND		ug/kg	2.6	--	1
Isopropylbenzene	ND		ug/kg	0.65	--	1
p-Isopropyltoluene	ND		ug/kg	0.65	--	1
Naphthalene	ND		ug/kg	2.6	--	1
n-Propylbenzene	ND		ug/kg	0.65	--	1

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-03
Client ID: HAZO-3
Sample Location: CAMBRIDGE,MA

Date Collected: 05/11/20 08:50
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.3	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.3	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.3	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.3	--	1
Diethyl ether	ND		ug/kg	1.3	--	1
Diisopropyl Ether	ND		ug/kg	1.3	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.3	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.3	--	1
1,4-Dioxane	ND		ug/kg	52	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	102		70-130

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
 Analytical Date: 05/13/20 15:42
 Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02 Batch: WG1370600-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
 Analytical Date: 05/13/20 15:42
 Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02 Batch: WG1370600-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

Method Blank Analysis Batch Quality Control

Analytical Method: 97,8260C
 Analytical Date: 05/13/20 15:42
 Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02 Batch: WG1370600-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	100		70-130

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
 Analytical Date: 05/14/20 07:17
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 03 Batch: WG1370877-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
 Analytical Date: 05/14/20 07:17
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 03 Batch: WG1370877-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

Method Blank Analysis Batch Quality Control

Analytical Method: 97,8260C
 Analytical Date: 05/14/20 07:17
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 03 Batch: WG1370877-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	98		70-130

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
 Analytical Date: 05/14/20 07:17
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01 Batch: WG1370879-5					
Methylene chloride	ND		ug/kg	250	--
1,1-Dichloroethane	ND		ug/kg	50	--
Chloroform	ND		ug/kg	75	--
Carbon tetrachloride	ND		ug/kg	50	--
1,2-Dichloropropane	ND		ug/kg	50	--
Dibromochloromethane	ND		ug/kg	50	--
1,1,2-Trichloroethane	ND		ug/kg	50	--
Tetrachloroethene	ND		ug/kg	25	--
Chlorobenzene	ND		ug/kg	25	--
Trichlorofluoromethane	ND		ug/kg	200	--
1,2-Dichloroethane	ND		ug/kg	50	--
1,1,1-Trichloroethane	ND		ug/kg	25	--
Bromodichloromethane	ND		ug/kg	25	--
trans-1,3-Dichloropropene	ND		ug/kg	50	--
cis-1,3-Dichloropropene	ND		ug/kg	25	--
1,3-Dichloropropene, Total	ND		ug/kg	25	--
1,1-Dichloropropene	ND		ug/kg	25	--
Bromoform	ND		ug/kg	200	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	25	--
Benzene	ND		ug/kg	25	--
Toluene	ND		ug/kg	50	--
Ethylbenzene	ND		ug/kg	50	--
Chloromethane	ND		ug/kg	200	--
Bromomethane	ND		ug/kg	100	--
Vinyl chloride	ND		ug/kg	50	--
Chloroethane	ND		ug/kg	100	--
1,1-Dichloroethene	ND		ug/kg	50	--
trans-1,2-Dichloroethene	ND		ug/kg	75	--
Trichloroethene	ND		ug/kg	25	--

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
 Analytical Date: 05/14/20 07:17
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01 Batch: WG1370879-5					
1,2-Dichlorobenzene	ND		ug/kg	100	--
1,3-Dichlorobenzene	ND		ug/kg	100	--
1,4-Dichlorobenzene	ND		ug/kg	100	--
Methyl tert butyl ether	ND		ug/kg	100	--
p/m-Xylene	ND		ug/kg	100	--
o-Xylene	ND		ug/kg	50	--
Xylenes, Total	ND		ug/kg	50	--
cis-1,2-Dichloroethene	ND		ug/kg	50	--
1,2-Dichloroethene, Total	ND		ug/kg	50	--
Dibromomethane	ND		ug/kg	100	--
1,2,3-Trichloropropane	ND		ug/kg	100	--
Styrene	ND		ug/kg	50	--
Dichlorodifluoromethane	ND		ug/kg	500	--
Acetone	ND		ug/kg	500	--
Carbon disulfide	ND		ug/kg	500	--
Methyl ethyl ketone	ND		ug/kg	500	--
Methyl isobutyl ketone	ND		ug/kg	500	--
2-Hexanone	ND		ug/kg	500	--
Bromochloromethane	ND		ug/kg	100	--
Tetrahydrofuran	ND		ug/kg	200	--
2,2-Dichloropropane	ND		ug/kg	100	--
1,2-Dibromoethane	ND		ug/kg	50	--
1,3-Dichloropropane	ND		ug/kg	100	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	25	--
Bromobenzene	ND		ug/kg	100	--
n-Butylbenzene	ND		ug/kg	50	--
sec-Butylbenzene	ND		ug/kg	50	--
tert-Butylbenzene	ND		ug/kg	100	--
o-Chlorotoluene	ND		ug/kg	100	--

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

Method Blank Analysis Batch Quality Control

Analytical Method: 97,8260C
 Analytical Date: 05/14/20 07:17
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01 Batch: WG1370879-5					
p-Chlorotoluene	ND		ug/kg	100	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	150	--
Hexachlorobutadiene	ND		ug/kg	200	--
Isopropylbenzene	ND		ug/kg	50	--
p-Isopropyltoluene	ND		ug/kg	50	--
Naphthalene	ND		ug/kg	200	--
n-Propylbenzene	ND		ug/kg	50	--
1,2,3-Trichlorobenzene	ND		ug/kg	100	--
1,2,4-Trichlorobenzene	ND		ug/kg	100	--
1,3,5-Trimethylbenzene	ND		ug/kg	100	--
1,2,4-Trimethylbenzene	ND		ug/kg	100	--
Diethyl ether	ND		ug/kg	100	--
Diisopropyl Ether	ND		ug/kg	100	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	100	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	100	--
1,4-Dioxane	ND		ug/kg	4000	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	98		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: CC HRE 2072 MASS AVE

Project Number: 13MA0.01

Lab Number: L2019321

Report Date: 05/18/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 Batch: WG1370600-3 WG1370600-4								
Methylene chloride	80		75		70-130	6		20
1,1-Dichloroethane	90		82		70-130	9		20
Chloroform	82		74		70-130	10		20
Carbon tetrachloride	83		76		70-130	9		20
1,2-Dichloropropane	94		87		70-130	8		20
Dibromochloromethane	86		83		70-130	4		20
1,1,2-Trichloroethane	89		86		70-130	3		20
Tetrachloroethene	80		73		70-130	9		20
Chlorobenzene	89		82		70-130	8		20
Trichlorofluoromethane	82		74		70-130	10		20
1,2-Dichloroethane	81		76		70-130	6		20
1,1,1-Trichloroethane	85		77		70-130	10		20
Bromodichloromethane	85		79		70-130	7		20
trans-1,3-Dichloropropene	90		87		70-130	3		20
cis-1,3-Dichloropropene	88		84		70-130	5		20
1,1-Dichloropropene	91		82		70-130	10		20
Bromoform	82		79		70-130	4		20
1,1,2,2-Tetrachloroethane	94		91		70-130	3		20
Benzene	88		81		70-130	8		20
Toluene	91		82		70-130	10		20
Ethylbenzene	92		83		70-130	10		20
Chloromethane	81		78		70-130	4		20
Bromomethane	80		74		70-130	8		20

Lab Control Sample Analysis **Batch Quality Control**

Project Name: CC HRE 2072 MASS AVE

Project Number: 13MA0.01

Lab Number: L2019321

Report Date: 05/18/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 Batch: WG1370600-3 WG1370600-4								
Vinyl chloride	87		74		70-130	16		20
Chloroethane	97		81		70-130	18		20
1,1-Dichloroethene	86		79		70-130	8		20
trans-1,2-Dichloroethene	85		77		70-130	10		20
Trichloroethene	86		79		70-130	8		20
1,2-Dichlorobenzene	89		81		70-130	9		20
1,3-Dichlorobenzene	91		82		70-130	10		20
1,4-Dichlorobenzene	91		82		70-130	10		20
Methyl tert butyl ether	82		80		70-130	2		20
p/m-Xylene	92		83		70-130	10		20
o-Xylene	91		83		70-130	9		20
cis-1,2-Dichloroethene	85		78		70-130	9		20
Dibromomethane	81		77		70-130	5		20
1,2,3-Trichloropropane	90		87		70-130	3		20
Styrene	92		85		70-130	8		20
Dichlorodifluoromethane	65	Q	58	Q	70-130	11		20
Acetone	69	Q	64	Q	70-130	8		20
Carbon disulfide	83		77		70-130	8		20
Methyl ethyl ketone	95		94		70-130	1		20
Methyl isobutyl ketone	94		98		70-130	4		20
2-Hexanone	95		96		70-130	1		20
Bromochloromethane	81		79		70-130	3		20
Tetrahydrofuran	94		93		70-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: CC HRE 2072 MASS AVE

Project Number: 13MA0.01

Lab Number: L2019321

Report Date: 05/18/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 Batch: WG1370600-3 WG1370600-4								
2,2-Dichloropropane	89		80		70-130	11		20
1,2-Dibromoethane	85		81		70-130	5		20
1,3-Dichloropropane	89		84		70-130	6		20
1,1,1,2-Tetrachloroethane	89		81		70-130	9		20
Bromobenzene	89		82		70-130	8		20
n-Butylbenzene	98		86		70-130	13		20
sec-Butylbenzene	96		86		70-130	11		20
tert-Butylbenzene	94		84		70-130	11		20
o-Chlorotoluene	95		86		70-130	10		20
p-Chlorotoluene	99		89		70-130	11		20
1,2-Dibromo-3-chloropropane	86		82		70-130	5		20
Hexachlorobutadiene	79		70		70-130	12		20
Isopropylbenzene	96		86		70-130	11		20
p-Isopropyltoluene	96		85		70-130	12		20
Naphthalene	86		82		70-130	5		20
n-Propylbenzene	99		88		70-130	12		20
1,2,3-Trichlorobenzene	84		76		70-130	10		20
1,2,4-Trichlorobenzene	88		79		70-130	11		20
1,3,5-Trimethylbenzene	96		86		70-130	11		20
1,2,4-Trimethylbenzene	96		86		70-130	11		20
Diethyl ether	87		83		70-130	5		20
Diisopropyl Ether	100		94		70-130	6		20
Ethyl-Tert-Butyl-Ether	88		84		70-130	5		20

Lab Control Sample Analysis Batch Quality Control

Project Name: CC HRE 2072 MASS AVE

Lab Number: L2019321

Project Number: 13MA0.01

Report Date: 05/18/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 Batch: WG1370600-3 WG1370600-4								
Tertiary-Amyl Methyl Ether	83		79		70-130	5		20
1,4-Dioxane	85		89		70-130	5		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	98		98		70-130
Toluene-d8	107		107		70-130
4-Bromofluorobenzene	111		108		70-130
Dibromofluoromethane	98		100		70-130

Lab Control Sample Analysis **Batch Quality Control**

Project Name: CC HRE 2072 MASS AVE

Project Number: 13MA0.01

Lab Number: L2019321

Report Date: 05/18/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 03 Batch: WG1370877-3 WG1370877-4								
Methylene chloride	84		84		70-130	0		20
1,1-Dichloroethane	91		88		70-130	3		20
Chloroform	88		87		70-130	1		20
Carbon tetrachloride	114		112		70-130	2		20
1,2-Dichloropropane	86		84		70-130	2		20
Dibromochloromethane	95		96		70-130	1		20
1,1,2-Trichloroethane	77		77		70-130	0		20
Tetrachloroethene	105		102		70-130	3		20
Chlorobenzene	86		85		70-130	1		20
Trichlorofluoromethane	106		104		70-130	2		20
1,2-Dichloroethane	89		88		70-130	1		20
1,1,1-Trichloroethane	102		100		70-130	2		20
Bromodichloromethane	82		81		70-130	1		20
trans-1,3-Dichloropropene	87		86		70-130	1		20
cis-1,3-Dichloropropene	89		88		70-130	1		20
1,1-Dichloropropene	96		94		70-130	2		20
Bromoform	94		95		70-130	1		20
1,1,1,2,2-Tetrachloroethane	68	Q	68	Q	70-130	0		20
Benzene	82		80		70-130	2		20
Toluene	86		85		70-130	1		20
Ethylbenzene	88		87		70-130	1		20
Chloromethane	93		89		70-130	4		20
Bromomethane	81		77		70-130	5		20

Lab Control Sample Analysis **Batch Quality Control**

Project Name: CC HRE 2072 MASS AVE

Project Number: 13MA0.01

Lab Number: L2019321

Report Date: 05/18/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 03 Batch: WG1370877-3 WG1370877-4								
Vinyl chloride	72		69	Q	70-130	4		20
Chloroethane	57	Q	57	Q	70-130	0		20
1,1-Dichloroethene	106		102		70-130	4		20
trans-1,2-Dichloroethene	94		91		70-130	3		20
Trichloroethene	96		94		70-130	2		20
1,2-Dichlorobenzene	90		91		70-130	1		20
1,3-Dichlorobenzene	93		93		70-130	0		20
1,4-Dichlorobenzene	92		93		70-130	1		20
Methyl tert butyl ether	86		85		70-130	1		20
p/m-Xylene	95		94		70-130	1		20
o-Xylene	90		89		70-130	1		20
cis-1,2-Dichloroethene	99		97		70-130	2		20
Dibromomethane	85		84		70-130	1		20
1,2,3-Trichloropropane	70		71		70-130	1		20
Styrene	91		90		70-130	1		20
Dichlorodifluoromethane	102		101		70-130	1		20
Acetone	93		92		70-130	1		20
Carbon disulfide	82		79		70-130	4		20
Methyl ethyl ketone	88		88		70-130	0		20
Methyl isobutyl ketone	85		86		70-130	1		20
2-Hexanone	81		80		70-130	1		20
Bromochloromethane	103		102		70-130	1		20
Tetrahydrofuran	85		86		70-130	1		20

Lab Control Sample Analysis **Batch Quality Control**

Project Name: CC HRE 2072 MASS AVE

Project Number: 13MA0.01

Lab Number: L2019321

Report Date: 05/18/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 03 Batch: WG1370877-3 WG1370877-4								
2,2-Dichloropropane	101		98		70-130	3		20
1,2-Dibromoethane	89		90		70-130	1		20
1,3-Dichloropropane	76		76		70-130	0		20
1,1,1,2-Tetrachloroethane	98		98		70-130	0		20
Bromobenzene	94		93		70-130	1		20
n-Butylbenzene	87		86		70-130	1		20
sec-Butylbenzene	90		90		70-130	0		20
tert-Butylbenzene	105		103		70-130	2		20
o-Chlorotoluene	83		82		70-130	1		20
p-Chlorotoluene	85		85		70-130	0		20
1,2-Dibromo-3-chloropropane	96		98		70-130	2		20
Hexachlorobutadiene	98		98		70-130	0		20
Isopropylbenzene	99		97		70-130	2		20
p-Isopropyltoluene	107		107		70-130	0		20
Naphthalene	111		113		70-130	2		20
n-Propylbenzene	87		86		70-130	1		20
1,2,3-Trichlorobenzene	94		96		70-130	2		20
1,2,4-Trichlorobenzene	96		97		70-130	1		20
1,3,5-Trimethylbenzene	98		97		70-130	1		20
1,2,4-Trimethylbenzene	97		96		70-130	1		20
Diethyl ether	82		82		70-130	0		20
Diisopropyl Ether	89		87		70-130	2		20
Ethyl-Tert-Butyl-Ether	97		96		70-130	1		20

Lab Control Sample Analysis**Batch Quality Control****Project Name:** CC HRE 2072 MASS AVE**Lab Number:** L2019321**Project Number:** 13MA0.01**Report Date:** 05/18/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 03 Batch: WG1370877-3 WG1370877-4								
Tertiary-Amyl Methyl Ether	90		89		70-130	1		20
1,4-Dioxane	106		105		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		97		70-130
Toluene-d8	94		94		70-130
4-Bromofluorobenzene	95		95		70-130
Dibromofluoromethane	102		101		70-130

Lab Control Sample Analysis **Batch Quality Control**

Project Name: CC HRE 2072 MASS AVE

Project Number: 13MA0.01

Lab Number: L2019321

Report Date: 05/18/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01 Batch: WG1370879-3 WG1370879-4								
Methylene chloride	84		84		70-130	0		20
1,1-Dichloroethane	91		88		70-130	3		20
Chloroform	88		87		70-130	1		20
Carbon tetrachloride	114		112		70-130	2		20
1,2-Dichloropropane	86		84		70-130	2		20
Dibromochloromethane	95		96		70-130	1		20
1,1,2-Trichloroethane	77		77		70-130	0		20
Tetrachloroethene	105		102		70-130	3		20
Chlorobenzene	86		85		70-130	1		20
Trichlorofluoromethane	106		104		70-130	2		20
1,2-Dichloroethane	89		88		70-130	1		20
1,1,1-Trichloroethane	102		100		70-130	2		20
Bromodichloromethane	82		81		70-130	1		20
trans-1,3-Dichloropropene	87		86		70-130	1		20
cis-1,3-Dichloropropene	89		88		70-130	1		20
1,1-Dichloropropene	96		94		70-130	2		20
Bromoform	94		95		70-130	1		20
1,1,1,2,2-Tetrachloroethane	68	Q	68	Q	70-130	0		20
Benzene	82		80		70-130	2		20
Toluene	86		85		70-130	1		20
Ethylbenzene	88		87		70-130	1		20
Chloromethane	93		89		70-130	4		20
Bromomethane	81		77		70-130	5		20

Lab Control Sample Analysis **Batch Quality Control**

Project Name: CC HRE 2072 MASS AVE

Project Number: 13MA0.01

Lab Number: L2019321

Report Date: 05/18/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01 Batch: WG1370879-3 WG1370879-4								
Vinyl chloride	72		69	Q	70-130	4		20
Chloroethane	57	Q	57	Q	70-130	0		20
1,1-Dichloroethene	106		102		70-130	4		20
trans-1,2-Dichloroethene	94		91		70-130	3		20
Trichloroethene	96		94		70-130	2		20
1,2-Dichlorobenzene	90		91		70-130	1		20
1,3-Dichlorobenzene	93		93		70-130	0		20
1,4-Dichlorobenzene	92		93		70-130	1		20
Methyl tert butyl ether	86		85		70-130	1		20
p/m-Xylene	95		94		70-130	1		20
o-Xylene	90		89		70-130	1		20
cis-1,2-Dichloroethene	99		97		70-130	2		20
Dibromomethane	85		84		70-130	1		20
1,2,3-Trichloropropane	70		71		70-130	1		20
Styrene	91		90		70-130	1		20
Dichlorodifluoromethane	102		101		70-130	1		20
Acetone	93		92		70-130	1		20
Carbon disulfide	82		79		70-130	4		20
Methyl ethyl ketone	88		88		70-130	0		20
Methyl isobutyl ketone	85		86		70-130	1		20
2-Hexanone	81		80		70-130	1		20
Bromochloromethane	103		102		70-130	1		20
Tetrahydrofuran	85		86		70-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: CC HRE 2072 MASS AVE

Project Number: 13MA0.01

Lab Number: L2019321

Report Date: 05/18/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01 Batch: WG1370879-3 WG1370879-4								
2,2-Dichloropropane	101		98		70-130	3		20
1,2-Dibromoethane	89		90		70-130	1		20
1,3-Dichloropropane	76		76		70-130	0		20
1,1,1,2-Tetrachloroethane	98		98		70-130	0		20
Bromobenzene	94		93		70-130	1		20
n-Butylbenzene	87		86		70-130	1		20
sec-Butylbenzene	90		90		70-130	0		20
tert-Butylbenzene	105		103		70-130	2		20
o-Chlorotoluene	83		82		70-130	1		20
p-Chlorotoluene	85		85		70-130	0		20
1,2-Dibromo-3-chloropropane	96		98		70-130	2		20
Hexachlorobutadiene	98		98		70-130	0		20
Isopropylbenzene	99		97		70-130	2		20
p-Isopropyltoluene	107		107		70-130	0		20
Naphthalene	111		113		70-130	2		20
n-Propylbenzene	87		86		70-130	1		20
1,2,3-Trichlorobenzene	94		96		70-130	2		20
1,2,4-Trichlorobenzene	96		97		70-130	1		20
1,3,5-Trimethylbenzene	98		97		70-130	1		20
1,2,4-Trimethylbenzene	97		96		70-130	1		20
Diethyl ether	82		82		70-130	0		20
Diisopropyl Ether	89		87		70-130	2		20
Ethyl-Tert-Butyl-Ether	97		96		70-130	1		20

Lab Control Sample Analysis**Batch Quality Control****Project Name:** CC HRE 2072 MASS AVE**Lab Number:** L2019321**Project Number:** 13MA0.01**Report Date:** 05/18/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01 Batch: WG1370879-3 WG1370879-4								
Tertiary-Amyl Methyl Ether	90		89		70-130	1		20
1,4-Dioxane	106		105		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		97		70-130
Toluene-d8	94		94		70-130
4-Bromofluorobenzene	95		95		70-130
Dibromofluoromethane	102		101		70-130

SEMIVOLATILES

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-01
Client ID: HAZO-2
Sample Location: CAMBRIDGE,MA

Date Collected: 05/07/20 09:15
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 05/13/20 16:13
Analyst: ALS
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 05/12/20 18:12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	220		ug/kg	140	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	180	--	1
Hexachlorobenzene	ND		ug/kg	74	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	74	--	1
2-Chloronaphthalene	ND		ug/kg	180	--	1
1,2-Dichlorobenzene	ND		ug/kg	180	--	1
1,3-Dichlorobenzene	ND		ug/kg	180	--	1
1,4-Dichlorobenzene	ND		ug/kg	74	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	180	--	1
2,4-Dinitrotoluene	ND		ug/kg	74	--	1
2,6-Dinitrotoluene	ND		ug/kg	180	--	1
Azobenzene	ND		ug/kg	180	--	1
Fluoranthene	2400		ug/kg	100	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	74	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	190	--	1
Hexachlorobutadiene	ND		ug/kg	180	--	1
Hexachloroethane	ND		ug/kg	74	--	1
Isophorone	ND		ug/kg	160	--	1
Naphthalene	ND		ug/kg	180	--	1
Nitrobenzene	ND		ug/kg	160	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	--	1
Butyl benzyl phthalate	ND		ug/kg	180	--	1
Di-n-butylphthalate	ND		ug/kg	180	--	1
Di-n-octylphthalate	ND		ug/kg	180	--	1
Diethyl phthalate	ND		ug/kg	180	--	1
Dimethyl phthalate	ND		ug/kg	74	--	1
Benzo(a)anthracene	1200		ug/kg	100	--	1

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-01
Client ID: HAZO-2
Sample Location: CAMBRIDGE,MA

Date Collected: 05/07/20 09:15
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	1100		ug/kg	140	--	1
Benzo(b)fluoranthene	1600		ug/kg	100	--	1
Benzo(k)fluoranthene	440		ug/kg	100	--	1
Chrysene	1200		ug/kg	100	--	1
Acenaphthylene	ND		ug/kg	140	--	1
Anthracene	520		ug/kg	100	--	1
Benzo(ghi)perylene	730		ug/kg	140	--	1
Fluorene	190		ug/kg	180	--	1
Phenanthrene	2100		ug/kg	100	--	1
Dibenzo(a,h)anthracene	150		ug/kg	74	--	1
Indeno(1,2,3-cd)pyrene	780		ug/kg	140	--	1
Pyrene	2100		ug/kg	100	--	1
Aniline	ND		ug/kg	210	--	1
4-Chloroaniline	ND		ug/kg	180	--	1
Dibenzofuran	ND		ug/kg	180	--	1
2-Methylnaphthalene	74		ug/kg	74	--	1
Acetophenone	ND		ug/kg	180	--	1
2,4,6-Trichlorophenol	ND		ug/kg	74	--	1
2-Chlorophenol	ND		ug/kg	74	--	1
2,4-Dichlorophenol	ND		ug/kg	74	--	1
2,4-Dimethylphenol	ND		ug/kg	74	--	1
2-Nitrophenol	ND		ug/kg	380	--	1
4-Nitrophenol	ND		ug/kg	250	--	1
2,4-Dinitrophenol	ND		ug/kg	840	--	1
Pentachlorophenol	ND		ug/kg	350	--	1
Phenol	ND		ug/kg	180	--	1
2-Methylphenol	ND		ug/kg	180	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	250	--	1
2,4,5-Trichlorophenol	ND		ug/kg	180	--	1

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-01
Client ID: HAZO-2
Sample Location: CAMBRIDGE,MA

Date Collected: 05/07/20 09:15
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	76		30-130
Phenol-d6	79		30-130
Nitrobenzene-d5	90		30-130
2-Fluorobiphenyl	91		30-130
2,4,6-Tribromophenol	67		30-130
4-Terphenyl-d14	89		30-130

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-02
Client ID: HAZO-1
Sample Location: CAMBRIDGE,MA

Date Collected: 05/08/20 10:00
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 05/13/20 16:36
Analyst: ALS
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 05/12/20 18:12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	150	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	190	--	1
Hexachlorobenzene	ND		ug/kg	79	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	79	--	1
2-Chloronaphthalene	ND		ug/kg	190	--	1
1,2-Dichlorobenzene	ND		ug/kg	190	--	1
1,3-Dichlorobenzene	ND		ug/kg	190	--	1
1,4-Dichlorobenzene	ND		ug/kg	79	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	--	1
2,4-Dinitrotoluene	ND		ug/kg	79	--	1
2,6-Dinitrotoluene	ND		ug/kg	190	--	1
Azobenzene	ND		ug/kg	190	--	1
Fluoranthene	680		ug/kg	110	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	79	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	--	1
Hexachlorobutadiene	ND		ug/kg	190	--	1
Hexachloroethane	ND		ug/kg	79	--	1
Isophorone	ND		ug/kg	170	--	1
Naphthalene	ND		ug/kg	190	--	1
Nitrobenzene	ND		ug/kg	170	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	190	--	1
Butyl benzyl phthalate	ND		ug/kg	190	--	1
Di-n-butylphthalate	ND		ug/kg	190	--	1
Di-n-octylphthalate	ND		ug/kg	190	--	1
Diethyl phthalate	ND		ug/kg	190	--	1
Dimethyl phthalate	ND		ug/kg	79	--	1
Benzo(a)anthracene	420		ug/kg	110	--	1

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-02
Client ID: HAZO-1
Sample Location: CAMBRIDGE,MA

Date Collected: 05/08/20 10:00
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	390		ug/kg	150	--	1
Benzo(b)fluoranthene	490		ug/kg	110	--	1
Benzo(k)fluoranthene	160		ug/kg	110	--	1
Chrysene	390		ug/kg	110	--	1
Acenaphthylene	ND		ug/kg	150	--	1
Anthracene	150		ug/kg	110	--	1
Benzo(ghi)perylene	240		ug/kg	150	--	1
Fluorene	ND		ug/kg	190	--	1
Phenanthrene	570		ug/kg	110	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	79	--	1
Indeno(1,2,3-cd)pyrene	260		ug/kg	150	--	1
Pyrene	740		ug/kg	110	--	1
Aniline	ND		ug/kg	220	--	1
4-Chloroaniline	ND		ug/kg	190	--	1
Dibenzofuran	ND		ug/kg	190	--	1
2-Methylnaphthalene	ND		ug/kg	79	--	1
Acetophenone	ND		ug/kg	190	--	1
2,4,6-Trichlorophenol	ND		ug/kg	79	--	1
2-Chlorophenol	ND		ug/kg	79	--	1
2,4-Dichlorophenol	ND		ug/kg	79	--	1
2,4-Dimethylphenol	ND		ug/kg	79	--	1
2-Nitrophenol	ND		ug/kg	400	--	1
4-Nitrophenol	ND		ug/kg	260	--	1
2,4-Dinitrophenol	ND		ug/kg	900	--	1
Pentachlorophenol	ND		ug/kg	380	--	1
Phenol	ND		ug/kg	190	--	1
2-Methylphenol	ND		ug/kg	190	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	270	--	1
2,4,5-Trichlorophenol	ND		ug/kg	190	--	1

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-02
Client ID: HAZO-1
Sample Location: CAMBRIDGE,MA

Date Collected: 05/08/20 10:00
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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MCP Semivolatile Organics - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	81		30-130
Phenol-d6	84		30-130
Nitrobenzene-d5	83		30-130
2-Fluorobiphenyl	88		30-130
2,4,6-Tribromophenol	74		30-130
4-Terphenyl-d14	90		30-130

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-03
Client ID: HAZO-3
Sample Location: CAMBRIDGE,MA

Date Collected: 05/11/20 08:50
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 05/13/20 16:59
Analyst: ALS
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 05/12/20 18:12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	150	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	180	--	1
Hexachlorobenzene	ND		ug/kg	77	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	77	--	1
2-Chloronaphthalene	ND		ug/kg	180	--	1
1,2-Dichlorobenzene	ND		ug/kg	180	--	1
1,3-Dichlorobenzene	ND		ug/kg	180	--	1
1,4-Dichlorobenzene	ND		ug/kg	77	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	180	--	1
2,4-Dinitrotoluene	ND		ug/kg	77	--	1
2,6-Dinitrotoluene	ND		ug/kg	180	--	1
Azobenzene	ND		ug/kg	180	--	1
Fluoranthene	1100		ug/kg	110	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	77	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	--	1
Hexachlorobutadiene	ND		ug/kg	180	--	1
Hexachloroethane	ND		ug/kg	77	--	1
Isophorone	ND		ug/kg	160	--	1
Naphthalene	ND		ug/kg	180	--	1
Nitrobenzene	ND		ug/kg	160	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	--	1
Butyl benzyl phthalate	ND		ug/kg	180	--	1
Di-n-butylphthalate	ND		ug/kg	180	--	1
Di-n-octylphthalate	ND		ug/kg	180	--	1
Diethyl phthalate	ND		ug/kg	180	--	1
Dimethyl phthalate	ND		ug/kg	77	--	1
Benzo(a)anthracene	530		ug/kg	110	--	1

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-03
Client ID: HAZO-3
Sample Location: CAMBRIDGE,MA

Date Collected: 05/11/20 08:50
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	440		ug/kg	150	--	1
Benzo(b)fluoranthene	580		ug/kg	110	--	1
Benzo(k)fluoranthene	220		ug/kg	110	--	1
Chrysene	520		ug/kg	110	--	1
Acenaphthylene	ND		ug/kg	150	--	1
Anthracene	250		ug/kg	110	--	1
Benzo(ghi)perylene	240		ug/kg	150	--	1
Fluorene	ND		ug/kg	180	--	1
Phenanthrene	960		ug/kg	110	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	77	--	1
Indeno(1,2,3-cd)pyrene	260		ug/kg	150	--	1
Pyrene	970		ug/kg	110	--	1
Aniline	ND		ug/kg	220	--	1
4-Chloroaniline	ND		ug/kg	180	--	1
Dibenzofuran	ND		ug/kg	180	--	1
2-Methylnaphthalene	ND		ug/kg	77	--	1
Acetophenone	ND		ug/kg	180	--	1
2,4,6-Trichlorophenol	ND		ug/kg	77	--	1
2-Chlorophenol	ND		ug/kg	77	--	1
2,4-Dichlorophenol	ND		ug/kg	77	--	1
2,4-Dimethylphenol	ND		ug/kg	77	--	1
2-Nitrophenol	ND		ug/kg	400	--	1
4-Nitrophenol	ND		ug/kg	260	--	1
2,4-Dinitrophenol	ND		ug/kg	880	--	1
Pentachlorophenol	ND		ug/kg	370	--	1
Phenol	ND		ug/kg	180	--	1
2-Methylphenol	ND		ug/kg	180	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	260	--	1
2,4,5-Trichlorophenol	ND		ug/kg	180	--	1

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-03
Client ID: HAZO-3
Sample Location: CAMBRIDGE,MA

Date Collected: 05/11/20 08:50
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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MCP Semivolatile Organics - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	78		30-130
Phenol-d6	78		30-130
Nitrobenzene-d5	73		30-130
2-Fluorobiphenyl	77		30-130
2,4,6-Tribromophenol	65		30-130
4-Terphenyl-d14	73		30-130

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 05/13/20 07:38
Analyst: SZ

Extraction Method: EPA 3546
Extraction Date: 05/12/20 18:12

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-03 Batch: WG1369953-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	68	--
Bis(2-chloroethyl)ether	ND		ug/kg	68	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	68	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	68	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	97	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	68	--
Bis(2-chloroethoxy)methane	ND		ug/kg	170	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	68	--
Isophorone	ND		ug/kg	140	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	140	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	68	--
Benzo(a)anthracene	ND		ug/kg	97	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 05/13/20 07:38
Analyst: SZ

Extraction Method: EPA 3546
Extraction Date: 05/12/20 18:12

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-03 Batch: WG1369953-1					
Benzo(b)fluoranthene	ND		ug/kg	97	--
Benzo(k)fluoranthene	ND		ug/kg	97	--
Chrysene	ND		ug/kg	97	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	97	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	97	--
Dibenzo(a,h)anthracene	ND		ug/kg	68	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	97	--
Aniline	ND		ug/kg	190	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	68	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	68	--
2-Chlorophenol	ND		ug/kg	68	--
2,4-Dichlorophenol	ND		ug/kg	68	--
2,4-Dimethylphenol	ND		ug/kg	68	--
2-Nitrophenol	ND		ug/kg	350	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	780	--
Pentachlorophenol	ND		ug/kg	320	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	230	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
 Analytical Date: 05/13/20 07:38
 Analyst: SZ

Extraction Method: EPA 3546
 Extraction Date: 05/12/20 18:12

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-03 Batch: WG1369953-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	74		30-130
Phenol-d6	75		30-130
Nitrobenzene-d5	72		30-130
2-Fluorobiphenyl	77		30-130
2,4,6-Tribromophenol	72		30-130
4-Terphenyl-d14	90		30-130

Lab Control Sample Analysis **Batch Quality Control**

Project Name: CC HRE 2072 MASS AVE

Project Number: 13MA0.01

Lab Number: L2019321

Report Date: 05/18/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG1369953-2 WG1369953-3								
Acenaphthene	71		77		40-140	8		30
1,2,4-Trichlorobenzene	71		77		40-140	8		30
Hexachlorobenzene	71		76		40-140	7		30
Bis(2-chloroethyl)ether	70		76		40-140	8		30
2-Chloronaphthalene	78		84		40-140	7		30
1,2-Dichlorobenzene	68		73		40-140	7		30
1,3-Dichlorobenzene	67		71		40-140	6		30
1,4-Dichlorobenzene	67		72		40-140	7		30
3,3'-Dichlorobenzidine	49		51		40-140	4		30
2,4-Dinitrotoluene	78		83		40-140	6		30
2,6-Dinitrotoluene	81		86		40-140	6		30
Azobenzene	78		83		40-140	6		30
Fluoranthene	76		83		40-140	9		30
4-Bromophenyl phenyl ether	72		77		40-140	7		30
Bis(2-chloroisopropyl)ether	66		71		40-140	7		30
Bis(2-chloroethoxy)methane	74		81		40-140	9		30
Hexachlorobutadiene	75		79		40-140	5		30
Hexachloroethane	69		73		40-140	6		30
Isophorone	71		79		40-140	11		30
Naphthalene	71		77		40-140	8		30
Nitrobenzene	68		74		40-140	8		30
Bis(2-ethylhexyl)phthalate	89		93		40-140	4		30
Butyl benzyl phthalate	79		84		40-140	6		30

Lab Control Sample Analysis **Batch Quality Control**

Project Name: CC HRE 2072 MASS AVE

Project Number: 13MA0.01

Lab Number: L2019321

Report Date: 05/18/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG1369953-2 WG1369953-3								
Di-n-butylphthalate	81		86		40-140	6		30
Di-n-octylphthalate	88		93		40-140	6		30
Diethyl phthalate	78		83		40-140	6		30
Dimethyl phthalate	81		86		40-140	6		30
Benzo(a)anthracene	77		82		40-140	6		30
Benzo(a)pyrene	80		84		40-140	5		30
Benzo(b)fluoranthene	80		93		40-140	15		30
Benzo(k)fluoranthene	83		80		40-140	4		30
Chrysene	79		85		40-140	7		30
Acenaphthylene	76		82		40-140	8		30
Anthracene	76		81		40-140	6		30
Benzo(ghi)perylene	81		87		40-140	7		30
Fluorene	76		81		40-140	6		30
Phenanthrene	73		80		40-140	9		30
Dibenzo(a,h)anthracene	79		84		40-140	6		30
Indeno(1,2,3-cd)pyrene	84		90		40-140	7		30
Pyrene	75		81		40-140	8		30
Aniline	34	Q	38	Q	40-140	11		30
4-Chloroaniline	53		55		40-140	4		30
Dibenzofuran	76		81		40-140	6		30
2-Methylnaphthalene	73		77		40-140	5		30
Acetophenone	62		69		40-140	11		30
2,4,6-Trichlorophenol	79		86		30-130	8		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG1369953-2 WG1369953-3								
2-Chlorophenol	73		76		30-130	4		30
2,4-Dichlorophenol	78		85		30-130	9		30
2,4-Dimethylphenol	75		79		30-130	5		30
2-Nitrophenol	73		79		30-130	8		30
4-Nitrophenol	78		84		30-130	7		30
2,4-Dinitrophenol	67		72		30-130	7		30
Pentachlorophenol	78		83		30-130	6		30
Phenol	70		77		30-130	10		30
2-Methylphenol	72		79		30-130	9		30
3-Methylphenol/4-Methylphenol	75		83		30-130	10		30
2,4,5-Trichlorophenol	84		91		30-130	8		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	68		72		30-130
Phenol-d6	67		72		30-130
Nitrobenzene-d5	67		73		30-130
2-Fluorobiphenyl	69		73		30-130
2,4,6-Tribromophenol	65		68		30-130
4-Terphenyl-d14	74		77		30-130

PETROLEUM HYDROCARBONS

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-01 D
Client ID: HAZO-2
Sample Location: CAMBRIDGE,MA

Date Collected: 05/07/20 09:15
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 05/15/20 21:25
Analyst: AN
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 05/12/20 18:17

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	ND		ug/kg	169000	--	5
Surrogate	% Recovery		Qualifier	Acceptance Criteria		
o-Terphenyl	70			40-140		

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-02 D
Client ID: HAZO-1
Sample Location: CAMBRIDGE,MA

Date Collected: 05/08/20 10:00
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 05/13/20 09:49
Analyst: SR
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 05/12/20 18:17

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	398000		ug/kg	371000	--	10
Surrogate	% Recovery		Qualifier	Acceptance Criteria		
o-Terphenyl	81			40-140		

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-03 D
Client ID: HAZO-3
Sample Location: CAMBRIDGE,MA

Date Collected: 05/11/20 08:50
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 05/15/20 21:51
Analyst: AN
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 05/12/20 18:17

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH (C10-C36)	ND		ug/kg	184000	--	5
Surrogate	% Recovery		Qualifier	Acceptance Criteria		
o-Terphenyl	63			40-140		

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
 Analytical Date: 05/12/20 23:17
 Analyst: LL

Extraction Method: EPA 3546
 Extraction Date: 05/12/20 04:48

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01-03 Batch: WG1369602-1					
TPH (C10-C36)	ND		ug/kg	32400	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	70		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: CC HRE 2072 MASS AVE

Lab Number: L2019321

Project Number: 13MA0.01

Report Date: 05/18/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01-03 Batch: WG1369602-2								
TPH (C10-C36)	62		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	57				40-140

Project Name: CC HRE 2072 MASS AVE**Lab Number:** L2019321**Project Number:** 13MA0.01**Report Date:** 05/18/20**SAMPLE RESULTS**

Lab ID: L2019321-01

Date Collected: 05/07/20 09:15

Client ID: HAZO-2

Date Received: 05/11/20

Sample Location: CAMBRIDGE, MA

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 131, VPH-18-2.1

Analytical Date: 05/13/20 11:42

Analyst: BAD

Percent Solids: 92%

Trap: EST, Carboxen B/Carboxen 1000&1001

Analytical Column: Restek, RTX-502.2,
105m, 0.53ID, 3um**Quality Control Information**

Condition of sample received:

Satisfactory

Sample Temperature upon receipt:

Received on Ice

Were samples received in methanol?

Covering the Soil

Methanol ratio:

1:1.5

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	4.08	--	1
C9-C12 Aliphatics	ND		mg/kg	4.08	--	1
C9-C10 Aromatics	ND		mg/kg	4.08	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	4.08	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	4.08	--	1
Benzene	ND		mg/kg	0.082	--	1
Toluene	ND		mg/kg	0.082	--	1
Ethylbenzene	ND		mg/kg	0.082	--	1
p/m-Xylene	ND		mg/kg	0.082	--	1
o-Xylene	ND		mg/kg	0.082	--	1
Methyl tert butyl ether	ND		mg/kg	0.041	--	1
Naphthalene	ND		mg/kg	0.163	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	128		70-130
2,5-Dibromotoluene-FID	126		70-130

Project Name: CC HRE 2072 MASS AVE**Lab Number:** L2019321**Project Number:** 13MA0.01**Report Date:** 05/18/20**SAMPLE RESULTS**

Lab ID: L2019321-01
 Client ID: HAZO-2
 Sample Location: CAMBRIDGE,MA

Date Collected: 05/07/20 09:15
 Date Received: 05/11/20
 Field Prep: Not Specified

Sample Depth:
 Matrix: Soil
 Analytical Method: 135,EPH-19-2.1
 Analytical Date: 05/15/20 17:56
 Analyst: AN
 Percent Solids: 92%

Extraction Method: EPA 3546
 Extraction Date: 05/12/20 17:57
 Cleanup Method1: EPH-04-1
 Cleanup Date1: 05/13/20

Quality Control Information

Condition of sample received:
 Sample Temperature upon receipt:
 Sample Extraction method:

Satisfactory
 Received on Ice
 Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Extractable Petroleum Hydrocarbons - Westborough Lab

C9-C18 Aliphatics	ND		mg/kg	7.18	--	1
C19-C36 Aliphatics	57.0		mg/kg	7.18	--	1
C11-C22 Aromatics	50.6		mg/kg	7.18	--	1
C11-C22 Aromatics, Adjusted	42.7		mg/kg	7.18	--	1
Naphthalene	ND		mg/kg	0.359	--	1
2-Methylnaphthalene	ND		mg/kg	0.359	--	1
Acenaphthylene	ND		mg/kg	0.359	--	1
Acenaphthene	ND		mg/kg	0.359	--	1
Fluorene	ND		mg/kg	0.359	--	1
Phenanthrene	1.15		mg/kg	0.359	--	1
Anthracene	ND		mg/kg	0.359	--	1
Fluoranthene	1.41		mg/kg	0.359	--	1
Pyrene	1.43		mg/kg	0.359	--	1
Benzo(a)anthracene	0.711		mg/kg	0.359	--	1
Chrysene	0.799		mg/kg	0.359	--	1
Benzo(b)fluoranthene	0.834		mg/kg	0.359	--	1
Benzo(k)fluoranthene	ND		mg/kg	0.359	--	1
Benzo(a)pyrene	0.623		mg/kg	0.359	--	1
Indeno(1,2,3-cd)Pyrene	0.466		mg/kg	0.359	--	1
Dibenzo(a,h)anthracene	ND		mg/kg	0.359	--	1
Benzo(ghi)perylene	0.504		mg/kg	0.359	--	1

Project Name: CC HRE 2072 MASS AVE**Lab Number:** L2019321**Project Number:** 13MA0.01**Report Date:** 05/18/20**SAMPLE RESULTS**

Lab ID: L2019321-01

Date Collected: 05/07/20 09:15

Client ID: HAZO-2

Date Received: 05/11/20

Sample Location: CAMBRIDGE,MA

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	53		40-140
o-Terphenyl	50		40-140
2-Fluorobiphenyl	63		40-140
2-Bromonaphthalene	66		40-140

Project Name: CC HRE 2072 MASS AVE**Lab Number:** L2019321**Project Number:** 13MA0.01**Report Date:** 05/18/20**SAMPLE RESULTS**

Lab ID: L2019321-02

Date Collected: 05/08/20 10:00

Client ID: HAZO-1

Date Received: 05/11/20

Sample Location: CAMBRIDGE, MA

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 131, VPH-18-2.1

Analytical Date: 05/13/20 12:12

Analyst: BAD

Percent Solids: 88%

Trap: EST, Carboxen B/Carboxen 1000&1001

Analytical Column: Restek, RTX-502.2,
105m, 0.53ID, 3um**Quality Control Information**

Condition of sample received:

Satisfactory

Sample Temperature upon receipt:

Received on Ice

Were samples received in methanol?

Covering the Soil

Methanol ratio:

1:1.6

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	4.30	--	1
C9-C12 Aliphatics	ND		mg/kg	4.30	--	1
C9-C10 Aromatics	ND		mg/kg	4.30	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	4.30	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	4.30	--	1
Benzene	ND		mg/kg	0.086	--	1
Toluene	ND		mg/kg	0.086	--	1
Ethylbenzene	ND		mg/kg	0.086	--	1
p/m-Xylene	ND		mg/kg	0.086	--	1
o-Xylene	ND		mg/kg	0.086	--	1
Methyl tert butyl ether	ND		mg/kg	0.043	--	1
Naphthalene	ND		mg/kg	0.172	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	135	Q	70-130
2,5-Dibromotoluene-FID	134	Q	70-130

Project Name: CC HRE 2072 MASS AVE**Lab Number:** L2019321**Project Number:** 13MA0.01**Report Date:** 05/18/20**SAMPLE RESULTS**

Lab ID: L2019321-02

Client ID: HAZO-1

Sample Location: CAMBRIDGE, MA

Date Collected: 05/08/20 10:00

Date Received: 05/11/20

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 135,EPH-19-2.1

Analytical Date: 05/14/20 06:44

Analyst: MEO

Percent Solids: 88%

Extraction Method: EPA 3546

Extraction Date: 05/12/20 17:57

Cleanup Method1: EPH-04-1

Cleanup Date1: 05/13/20

Quality Control Information

Condition of sample received:

Satisfactory

Sample Temperature upon receipt:

Received on Ice

Sample Extraction method:

Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Extractable Petroleum Hydrocarbons - Westborough Lab

C9-C18 Aliphatics	ND		mg/kg	7.26	--	1
C19-C36 Aliphatics	124		mg/kg	7.26	--	1
C11-C22 Aromatics	47.5		mg/kg	7.26	--	1
C11-C22 Aromatics, Adjusted	46.7		mg/kg	7.26	--	1
Naphthalene	ND		mg/kg	0.363	--	1
2-Methylnaphthalene	ND		mg/kg	0.363	--	1
Acenaphthylene	ND		mg/kg	0.363	--	1
Acenaphthene	ND		mg/kg	0.363	--	1
Fluorene	ND		mg/kg	0.363	--	1
Phenanthrene	ND		mg/kg	0.363	--	1
Anthracene	ND		mg/kg	0.363	--	1
Fluoranthene	0.401		mg/kg	0.363	--	1
Pyrene	0.439		mg/kg	0.363	--	1
Benzo(a)anthracene	ND		mg/kg	0.363	--	1
Chrysene	ND		mg/kg	0.363	--	1
Benzo(b)fluoranthene	ND		mg/kg	0.363	--	1
Benzo(k)fluoranthene	ND		mg/kg	0.363	--	1
Benzo(a)pyrene	ND		mg/kg	0.363	--	1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.363	--	1
Dibenzo(a,h)anthracene	ND		mg/kg	0.363	--	1
Benzo(ghi)perylene	ND		mg/kg	0.363	--	1

Project Name: CC HRE 2072 MASS AVE**Lab Number:** L2019321**Project Number:** 13MA0.01**Report Date:** 05/18/20**SAMPLE RESULTS**

Lab ID: L2019321-02

Date Collected: 05/08/20 10:00

Client ID: HAZO-1

Date Received: 05/11/20

Sample Location: CAMBRIDGE,MA

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	56		40-140
o-Terphenyl	49		40-140
2-Fluorobiphenyl	66		40-140
2-Bromonaphthalene	67		40-140

Project Name: CC HRE 2072 MASS AVE**Lab Number:** L2019321**Project Number:** 13MA0.01**Report Date:** 05/18/20**SAMPLE RESULTS**

Lab ID: L2019321-03

Date Collected: 05/11/20 08:50

Client ID: HAZO-3

Date Received: 05/11/20

Sample Location: CAMBRIDGE, MA

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 131, VPH-18-2.1

Analytical Date: 05/13/20 12:43

Analyst: BAD

Percent Solids: 90%

Trap: EST, Carboxen B/Carboxen 1000&1001

Analytical Column: Restek, RTX-502.2,
105m, 0.53ID, 3um**Quality Control Information**

Condition of sample received:

Satisfactory

Sample Temperature upon receipt:

Received on Ice

Were samples received in methanol?

Covering the Soil

Methanol ratio:

1:1.6

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	4.14	--	1
C9-C12 Aliphatics	ND		mg/kg	4.14	--	1
C9-C10 Aromatics	ND		mg/kg	4.14	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	4.14	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	4.14	--	1
Benzene	ND		mg/kg	0.083	--	1
Toluene	ND		mg/kg	0.083	--	1
Ethylbenzene	ND		mg/kg	0.083	--	1
p/m-Xylene	ND		mg/kg	0.083	--	1
o-Xylene	ND		mg/kg	0.083	--	1
Methyl tert butyl ether	ND		mg/kg	0.041	--	1
Naphthalene	ND		mg/kg	0.166	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	113		70-130
2,5-Dibromotoluene-FID	112		70-130

Project Name: CC HRE 2072 MASS AVE**Lab Number:** L2019321**Project Number:** 13MA0.01**Report Date:** 05/18/20**SAMPLE RESULTS**

Lab ID: L2019321-03

Client ID: HAZO-3

Sample Location: CAMBRIDGE, MA

Date Collected: 05/11/20 08:50

Date Received: 05/11/20

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 135,EPH-19-2.1

Analytical Date: 05/14/20 07:09

Analyst: MEO

Percent Solids: 90%

Extraction Method: EPA 3546

Extraction Date: 05/12/20 17:57

Cleanup Method1: EPH-04-1

Cleanup Date1: 05/13/20

Quality Control Information

Condition of sample received:

Satisfactory

Sample Temperature upon receipt:

Received on Ice

Sample Extraction method:

Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Extractable Petroleum Hydrocarbons - Westborough Lab

C9-C18 Aliphatics	ND		mg/kg	7.08	--	1
C19-C36 Aliphatics	90.7		mg/kg	7.08	--	1
C11-C22 Aromatics	91.4		mg/kg	7.08	--	1
C11-C22 Aromatics, Adjusted	65.1		mg/kg	7.08	--	1
Naphthalene	0.401		mg/kg	0.354	--	1
2-Methylnaphthalene	ND		mg/kg	0.354	--	1
Acenaphthylene	ND		mg/kg	0.354	--	1
Acenaphthene	0.591		mg/kg	0.354	--	1
Fluorene	0.724		mg/kg	0.354	--	1
Phenanthrene	5.80		mg/kg	0.354	--	1
Anthracene	1.19		mg/kg	0.354	--	1
Fluoranthene	4.56		mg/kg	0.354	--	1
Pyrene	4.38		mg/kg	0.354	--	1
Benzo(a)anthracene	1.73		mg/kg	0.354	--	1
Chrysene	1.88		mg/kg	0.354	--	1
Benzo(b)fluoranthene	1.66		mg/kg	0.354	--	1
Benzo(k)fluoranthene	0.665		mg/kg	0.354	--	1
Benzo(a)pyrene	1.32		mg/kg	0.354	--	1
Indeno(1,2,3-cd)Pyrene	0.735		mg/kg	0.354	--	1
Dibenzo(a,h)anthracene	ND		mg/kg	0.354	--	1
Benzo(ghi)perylene	0.687		mg/kg	0.354	--	1

Project Name: CC HRE 2072 MASS AVE**Lab Number:** L2019321**Project Number:** 13MA0.01**Report Date:** 05/18/20**SAMPLE RESULTS**

Lab ID: L2019321-03

Date Collected: 05/11/20 08:50

Client ID: HAZO-3

Date Received: 05/11/20

Sample Location: CAMBRIDGE,MA

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	50		40-140
o-Terphenyl	49		40-140
2-Fluorobiphenyl	70		40-140
2-Bromonaphthalene	71		40-140

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

Method Blank Analysis Batch Quality Control

Analytical Method: 135,EPH-19-2.1
Analytical Date: 05/14/20 05:55
Analyst: MEO

Extraction Method: EPA 3546
Extraction Date: 05/12/20 17:57
Cleanup Method: EPH-04-1
Cleanup Date: 05/13/20

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-03 Batch: WG1369950-1					
C9-C18 Aliphatics	ND		mg/kg	6.40	--
C19-C36 Aliphatics	ND		mg/kg	6.40	--
C11-C22 Aromatics	ND		mg/kg	6.40	--
C11-C22 Aromatics, Adjusted	ND		mg/kg	6.40	--
Naphthalene	ND		mg/kg	0.320	--
2-Methylnaphthalene	ND		mg/kg	0.320	--
Acenaphthylene	ND		mg/kg	0.320	--
Acenaphthene	ND		mg/kg	0.320	--
Fluorene	ND		mg/kg	0.320	--
Phenanthrene	ND		mg/kg	0.320	--
Anthracene	ND		mg/kg	0.320	--
Fluoranthene	ND		mg/kg	0.320	--
Pyrene	ND		mg/kg	0.320	--
Benzo(a)anthracene	ND		mg/kg	0.320	--
Chrysene	ND		mg/kg	0.320	--
Benzo(b)fluoranthene	ND		mg/kg	0.320	--
Benzo(k)fluoranthene	ND		mg/kg	0.320	--
Benzo(a)pyrene	ND		mg/kg	0.320	--
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.320	--
Dibenzo(a,h)anthracene	ND		mg/kg	0.320	--
Benzo(ghi)perylene	ND		mg/kg	0.320	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	55		40-140
o-Terphenyl	46		40-140
2-Fluorobiphenyl	63		40-140
2-Bromonaphthalene	64		40-140

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 131, VPH-18-2.1
Analytical Date: 05/13/20 10:47
Analyst: BAD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-03 Batch: WG1370654-4					
C5-C8 Aliphatics	ND		mg/kg	5.00	--
C9-C12 Aliphatics	ND		mg/kg	5.00	--
C9-C10 Aromatics	ND		mg/kg	5.00	--
C5-C8 Aliphatics, Adjusted	ND		mg/kg	5.00	--
C9-C12 Aliphatics, Adjusted	ND		mg/kg	5.00	--
Benzene	ND		mg/kg	0.100	--
Toluene	ND		mg/kg	0.100	--
Ethylbenzene	ND		mg/kg	0.100	--
p/m-Xylene	ND		mg/kg	0.100	--
o-Xylene	ND		mg/kg	0.100	--
Methyl tert butyl ether	ND		mg/kg	0.050	--
Naphthalene	ND		mg/kg	0.200	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	109		70-130
2,5-Dibromotoluene-FID	108		70-130

Lab Control Sample Analysis **Batch Quality Control**

Project Name: CC HRE 2072 MASS AVE

Project Number: 13MA0.01

Lab Number: L2019321

Report Date: 05/18/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-03 Batch: WG1369950-2 WG1369950-3								
C9-C18 Aliphatics	70		70		40-140	0		25
C19-C36 Aliphatics	66		66		40-140	0		25
C11-C22 Aromatics	58		57		40-140	2		25
Naphthalene	55		53		40-140	4		25
2-Methylnaphthalene	56		55		40-140	2		25
Acenaphthylene	55		54		40-140	2		25
Acenaphthene	58		56		40-140	4		25
Fluorene	58		55		40-140	5		25
Phenanthrene	57		55		40-140	4		25
Anthracene	59		56		40-140	5		25
Fluoranthene	60		57		40-140	5		25
Pyrene	59		56		40-140	5		25
Benzo(a)anthracene	56		54		40-140	4		25
Chrysene	54		53		40-140	2		25
Benzo(b)fluoranthene	63		60		40-140	5		25
Benzo(k)fluoranthene	45		44		40-140	2		25
Benzo(a)pyrene	54		52		40-140	4		25
Indeno(1,2,3-cd)Pyrene	52		50		40-140	4		25
Dibenzo(a,h)anthracene	52		51		40-140	2		25
Benzo(ghi)perylene	48		47		40-140	2		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: CC HRE 2072 MASS AVE

Project Number: 13MA0.01

Lab Number: L2019321

Report Date: 05/18/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-03 Batch: WG1369950-2 WG1369950-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	61		61		40-140
o-Terphenyl	56		54		40-140
2-Fluorobiphenyl	69		70		40-140
2-Bromonaphthalene	71		71		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Lab Control Sample Analysis **Batch Quality Control**

Project Name: CC HRE 2072 MASS AVE

Lab Number: L2019321

Project Number: 13MA0.01

Report Date: 05/18/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-03 Batch: WG1370654-2 WG1370654-3								
C5-C8 Aliphatics	93		103		70-130	10		25
C9-C12 Aliphatics	94		105		70-130	11		25
C9-C10 Aromatics	89		98		70-130	9		25
Benzene	90		99		70-130	9		25
Toluene	90		99		70-130	9		25
Ethylbenzene	92		102		70-130	10		25
p/m-Xylene	92		101		70-130	10		25
o-Xylene	91		100		70-130	9		25
Methyl tert butyl ether	96		105		70-130	9		25
Naphthalene	96		102		70-130	6		25
1,2,4-Trimethylbenzene	89		98		70-130	9		25
Pentane	90		98		70-130	9		25
2-Methylpentane	94		104		70-130	11		25
2,2,4-Trimethylpentane	94		105		70-130	11		25
n-Nonane	95		106		30-130	11		25
n-Decane	92		104		70-130	12		25
n-Butylcyclohexane	95		106		70-130	11		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	94		100		70-130
2,5-Dibromotoluene-FID	93		99		70-130

PCBS

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-01
Client ID: HAZO-2
Sample Location: CAMBRIDGE,MA

Date Collected: 05/07/20 09:15
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 05/13/20 16:16
Analyst: AD
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 05/12/20 19:44
Cleanup Method: EPA 3665A
Cleanup Date: 05/13/20
Cleanup Method: EPA 3660B
Cleanup Date: 05/13/20

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	36.0	--	1	A
Aroclor 1221	ND		ug/kg	36.0	--	1	A
Aroclor 1232	ND		ug/kg	36.0	--	1	A
Aroclor 1242	ND		ug/kg	36.0	--	1	A
Aroclor 1248	ND		ug/kg	36.0	--	1	A
Aroclor 1254	50.6		ug/kg	36.0	--	1	A
Aroclor 1260	42.1		ug/kg	36.0	--	1	B
Aroclor 1262	ND		ug/kg	36.0	--	1	A
Aroclor 1268	ND		ug/kg	36.0	--	1	A
PCBs, Total	92.7		ug/kg	36.0	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	64		30-150	B
Decachlorobiphenyl	61		30-150	B
2,4,5,6-Tetrachloro-m-xylene	69		30-150	A
Decachlorobiphenyl	50		30-150	A

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-02
Client ID: HAZO-1
Sample Location: CAMBRIDGE,MA

Date Collected: 05/08/20 10:00
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 05/13/20 16:28
Analyst: AD
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 05/12/20 19:44
Cleanup Method: EPA 3665A
Cleanup Date: 05/13/20
Cleanup Method: EPA 3660B
Cleanup Date: 05/13/20

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	37.0	--	1	A
Aroclor 1221	ND		ug/kg	37.0	--	1	A
Aroclor 1232	ND		ug/kg	37.0	--	1	A
Aroclor 1242	ND		ug/kg	37.0	--	1	A
Aroclor 1248	ND		ug/kg	37.0	--	1	A
Aroclor 1254	ND		ug/kg	37.0	--	1	B
Aroclor 1260	ND		ug/kg	37.0	--	1	B
Aroclor 1262	ND		ug/kg	37.0	--	1	A
Aroclor 1268	ND		ug/kg	37.0	--	1	A
PCBs, Total	ND		ug/kg	37.0	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	57		30-150	B
Decachlorobiphenyl	46		30-150	B
2,4,5,6-Tetrachloro-m-xylene	56		30-150	A
Decachlorobiphenyl	37		30-150	A

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-03
Client ID: HAZO-3
Sample Location: CAMBRIDGE,MA

Date Collected: 05/11/20 08:50
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 05/13/20 16:40
Analyst: AD
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 05/12/20 19:44
Cleanup Method: EPA 3665A
Cleanup Date: 05/13/20
Cleanup Method: EPA 3660B
Cleanup Date: 05/13/20

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	35.5	--	1	A
Aroclor 1221	ND		ug/kg	35.5	--	1	A
Aroclor 1232	ND		ug/kg	35.5	--	1	A
Aroclor 1242	ND		ug/kg	35.5	--	1	A
Aroclor 1248	ND		ug/kg	35.5	--	1	A
Aroclor 1254	ND		ug/kg	35.5	--	1	A
Aroclor 1260	ND		ug/kg	35.5	--	1	B
Aroclor 1262	ND		ug/kg	35.5	--	1	A
Aroclor 1268	ND		ug/kg	35.5	--	1	A
PCBs, Total	ND		ug/kg	35.5	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	46		30-150	B
Decachlorobiphenyl	33		30-150	B
2,4,5,6-Tetrachloro-m-xylene	45		30-150	A
Decachlorobiphenyl	26	Q	30-150	A

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

Method Blank Analysis Batch Quality Control

Analytical Method: 97,8082A
 Analytical Date: 05/12/20 21:54
 Analyst: JM

Extraction Method: EPA 3546
 Extraction Date: 05/12/20 03:05
 Cleanup Method: EPA 3665A
 Cleanup Date: 05/12/20
 Cleanup Method: EPA 3660B
 Cleanup Date: 05/12/20

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01-03 Batch: WG1369595-1						
Aroclor 1016	ND		ug/kg	33.0	--	A
Aroclor 1221	ND		ug/kg	33.0	--	A
Aroclor 1232	ND		ug/kg	33.0	--	A
Aroclor 1242	ND		ug/kg	33.0	--	A
Aroclor 1248	ND		ug/kg	33.0	--	A
Aroclor 1254	ND		ug/kg	33.0	--	A
Aroclor 1260	ND		ug/kg	33.0	--	A
Aroclor 1262	ND		ug/kg	33.0	--	A
Aroclor 1268	ND		ug/kg	33.0	--	A
PCBs, Total	ND		ug/kg	33.0	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	85		30-150	B
Decachlorobiphenyl	69		30-150	B
2,4,5,6-Tetrachloro-m-xylene	86		30-150	A
Decachlorobiphenyl	76		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: CC HRE 2072 MASS AVE

Project Number: 13MA0.01

Lab Number: L2019321

Report Date: 05/18/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01-03 Batch: WG1369595-2 WG1369595-3									
Aroclor 1016	88		91		40-140	3		30	A
Aroclor 1260	82		86		40-140	5		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	86		88		30-150	B
Decachlorobiphenyl	70		73		30-150	B
2,4,5,6-Tetrachloro-m-xylene	88		90		30-150	A
Decachlorobiphenyl	79		79		30-150	A

PESTICIDES

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-01
Client ID: HAZO-2
Sample Location: CAMBRIDGE,MA

Date Collected: 05/07/20 09:15
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 97,8081B
Analytical Date: 05/13/20 16:03
Analyst: BM
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 05/12/20 20:14
Cleanup Method: EPA 3620B
Cleanup Date: 05/13/20

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Organochlorine Pesticides - Westborough Lab							
Delta-BHC	ND		ug/kg	1.69	--	1	A
Lindane	ND		ug/kg	0.563	--	1	A
Alpha-BHC	ND		ug/kg	0.704	--	1	A
Beta-BHC	ND		ug/kg	1.69	--	1	A
Heptachlor	ND		ug/kg	0.844	--	1	A
Aldrin	ND		ug/kg	1.69	--	1	A
Heptachlor epoxide	ND		ug/kg	3.17	--	1	A
Endrin	ND		ug/kg	0.704	--	1	A
Endrin ketone	ND		ug/kg	1.69	--	1	A
Dieldrin	ND		ug/kg	1.06	--	1	A
4,4'-DDE	ND		ug/kg	1.69	--	1	B
4,4'-DDD	5.48		ug/kg	1.69	--	1	A
4,4'-DDT	7.16	IP	ug/kg	3.17	--	1	A
Endosulfan I	ND		ug/kg	1.69	--	1	A
Endosulfan II	ND		ug/kg	1.69	--	1	A
Endosulfan sulfate	ND		ug/kg	0.704	--	1	A
Methoxychlor	ND		ug/kg	3.17	--	1	A
Chlordane	50.9	P	ug/kg	14.1	--	1	B
Hexachlorobenzene	ND		ug/kg	1.69	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	77		30-150	A
Decachlorobiphenyl	68		30-150	A
2,4,5,6-Tetrachloro-m-xylene	75		30-150	B
Decachlorobiphenyl	61		30-150	B

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-01
Client ID: HAZO-2
Sample Location: CAMBRIDGE,MA

Date Collected: 05/07/20 09:15
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 97,8151A
Analytical Date: 05/12/20 20:06
Analyst: JMC
Percent Solids: 92%
Methylation Date: 05/12/20 04:30

Extraction Method: EPA 8151A
Extraction Date: 05/11/20 16:13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Chlorinated Herbicides - Westborough Lab							
MCPP	ND		ug/kg	3600	--	1	A
MCPA	ND		ug/kg	3600	--	1	A
Dalapon	ND		ug/kg	36	--	1	A
Dicamba	ND		ug/kg	36	--	1	A
Dichloroprop	ND		ug/kg	36	--	1	A
2,4-D	ND		ug/kg	36	--	1	A
2,4-DB	ND		ug/kg	36	--	1	A
2,4,5-T	ND		ug/kg	36	--	1	A
2,4,5-TP (Silvex)	ND		ug/kg	36	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	92		30-150	A
DCAA	86		30-150	B

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-02
Client ID: HAZO-1
Sample Location: CAMBRIDGE,MA

Date Collected: 05/08/20 10:00
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 97,8151A
Analytical Date: 05/12/20 20:24
Analyst: JMC
Percent Solids: 88%
Methylation Date: 05/12/20 04:30

Extraction Method: EPA 8151A
Extraction Date: 05/11/20 16:13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Chlorinated Herbicides - Westborough Lab							
MCPP	ND		ug/kg	3800	--	1	A
MCPA	ND		ug/kg	3800	--	1	A
Dalapon	ND		ug/kg	38	--	1	A
Dicamba	ND		ug/kg	38	--	1	A
Dichloroprop	ND		ug/kg	38	--	1	A
2,4-D	ND		ug/kg	38	--	1	A
2,4-DB	ND		ug/kg	38	--	1	A
2,4,5-T	ND		ug/kg	38	--	1	A
2,4,5-TP (Silvex)	ND		ug/kg	38	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	89		30-150	A
DCAA	83		30-150	B

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-02 D
Client ID: HAZO-1
Sample Location: CAMBRIDGE,MA

Date Collected: 05/08/20 10:00
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 97,8081B
Analytical Date: 05/13/20 16:40
Analyst: BM
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 05/12/20 20:14
Cleanup Method: EPA 3620B
Cleanup Date: 05/13/20

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Organochlorine Pesticides - Westborough Lab							
Delta-BHC	ND		ug/kg	18.0	--	10	A
Lindane	ND		ug/kg	6.01	--	10	A
Alpha-BHC	ND		ug/kg	7.51	--	10	A
Beta-BHC	ND		ug/kg	18.0	--	10	A
Heptachlor	ND		ug/kg	9.01	--	10	A
Aldrin	ND		ug/kg	18.0	--	10	A
Heptachlor epoxide	ND		ug/kg	33.8	--	10	A
Endrin	ND		ug/kg	7.51	--	10	A
Endrin ketone	ND		ug/kg	18.0	--	10	A
Dieldrin	ND		ug/kg	11.3	--	10	A
4,4'-DDE	ND		ug/kg	18.0	--	10	A
4,4'-DDD	ND		ug/kg	18.0	--	10	A
4,4'-DDT	ND		ug/kg	33.8	--	10	B
Endosulfan I	ND		ug/kg	18.0	--	10	A
Endosulfan II	ND		ug/kg	18.0	--	10	A
Endosulfan sulfate	ND		ug/kg	7.51	--	10	A
Methoxychlor	ND		ug/kg	33.8	--	10	A
Chlordane	ND		ug/kg	150	--	10	A
Hexachlorobenzene	ND		ug/kg	18.0	--	10	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	85		30-150	A
Decachlorobiphenyl	73		30-150	A
2,4,5,6-Tetrachloro-m-xylene	85		30-150	B
Decachlorobiphenyl	68		30-150	B

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-03
Client ID: HAZO-3
Sample Location: CAMBRIDGE,MA

Date Collected: 05/11/20 08:50
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 97,8151A
Analytical Date: 05/12/20 20:43
Analyst: JMC
Percent Solids: 90%
Methylation Date: 05/12/20 04:30

Extraction Method: EPA 8151A
Extraction Date: 05/11/20 16:13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Chlorinated Herbicides - Westborough Lab							
MCPP	ND		ug/kg	3600	--	1	A
MCPA	ND		ug/kg	3600	--	1	A
Dalapon	ND		ug/kg	36	--	1	A
Dicamba	ND		ug/kg	36	--	1	A
Dichloroprop	ND		ug/kg	36	--	1	A
2,4-D	ND		ug/kg	36	--	1	A
2,4-DB	ND		ug/kg	36	--	1	A
2,4,5-T	ND		ug/kg	36	--	1	A
2,4,5-TP (Silvex)	ND		ug/kg	36	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	95		30-150	A
DCAA	94		30-150	B

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-03 D
Client ID: HAZO-3
Sample Location: CAMBRIDGE,MA

Date Collected: 05/11/20 08:50
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 97,8081B
Analytical Date: 05/13/20 16:49
Analyst: BM
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 05/12/20 20:14
Cleanup Method: EPA 3620B
Cleanup Date: 05/13/20

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Organochlorine Pesticides - Westborough Lab							
Delta-BHC	ND		ug/kg	17.4	--	10	A
Lindane	ND		ug/kg	5.80	--	10	A
Alpha-BHC	ND		ug/kg	7.24	--	10	A
Beta-BHC	ND		ug/kg	17.4	--	10	A
Heptachlor	ND		ug/kg	8.70	--	10	A
Aldrin	ND		ug/kg	17.4	--	10	A
Heptachlor epoxide	ND		ug/kg	32.6	--	10	A
Endrin	ND		ug/kg	7.24	--	10	A
Endrin ketone	ND		ug/kg	17.4	--	10	A
Dieldrin	ND		ug/kg	10.9	--	10	A
4,4'-DDE	ND		ug/kg	17.4	--	10	B
4,4'-DDD	ND		ug/kg	17.4	--	10	A
4,4'-DDT	ND		ug/kg	32.6	--	10	B
Endosulfan I	ND		ug/kg	17.4	--	10	A
Endosulfan II	ND		ug/kg	17.4	--	10	A
Endosulfan sulfate	ND		ug/kg	7.24	--	10	A
Methoxychlor	ND		ug/kg	32.6	--	10	A
Chlordane	ND		ug/kg	145	--	10	B
Hexachlorobenzene	ND		ug/kg	17.4	--	10	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	80		30-150	A
Decachlorobiphenyl	70		30-150	A
2,4,5,6-Tetrachloro-m-xylene	77		30-150	B
Decachlorobiphenyl	62		30-150	B

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8151A
 Analytical Date: 05/12/20 17:39
 Analyst: JMC

Extraction Method: EPA 8151A
 Extraction Date: 05/11/20 04:43

Methylation Date: 05/12/20 04:30

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Chlorinated Herbicides - Westborough Lab for sample(s): 01-03 Batch: WG1369202-1						
MCPP	ND		ug/kg	3300	--	A
MCPA	ND		ug/kg	3300	--	A
Dalapon	ND		ug/kg	33	--	A
Dicamba	ND		ug/kg	33	--	A
Dichloroprop	ND		ug/kg	33	--	A
2,4-D	ND		ug/kg	33	--	A
2,4-DB	ND		ug/kg	33	--	A
2,4,5-T	ND		ug/kg	33	--	A
2,4,5-TP (Silvex)	ND		ug/kg	33	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	102		30-150	A
DCAA	102		30-150	B

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

Method Blank Analysis Batch Quality Control

Analytical Method: 97,8081B
Analytical Date: 05/13/20 14:50
Analyst: BM

Extraction Method: EPA 3546
Extraction Date: 05/12/20 20:14
Cleanup Method: EPA 3620B
Cleanup Date: 05/13/20

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Organochlorine Pesticides - Westborough Lab for sample(s): 01-03 Batch: WG1370019-1						
Delta-BHC	ND		ug/kg	1.55	--	A
Lindane	ND		ug/kg	0.518	--	A
Alpha-BHC	ND		ug/kg	0.648	--	A
Beta-BHC	ND		ug/kg	1.55	--	A
Heptachlor	ND		ug/kg	0.777	--	A
Aldrin	ND		ug/kg	1.55	--	A
Heptachlor epoxide	ND		ug/kg	2.91	--	A
Endrin	ND		ug/kg	0.648	--	A
Endrin ketone	ND		ug/kg	1.55	--	A
Dieldrin	ND		ug/kg	0.972	--	A
4,4'-DDE	ND		ug/kg	1.55	--	A
4,4'-DDD	ND		ug/kg	1.55	--	A
4,4'-DDT	ND		ug/kg	2.91	--	A
Endosulfan I	ND		ug/kg	1.55	--	A
Endosulfan II	ND		ug/kg	1.55	--	A
Endosulfan sulfate	ND		ug/kg	0.648	--	A
Methoxychlor	ND		ug/kg	2.91	--	A
Chlordane	ND		ug/kg	13.0	--	A
Hexachlorobenzene	ND		ug/kg	1.55	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	75		30-150	A
Decachlorobiphenyl	86		30-150	A
2,4,5,6-Tetrachloro-m-xylene	80		30-150	B
Decachlorobiphenyl	78		30-150	B

Lab Control Sample Analysis **Batch Quality Control**

Project Name: CC HRE 2072 MASS AVE

Project Number: 13MA0.01

Lab Number: L2019321

Report Date: 05/18/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Chlorinated Herbicides - Westborough Lab Associated sample(s): 01-03 Batch: WG1369202-2 WG1369202-3									
MCP	92		87		40-140	6		30	A
MCPA	87		84		40-140	4		30	A
Dalapon	78		74		40-140	5		30	A
Dicamba	89		85		40-140	5		30	A
Dichloroprop	101		97		40-140	4		30	A
2,4-D	108		98		40-140	10		30	A
2,4-DB	69		64		40-140	8		30	A
2,4,5-T	96		91		40-140	5		30	A
2,4,5-TP (Silvex)	100		94		40-140	6		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	93		90		30-150	A
DCAA	101		98		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: CC HRE 2072 MASS AVE

Project Number: 13MA0.01

Lab Number: L2019321

Report Date: 05/18/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 01-03 Batch: WG1370019-2 WG1370019-3									
Delta-BHC	88		96		40-140	9		30	A
Lindane	76		84		40-140	10		30	A
Alpha-BHC	80		88		40-140	10		30	A
Beta-BHC	102		107		40-140	5		30	A
Heptachlor	80		86		40-140	7		30	A
Aldrin	80		86		40-140	7		30	A
Heptachlor epoxide	80		85		40-140	6		30	A
Endrin	84		92		40-140	9		30	A
Endrin ketone	82		92		40-140	11		30	A
Dieldrin	87		94		40-140	8		30	A
4,4'-DDE	84		91		40-140	8		30	A
4,4'-DDD	95		103		40-140	8		30	A
4,4'-DDT	91		96		40-140	5		30	A
Endosulfan I	76		84		40-140	10		30	A
Endosulfan II	82		90		40-140	9		30	A
Endosulfan sulfate	71		83		40-140	16		30	A
Methoxychlor	89		95		40-140	7		30	A
Hexachlorobenzene	78		85		40-140	9		30	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: CC HRE 2072 MASS AVE

Project Number: 13MA0.01

Lab Number: L2019321

Report Date: 05/18/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
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MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 01-03 Batch: WG1370019-2 WG1370019-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	75		80		30-150	A
Decachlorobiphenyl	81		82		30-150	A
2,4,5,6-Tetrachloro-m-xylene	78		78		30-150	B
Decachlorobiphenyl	84		80		30-150	B

METALS

Project Name: CC HRE 2072 MASS AVE**Lab Number:** L2019321**Project Number:** 13MA0.01**Report Date:** 05/18/20**SAMPLE RESULTS**

Lab ID: L2019321-01

Date Collected: 05/07/20 09:15

Client ID: HAZO-2

Date Received: 05/11/20

Sample Location: CAMBRIDGE,MA

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.11	--	1	05/14/20 06:50	05/18/20 08:40	EPA 3050B	97,6010D	LC
Arsenic, Total	4.95		mg/kg	0.423	--	1	05/14/20 06:50	05/18/20 08:40	EPA 3050B	97,6010D	LC
Barium, Total	66.0		mg/kg	0.423	--	1	05/14/20 06:50	05/18/20 08:40	EPA 3050B	97,6010D	LC
Beryllium, Total	0.216		mg/kg	0.211	--	1	05/14/20 06:50	05/18/20 08:40	EPA 3050B	97,6010D	LC
Cadmium, Total	ND		mg/kg	0.423	--	1	05/14/20 06:50	05/18/20 08:40	EPA 3050B	97,6010D	LC
Chromium, Total	11.6		mg/kg	0.423	--	1	05/14/20 06:50	05/18/20 08:40	EPA 3050B	97,6010D	LC
Lead, Total	238		mg/kg	2.11	--	1	05/14/20 06:50	05/18/20 08:40	EPA 3050B	97,6010D	LC
Mercury, Total	0.127		mg/kg	0.079	--	1	05/13/20 04:30	05/13/20 12:18	EPA 7471B	97,7471B	GD
Nickel, Total	12.2		mg/kg	1.06	--	1	05/14/20 06:50	05/18/20 08:40	EPA 3050B	97,6010D	LC
Selenium, Total	ND		mg/kg	2.11	--	1	05/14/20 06:50	05/18/20 08:40	EPA 3050B	97,6010D	LC
Silver, Total	ND		mg/kg	0.423	--	1	05/14/20 06:50	05/18/20 08:40	EPA 3050B	97,6010D	LC
Thallium, Total	ND		mg/kg	2.11	--	1	05/14/20 06:50	05/18/20 08:40	EPA 3050B	97,6010D	LC
Vanadium, Total	18.1		mg/kg	0.423	--	1	05/14/20 06:50	05/18/20 08:40	EPA 3050B	97,6010D	LC
Zinc, Total	128		mg/kg	2.11	--	1	05/14/20 06:50	05/18/20 08:40	EPA 3050B	97,6010D	LC



Project Name: CC HRE 2072 MASS AVE**Lab Number:** L2019321**Project Number:** 13MA0.01**Report Date:** 05/18/20**SAMPLE RESULTS**

Lab ID: L2019321-02

Date Collected: 05/08/20 10:00

Client ID: HAZO-1

Date Received: 05/11/20

Sample Location: CAMBRIDGE,MA

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.14	--	1	05/14/20 06:50	05/18/20 08:44	EPA 3050B	97,6010D	LC
Arsenic, Total	5.68		mg/kg	0.428	--	1	05/14/20 06:50	05/18/20 08:44	EPA 3050B	97,6010D	LC
Barium, Total	38.8		mg/kg	0.428	--	1	05/14/20 06:50	05/18/20 08:44	EPA 3050B	97,6010D	LC
Beryllium, Total	0.274		mg/kg	0.214	--	1	05/14/20 06:50	05/18/20 08:44	EPA 3050B	97,6010D	LC
Cadmium, Total	ND		mg/kg	0.428	--	1	05/14/20 06:50	05/18/20 08:44	EPA 3050B	97,6010D	LC
Chromium, Total	16.6		mg/kg	0.428	--	1	05/14/20 06:50	05/18/20 08:44	EPA 3050B	97,6010D	LC
Lead, Total	84.2		mg/kg	2.14	--	1	05/14/20 06:50	05/18/20 08:44	EPA 3050B	97,6010D	LC
Mercury, Total	0.154		mg/kg	0.083	--	1	05/13/20 04:30	05/13/20 12:22	EPA 7471B	97,7471B	GD
Nickel, Total	10.8		mg/kg	1.07	--	1	05/14/20 06:50	05/18/20 08:44	EPA 3050B	97,6010D	LC
Selenium, Total	ND		mg/kg	2.14	--	1	05/14/20 06:50	05/18/20 08:44	EPA 3050B	97,6010D	LC
Silver, Total	ND		mg/kg	0.428	--	1	05/14/20 06:50	05/18/20 08:44	EPA 3050B	97,6010D	LC
Thallium, Total	ND		mg/kg	2.14	--	1	05/14/20 06:50	05/18/20 08:44	EPA 3050B	97,6010D	LC
Vanadium, Total	23.0		mg/kg	0.428	--	1	05/14/20 06:50	05/18/20 08:44	EPA 3050B	97,6010D	LC
Zinc, Total	59.5		mg/kg	2.14	--	1	05/14/20 06:50	05/18/20 08:44	EPA 3050B	97,6010D	LC



Project Name: CC HRE 2072 MASS AVE**Lab Number:** L2019321**Project Number:** 13MA0.01**Report Date:** 05/18/20**SAMPLE RESULTS**

Lab ID: L2019321-03

Date Collected: 05/11/20 08:50

Client ID: HAZO-3

Date Received: 05/11/20

Sample Location: CAMBRIDGE,MA

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.17	--	1	05/14/20 06:50	05/18/20 08:49	EPA 3050B	97,6010D	LC
Arsenic, Total	5.48		mg/kg	0.434	--	1	05/14/20 06:50	05/18/20 08:49	EPA 3050B	97,6010D	LC
Barium, Total	48.5		mg/kg	0.434	--	1	05/14/20 06:50	05/18/20 08:49	EPA 3050B	97,6010D	LC
Beryllium, Total	0.274		mg/kg	0.217	--	1	05/14/20 06:50	05/18/20 08:49	EPA 3050B	97,6010D	LC
Cadmium, Total	ND		mg/kg	0.434	--	1	05/14/20 06:50	05/18/20 08:49	EPA 3050B	97,6010D	LC
Chromium, Total	12.2		mg/kg	0.434	--	1	05/14/20 06:50	05/18/20 08:49	EPA 3050B	97,6010D	LC
Lead, Total	180		mg/kg	2.17	--	1	05/14/20 06:50	05/18/20 08:49	EPA 3050B	97,6010D	LC
Mercury, Total	0.111		mg/kg	0.083	--	1	05/13/20 04:30	05/13/20 12:25	EPA 7471B	97,7471B	GD
Nickel, Total	11.0		mg/kg	1.09	--	1	05/14/20 06:50	05/18/20 08:49	EPA 3050B	97,6010D	LC
Selenium, Total	ND		mg/kg	2.17	--	1	05/14/20 06:50	05/18/20 08:49	EPA 3050B	97,6010D	LC
Silver, Total	ND		mg/kg	0.434	--	1	05/14/20 06:50	05/18/20 08:49	EPA 3050B	97,6010D	LC
Thallium, Total	ND		mg/kg	2.17	--	1	05/14/20 06:50	05/18/20 08:49	EPA 3050B	97,6010D	LC
Vanadium, Total	22.0		mg/kg	0.434	--	1	05/14/20 06:50	05/18/20 08:49	EPA 3050B	97,6010D	LC
Zinc, Total	96.3		mg/kg	2.17	--	1	05/14/20 06:50	05/18/20 08:49	EPA 3050B	97,6010D	LC



Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

Method Blank Analysis Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01-03 Batch: WG1369846-1										
Mercury, Total	ND		mg/kg	0.083	--	1	05/13/20 04:30	05/13/20 11:42	97,7471B	GD

Prep Information

Digestion Method: EPA 7471B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01-03 Batch: WG1370395-1										
Antimony, Total	ND		mg/kg	2.00	--	1	05/14/20 06:50	05/14/20 13:17	97,6010D	LC
Arsenic, Total	ND		mg/kg	0.400	--	1	05/14/20 06:50	05/14/20 13:17	97,6010D	LC
Barium, Total	ND		mg/kg	0.400	--	1	05/14/20 06:50	05/14/20 13:17	97,6010D	LC
Beryllium, Total	ND		mg/kg	0.200	--	1	05/14/20 06:50	05/14/20 13:17	97,6010D	LC
Cadmium, Total	ND		mg/kg	0.400	--	1	05/14/20 06:50	05/14/20 13:17	97,6010D	LC
Chromium, Total	ND		mg/kg	0.400	--	1	05/14/20 06:50	05/14/20 13:17	97,6010D	LC
Lead, Total	ND		mg/kg	2.00	--	1	05/14/20 06:50	05/14/20 13:17	97,6010D	LC
Nickel, Total	ND		mg/kg	1.00	--	1	05/14/20 06:50	05/14/20 13:17	97,6010D	LC
Selenium, Total	ND		mg/kg	2.00	--	1	05/14/20 06:50	05/14/20 13:17	97,6010D	LC
Silver, Total	ND		mg/kg	0.400	--	1	05/14/20 06:50	05/14/20 13:17	97,6010D	LC
Thallium, Total	ND		mg/kg	2.00	--	1	05/14/20 06:50	05/14/20 13:17	97,6010D	LC
Vanadium, Total	ND		mg/kg	0.400	--	1	05/14/20 06:50	05/14/20 13:17	97,6010D	LC
Zinc, Total	ND		mg/kg	2.00	--	1	05/14/20 06:50	05/14/20 13:17	97,6010D	LC

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: CC HRE 2072 MASS AVE

Project Number: 13MA0.01

Lab Number: L2019321

Report Date: 05/18/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01-03 Batch: WG1369846-2 WG1369846-3 SRM Lot Number: D105-540								
Mercury, Total	83		60		60-141	32	Q	30
MCP Total Metals - Mansfield Lab Associated sample(s): 01-03 Batch: WG1370395-2 WG1370395-3 SRM Lot Number: D105-540								
Antimony, Total	149		137		19-249	8		30
Arsenic, Total	88		83		70-130	6		30
Barium, Total	91		89		75-125	2		30
Beryllium, Total	89		86		75-125	3		30
Cadmium, Total	90		89		75-125	1		30
Chromium, Total	84		78		70-130	7		30
Lead, Total	83		78		71-128	6		30
Nickel, Total	86		84		70-131	2		30
Selenium, Total	91		87		63-137	4		30
Silver, Total	91		83		69-131	9		30
Thallium, Total	92		90		68-132	2		30
Vanadium, Total	82		75		65-135	9		30
Zinc, Total	86		81		70-130	6		30

INORGANICS & MISCELLANEOUS

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-01
Client ID: HAZO-2
Sample Location: CAMBRIDGE,MA

Date Collected: 05/07/20 09:15
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Test Material Information

Source of Material: Unknown
Description of Material: Non-Metallic - Damp Soil
Particle Size: Medium
Preliminary Burning Time (sec): 120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	05/13/20 06:16	1,1030	MV



Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-02
Client ID: HAZO-1
Sample Location: CAMBRIDGE,MA

Date Collected: 05/08/20 10:00
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Test Material Information

Source of Material: Unknown
Description of Material: Non-Metallic - Damp Soil
Particle Size: Medium
Preliminary Burning Time (sec): 120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	05/13/20 06:16	1,1030	MV



Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-03
Client ID: HAZO-3
Sample Location: CAMBRIDGE,MA

Date Collected: 05/11/20 08:50
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Test Material Information

Source of Material: Unknown
Description of Material: Non-Metallic - Damp Soil
Particle Size: Medium
Preliminary Burning Time (sec): 120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	05/13/20 06:16	1,1030	MV



Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-01
Client ID: HAZO-2
Sample Location: CAMBRIDGE,MA

Date Collected: 05/07/20 09:15
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	110		umhos/cm	10	--	1	-	05/12/20 04:40	1,9050A	CB
Solids, Total	92.4		%	0.100	NA	1	-	05/11/20 23:35	121,2540G	YA
pH (H)	8.9		SU	-	NA	1	-	05/11/20 15:15	1,9045D	AA
Cyanide, Reactive	ND		mg/kg	10	--	1	05/12/20 02:06	05/12/20 03:28	125,7.3	KF
Sulfide, Reactive	ND		mg/kg	10	--	1	05/12/20 02:06	05/12/20 03:22	125,7.3	KF



Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-02
Client ID: HAZO-1
Sample Location: CAMBRIDGE,MA

Date Collected: 05/08/20 10:00
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	87		umhos/cm	10	--	1	-	05/12/20 04:40	1,9050A	CB
Solids, Total	87.8		%	0.100	NA	1	-	05/11/20 23:35	121,2540G	YA
pH (H)	8.2		SU	-	NA	1	-	05/11/20 15:15	1,9045D	AA
Cyanide, Reactive	ND		mg/kg	10	--	1	05/12/20 02:06	05/12/20 03:28	125,7.3	KF
Sulfide, Reactive	ND		mg/kg	10	--	1	05/12/20 02:06	05/12/20 03:23	125,7.3	KF



Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

SAMPLE RESULTS

Lab ID: L2019321-03
Client ID: HAZO-3
Sample Location: CAMBRIDGE,MA

Date Collected: 05/11/20 08:50
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	87		umhos/cm	10	--	1	-	05/12/20 04:40	1,9050A	CB
Solids, Total	89.5		%	0.100	NA	1	-	05/11/20 23:35	121,2540G	YA
pH (H)	8.0		SU	-	NA	1	-	05/11/20 15:15	1,9045D	AA
Cyanide, Reactive	ND		mg/kg	10	--	1	05/12/20 02:06	05/12/20 03:28	125,7.3	KF
Sulfide, Reactive	ND		mg/kg	10	--	1	05/12/20 02:06	05/12/20 03:23	125,7.3	KF



Project Name: CC HRE 2072 MASS AVE

Lab Number: L2019321

Project Number: 13MA0.01

Report Date: 05/18/20

Method Blank Analysis

Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-03 Batch: WG1369584-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	05/12/20 02:06	05/12/20 03:22	125,7.3	KF
General Chemistry - Westborough Lab for sample(s): 01-03 Batch: WG1369585-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	05/12/20 02:06	05/12/20 03:27	125,7.3	KF

Lab Control Sample Analysis

Batch Quality Control

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2019321
Report Date: 05/18/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 Batch: WG1369389-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01-03 Batch: WG1369579-1								
Specific Conductance	101		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01-03 Batch: WG1369584-2								
Sulfide, Reactive	92		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01-03 Batch: WG1369585-2								
Cyanide, Reactive	69		-		30-125	-		40

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Duplicate Analysis
Batch Quality Control

Lab Number: L2019321
Report Date: 05/18/20

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1369389-2 QC Sample: L2019321-03 Client ID: HAZO-3						
pH (H)	8.0	8.1	SU	1		5
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1369584-3 QC Sample: L2019321-03 Client ID: HAZO-3						
Sulfide, Reactive	ND	ND	mg/kg	NC		40
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1369585-3 QC Sample: L2019321-03 Client ID: HAZO-3						
Cyanide, Reactive	ND	ND	mg/kg	NC		40

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Serial_No: 05182017:41
Lab Number: L2019321
Report Date: 05/18/20

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2019321-01A	Vial MeOH preserved	A	NA		4.1	Y	Absent		VPH-DELUX-18(28),MCP-8260HLW-10(14)
L2019321-01B	Vial water preserved	A	NA		4.1	Y	Absent	07-MAY-20 14:00	MCP-8260HLW-10(14)
L2019321-01C	Vial water preserved	A	NA		4.1	Y	Absent	07-MAY-20 14:00	MCP-8260HLW-10(14)
L2019321-01D	Plastic 2oz unpreserved for TS	A	NA		4.1	Y	Absent		TS(7)
L2019321-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-TL-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180)
L2019321-01F	Glass 120ml/4oz unpreserved	A	NA		4.1	Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),MCP-8151-10(14),MCP-8081-10(14),MCP-8270-10(14),EPH-DELUX-20(14),PH-9045(1),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2019321-01G	Glass 500ml/16oz unpreserved	A	NA		4.1	Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),MCP-8151-10(14),MCP-8081-10(14),MCP-8270-10(14),EPH-DELUX-20(14),PH-9045(1),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2019321-02A	Vial MeOH preserved	A	NA		4.1	Y	Absent		VPH-DELUX-18(28),MCP-8260HLW-10(14)
L2019321-02B	Vial water preserved	A	NA		4.1	Y	Absent	08-MAY-20 12:00	MCP-8260HLW-10(14)
L2019321-02C	Vial water preserved	A	NA		4.1	Y	Absent	08-MAY-20 12:00	MCP-8260HLW-10(14)
L2019321-02D	Plastic 2oz unpreserved for TS	A	NA		4.1	Y	Absent		TS(7)
L2019321-02E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-7471T-10(28),MCP-ZN-6010T-10(180),MCP-SB-6010T-10(180),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Serial_No: 05182017:41
Lab Number: L2019321
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Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2019321-02F	Glass 120ml/4oz unpreserved	A	NA		4.1	Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),MCP-8081-10(14),MCP-8151-10(14),EPH-DELUX-20(14),MCP-8270-10(14),PH-9045(1),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2019321-02G	Glass 500ml/16oz unpreserved	A	NA		4.1	Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),MCP-8081-10(14),MCP-8151-10(14),EPH-DELUX-20(14),MCP-8270-10(14),PH-9045(1),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2019321-03A	Vial MeOH preserved	A	NA		4.1	Y	Absent		VPH-DELUX-18(28),MCP-8260HLW-10(14)
L2019321-03B	Vial water preserved	A	NA		4.1	Y	Absent	11-MAY-20 11:55	MCP-8260HLW-10(14)
L2019321-03C	Vial water preserved	A	NA		4.1	Y	Absent	11-MAY-20 11:55	MCP-8260HLW-10(14)
L2019321-03D	Plastic 2oz unpreserved for TS	A	NA		4.1	Y	Absent		TS(7)
L2019321-03E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-TL-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-SB-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L2019321-03F	Glass 120ml/4oz unpreserved	A	NA		4.1	Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),MCP-8151-10(14),MCP-8081-10(14),MCP-8270-10(14),EPH-DELUX-20(14),PH-9045(1),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2019321-03G	Glass 500ml/16oz unpreserved	A	NA		4.1	Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),MCP-8151-10(14),MCP-8081-10(14),MCP-8270-10(14),EPH-DELUX-20(14),PH-9045(1),REACTCN(14),TPH-DRO-D(14),COND-9050(28)

Project Name: CC HRE 2072 MASS AVE
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GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
	Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report



Project Name: CC HRE 2072 MASS AVE
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- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e., co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the reporting limit (RL) for the sample.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less

Report Format: Data Usability Report



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Data Qualifiers

than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

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REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.
- 97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.
- 125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.
- 131 Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, February 2018, Revision 2.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, June 1, 2018.
- 135 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, December 2019, Revision 2.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, March 1, 2020.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Alpha Analytical, Inc.Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

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Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility**EPA 624/624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

EPA TO-12 Non-methane organics**EPA 3C** Fixed gases**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.**EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1** Hg.**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

Method Blank Summary

Form 4

Volatiles

Client	: Loureiro Engineering Associates, In	Lab Number	: L2019321
Project Name	: CC HRE 2072 MASS AVE	Project Number	: 13MA0.01
Lab Sample ID	: WG1370600-5	Lab File ID	: V26200513B05
Instrument ID	: VOA126		
Matrix	: SOIL	Analysis Date	: 05/13/20 15:42

Client Sample No.	Lab Sample ID	Analysis Date
WG1370600-3LCS	WG1370600-3	05/13/20 14:23
WG1370600-4LCSD	WG1370600-4	05/13/20 15:02
HAZO-1	L2019321-02	05/13/20 23:34

**Method Blank Summary
Form 4
Volatiles**

Client	: Loureiro Engineering Associates, In	Lab Number	: L2019321
Project Name	: CC HRE 2072 MASS AVE	Project Number	: 13MA0.01
Lab Sample ID	: WG1370879-5	Lab File ID	: V11200514A04
Instrument ID	: VOA111		
Matrix	: SOIL	Analysis Date	: 05/14/20 07:17

Client Sample No.	Lab Sample ID	Analysis Date
WG1370879-3LCS	WG1370879-3	05/14/20 06:02
WG1370879-4LCSD	WG1370879-4	05/14/20 06:27
HAZO-2	L2019321-01	05/14/20 12:46

Method Blank Summary

Form 4

Volatiles

Client	: Loureiro Engineering Associates, In	Lab Number	: L2019321
Project Name	: CC HRE 2072 MASS AVE	Project Number	: 13MA0.01
Lab Sample ID	: WG1370877-5	Lab File ID	: V11200514A04
Instrument ID	: VOA111		
Matrix	: SOIL	Analysis Date	: 05/14/20 07:17

Client Sample No.	Lab Sample ID	Analysis Date
WG1370877-3LCS	WG1370877-3	05/14/20 06:02
WG1370877-4LCSD	WG1370877-4	05/14/20 06:27
HAZO-3	L2019321-03	05/14/20 10:14

Calibration Verification Summary

Form 7

Volatiles

Client : Loureiro Engineering Associates, In
 Project Name : CC HRE 2072 MASS AVE
 Instrument ID : VOA126
 Lab File ID : V26200513B03
 Sample No : WG1370600-2
 Channel :

Lab Number : L2019321
 Project Number : 13MA0.01
 Calibration Date : 05/13/20 14:23
 Init. Calib. Date(s) : 04/29/20 04/29/20
 Init. Calib. Times : 05:22 10:37

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	91	0
Dichlorodifluoromethane	0.373	0.241	-	35.4*	20	54	0
Chloromethane	0.211	0.171	-	19	20	77	0
Vinyl chloride	0.231	0.201	-	13	20	73	0
Bromomethane	0.167	0.133	-	20.4*	20	75	0
Chloroethane	0.14	0.137	-	2.1	20	81	0
Trichlorofluoromethane	0.519	0.426	-	17.9	20	68	0
Ethyl ether	0.108	0.094	-	13	20	73	0
1,1-Dichloroethene	0.207	0.179	-	13.5	20	75	0
Carbon disulfide	0.67	0.558	-	16.7	20	75	0
Freon-113	0.229	0.193	-	15.7	20	70	0
Acrolein	0.025	0.023*	-	8	20	73	-.02
Methylene chloride	0.254	0.204	-	19.7	20	76	0
Acetone	40	27.479	-	31.3*	20	60	0
trans-1,2-Dichloroethene	0.242	0.206	-	14.9	20	74	0
Methyl acetate	0.098	0.088*	-	10.2	20	75	0
Methyl tert-butyl ether	0.706	0.578	-	18.1	20	71	0
tert-Butyl alcohol	0.022	0.019*	-	13.6	20	70	0
Diisopropyl ether	0.605	0.606	-	-0.2	20	88	0
1,1-Dichloroethane	0.456	0.412	-	9.6	20	79	0
Halothane	0.167	0.146	-	12.6	20	75	0
Acrylonitrile	0.049	0.044*	-	10.2	20	76	0
Ethyl tert-butyl ether	0.735	0.648	-	11.8	20	76	0
Vinyl acetate	0.335	0.306	-	8.7	20	78	0
cis-1,2-Dichloroethene	0.263	0.224	-	14.8	20	76	0
2,2-Dichloropropane	0.495	0.441	-	10.9	20	75	0
Bromochloromethane	0.106	0.086	-	18.9	20	70	-.01
Cyclohexane	0.344	0.331	-	3.8	20	80	0
Chloroform	0.576	0.472	-	18.1	20	74	0
Ethyl acetate	0.132	0.119	-	9.8	20	76	0
Carbon tetrachloride	0.489	0.406	-	17	20	68	0
Tetrahydrofuran	40	37.526	-	6.2	20	79	0
Dibromofluoromethane	0.276	0.271	-	1.8	20	88	0
1,1,1-Trichloroethane	0.548	0.464	-	15.3	20	70	0
2-Butanone	40	37.884	-	5.3	20	78	0
1,1-Dichloropropene	0.359	0.326	-	9.2	20	75	0
Benzene	0.956	0.843	-	11.8	20	77	0
tert-Amyl methyl ether	0.702	0.58	-	17.4	20	72	0
1,2-Dichloroethane-d4	0.362	0.353	-	2.5	20	87	0
1,2-Dichloroethane	0.441	0.358	-	18.8	20	70	0
Methyl cyclohexane	0.405	0.348	-	14.1	20	73	0
Trichloroethene	0.278	0.24	-	13.7	20	73	0
Dibromomethane	0.148	0.12	-	18.9	20	71	0

* Value outside of QC limits.



Calibration Verification Summary

Form 7

Volatiles

Client : Loureiro Engineering Associates, In
 Project Name : CC HRE 2072 MASS AVE
 Instrument ID : VOA126
 Lab File ID : V26200513B03
 Sample No : WG1370600-2
 Channel :

Lab Number : L2019321
 Project Number : 13MA0.01
 Calibration Date : 05/13/20 14:23
 Init. Calib. Date(s) : 04/29/20 04/29/20
 Init. Calib. Times : 05:22 10:37

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.221	0.207	-	6.3	20	82	0
2-Chloroethyl vinyl ether	0.08	0.06	-	25*	20	65	0
Bromodichloromethane	0.423	0.359	-	15.1	20	72	0
1,4-Dioxane	0.00168	0.00142*	-	15.5	20	76	0
cis-1,3-Dichloropropene	0.42	0.372	-	11.4	20	74	0
Chlorobenzene-d5	1	1	-	0	20	85	0
Toluene-d8	1.355	1.448	-	-6.9	20	91	0
Toluene	0.831	0.752	-	9.5	20	76	0
4-Methyl-2-pentanone	0.078	0.073*	-	6.4	20	73	0
Tetrachloroethene	0.384	0.309	-	19.5	20	66	0
trans-1,3-Dichloropropene	0.523	0.473	-	9.6	20	73	0
Ethyl methacrylate	0.347	0.313	-	9.8	20	71	0
1,1,2-Trichloroethane	0.204	0.182	-	10.8	20	73	0
Chlorodibromomethane	0.337	0.291	-	13.6	20	68	0
1,3-Dichloropropane	0.457	0.405	-	11.4	20	72	0
1,2-Dibromoethane	0.245	0.208	-	15.1	20	70	0
2-Hexanone	0.136	0.129	-	5.1	20	75	0
Chlorobenzene	0.885	0.791	-	10.6	20	74	0
Ethylbenzene	1.727	1.583	-	8.3	20	75	0
1,1,1,2-Tetrachloroethane	0.352	0.312	-	11.4	20	71	0
p/m Xylene	0.6	0.55	-	8.3	20	74	0
o Xylene	0.574	0.522	-	9.1	20	73	0
Styrene	0.95	0.878	-	7.6	20	74	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	78	0
Bromoform	0.422	0.348	-	17.5	20	60	0
Isopropylbenzene	3.164	3.05	-	3.6	20	73	0
4-Bromofluorobenzene	1.057	1.172	-	-10.9	20	86	0
Bromobenzene	0.717	0.64	-	10.7	20	69	0
n-Propylbenzene	3.767	3.719	-	1.3	20	74	0
1,4-Dichlorobutane	0.721	0.727	-	-0.8	20	76	0
1,1,2,2-Tetrachloroethane	0.532	0.502	-	5.6	20	70	0
4-Ethyltoluene	3.072	3.011	-	2	20	74	0
2-Chlorotoluene	2.636	2.512	-	4.7	20	73	0
1,3,5-Trimethylbenzene	2.716	2.603	-	4.2	20	72	0
1,2,3-Trichloropropane	0.472	0.424	-	10.2	20	68	0
trans-1,4-Dichloro-2-buten	0.181	0.179	-	1.1	20	72	0
4-Chlorotoluene	2.383	2.357	-	1.1	20	75	0
tert-Butylbenzene	2.221	2.097	-	5.6	20	70	0
1,2,4-Trimethylbenzene	2.677	2.584	-	3.5	20	73	0
sec-Butylbenzene	3.312	3.194	-	3.6	20	72	0
p-Isopropyltoluene	2.82	2.7	-	4.3	20	71	0
1,3-Dichlorobenzene	1.377	1.255	-	8.9	20	70	0
1,4-Dichlorobenzene	1.362	1.241	-	8.9	20	70	0

* Value outside of QC limits.



Calibration Verification Summary

Form 7

Volatiles

Client : Loureiro Engineering Associates, In
 Project Name : CC HRE 2072 MASS AVE
 Instrument ID : VOA126
 Lab File ID : V26200513B03
 Sample No : WG1370600-2
 Channel :

Lab Number : L2019321
 Project Number : 13MA0.01
 Calibration Date : 05/13/20 14:23
 Init. Calib. Date(s) : 04/29/20 04/29/20
 Init. Calib. Times : 05:22 10:37

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.691	1.637	-	3.2	20	73	0
n-Butylbenzene	3.488	3.41	-	2.2	20	72	0
1,2-Dichlorobenzene	1.246	1.108	-	11.1	20	68	0
1,2,4,5-Tetramethylbenzene	2.696	2.603	-	3.4	20	71	0
1,2-Dibromo-3-chloropropan	0.09	0.078	-	13.3	20	61	0
1,3,5-Trichlorobenzene	1.12	1.002	-	10.5	20	66	0
Hexachlorobutadiene	0.7	0.554	-	20.9*	20	58	0
1,2,4-Trichlorobenzene	0.992	0.87	-	12.3	20	65	0
Naphthalene	1.746	1.497	-	14.3	20	64	0
1,2,3-Trichlorobenzene	0.896	0.756	-	15.6	20	64	0

* Value outside of QC limits.



Calibration Verification Summary

Form 7

Volatiles

Client : Loureiro Engineering Associates, In
 Project Name : CC HRE 2072 MASS AVE
 Instrument ID : VOA111
 Lab File ID : V11200514A01
 Sample No : WG1370877-2
 Channel :

Lab Number : L2019321
 Project Number : 13MA0.01
 Calibration Date : 05/14/20 06:02
 Init. Calib. Date(s) : 03/26/20 03/26/20
 Init. Calib. Times : 02:23 05:47

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	71	0
Dichlorodifluoromethane	0.139	0.143	-	-2.9	20	65	0
Chloromethane	0.263	0.245	-	6.8	20	67	0
Vinyl chloride	0.249	0.179	-	28.1*	20	48	0
Bromomethane	0.161	0.13	-	19.3	20	59	0
Chloroethane	0.189	0.108	-	42.9*	20	39	0
Trichlorofluoromethane	0.309	0.328	-	-6.1	20	71	0
Ethyl ether	0.121	0.1	-	17.4	20	58	0
1,1-Dichloroethene	0.19	0.201	-	-5.8	20	71	0
Carbon disulfide	0.639	0.521	-	18.5	20	60	0
Freon-113	0.187	0.208	-	-11.2	20	72	0
Acrolein	0.024	0.031*	-	-29.2*	20	93	0
Methylene chloride	0.263	0.222	-	15.6	20	63	0
Acetone	40	37.222	-	6.9	20	63	0
trans-1,2-Dichloroethene	0.236	0.221	-	6.4	20	65	0
Methyl acetate	0.154	0.131	-	14.9	20	63	0
Methyl tert-butyl ether	0.608	0.525	-	13.7	20	63	0
tert-Butyl alcohol	0.019	0.02*	-	-5.3	20	72	0
Diisopropyl ether	0.874	0.775	-	11.3	20	64	0
1,1-Dichloroethane	0.454	0.413	-	9	20	65	0
Halothane	0.179	0.195	-	-8.9	20	74	0
Acrylonitrile	0.06	0.056	-	6.7	20	63	0
Ethyl tert-butyl ether	0.744	0.722	-	3	20	70	0
Vinyl acetate	0.569	0.499	-	12.3	20	61	0
cis-1,2-Dichloroethene	0.275	0.272	-	1.1	20	71	0
2,2-Dichloropropane	0.34	0.343	-	-0.9	20	70	0
Bromochloromethane	0.132	0.136	-	-3	20	74	0
Cyclohexane	0.336	0.376	-	-11.9	20	71	0
Chloroform	0.46	0.403	-	12.4	20	65	0
Ethyl acetate	0.2	0.178	-	11	20	61	0
Carbon tetrachloride	0.305	0.348	-	-14.1	20	77	0
Tetrahydrofuran	0.07	0.06	-	14.3	20	58	0
Dibromofluoromethane	0.267	0.272	-	-1.9	20	73	0
1,1,1-Trichloroethane	0.366	0.372	-	-1.6	20	71	0
2-Butanone	0.09	0.079*	-	12.2	20	64	0
1,1-Dichloropropene	0.298	0.284	-	4.7	20	64	0
Benzene	1.022	0.835	-	18.3	20	61	0
tert-Amyl methyl ether	0.625	0.565	-	9.6	20	64	0
1,2-Dichloroethane-d4	0.247	0.237	-	4	20	70	0
1,2-Dichloroethane	0.333	0.296	-	11.1	20	65	0
Methyl cyclohexane	0.349	0.355	-	-1.7	20	67	0
Trichloroethene	0.254	0.244	-	3.9	20	68	0
Dibromomethane	0.151	0.128	-	15.2	20	61	0

* Value outside of QC limits.



Calibration Verification Summary

Form 7

Volatiles

Client : Loureiro Engineering Associates, In
 Project Name : CC HRE 2072 MASS AVE
 Instrument ID : VOA111
 Lab File ID : V11200514A01
 Sample No : WG1370877-2
 Channel :

Lab Number : L2019321
 Project Number : 13MA0.01
 Calibration Date : 05/14/20 06:02
 Init. Calib. Date(s) : 03/26/20 03/26/20
 Init. Calib. Times : 02:23 05:47

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.265	0.226	-	14.7	20	62	0
2-Chloroethyl vinyl ether	0.126	0.103	-	18.3	20	63	0
Bromodichloromethane	0.373	0.304	-	18.5	20	62	0
1,4-Dioxane	2000	2110.857	-	-5.5	20	70	0
cis-1,3-Dichloropropene	0.402	0.357	-	11.2	20	62	0
Chlorobenzene-d5	1	1	-	0	20	77	0
Toluene-d8	1.294	1.212	-	6.3	20	72	0
Toluene	0.791	0.68	-	14	20	66	0
4-Methyl-2-pentanone	0.092	0.078*	-	15.2	20	66	0
Tetrachloroethene	0.319	0.336	-	-5.3	20	78	0
trans-1,3-Dichloropropene	0.444	0.387	-	12.8	20	66	0
Ethyl methacrylate	0.33	0.247	-	25.2*	20	59	0
1,1,2-Trichloroethane	0.229	0.175	-	23.6*	20	59	0
Chlorodibromomethane	0.327	0.312	-	4.6	20	73	0
1,3-Dichloropropane	0.456	0.347	-	23.9*	20	59	0
1,2-Dibromoethane	0.26	0.231	-	11.2	20	68	0
2-Hexanone	0.17	0.137	-	19.4	20	62	0
Chlorobenzene	0.965	0.831	-	13.9	20	71	0
Ethylbenzene	1.449	1.282	-	11.5	20	66	0
1,1,1,2-Tetrachloroethane	0.34	0.333	-	2.1	20	78	0
p/m Xylene	0.563	0.536	-	4.8	20	71	0
o Xylene	0.565	0.506	-	10.4	20	67	0
Styrene	0.945	0.863	-	8.7	20	68	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	75	0
Bromoform	0.385	0.36	-	6.5	20	71	0
Isopropylbenzene	2.595	2.561	-	1.3	20	71	0
4-Bromofluorobenzene	0.884	0.843	-	4.6	20	72	0
Bromobenzene	0.735	0.687	-	6.5	20	75	0
n-Propylbenzene	3.239	2.81	-	13.2	20	64	0
1,4-Dichlorobutane	0.9	0.684	-	24*	20	61	0
1,1,2,2-Tetrachloroethane	0.671	0.457	-	31.9*	20	55	0
4-Ethyltoluene	2.633	2.483	-	5.7	20	69	0
2-Chlorotoluene	2.313	1.915	-	17.2	20	64	0
1,3,5-Trimethylbenzene	2.238	2.198	-	1.8	20	72	0
1,2,3-Trichloropropane	0.512	0.361	-	29.5*	20	57	0
trans-1,4-Dichloro-2-buten	0.171	0.139	-	18.7	20	59	0
4-Chlorotoluene	2.07	1.764	-	14.8	20	65	0
tert-Butylbenzene	1.852	1.949	-	-5.2	20	76	0
1,2,4-Trimethylbenzene	2.246	2.182	-	2.8	20	71	0
sec-Butylbenzene	2.859	2.587	-	9.5	20	65	0
p-Isopropyltoluene	2.36	2.527	-	-7.1	20	76	0
1,3-Dichlorobenzene	1.461	1.361	-	6.8	20	74	0
1,4-Dichlorobenzene	1.486	1.372	-	7.7	20	74	0

* Value outside of QC limits.



Calibration Verification Summary

Form 7

Volatiles

Client : Loureiro Engineering Associates, In
 Project Name : CC HRE 2072 MASS AVE
 Instrument ID : VOA111
 Lab File ID : V11200514A01
 Sample No : WG1370877-2
 Channel :

Lab Number : L2019321
 Project Number : 13MA0.01
 Calibration Date : 05/14/20 06:02
 Init. Calib. Date(s) : 03/26/20 03/26/20
 Init. Calib. Times : 02:23 05:47

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.421	1.475	-	-3.8	20	74	0
n-Butylbenzene	2.363	2.066	-	12.6	20	63	0
1,2-Dichlorobenzene	1.358	1.226	-	9.7	20	72	0
1,2,4,5-Tetramethylbenzene	2.17	2.283	-	-5.2	20	74	0
1,2-Dibromo-3-chloropropan	0.091	0.088	-	3.3	20	72	0
1,3,5-Trichlorobenzene	1.004	0.928	-	7.6	20	71	0
Hexachlorobutadiene	0.438	0.429	-	2.1	20	73	0
1,2,4-Trichlorobenzene	0.87	0.835	-	4	20	74	0
Naphthalene	1.635	1.817	-	-11.1	20	80	0
1,2,3-Trichlorobenzene	0.766	0.72	-	6	20	71	0

* Value outside of QC limits.



Calibration Verification Summary

Form 7

Volatiles

Client : Loureiro Engineering Associates, In
 Project Name : CC HRE 2072 MASS AVE
 Instrument ID : VOA111
 Lab File ID : V11200514A01
 Sample No : WG1370879-2
 Channel :

Lab Number : L2019321
 Project Number : 13MA0.01
 Calibration Date : 05/14/20 06:02
 Init. Calib. Date(s) : 03/26/20 03/26/20
 Init. Calib. Times : 02:23 05:47

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	71	0
Dichlorodifluoromethane	0.139	0.143	-	-2.9	20	65	0
Chloromethane	0.263	0.245	-	6.8	20	67	0
Vinyl chloride	0.249	0.179	-	28.1*	20	48	0
Bromomethane	0.161	0.13	-	19.3	20	59	0
Chloroethane	0.189	0.108	-	42.9*	20	39	0
Trichlorofluoromethane	0.309	0.328	-	-6.1	20	71	0
Ethyl ether	0.121	0.1	-	17.4	20	58	0
1,1-Dichloroethene	0.19	0.201	-	-5.8	20	71	0
Carbon disulfide	0.639	0.521	-	18.5	20	60	0
Freon-113	0.187	0.208	-	-11.2	20	72	0
Acrolein	0.024	0.031*	-	-29.2*	20	93	0
Methylene chloride	0.263	0.222	-	15.6	20	63	0
Acetone	40	37.222	-	6.9	20	63	0
trans-1,2-Dichloroethene	0.236	0.221	-	6.4	20	65	0
Methyl acetate	0.154	0.131	-	14.9	20	63	0
Methyl tert-butyl ether	0.608	0.525	-	13.7	20	63	0
tert-Butyl alcohol	0.019	0.02*	-	-5.3	20	72	0
Diisopropyl ether	0.874	0.775	-	11.3	20	64	0
1,1-Dichloroethane	0.454	0.413	-	9	20	65	0
Halothane	0.179	0.195	-	-8.9	20	74	0
Acrylonitrile	0.06	0.056	-	6.7	20	63	0
Ethyl tert-butyl ether	0.744	0.722	-	3	20	70	0
Vinyl acetate	0.569	0.499	-	12.3	20	61	0
cis-1,2-Dichloroethene	0.275	0.272	-	1.1	20	71	0
2,2-Dichloropropane	0.34	0.343	-	-0.9	20	70	0
Bromochloromethane	0.132	0.136	-	-3	20	74	0
Cyclohexane	0.336	0.376	-	-11.9	20	71	0
Chloroform	0.46	0.403	-	12.4	20	65	0
Ethyl acetate	0.2	0.178	-	11	20	61	0
Carbon tetrachloride	0.305	0.348	-	-14.1	20	77	0
Tetrahydrofuran	0.07	0.06	-	14.3	20	58	0
Dibromofluoromethane	0.267	0.272	-	-1.9	20	73	0
1,1,1-Trichloroethane	0.366	0.372	-	-1.6	20	71	0
2-Butanone	0.09	0.079*	-	12.2	20	64	0
1,1-Dichloropropene	0.298	0.284	-	4.7	20	64	0
Benzene	1.022	0.835	-	18.3	20	61	0
tert-Amyl methyl ether	0.625	0.565	-	9.6	20	64	0
1,2-Dichloroethane-d4	0.247	0.237	-	4	20	70	0
1,2-Dichloroethane	0.333	0.296	-	11.1	20	65	0
Methyl cyclohexane	0.349	0.355	-	-1.7	20	67	0
Trichloroethene	0.254	0.244	-	3.9	20	68	0
Dibromomethane	0.151	0.128	-	15.2	20	61	0

* Value outside of QC limits.



Calibration Verification Summary

Form 7

Volatiles

Client : Loureiro Engineering Associates, In
 Project Name : CC HRE 2072 MASS AVE
 Instrument ID : VOA111
 Lab File ID : V11200514A01
 Sample No : WG1370879-2
 Channel :

Lab Number : L2019321
 Project Number : 13MA0.01
 Calibration Date : 05/14/20 06:02
 Init. Calib. Date(s) : 03/26/20 03/26/20
 Init. Calib. Times : 02:23 05:47

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.265	0.226	-	14.7	20	62	0
2-Chloroethyl vinyl ether	0.126	0.103	-	18.3	20	63	0
Bromodichloromethane	0.373	0.304	-	18.5	20	62	0
1,4-Dioxane	2000	2110.857	-	-5.5	20	70	0
cis-1,3-Dichloropropene	0.402	0.357	-	11.2	20	62	0
Chlorobenzene-d5	1	1	-	0	20	77	0
Toluene-d8	1.294	1.212	-	6.3	20	72	0
Toluene	0.791	0.68	-	14	20	66	0
4-Methyl-2-pentanone	0.092	0.078*	-	15.2	20	66	0
Tetrachloroethene	0.319	0.336	-	-5.3	20	78	0
trans-1,3-Dichloropropene	0.444	0.387	-	12.8	20	66	0
Ethyl methacrylate	0.33	0.247	-	25.2*	20	59	0
1,1,2-Trichloroethane	0.229	0.175	-	23.6*	20	59	0
Chlorodibromomethane	0.327	0.312	-	4.6	20	73	0
1,3-Dichloropropane	0.456	0.347	-	23.9*	20	59	0
1,2-Dibromoethane	0.26	0.231	-	11.2	20	68	0
2-Hexanone	0.17	0.137	-	19.4	20	62	0
Chlorobenzene	0.965	0.831	-	13.9	20	71	0
Ethylbenzene	1.449	1.282	-	11.5	20	66	0
1,1,1,2-Tetrachloroethane	0.34	0.333	-	2.1	20	78	0
p/m Xylene	0.563	0.536	-	4.8	20	71	0
o Xylene	0.565	0.506	-	10.4	20	67	0
Styrene	0.945	0.863	-	8.7	20	68	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	75	0
Bromoform	0.385	0.36	-	6.5	20	71	0
Isopropylbenzene	2.595	2.561	-	1.3	20	71	0
4-Bromofluorobenzene	0.884	0.843	-	4.6	20	72	0
Bromobenzene	0.735	0.687	-	6.5	20	75	0
n-Propylbenzene	3.239	2.81	-	13.2	20	64	0
1,4-Dichlorobutane	0.9	0.684	-	24*	20	61	0
1,1,2,2-Tetrachloroethane	0.671	0.457	-	31.9*	20	55	0
4-Ethyltoluene	2.633	2.483	-	5.7	20	69	0
2-Chlorotoluene	2.313	1.915	-	17.2	20	64	0
1,3,5-Trimethylbenzene	2.238	2.198	-	1.8	20	72	0
1,2,3-Trichloropropane	0.512	0.361	-	29.5*	20	57	0
trans-1,4-Dichloro-2-buten	0.171	0.139	-	18.7	20	59	0
4-Chlorotoluene	2.07	1.764	-	14.8	20	65	0
tert-Butylbenzene	1.852	1.949	-	-5.2	20	76	0
1,2,4-Trimethylbenzene	2.246	2.182	-	2.8	20	71	0
sec-Butylbenzene	2.859	2.587	-	9.5	20	65	0
p-Isopropyltoluene	2.36	2.527	-	-7.1	20	76	0
1,3-Dichlorobenzene	1.461	1.361	-	6.8	20	74	0
1,4-Dichlorobenzene	1.486	1.372	-	7.7	20	74	0

* Value outside of QC limits.



Calibration Verification Summary

Form 7

Volatiles

Client : Loureiro Engineering Associates, In
 Project Name : CC HRE 2072 MASS AVE
 Instrument ID : VOA111
 Lab File ID : V11200514A01
 Sample No : WG1370879-2
 Channel :

Lab Number : L2019321
 Project Number : 13MA0.01
 Calibration Date : 05/14/20 06:02
 Init. Calib. Date(s) : 03/26/20 03/26/20
 Init. Calib. Times : 02:23 05:47

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.421	1.475	-	-3.8	20	74	0
n-Butylbenzene	2.363	2.066	-	12.6	20	63	0
1,2-Dichlorobenzene	1.358	1.226	-	9.7	20	72	0
1,2,4,5-Tetramethylbenzene	2.17	2.283	-	-5.2	20	74	0
1,2-Dibromo-3-chloropropan	0.091	0.088	-	3.3	20	72	0
1,3,5-Trichlorobenzene	1.004	0.928	-	7.6	20	71	0
Hexachlorobutadiene	0.438	0.429	-	2.1	20	73	0
1,2,4-Trichlorobenzene	0.87	0.835	-	4	20	74	0
Naphthalene	1.635	1.817	-	-11.1	20	80	0
1,2,3-Trichlorobenzene	0.766	0.72	-	6	20	71	0

* Value outside of QC limits.



Performance Evaluation Mixture Summary

Form 15

Pesticides

Client	: Loureiro Engineering Associates, In	Lab Number	: L2019321
Project Name	: CC HRE 2072 MASS AVE	Project Number	: 13MA0.01
Instrument ID	: PEST18	Analysis Date	: 05/13/20 06:08
PEM Standard	: R1312534-1		
Column 1	: RTX-5	Column 2	: RTX-CLPPesticides2

Parameter	Signal 1	Signal 2
4,4'-DDE	400206.7691	313437.01713
Endrin	182050194.23209	170840182.45411
4,4'-DDD	677539.7261	772113.6208
4,4'-DDT	360179543.6196	340915729.4511
Endrin Aldehyde	86717.2651	14430.5162
Endrin Ketone	466136.3431	829013.94641

Parameter	%Breakdown 1	%Breakdown 2
Endrin	0.303	0.491
DDT	0.298	0.317



ANALYTICAL REPORT

Lab Number:	L2021888
Client:	Loureiro Engineering Associates, Inc. 779 South Main Street Manchester, NH 03102
ATTN:	Sam Butcher
Phone:	(603) 625-8899
Project Name:	CC HRE 2072 MASS AVE
Project Number:	13MA0.01
Report Date:	06/01/20

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2021888
Report Date: 06/01/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2021888-01	HAZO-2	SOIL	CAMBRIDGE,MA	05/07/20 09:15	05/11/20

Project Name: CC HRE 2072 MASS AVE

Lab Number: L2021888

Project Number: 13MA0.01

Report Date: 06/01/20

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	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?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	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?"	YES
E a.	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).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	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)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2021888
Report Date: 06/01/20

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2021888
Report Date: 06/01/20

Case Narrative (continued)

MCP Related Narratives

Volatile Organics

In reference to question G:

L2021888-01: One or more of the target analytes did not achieve the requested CAM reporting limits.

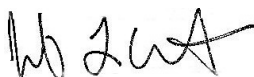
In reference to question H:

The initial calibration, associated with L2021888-01, did not meet the method required minimum response factor on the lowest calibration standard for 2-butanone (0.0596) and tetrahydrofuran (0.0472), as well as the average response factor for 2-butanone. In addition, the initial calibration verification is outside acceptance criteria for chloromethane (132%) and dichlorodifluoromethane (159%).

The continuing calibration standard, associated with L2021888-01, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Jennifer L. Clements

Title: Technical Director/Representative

Date: 06/01/20

QC OUTLIER SUMMARY REPORT

Project Name: CC HRE 2072 MASS AVE**Lab Number:** L2021888**Project Number:** 13MA0.01**Report Date:** 06/01/20

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics by EPA 5035 High - Westborough Lab								
8260C	Batch QC	WG1376454-3	Dichlorodifluoromethane	LCS	62	70-130	01	potential low bias
8260C	Batch QC	WG1376454-4	Dichlorodifluoromethane	LCSD	58	70-130	01	potential low bias

ORGANICS

VOLATILES

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2021888
Report Date: 06/01/20

SAMPLE RESULTS

Lab ID: L2021888-01
Client ID: HAZO-2
Sample Location: CAMBRIDGE,MA

Date Collected: 05/07/20 09:15
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 06/01/20 08:40
Analyst: MV
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	200	--	1
1,1-Dichloroethane	ND		ug/kg	41	--	1
Chloroform	ND		ug/kg	61	--	1
Carbon tetrachloride	ND		ug/kg	41	--	1
1,2-Dichloropropane	ND		ug/kg	41	--	1
Dibromochloromethane	ND		ug/kg	41	--	1
1,1,2-Trichloroethane	ND		ug/kg	41	--	1
Tetrachloroethene	2300		ug/kg	20	--	1
Chlorobenzene	ND		ug/kg	20	--	1
Trichlorofluoromethane	ND		ug/kg	160	--	1
1,2-Dichloroethane	ND		ug/kg	41	--	1
1,1,1-Trichloroethane	ND		ug/kg	20	--	1
Bromodichloromethane	ND		ug/kg	20	--	1
trans-1,3-Dichloropropene	ND		ug/kg	41	--	1
cis-1,3-Dichloropropene	ND		ug/kg	20	--	1
1,3-Dichloropropene, Total	ND		ug/kg	20	--	1
1,1-Dichloropropene	ND		ug/kg	20	--	1
Bromoform	ND		ug/kg	160	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	20	--	1
Benzene	ND		ug/kg	20	--	1
Toluene	ND		ug/kg	41	--	1
Ethylbenzene	ND		ug/kg	41	--	1
Chloromethane	ND		ug/kg	160	--	1
Bromomethane	ND		ug/kg	82	--	1
Vinyl chloride	ND		ug/kg	41	--	1
Chloroethane	ND		ug/kg	82	--	1
1,1-Dichloroethene	ND		ug/kg	41	--	1
trans-1,2-Dichloroethene	ND		ug/kg	61	--	1

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2021888
Report Date: 06/01/20

SAMPLE RESULTS

Lab ID: L2021888-01
Client ID: HAZO-2
Sample Location: CAMBRIDGE,MA

Date Collected: 05/07/20 09:15
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Trichloroethene	180		ug/kg	20	--	1
1,2-Dichlorobenzene	ND		ug/kg	82	--	1
1,3-Dichlorobenzene	ND		ug/kg	82	--	1
1,4-Dichlorobenzene	ND		ug/kg	82	--	1
Methyl tert butyl ether	ND		ug/kg	82	--	1
p/m-Xylene	ND		ug/kg	82	--	1
o-Xylene	ND		ug/kg	41	--	1
Xylenes, Total	ND		ug/kg	41	--	1
cis-1,2-Dichloroethene	140		ug/kg	41	--	1
1,2-Dichloroethene, Total	140		ug/kg	41	--	1
Dibromomethane	ND		ug/kg	82	--	1
1,2,3-Trichloropropane	ND		ug/kg	82	--	1
Styrene	ND		ug/kg	41	--	1
Dichlorodifluoromethane	ND		ug/kg	410	--	1
Acetone	ND		ug/kg	410	--	1
Carbon disulfide	ND		ug/kg	410	--	1
Methyl ethyl ketone	ND		ug/kg	410	--	1
Methyl isobutyl ketone	ND		ug/kg	410	--	1
2-Hexanone	ND		ug/kg	410	--	1
Bromochloromethane	ND		ug/kg	82	--	1
Tetrahydrofuran	ND		ug/kg	160	--	1
2,2-Dichloropropane	ND		ug/kg	82	--	1
1,2-Dibromoethane	ND		ug/kg	41	--	1
1,3-Dichloropropane	ND		ug/kg	82	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	20	--	1
Bromobenzene	ND		ug/kg	82	--	1
n-Butylbenzene	ND		ug/kg	41	--	1
sec-Butylbenzene	ND		ug/kg	41	--	1
tert-Butylbenzene	ND		ug/kg	82	--	1
o-Chlorotoluene	ND		ug/kg	82	--	1
p-Chlorotoluene	ND		ug/kg	82	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	120	--	1
Hexachlorobutadiene	ND		ug/kg	160	--	1
Isopropylbenzene	ND		ug/kg	41	--	1
p-Isopropyltoluene	ND		ug/kg	41	--	1
Naphthalene	ND		ug/kg	160	--	1
n-Propylbenzene	ND		ug/kg	41	--	1

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2021888
Report Date: 06/01/20

SAMPLE RESULTS

Lab ID: L2021888-01
Client ID: HAZO-2
Sample Location: CAMBRIDGE,MA

Date Collected: 05/07/20 09:15
Date Received: 05/11/20
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	82	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	82	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	82	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	82	--	1
Diethyl ether	ND		ug/kg	82	--	1
Diisopropyl Ether	ND		ug/kg	82	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	82	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	82	--	1
1,4-Dioxane	ND		ug/kg	3300	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	99		70-130

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2021888
Report Date: 06/01/20

Method Blank Analysis Batch Quality Control

Analytical Method: 97,8260C
 Analytical Date: 06/01/20 07:48
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01 Batch: WG1376454-5					
Methylene chloride	ND		ug/kg	250	--
1,1-Dichloroethane	ND		ug/kg	50	--
Chloroform	ND		ug/kg	75	--
Carbon tetrachloride	ND		ug/kg	50	--
1,2-Dichloropropane	ND		ug/kg	50	--
Dibromochloromethane	ND		ug/kg	50	--
1,1,2-Trichloroethane	ND		ug/kg	50	--
Tetrachloroethene	ND		ug/kg	25	--
Chlorobenzene	ND		ug/kg	25	--
Trichlorofluoromethane	ND		ug/kg	200	--
1,2-Dichloroethane	ND		ug/kg	50	--
1,1,1-Trichloroethane	ND		ug/kg	25	--
Bromodichloromethane	ND		ug/kg	25	--
trans-1,3-Dichloropropene	ND		ug/kg	50	--
cis-1,3-Dichloropropene	ND		ug/kg	25	--
1,3-Dichloropropene, Total	ND		ug/kg	25	--
1,1-Dichloropropene	ND		ug/kg	25	--
Bromoform	ND		ug/kg	200	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	25	--
Benzene	ND		ug/kg	25	--
Toluene	ND		ug/kg	50	--
Ethylbenzene	ND		ug/kg	50	--
Chloromethane	ND		ug/kg	200	--
Bromomethane	ND		ug/kg	100	--
Vinyl chloride	ND		ug/kg	50	--
Chloroethane	ND		ug/kg	100	--
1,1-Dichloroethene	ND		ug/kg	50	--
trans-1,2-Dichloroethene	ND		ug/kg	75	--
Trichloroethene	ND		ug/kg	25	--

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2021888
Report Date: 06/01/20

Method Blank Analysis Batch Quality Control

Analytical Method: 97,8260C
 Analytical Date: 06/01/20 07:48
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01 Batch: WG1376454-5					
1,2-Dichlorobenzene	ND		ug/kg	100	--
1,3-Dichlorobenzene	ND		ug/kg	100	--
1,4-Dichlorobenzene	ND		ug/kg	100	--
Methyl tert butyl ether	ND		ug/kg	100	--
p/m-Xylene	ND		ug/kg	100	--
o-Xylene	ND		ug/kg	50	--
Xylenes, Total	ND		ug/kg	50	--
cis-1,2-Dichloroethene	ND		ug/kg	50	--
1,2-Dichloroethene, Total	ND		ug/kg	50	--
Dibromomethane	ND		ug/kg	100	--
1,2,3-Trichloropropane	ND		ug/kg	100	--
Styrene	ND		ug/kg	50	--
Dichlorodifluoromethane	ND		ug/kg	500	--
Acetone	ND		ug/kg	500	--
Carbon disulfide	ND		ug/kg	500	--
Methyl ethyl ketone	ND		ug/kg	500	--
Methyl isobutyl ketone	ND		ug/kg	500	--
2-Hexanone	ND		ug/kg	500	--
Bromochloromethane	ND		ug/kg	100	--
Tetrahydrofuran	ND		ug/kg	200	--
2,2-Dichloropropane	ND		ug/kg	100	--
1,2-Dibromoethane	ND		ug/kg	50	--
1,3-Dichloropropane	ND		ug/kg	100	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	25	--
Bromobenzene	ND		ug/kg	100	--
n-Butylbenzene	ND		ug/kg	50	--
sec-Butylbenzene	ND		ug/kg	50	--
tert-Butylbenzene	ND		ug/kg	100	--
o-Chlorotoluene	ND		ug/kg	100	--

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2021888
Report Date: 06/01/20

Method Blank Analysis Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 06/01/20 07:48
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01 Batch: WG1376454-5					
p-Chlorotoluene	ND		ug/kg	100	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	150	--
Hexachlorobutadiene	ND		ug/kg	200	--
Isopropylbenzene	ND		ug/kg	50	--
p-Isopropyltoluene	ND		ug/kg	50	--
Naphthalene	ND		ug/kg	200	--
n-Propylbenzene	ND		ug/kg	50	--
1,2,3-Trichlorobenzene	ND		ug/kg	100	--
1,2,4-Trichlorobenzene	ND		ug/kg	100	--
1,3,5-Trimethylbenzene	ND		ug/kg	100	--
1,2,4-Trimethylbenzene	ND		ug/kg	100	--
Diethyl ether	ND		ug/kg	100	--
Diisopropyl Ether	ND		ug/kg	100	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	100	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	100	--
1,4-Dioxane	ND		ug/kg	4000	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	100		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: CC HRE 2072 MASS AVE

Project Number: 13MA0.01

Lab Number: L2021888

Report Date: 06/01/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01 Batch: WG1376454-3 WG1376454-4								
Methylene chloride	90		85		70-130	6		20
1,1-Dichloroethane	102		98		70-130	4		20
Chloroform	105		100		70-130	5		20
Carbon tetrachloride	111		106		70-130	5		20
1,2-Dichloropropane	104		101		70-130	3		20
Dibromochloromethane	107		104		70-130	3		20
1,1,2-Trichloroethane	97		96		70-130	1		20
Tetrachloroethene	107		102		70-130	5		20
Chlorobenzene	96		92		70-130	4		20
Trichlorofluoromethane	104		96		70-130	8		20
1,2-Dichloroethane	106		102		70-130	4		20
1,1,1-Trichloroethane	111		104		70-130	7		20
Bromodichloromethane	111		107		70-130	4		20
trans-1,3-Dichloropropene	104		100		70-130	4		20
cis-1,3-Dichloropropene	114		111		70-130	3		20
1,1-Dichloropropene	110		104		70-130	6		20
Bromoform	101		98		70-130	3		20
1,1,2,2-Tetrachloroethane	90		90		70-130	0		20
Benzene	106		101		70-130	5		20
Toluene	97		93		70-130	4		20
Ethylbenzene	96		93		70-130	3		20
Chloromethane	74		70		70-130	6		20
Bromomethane	95		87		70-130	9		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: CC HRE 2072 MASS AVE

Project Number: 13MA0.01

Lab Number: L2021888

Report Date: 06/01/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01 Batch: WG1376454-3 WG1376454-4								
Vinyl chloride	89		81		70-130	9		20
Chloroethane	102		96		70-130	6		20
1,1-Dichloroethene	103		97		70-130	6		20
trans-1,2-Dichloroethene	108		100		70-130	8		20
Trichloroethene	108		103		70-130	5		20
1,2-Dichlorobenzene	94		91		70-130	3		20
1,3-Dichlorobenzene	95		91		70-130	4		20
1,4-Dichlorobenzene	93		90		70-130	3		20
Methyl tert butyl ether	102		99		70-130	3		20
p/m-Xylene	99		96		70-130	3		20
o-Xylene	100		96		70-130	4		20
cis-1,2-Dichloroethene	110		103		70-130	7		20
Dibromomethane	110		108		70-130	2		20
1,2,3-Trichloropropane	88		87		70-130	1		20
Styrene	101		99		70-130	2		20
Dichlorodifluoromethane	62	Q	58	Q	70-130	7		20
Acetone	88		86		70-130	2		20
Carbon disulfide	97		91		70-130	6		20
Methyl ethyl ketone	80		78		70-130	3		20
Methyl isobutyl ketone	85		84		70-130	1		20
2-Hexanone	80		81		70-130	1		20
Bromochloromethane	119		114		70-130	4		20
Tetrahydrofuran	95		98		70-130	3		20

Lab Control Sample Analysis **Batch Quality Control**

Project Name: CC HRE 2072 MASS AVE

Lab Number: L2021888

Project Number: 13MA0.01

Report Date: 06/01/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01 Batch: WG1376454-3 WG1376454-4								
2,2-Dichloropropane	110		104		70-130	6		20
1,2-Dibromoethane	103		103		70-130	0		20
1,3-Dichloropropane	97		94		70-130	3		20
1,1,1,2-Tetrachloroethane	101		97		70-130	4		20
Bromobenzene	95		92		70-130	3		20
n-Butylbenzene	94		90		70-130	4		20
sec-Butylbenzene	95		90		70-130	5		20
tert-Butylbenzene	96		91		70-130	5		20
o-Chlorotoluene	77		74		70-130	4		20
p-Chlorotoluene	92		88		70-130	4		20
1,2-Dibromo-3-chloropropane	84		84		70-130	0		20
Hexachlorobutadiene	94		89		70-130	5		20
Isopropylbenzene	96		93		70-130	3		20
p-Isopropyltoluene	97		93		70-130	4		20
Naphthalene	91		90		70-130	1		20
n-Propylbenzene	94		90		70-130	4		20
1,2,3-Trichlorobenzene	93		91		70-130	2		20
1,2,4-Trichlorobenzene	96		94		70-130	2		20
1,3,5-Trimethylbenzene	95		91		70-130	4		20
1,2,4-Trimethylbenzene	95		92		70-130	3		20
Diethyl ether	100		96		70-130	4		20
Diisopropyl Ether	97		94		70-130	3		20
Ethyl-Tert-Butyl-Ether	103		99		70-130	4		20

Lab Control Sample Analysis**Batch Quality Control****Project Name:** CC HRE 2072 MASS AVE**Lab Number:** L2021888**Project Number:** 13MA0.01**Report Date:** 06/01/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01 Batch: WG1376454-3 WG1376454-4								
Tertiary-Amyl Methyl Ether	105		102		70-130	3		20
1,4-Dioxane	107		100		70-130	7		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		99		70-130
Toluene-d8	95		95		70-130
4-Bromofluorobenzene	98		98		70-130
Dibromofluoromethane	105		105		70-130

INORGANICS & MISCELLANEOUS

Project Name: CC HRE 2072 MASS AVE**Project Number:** 13MA0.01**Lab Number:** L2021888**Report Date:** 06/01/20**SAMPLE RESULTS****Lab ID:** L2021888-01**Client ID:** HAZO-2**Sample Location:** CAMBRIDGE,MA**Date Collected:** 05/07/20 09:15**Date Received:** 05/11/20**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.4		%	0.100	NA	1	-	05/11/20 23:35	121,2540G	YA



Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Serial_No:06012015:38
Lab Number: L2021888
Report Date: 06/01/20

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type
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L2021888-01A	Vial MeOH preserved
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Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
A	NA		4.1	Y	Absent		MCP-8260H-10(14)

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2021888
Report Date: 06/01/20

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
	Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report



Project Name: CC HRE 2072 MASS AVE
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Lab Number: L2021888
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- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e., co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the reporting limit (RL) for the sample.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less

Report Format: Data Usability Report



Project Name: CC HRE 2072 MASS AVE
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Data Qualifiers

than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Project Name: CC HRE 2072 MASS AVE
Project Number: 13MA0.01

Lab Number: L2021888
Report Date: 06/01/20

REFERENCES

- 97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Alpha Analytical, Inc.Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

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Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility**EPA 624/624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.**EPA TO-12** Non-methane organics**EPA 3C** Fixed gases**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg. **EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1** Hg.**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

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Method Blank Summary Form 4 Volatiles

Client	: Loureiro Engineering Associates, In	Lab Number	: L2021888
Project Name	: CC HRE 2072 MASS AVE	Project Number	: 13MA0.01
Lab Sample ID	: WG1376454-5	Lab File ID	: V00200601A05
Instrument ID	: VOA100		
Matrix	: SOIL	Analysis Date	: 06/01/20 07:48

Client Sample No.	Lab Sample ID	Analysis Date
WG1376454-3LCS	WG1376454-3	06/01/20 06:05
WG1376454-4LCSD	WG1376454-4	06/01/20 06:31
HAZO-2	L2021888-01	06/01/20 08:40

Calibration Verification Summary

Form 7

Volatiles

Client : Loureiro Engineering Associates, In
 Project Name : CC HRE 2072 MASS AVE
 Instrument ID : VOA100
 Lab File ID : V00200601A01
 Sample No : WG1376454-2
 Channel :

Lab Number : L2021888
 Project Number : 13MA0.01
 Calibration Date : 06/01/20 06:05
 Init. Calib. Date(s) : 05/12/20 05/13/20
 Init. Calib. Times : 10:40 13:38

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	111	0
Dichlorodifluoromethane	0.194	0.121	-	37.6*	20	71	0
Chloromethane	0.31	0.231	-	25.5*	20	87	0
Vinyl chloride	0.262	0.233	-	11.1	20	100	0
Bromomethane	0.166	0.157	-	5.4	20	122	0
Chloroethane	0.162	0.166	-	-2.5	20	109	0
Trichlorofluoromethane	0.313	0.324	-	-3.5	20	118	0
Ethyl ether	0.106	0.106	-	0	20	104	0
1,1-Dichloroethene	0.194	0.2	-	-3.1	20	113	0
Carbon disulfide	0.585	0.567	-	3.1	20	108	0
Freon-113	0.2	0.213	-	-6.5	20	117	0
Acrolein	40	33.428	-	16.4	20	95	0
Methylene chloride	0.252	0.226	-	10.3	20	109	0
Acetone	40	35.194	-	12	20	100	0
trans-1,2-Dichloroethene	0.22	0.238	-	-8.2	20	116	0
Methyl acetate	0.14	0.126	-	10	20	97	0
Methyl tert-butyl ether	0.494	0.503	-	-1.8	20	106	0
tert-Butyl alcohol	0.018	0.018*	-	0	20	95	0
Diisopropyl ether	0.946	0.917	-	3.1	20	101	0
1,1-Dichloroethane	0.427	0.438	-	-2.6	20	110	0
Halothane	0.161	0.181	-	-12.4	20	119	0
Acrylonitrile	40	35.533	-	11.2	20	98	0
Ethyl tert-butyl ether	0.709	0.728	-	-2.7	20	106	0
Vinyl acetate	0.563	0.533	-	5.3	20	100	0
cis-1,2-Dichloroethene	0.235	0.257	-	-9.4	20	116	0
2,2-Dichloropropane	0.31	0.342	-	-10.3	20	119	0
Bromochloromethane	0.101	0.12	-	-18.8	20	118	0
Cyclohexane	0.433	0.442	-	-2.1	20	109	0
Chloroform	0.405	0.425	-	-4.9	20	114	0
Ethyl acetate	0.192	0.178	-	7.3	20	96	0
Carbon tetrachloride	0.299	0.331	-	-10.7	20	121	0
Tetrahydrofuran	0.061	0.057	-	6.6	20	97	0
Dibromofluoromethane	0.245	0.258	-	-5.3	20	116	0
1,1,1-Trichloroethane	0.33	0.367	-	-11.2	20	118	0
2-Butanone	0.089	0.072*	-	19.1	20	81	0
1,1-Dichloropropene	0.271	0.299	-	-10.3	20	115	0
Benzene	0.85	0.899	-	-5.8	20	112	0
tert-Amyl methyl ether	0.52	0.547	-	-5.2	20	107	0
1,2-Dichloroethane-d4	0.236	0.23	-	2.5	20	108	0
1,2-Dichloroethane	0.263	0.278	-	-5.7	20	111	0
Methyl cyclohexane	0.362	0.385	-	-6.4	20	115	0
Trichloroethene	0.216	0.233	-	-7.9	20	117	0
Dibromomethane	0.107	0.117	-	-9.3	20	110	0

* Value outside of QC limits.



Calibration Verification Summary

Form 7

Volatiles

Client : Loureiro Engineering Associates, In
 Project Name : CC HRE 2072 MASS AVE
 Instrument ID : VOA100
 Lab File ID : V00200601A01
 Sample No : WG1376454-2
 Channel :

Lab Number : L2021888
 Project Number : 13MA0.01
 Calibration Date : 06/01/20 06:05
 Init. Calib. Date(s) : 05/12/20 05/13/20
 Init. Calib. Times : 10:40 13:38

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.23	0.24	-	-4.3	20	108	0
2-Chloroethyl vinyl ether	0.108	0.102	-	5.6	20	105	0
Bromodichloromethane	0.266	0.296	-	-11.3	20	112	0
1,4-Dioxane	2000	2142.582	-	-7.1	20	117	0
cis-1,3-Dichloropropene	0.31	0.353	-	-13.9	20	110	0
Chlorobenzene-d5	1	1	-	0	20	119	0
Toluene-d8	1.404	1.336	-	4.8	20	114	0
Toluene	0.798	0.775	-	2.9	20	115	0
4-Methyl-2-pentanone	40	34.078	-	14.8	20	99	0
Tetrachloroethene	0.301	0.323	-	-7.3	20	121	0
trans-1,3-Dichloropropene	0.389	0.404	-	-3.9	20	109	0
Ethyl methacrylate	40	33.603	-	16	20	101	0
1,1,2-Trichloroethane	0.195	0.189	-	3.1	20	106	0
Chlorodibromomethane	0.276	0.295	-	-6.9	20	112	0
1,3-Dichloropropane	0.4	0.388	-	3	20	107	0
1,2-Dibromoethane	0.212	0.217	-	-2.4	20	109	0
2-Hexanone	40	32.105	-	19.7	20	94	0
Chlorobenzene	0.885	0.845	-	4.5	20	114	0
Ethylbenzene	1.494	1.437	-	3.8	20	113	0
1,1,1,2-Tetrachloroethane	0.302	0.304	-	-0.7	20	112	0
p/m Xylene	0.569	0.566	-	0.5	20	115	0
o Xylene	0.54	0.54	-	0	20	114	0
Styrene	0.861	0.872	-	-1.3	20	112	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	122	0
Bromoform	0.304	0.308	-	-1.3	20	108	0
Isopropylbenzene	3.004	2.897	-	3.6	20	113	0
4-Bromofluorobenzene	0.953	0.931	-	2.3	20	118	0
Bromobenzene	0.688	0.654	-	4.9	20	112	0
n-Propylbenzene	3.602	3.397	-	5.7	20	113	0
1,4-Dichlorobutane	0.926	0.807	-	12.9	20	101	0
1,1,2,2-Tetrachloroethane	0.577	0.52	-	9.9	20	100	0
4-Ethyltoluene	3.002	2.882	-	4	20	114	0
2-Chlorotoluene	2.116	1.631	-	22.9*	20	92	0
1,3,5-Trimethylbenzene	2.514	2.397	-	4.7	20	113	0
1,2,3-Trichloropropane	0.464	0.407	-	12.3	20	102	0
trans-1,4-Dichloro-2-buten	40	33.32	-	16.7	20	100	0
4-Chlorotoluene	2.139	1.963	-	8.2	20	110	0
tert-Butylbenzene	2.143	2.055	-	4.1	20	113	0
1,2,4-Trimethylbenzene	2.448	2.327	-	4.9	20	111	0
sec-Butylbenzene	3.257	3.08	-	5.4	20	112	0
p-Isopropyltoluene	2.732	2.65	-	3	20	113	0
1,3-Dichlorobenzene	1.378	1.311	-	4.9	20	113	0
1,4-Dichlorobenzene	1.411	1.313	-	6.9	20	111	0

* Value outside of QC limits.



Calibration Verification Summary

Form 7

Volatiles

Client : Loureiro Engineering Associates, In
 Project Name : CC HRE 2072 MASS AVE
 Instrument ID : VOA100
 Lab File ID : V00200601A01
 Sample No : WG1376454-2
 Channel :

Lab Number : L2021888
 Project Number : 13MA0.01
 Calibration Date : 06/01/20 06:05
 Init. Calib. Date(s) : 05/12/20 05/13/20
 Init. Calib. Times : 10:40 13:38

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.638	1.6	-	2.3	20	113	0
n-Butylbenzene	2.57	2.405	-	6.4	20	112	0
1,2-Dichlorobenzene	1.245	1.168	-	6.2	20	109	0
1,2,4,5-Tetramethylbenzene	2.47	2.411	-	2.4	20	111	0
1,2-Dibromo-3-chloropropan	40	33.408	-	16.5	20	98	0
1,3,5-Trichlorobenzene	0.927	0.908	-	2	20	113	0
Hexachlorobutadiene	0.419	0.392	-	6.4	20	109	0
1,2,4-Trichlorobenzene	0.81	0.78	-	3.7	20	108	0
Naphthalene	1.787	1.619	-	9.4	20	99	0
1,2,3-Trichlorobenzene	0.71	0.661	-	6.9	20	104	0

* Value outside of QC limits.





ANALYTICAL REPORT

Lab Number:	L2029601
Client:	Loureiro Engineering Associates, Inc. 800 Hingham Street Suite 202-S Rockland, MA 02370
ATTN:	Lauren McKinlay
Phone:	(781) 878-1272
Project Name:	CC HRE 2071 MASS AVE
Project Number:	13MA0.01
Report Date:	07/20/20

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: CC HRE 2071 MASS AVE
Project Number: 13MA0.01

Lab Number: L2029601
Report Date: 07/20/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2029601-01	LEA-B1	SOIL	2072 MASS AVE, CAMBRIDGE	07/13/20 08:10	07/14/20
L2029601-02	LEA-B2	SOIL	2072 MASS AVE, CAMBRIDGE	07/13/20 11:25	07/14/20
L2029601-03	LEA-B3	SOIL	2072 MASS AVE, CAMBRIDGE	07/13/20 09:25	07/14/20
L2029601-04	LEA-B4	SOIL	2072 MASS AVE, CAMBRIDGE	07/13/20 12:50	07/14/20

Project Name: CC HRE 2071 MASS AVE

Lab Number: L2029601

Project Number: 13MA0.01

Report Date: 07/20/20

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	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?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	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?"	YES
E a.	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).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	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)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: CC HRE 2071 MASS AVE
Project Number: 13MA0.01

Lab Number: L2029601
Report Date: 07/20/20

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: CC HRE 2071 MASS AVE
Project Number: 13MA0.01

Lab Number: L2029601
Report Date: 07/20/20

Case Narrative (continued)

MCP Related Narratives

Volatile Organics

In reference to question H:

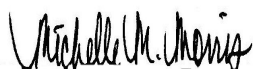
The initial calibration, associated with L2029601-02 through -04, did not meet the method required minimum response factor on the lowest calibration standard for 1,4-dioxane (0.0024), as well as the average response factor for 1,4-dioxane. In addition, the initial calibration verification is outside acceptance criteria for dichlorodifluoromethane (181%).

The initial calibration, associated with L2029601-01, did not meet the method required minimum response factor on the lowest calibration standard for 1,4-dioxane (0.0012), as well as the average response factor for 2-hexanone and 1,4-dioxane.

The continuing calibration standards, associated with L2029601-01 through -04, are outside the acceptance criteria for several compounds; however, they are within overall method allowances. A copy of the continuing calibration standards is included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Michelle M. Morris

Title: Technical Director/Representative

Date: 07/20/20

QC OUTLIER SUMMARY REPORT

Project Name: CC HRE 2071 MASS AVE

Lab Number: L2029601

Project Number: 13MA0.01

Report Date: 07/20/20

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics by EPA 5035 Low - Westborough Lab								
8260C	Batch QC	WG1393032-3	Dichlorodifluoromethane	LCS	142	70-130	02-04	potential high bias
8260C	Batch QC	WG1393032-4	Dibromochloromethane	LCSD	21	20	02-04	non-directional bias
8260C	Batch QC	WG1393032-4	Tetrachloroethene	LCSD	21	20	02-04	non-directional bias
8260C	Batch QC	WG1393032-4	o-Xylene	LCSD	22	20	02-04	non-directional bias
8260C	Batch QC	WG1393032-4	Styrene	LCSD	24	20	02-04	non-directional bias
8260C	Batch QC	WG1393325-8	Methyl isobutyl ketone	LCS	68	70-130	01	potential low bias
8260C	Batch QC	WG1393325-8	2-Hexanone	LCS	68	70-130	01	potential low bias
8260C	Batch QC	WG1393325-8	Tetrahydrofuran	LCS	69	70-130	01	potential low bias
8260C	Batch QC	WG1393325-8	o-Chlorotoluene	LCS	133	70-130	01	potential high bias
8260C	Batch QC	WG1393325-9	2-Hexanone	LCSD	64	70-130	01	potential low bias
8260C	Batch QC	WG1393325-9	n-Butylbenzene	LCSD	22	20	01	non-directional bias
8260C	Batch QC	WG1393325-9	sec-Butylbenzene	LCSD	23	20	01	non-directional bias
8260C	Batch QC	WG1393325-9	tert-Butylbenzene	LCSD	22	20	01	non-directional bias
8260C	Batch QC	WG1393325-9	Isopropylbenzene	LCSD	22	20	01	non-directional bias
8260C	Batch QC	WG1393325-9	n-Propylbenzene	LCSD	21	20	01	non-directional bias
8260C	Batch QC	WG1393325-9	1,3,5-Trimethylbenzene	LCSD	21	20	01	non-directional bias

ORGANICS

VOLATILES

Project Name: CC HRE 2071 MASS AVE
Project Number: 13MA0.01

Lab Number: L2029601
Report Date: 07/20/20

SAMPLE RESULTS

Lab ID: L2029601-01
Client ID: LEA-B1
Sample Location: 2072 MASS AVE, CAMBRIDGE

Date Collected: 07/13/20 08:10
Date Received: 07/14/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 07/17/20 08:50
Analyst: MV
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.1	--	1
1,1-Dichloroethane	ND		ug/kg	0.63	--	1
Chloroform	ND		ug/kg	0.94	--	1
Carbon tetrachloride	ND		ug/kg	0.63	--	1
1,2-Dichloropropane	ND		ug/kg	0.63	--	1
Dibromochloromethane	ND		ug/kg	0.63	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.63	--	1
Tetrachloroethene	1.8		ug/kg	0.31	--	1
Chlorobenzene	ND		ug/kg	0.31	--	1
Trichlorofluoromethane	ND		ug/kg	2.5	--	1
1,2-Dichloroethane	ND		ug/kg	0.63	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.31	--	1
Bromodichloromethane	ND		ug/kg	0.31	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.63	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.31	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.31	--	1
1,1-Dichloropropene	ND		ug/kg	0.31	--	1
Bromoform	ND		ug/kg	2.5	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.31	--	1
Benzene	ND		ug/kg	0.31	--	1
Toluene	ND		ug/kg	0.63	--	1
Ethylbenzene	ND		ug/kg	0.63	--	1
Chloromethane	ND		ug/kg	2.5	--	1
Bromomethane	ND		ug/kg	1.2	--	1
Vinyl chloride	ND		ug/kg	0.63	--	1
Chloroethane	ND		ug/kg	1.2	--	1
1,1-Dichloroethene	ND		ug/kg	0.63	--	1
trans-1,2-Dichloroethene	ND		ug/kg	0.94	--	1

Project Name: CC HRE 2071 MASS AVE**Lab Number:** L2029601**Project Number:** 13MA0.01**Report Date:** 07/20/20**SAMPLE RESULTS**

Lab ID: L2029601-01
Client ID: LEA-B1
Sample Location: 2072 MASS AVE, CAMBRIDGE

Date Collected: 07/13/20 08:10
Date Received: 07/14/20
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.31	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.2	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.2	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.2	--	1
Methyl tert butyl ether	ND		ug/kg	1.2	--	1
p/m-Xylene	ND		ug/kg	1.2	--	1
o-Xylene	ND		ug/kg	0.63	--	1
Xylenes, Total	ND		ug/kg	0.63	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.63	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.63	--	1
Dibromomethane	ND		ug/kg	1.2	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.2	--	1
Styrene	ND		ug/kg	0.63	--	1
Dichlorodifluoromethane	ND		ug/kg	6.3	--	1
Acetone	ND		ug/kg	16	--	1
Carbon disulfide	ND		ug/kg	6.3	--	1
Methyl ethyl ketone	ND		ug/kg	6.3	--	1
Methyl isobutyl ketone	ND		ug/kg	6.3	--	1
2-Hexanone	ND		ug/kg	6.3	--	1
Bromochloromethane	ND		ug/kg	1.2	--	1
Tetrahydrofuran	ND		ug/kg	2.5	--	1
2,2-Dichloropropane	ND		ug/kg	1.2	--	1
1,2-Dibromoethane	ND		ug/kg	0.63	--	1
1,3-Dichloropropane	ND		ug/kg	1.2	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.31	--	1
Bromobenzene	ND		ug/kg	1.2	--	1
n-Butylbenzene	ND		ug/kg	0.63	--	1
sec-Butylbenzene	ND		ug/kg	0.63	--	1
tert-Butylbenzene	ND		ug/kg	1.2	--	1
o-Chlorotoluene	ND		ug/kg	1.2	--	1
p-Chlorotoluene	ND		ug/kg	1.2	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	1.9	--	1
Hexachlorobutadiene	ND		ug/kg	2.5	--	1
Isopropylbenzene	ND		ug/kg	0.63	--	1
p-Isopropyltoluene	ND		ug/kg	0.63	--	1
Naphthalene	ND		ug/kg	2.5	--	1
n-Propylbenzene	ND		ug/kg	0.63	--	1

Project Name: CC HRE 2071 MASS AVE
Project Number: 13MA0.01

Lab Number: L2029601
Report Date: 07/20/20

SAMPLE RESULTS

Lab ID: L2029601-01
Client ID: LEA-B1
Sample Location: 2072 MASS AVE, CAMBRIDGE

Date Collected: 07/13/20 08:10
Date Received: 07/14/20
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.2	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.2	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.2	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.2	--	1
Diethyl ether	ND		ug/kg	1.2	--	1
Diisopropyl Ether	ND		ug/kg	1.2	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.2	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.2	--	1
1,4-Dioxane	ND		ug/kg	50	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	105		70-130

Project Name: CC HRE 2071 MASS AVE
Project Number: 13MA0.01

Lab Number: L2029601
Report Date: 07/20/20

SAMPLE RESULTS

Lab ID: L2029601-02
Client ID: LEA-B2
Sample Location: 2072 MASS AVE, CAMBRIDGE

Date Collected: 07/13/20 11:25
Date Received: 07/14/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 07/16/20 12:47
Analyst: KJD
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.4	--	1
1,1-Dichloroethane	ND		ug/kg	0.68	--	1
Chloroform	ND		ug/kg	1.0	--	1
Carbon tetrachloride	ND		ug/kg	0.68	--	1
1,2-Dichloropropane	ND		ug/kg	0.68	--	1
Dibromochloromethane	ND		ug/kg	0.68	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.68	--	1
Tetrachloroethene	ND		ug/kg	0.34	--	1
Chlorobenzene	ND		ug/kg	0.34	--	1
Trichlorofluoromethane	ND		ug/kg	2.7	--	1
1,2-Dichloroethane	ND		ug/kg	0.68	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.34	--	1
Bromodichloromethane	ND		ug/kg	0.34	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.68	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.34	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.34	--	1
1,1-Dichloropropene	ND		ug/kg	0.34	--	1
Bromoform	ND		ug/kg	2.7	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.34	--	1
Benzene	ND		ug/kg	0.34	--	1
Toluene	ND		ug/kg	0.68	--	1
Ethylbenzene	ND		ug/kg	0.68	--	1
Chloromethane	ND		ug/kg	2.7	--	1
Bromomethane	ND		ug/kg	1.4	--	1
Vinyl chloride	ND		ug/kg	0.68	--	1
Chloroethane	ND		ug/kg	1.4	--	1
1,1-Dichloroethene	ND		ug/kg	0.68	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.0	--	1

Project Name: CC HRE 2071 MASS AVE**Lab Number:** L2029601**Project Number:** 13MA0.01**Report Date:** 07/20/20**SAMPLE RESULTS**

Lab ID: L2029601-02
Client ID: LEA-B2
Sample Location: 2072 MASS AVE, CAMBRIDGE

Date Collected: 07/13/20 11:25
Date Received: 07/14/20
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.34	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.4	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.4	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.4	--	1
Methyl tert butyl ether	ND		ug/kg	1.4	--	1
p/m-Xylene	ND		ug/kg	1.4	--	1
o-Xylene	ND		ug/kg	0.68	--	1
Xylenes, Total	ND		ug/kg	0.68	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.68	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.68	--	1
Dibromomethane	ND		ug/kg	1.4	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.4	--	1
Styrene	ND		ug/kg	0.68	--	1
Dichlorodifluoromethane	ND		ug/kg	6.8	--	1
Acetone	ND		ug/kg	17	--	1
Carbon disulfide	ND		ug/kg	6.8	--	1
Methyl ethyl ketone	ND		ug/kg	6.8	--	1
Methyl isobutyl ketone	ND		ug/kg	6.8	--	1
2-Hexanone	ND		ug/kg	6.8	--	1
Bromochloromethane	ND		ug/kg	1.4	--	1
Tetrahydrofuran	ND		ug/kg	2.7	--	1
2,2-Dichloropropane	ND		ug/kg	1.4	--	1
1,2-Dibromoethane	ND		ug/kg	0.68	--	1
1,3-Dichloropropane	ND		ug/kg	1.4	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.34	--	1
Bromobenzene	ND		ug/kg	1.4	--	1
n-Butylbenzene	ND		ug/kg	0.68	--	1
sec-Butylbenzene	ND		ug/kg	0.68	--	1
tert-Butylbenzene	ND		ug/kg	1.4	--	1
o-Chlorotoluene	ND		ug/kg	1.4	--	1
p-Chlorotoluene	ND		ug/kg	1.4	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.0	--	1
Hexachlorobutadiene	ND		ug/kg	2.7	--	1
Isopropylbenzene	ND		ug/kg	0.68	--	1
p-Isopropyltoluene	ND		ug/kg	0.68	--	1
Naphthalene	ND		ug/kg	2.7	--	1
n-Propylbenzene	ND		ug/kg	0.68	--	1

Project Name: CC HRE 2071 MASS AVE
Project Number: 13MA0.01

Lab Number: L2029601
Report Date: 07/20/20

SAMPLE RESULTS

Lab ID: L2029601-02
Client ID: LEA-B2
Sample Location: 2072 MASS AVE, CAMBRIDGE

Date Collected: 07/13/20 11:25
Date Received: 07/14/20
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.4	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.4	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.4	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.4	--	1
Diethyl ether	ND		ug/kg	1.4	--	1
Diisopropyl Ether	ND		ug/kg	1.4	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.4	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.4	--	1
1,4-Dioxane	ND		ug/kg	54	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	108		70-130

Project Name: CC HRE 2071 MASS AVE**Lab Number:** L2029601**Project Number:** 13MA0.01**Report Date:** 07/20/20**SAMPLE RESULTS**

Lab ID: L2029601-03
 Client ID: LEA-B3
 Sample Location: 2072 MASS AVE, CAMBRIDGE

Date Collected: 07/13/20 09:25
 Date Received: 07/14/20
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 97,8260C
 Analytical Date: 07/16/20 13:14
 Analyst: KJD
 Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.4	--	1
1,1-Dichloroethane	ND		ug/kg	0.69	--	1
Chloroform	ND		ug/kg	1.0	--	1
Carbon tetrachloride	ND		ug/kg	0.69	--	1
1,2-Dichloropropane	ND		ug/kg	0.69	--	1
Dibromochloromethane	ND		ug/kg	0.69	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.69	--	1
Tetrachloroethene	28		ug/kg	0.34	--	1
Chlorobenzene	ND		ug/kg	0.34	--	1
Trichlorofluoromethane	ND		ug/kg	2.8	--	1
1,2-Dichloroethane	ND		ug/kg	0.69	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.34	--	1
Bromodichloromethane	ND		ug/kg	0.34	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.69	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.34	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.34	--	1
1,1-Dichloropropene	ND		ug/kg	0.34	--	1
Bromoform	ND		ug/kg	2.8	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.34	--	1
Benzene	ND		ug/kg	0.34	--	1
Toluene	ND		ug/kg	0.69	--	1
Ethylbenzene	ND		ug/kg	0.69	--	1
Chloromethane	ND		ug/kg	2.8	--	1
Bromomethane	ND		ug/kg	1.4	--	1
Vinyl chloride	ND		ug/kg	0.69	--	1
Chloroethane	ND		ug/kg	1.4	--	1
1,1-Dichloroethene	ND		ug/kg	0.69	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.0	--	1

Project Name: CC HRE 2071 MASS AVE**Lab Number:** L2029601**Project Number:** 13MA0.01**Report Date:** 07/20/20**SAMPLE RESULTS**

Lab ID: L2029601-03
 Client ID: LEA-B3
 Sample Location: 2072 MASS AVE, CAMBRIDGE

Date Collected: 07/13/20 09:25
 Date Received: 07/14/20
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	5.2		ug/kg	0.34	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.4	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.4	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.4	--	1
Methyl tert butyl ether	ND		ug/kg	1.4	--	1
p/m-Xylene	ND		ug/kg	1.4	--	1
o-Xylene	ND		ug/kg	0.69	--	1
Xylenes, Total	ND		ug/kg	0.69	--	1
cis-1,2-Dichloroethene	4.6		ug/kg	0.69	--	1
1,2-Dichloroethene, Total	4.6		ug/kg	0.69	--	1
Dibromomethane	ND		ug/kg	1.4	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.4	--	1
Styrene	ND		ug/kg	0.69	--	1
Dichlorodifluoromethane	ND		ug/kg	6.9	--	1
Acetone	ND		ug/kg	17	--	1
Carbon disulfide	ND		ug/kg	6.9	--	1
Methyl ethyl ketone	ND		ug/kg	6.9	--	1
Methyl isobutyl ketone	ND		ug/kg	6.9	--	1
2-Hexanone	ND		ug/kg	6.9	--	1
Bromochloromethane	ND		ug/kg	1.4	--	1
Tetrahydrofuran	ND		ug/kg	2.8	--	1
2,2-Dichloropropane	ND		ug/kg	1.4	--	1
1,2-Dibromoethane	ND		ug/kg	0.69	--	1
1,3-Dichloropropane	ND		ug/kg	1.4	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.34	--	1
Bromobenzene	ND		ug/kg	1.4	--	1
n-Butylbenzene	ND		ug/kg	0.69	--	1
sec-Butylbenzene	ND		ug/kg	0.69	--	1
tert-Butylbenzene	ND		ug/kg	1.4	--	1
o-Chlorotoluene	ND		ug/kg	1.4	--	1
p-Chlorotoluene	ND		ug/kg	1.4	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.1	--	1
Hexachlorobutadiene	ND		ug/kg	2.8	--	1
Isopropylbenzene	ND		ug/kg	0.69	--	1
p-Isopropyltoluene	ND		ug/kg	0.69	--	1
Naphthalene	ND		ug/kg	2.8	--	1
n-Propylbenzene	ND		ug/kg	0.69	--	1

Project Name: CC HRE 2071 MASS AVE
Project Number: 13MA0.01

Lab Number: L2029601
Report Date: 07/20/20

SAMPLE RESULTS

Lab ID: L2029601-03
Client ID: LEA-B3
Sample Location: 2072 MASS AVE, CAMBRIDGE

Date Collected: 07/13/20 09:25
Date Received: 07/14/20
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.4	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.4	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.4	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.4	--	1
Diethyl ether	ND		ug/kg	1.4	--	1
Diisopropyl Ether	ND		ug/kg	1.4	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.4	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.4	--	1
1,4-Dioxane	ND		ug/kg	55	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	107		70-130

Project Name: CC HRE 2071 MASS AVE
Project Number: 13MA0.01

Lab Number: L2029601
Report Date: 07/20/20

SAMPLE RESULTS

Lab ID: L2029601-04
Client ID: LEA-B4
Sample Location: 2072 MASS AVE, CAMBRIDGE

Date Collected: 07/13/20 12:50
Date Received: 07/14/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 07/16/20 13:42
Analyst: KJD
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.0	--	1
1,1-Dichloroethane	ND		ug/kg	0.79	--	1
Chloroform	ND		ug/kg	1.2	--	1
Carbon tetrachloride	ND		ug/kg	0.79	--	1
1,2-Dichloropropane	ND		ug/kg	0.79	--	1
Dibromochloromethane	ND		ug/kg	0.79	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.79	--	1
Tetrachloroethene	6.9		ug/kg	0.40	--	1
Chlorobenzene	ND		ug/kg	0.40	--	1
Trichlorofluoromethane	ND		ug/kg	3.2	--	1
1,2-Dichloroethane	ND		ug/kg	0.79	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.40	--	1
Bromodichloromethane	ND		ug/kg	0.40	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.79	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.40	--	1
1,1-Dichloropropene	ND		ug/kg	0.40	--	1
Bromoform	ND		ug/kg	3.2	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.40	--	1
Benzene	ND		ug/kg	0.40	--	1
Toluene	ND		ug/kg	0.79	--	1
Ethylbenzene	ND		ug/kg	0.79	--	1
Chloromethane	ND		ug/kg	3.2	--	1
Bromomethane	ND		ug/kg	1.6	--	1
Vinyl chloride	ND		ug/kg	0.79	--	1
Chloroethane	ND		ug/kg	1.6	--	1
1,1-Dichloroethene	ND		ug/kg	0.79	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.2	--	1

Project Name: CC HRE 2071 MASS AVE**Lab Number:** L2029601**Project Number:** 13MA0.01**Report Date:** 07/20/20**SAMPLE RESULTS**

Lab ID: L2029601-04
 Client ID: LEA-B4
 Sample Location: 2072 MASS AVE, CAMBRIDGE

Date Collected: 07/13/20 12:50
 Date Received: 07/14/20
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	1.5		ug/kg	0.40	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.6	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.6	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.6	--	1
Methyl tert butyl ether	ND		ug/kg	1.6	--	1
p/m-Xylene	ND		ug/kg	1.6	--	1
o-Xylene	ND		ug/kg	0.79	--	1
Xylenes, Total	ND		ug/kg	0.79	--	1
cis-1,2-Dichloroethene	1.4		ug/kg	0.79	--	1
1,2-Dichloroethene, Total	1.4		ug/kg	0.79	--	1
Dibromomethane	ND		ug/kg	1.6	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.6	--	1
Styrene	ND		ug/kg	0.79	--	1
Dichlorodifluoromethane	ND		ug/kg	7.9	--	1
Acetone	ND		ug/kg	20	--	1
Carbon disulfide	ND		ug/kg	7.9	--	1
Methyl ethyl ketone	ND		ug/kg	7.9	--	1
Methyl isobutyl ketone	ND		ug/kg	7.9	--	1
2-Hexanone	ND		ug/kg	7.9	--	1
Bromochloromethane	ND		ug/kg	1.6	--	1
Tetrahydrofuran	ND		ug/kg	3.2	--	1
2,2-Dichloropropane	ND		ug/kg	1.6	--	1
1,2-Dibromoethane	ND		ug/kg	0.79	--	1
1,3-Dichloropropane	ND		ug/kg	1.6	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.40	--	1
Bromobenzene	ND		ug/kg	1.6	--	1
n-Butylbenzene	ND		ug/kg	0.79	--	1
sec-Butylbenzene	ND		ug/kg	0.79	--	1
tert-Butylbenzene	ND		ug/kg	1.6	--	1
o-Chlorotoluene	ND		ug/kg	1.6	--	1
p-Chlorotoluene	ND		ug/kg	1.6	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.4	--	1
Hexachlorobutadiene	ND		ug/kg	3.2	--	1
Isopropylbenzene	ND		ug/kg	0.79	--	1
p-Isopropyltoluene	ND		ug/kg	0.79	--	1
Naphthalene	ND		ug/kg	3.2	--	1
n-Propylbenzene	ND		ug/kg	0.79	--	1

Project Name: CC HRE 2071 MASS AVE
Project Number: 13MA0.01

Lab Number: L2029601
Report Date: 07/20/20

SAMPLE RESULTS

Lab ID: L2029601-04
Client ID: LEA-B4
Sample Location: 2072 MASS AVE, CAMBRIDGE

Date Collected: 07/13/20 12:50
Date Received: 07/14/20
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.6	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.6	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.6	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.6	--	1
Diethyl ether	ND		ug/kg	1.6	--	1
Diisopropyl Ether	ND		ug/kg	1.6	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.6	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.6	--	1
1,4-Dioxane	ND		ug/kg	63	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	116		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	110		70-130

Project Name: CC HRE 2071 MASS AVE
Project Number: 13MA0.01

Lab Number: L2029601
Report Date: 07/20/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
 Analytical Date: 07/16/20 07:22
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02-04 Batch: WG1393032-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: CC HRE 2071 MASS AVE
Project Number: 13MA0.01

Lab Number: L2029601
Report Date: 07/20/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 07/16/20 07:22
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02-04 Batch: WG1393032-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: CC HRE 2071 MASS AVE
Project Number: 13MA0.01

Lab Number: L2029601
Report Date: 07/20/20

Method Blank Analysis Batch Quality Control

Analytical Method: 97,8260C
 Analytical Date: 07/16/20 07:22
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02-04 Batch: WG1393032-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	104		70-130

Project Name: CC HRE 2071 MASS AVE
Project Number: 13MA0.01

Lab Number: L2029601
Report Date: 07/20/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
 Analytical Date: 07/17/20 06:43
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1393325-10					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: CC HRE 2071 MASS AVE
Project Number: 13MA0.01

Lab Number: L2029601
Report Date: 07/20/20

Method Blank Analysis Batch Quality Control

Analytical Method: 97,8260C
 Analytical Date: 07/17/20 06:43
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1393325-10					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: CC HRE 2071 MASS AVE
Project Number: 13MA0.01

Lab Number: L2029601
Report Date: 07/20/20

Method Blank Analysis Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 07/17/20 06:43
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1393325-10					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	104		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: CC HRE 2071 MASS AVE

Project Number: 13MA0.01

Lab Number: L2029601

Report Date: 07/20/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-04 Batch: WG1393032-3 WG1393032-4								
Methylene chloride	109		98		70-130	11		20
1,1-Dichloroethane	114		100		70-130	13		20
Chloroform	105		94		70-130	11		20
Carbon tetrachloride	108		91		70-130	17		20
1,2-Dichloropropane	98		102		70-130	4		20
Dibromochloromethane	112		91		70-130	21	Q	20
1,1,2-Trichloroethane	118		99		70-130	18		20
Tetrachloroethene	105		85		70-130	21	Q	20
Chlorobenzene	101		85		70-130	17		20
Trichlorofluoromethane	107		90		70-130	17		20
1,2-Dichloroethane	105		100		70-130	5		20
1,1,1-Trichloroethane	107		92		70-130	15		20
Bromodichloromethane	96		97		70-130	1		20
trans-1,3-Dichloropropene	125		102		70-130	20		20
cis-1,3-Dichloropropene	96		102		70-130	6		20
1,1-Dichloropropene	115		99		70-130	15		20
Bromoform	88		91		70-130	3		20
1,1,2,2-Tetrachloroethane	88		92		70-130	4		20
Benzene	107		94		70-130	13		20
Toluene	101		88		70-130	14		20
Ethylbenzene	103		87		70-130	17		20
Chloromethane	101		106		70-130	5		20
Bromomethane	87		79		70-130	10		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: CC HRE 2071 MASS AVE

Project Number: 13MA0.01

Lab Number: L2029601

Report Date: 07/20/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-04 Batch: WG1393032-3 WG1393032-4								
Vinyl chloride	103		88		70-130	16		20
Chloroethane	103		88		70-130	16		20
1,1-Dichloroethene	98		83		70-130	17		20
trans-1,2-Dichloroethene	102		88		70-130	15		20
Trichloroethene	104		91		70-130	13		20
1,2-Dichlorobenzene	94		86		70-130	9		20
1,3-Dichlorobenzene	94		84		70-130	11		20
1,4-Dichlorobenzene	94		85		70-130	10		20
Methyl tert butyl ether	108		102		70-130	6		20
p/m-Xylene	102		88		70-130	15		20
o-Xylene	99		79		70-130	22	Q	20
cis-1,2-Dichloroethene	110		98		70-130	12		20
Dibromomethane	97		100		70-130	3		20
1,2,3-Trichloropropane	91		90		70-130	1		20
Styrene	101		79		70-130	24	Q	20
Dichlorodifluoromethane	142	Q	123		70-130	14		20
Acetone	115		115		70-130	0		20
Carbon disulfide	97		82		70-130	17		20
Methyl ethyl ketone	105		106		70-130	1		20
Methyl isobutyl ketone	104		94		70-130	10		20
2-Hexanone	105		94		70-130	11		20
Bromochloromethane	104		98		70-130	6		20
Tetrahydrofuran	116		116		70-130	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: CC HRE 2071 MASS AVE

Project Number: 13MA0.01

Lab Number: L2029601

Report Date: 07/20/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-04 Batch: WG1393032-3 WG1393032-4								
2,2-Dichloropropane	110		95		70-130	15		20
1,2-Dibromoethane	113		93		70-130	19		20
1,3-Dichloropropane	121		100		70-130	19		20
1,1,1,2-Tetrachloroethane	103		92		70-130	11		20
Bromobenzene	82		79		70-130	4		20
n-Butylbenzene	103		85		70-130	19		20
sec-Butylbenzene	92		80		70-130	14		20
tert-Butylbenzene	93		81		70-130	14		20
o-Chlorotoluene	90		84		70-130	7		20
p-Chlorotoluene	92		81		70-130	13		20
1,2-Dibromo-3-chloropropane	98		103		70-130	5		20
Hexachlorobutadiene	93		86		70-130	8		20
Isopropylbenzene	92		84		70-130	9		20
p-Isopropyltoluene	99		86		70-130	14		20
Naphthalene	89		96		70-130	8		20
n-Propylbenzene	91		84		70-130	8		20
1,2,3-Trichlorobenzene	85		94		70-130	10		20
1,2,4-Trichlorobenzene	95		92		70-130	3		20
1,3,5-Trimethylbenzene	91		82		70-130	10		20
1,2,4-Trimethylbenzene	96		87		70-130	10		20
Diethyl ether	103		95		70-130	8		20
Diisopropyl Ether	119		110		70-130	8		20
Ethyl-Tert-Butyl-Ether	110		104		70-130	6		20

Lab Control Sample Analysis**Batch Quality Control****Project Name:** CC HRE 2071 MASS AVE**Lab Number:** L2029601**Project Number:** 13MA0.01**Report Date:** 07/20/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-04 Batch: WG1393032-3 WG1393032-4								
Tertiary-Amyl Methyl Ether	101		98		70-130	3		20
1,4-Dioxane	106		118		70-130	11		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	102		104		70-130
Toluene-d8	97		100		70-130
4-Bromofluorobenzene	92		91		70-130
Dibromofluoromethane	100		103		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: CC HRE 2071 MASS AVE

Project Number: 13MA0.01

Lab Number: L2029601

Report Date: 07/20/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1393325-8 WG1393325-9								
Methylene chloride	91		82		70-130	10		20
1,1-Dichloroethane	102		93		70-130	9		20
Chloroform	101		89		70-130	13		20
Carbon tetrachloride	112		98		70-130	13		20
1,2-Dichloropropane	96		87		70-130	10		20
Dibromochloromethane	93		86		70-130	8		20
1,1,2-Trichloroethane	91		85		70-130	7		20
Tetrachloroethene	112		93		70-130	19		20
Chlorobenzene	96		87		70-130	10		20
Trichlorofluoromethane	111		95		70-130	16		20
1,2-Dichloroethane	88		82		70-130	7		20
1,1,1-Trichloroethane	109		95		70-130	14		20
Bromodichloromethane	98		89		70-130	10		20
trans-1,3-Dichloropropene	94		90		70-130	4		20
cis-1,3-Dichloropropene	93		85		70-130	9		20
1,1-Dichloropropene	106		95		70-130	11		20
Bromoform	92		80		70-130	14		20
1,1,2,2-Tetrachloroethane	89		77		70-130	14		20
Benzene	100		89		70-130	12		20
Toluene	104		92		70-130	12		20
Ethylbenzene	106		94		70-130	12		20
Chloromethane	107		98		70-130	9		20
Bromomethane	97		82		70-130	17		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: CC HRE 2071 MASS AVE

Project Number: 13MA0.01

Lab Number: L2029601

Report Date: 07/20/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1393325-8 WG1393325-9								
Vinyl chloride	108		97		70-130	11		20
Chloroethane	105		90		70-130	15		20
1,1-Dichloroethene	110		96		70-130	14		20
trans-1,2-Dichloroethene	105		94		70-130	11		20
Trichloroethene	105		94		70-130	11		20
1,2-Dichlorobenzene	106		90		70-130	16		20
1,3-Dichlorobenzene	109		91		70-130	18		20
1,4-Dichlorobenzene	106		90		70-130	16		20
Methyl tert butyl ether	84		80		70-130	5		20
p/m-Xylene	107		91		70-130	16		20
o-Xylene	105		93		70-130	12		20
cis-1,2-Dichloroethene	103		89		70-130	15		20
Dibromomethane	90		84		70-130	7		20
1,2,3-Trichloropropane	88		79		70-130	11		20
Styrene	99		90		70-130	10		20
Dichlorodifluoromethane	106		95		70-130	11		20
Acetone	76		74		70-130	3		20
Carbon disulfide	113		97		70-130	15		20
Methyl ethyl ketone	79		71		70-130	11		20
Methyl isobutyl ketone	68	Q	71		70-130	4		20
2-Hexanone	68	Q	64	Q	70-130	6		20
Bromochloromethane	97		88		70-130	10		20
Tetrahydrofuran	69	Q	70		70-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: CC HRE 2071 MASS AVE

Project Number: 13MA0.01

Lab Number: L2029601

Report Date: 07/20/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1393325-8 WG1393325-9								
2,2-Dichloropropane	103		93		70-130	10		20
1,2-Dibromoethane	91		84		70-130	8		20
1,3-Dichloropropane	90		83		70-130	8		20
1,1,1,2-Tetrachloroethane	97		86		70-130	12		20
Bromobenzene	104		85		70-130	20		20
n-Butylbenzene	123		99		70-130	22	Q	20
sec-Butylbenzene	120		95		70-130	23	Q	20
tert-Butylbenzene	116		93		70-130	22	Q	20
o-Chlorotoluene	133	Q	109		70-130	20		20
p-Chlorotoluene	113		92		70-130	20		20
1,2-Dibromo-3-chloropropane	90		78		70-130	14		20
Hexachlorobutadiene	114		95		70-130	18		20
Isopropylbenzene	115		92		70-130	22	Q	20
p-Isopropyltoluene	119		97		70-130	20		20
Naphthalene	89		78		70-130	13		20
n-Propylbenzene	117		95		70-130	21	Q	20
1,2,3-Trichlorobenzene	104		86		70-130	19		20
1,2,4-Trichlorobenzene	103		88		70-130	16		20
1,3,5-Trimethylbenzene	116		94		70-130	21	Q	20
1,2,4-Trimethylbenzene	114		94		70-130	19		20
Diethyl ether	86		76		70-130	12		20
Diisopropyl Ether	93		86		70-130	8		20
Ethyl-Tert-Butyl-Ether	89		84		70-130	6		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: CC HRE 2071 MASS AVE

Project Number: 13MA0.01

Lab Number: L2029601

Report Date: 07/20/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1393325-8 WG1393325-9								
Tertiary-Amyl Methyl Ether	85		81		70-130	5		20
1,4-Dioxane	78		73		70-130	7		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	95		90		70-130
Toluene-d8	101		103		70-130
4-Bromofluorobenzene	101		96		70-130
Dibromofluoromethane	101		96		70-130

INORGANICS & MISCELLANEOUS

Project Name: CC HRE 2071 MASS AVE**Project Number:** 13MA0.01**Lab Number:** L2029601**Report Date:** 07/20/20**SAMPLE RESULTS****Lab ID:** L2029601-01**Client ID:** LEA-B1**Sample Location:** 2072 MASS AVE, CAMBRIDGE**Date Collected:** 07/13/20 08:10**Date Received:** 07/14/20**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.1		%	0.100	NA	1	-	07/15/20 08:47	121,2540G	RI



Project Name: CC HRE 2071 MASS AVE

Project Number: 13MA0.01

Lab Number: L2029601

Report Date: 07/20/20

SAMPLE RESULTS

Lab ID: L2029601-02

Client ID: LEA-B2

Sample Location: 2072 MASS AVE, CAMBRIDGE

Date Collected: 07/13/20 11:25

Date Received: 07/14/20

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	90.2		%	0.100	NA	1	-	07/15/20 08:47	121,2540G	RI



Project Name: CC HRE 2071 MASS AVE**Project Number:** 13MA0.01**Lab Number:** L2029601**Report Date:** 07/20/20**SAMPLE RESULTS****Lab ID:** L2029601-03**Client ID:** LEA-B3**Sample Location:** 2072 MASS AVE, CAMBRIDGE**Date Collected:** 07/13/20 09:25**Date Received:** 07/14/20**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.9		%	0.100	NA	1	-	07/15/20 08:47	121,2540G	RI



Project Name: CC HRE 2071 MASS AVE

Project Number: 13MA0.01

Lab Number: L2029601

Report Date: 07/20/20

SAMPLE RESULTS

Lab ID: L2029601-04

Client ID: LEA-B4

Sample Location: 2072 MASS AVE, CAMBRIDGE

Date Collected: 07/13/20 12:50

Date Received: 07/14/20

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	89.5		%	0.100	NA	1	-	07/15/20 08:47	121,2540G	RI



Project Name: CC HRE 2071 MASS AVE
Project Number: 13MA0.01

Serial_No:07202016:15
Lab Number: L2029601
Report Date: 07/20/20

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2029601-01A	Vial MeOH preserved	A	NA		2.2	Y	Absent		MCP-8260HLW-10(14)
L2029601-01B	Vial water preserved	A	NA		2.2	Y	Absent	14-JUL-20 20:42	MCP-8260HLW-10(14)
L2029601-01C	Vial water preserved	A	NA		2.2	Y	Absent	14-JUL-20 20:42	MCP-8260HLW-10(14)
L2029601-01D	Plastic 2oz unpreserved for TS	A	NA		2.2	Y	Absent		TS(7)
L2029601-02A	Vial MeOH preserved	A	NA		2.2	Y	Absent		MCP-8260HLW-10(14)
L2029601-02B	Vial water preserved	A	NA		2.2	Y	Absent	14-JUL-20 20:42	MCP-8260HLW-10(14)
L2029601-02C	Vial water preserved	A	NA		2.2	Y	Absent	14-JUL-20 20:42	MCP-8260HLW-10(14)
L2029601-02D	Plastic 2oz unpreserved for TS	A	NA		2.2	Y	Absent		TS(7)
L2029601-03A	Vial MeOH preserved	A	NA		2.2	Y	Absent		MCP-8260HLW-10(14)
L2029601-03B	Vial water preserved	A	NA		2.2	Y	Absent	14-JUL-20 20:42	MCP-8260HLW-10(14)
L2029601-03C	Vial water preserved	A	NA		2.2	Y	Absent	14-JUL-20 20:42	MCP-8260HLW-10(14)
L2029601-03D	Plastic 2oz unpreserved for TS	A	NA		2.2	Y	Absent		TS(7)
L2029601-04A	Vial MeOH preserved	A	NA		2.2	Y	Absent		MCP-8260HLW-10(14)
L2029601-04B	Vial water preserved	A	NA		2.2	Y	Absent	14-JUL-20 20:42	MCP-8260HLW-10(14)
L2029601-04C	Vial water preserved	A	NA		2.2	Y	Absent	14-JUL-20 20:42	MCP-8260HLW-10(14)
L2029601-04D	Plastic 2oz unpreserved for TS	A	NA		2.2	Y	Absent		TS(7)

Project Name: CC HRE 2071 MASS AVE
Project Number: 13MA0.01

Lab Number: L2029601
Report Date: 07/20/20

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
	Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report



Project Name: CC HRE 2071 MASS AVE
Project Number: 13MA0.01

Lab Number: L2029601
Report Date: 07/20/20

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration. (DoD and NYSDEC Part 375 PFAS only.)
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the reporting limit (RL) for the sample.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration

Report Format: Data Usability Report



Project Name: CC HRE 2071 MASS AVE
Project Number: 13MA0.01

Lab Number: L2029601
Report Date: 07/20/20

Data Qualifiers

Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.

Project Name: CC HRE 2071 MASS AVE
Project Number: 13MA0.01

Lab Number: L2029601
Report Date: 07/20/20

REFERENCES

- 97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Alpha Analytical, Inc.Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

Revision 17

Published Date: 4/28/2020 9:42:21 AM

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Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility**EPA 624/624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.**EPA TO-12** Non-methane organics**EPA 3C** Fixed gases**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.**EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1** Hg.**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

Method Blank Summary

Form 4

Volatiles

Client	: Loureiro Engineering Associates, In	Lab Number	: L2029601
Project Name	: CC HRE 2071 MASS AVE	Project Number	: 13MA0.01
Lab Sample ID	: WG1393032-5	Lab File ID	: V10200716A04
Instrument ID	: VOA110		
Matrix	: SOIL	Analysis Date	: 07/16/20 07:22

Client Sample No.	Lab Sample ID	Analysis Date
WG1393032-3LCS	WG1393032-3	07/16/20 06:01
WG1393032-4LCSD	WG1393032-4	07/16/20 06:28
LEA-B2	L2029601-02	07/16/20 12:47
LEA-B3	L2029601-03	07/16/20 13:14
LEA-B4	L2029601-04	07/16/20 13:42

Method Blank Summary Form 4 Volatiles

Client	: Loureiro Engineering Associates, In	Lab Number	: L2029601
Project Name	: CC HRE 2071 MASS AVE	Project Number	: 13MA0.01
Lab Sample ID	: WG1393325-10	Lab File ID	: V27200717A04
Instrument ID	: VOA127		
Matrix	: SOIL	Analysis Date	: 07/17/20 06:43

Client Sample No.	Lab Sample ID	Analysis Date
WG1393325-8LCS	WG1393325-8	07/17/20 05:39
WG1393325-9LCSD	WG1393325-9	07/17/20 06:01
LEA-B1	L2029601-01	07/17/20 08:50

Calibration Verification Summary

Form 7

Volatiles

Client : Loureiro Engineering Associates, In
 Project Name : CC HRE 2071 MASS AVE
 Instrument ID : VOA110
 Lab File ID : V10200716A01
 Sample No : WG1393032-2
 Channel :

Lab Number : L2029601
 Project Number : 13MA0.01
 Calibration Date : 07/16/20 06:01
 Init. Calib. Date(s) : 06/17/20 06/17/20
 Init. Calib. Times : 15:26 19:05

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	111	0
Dichlorodifluoromethane	0.125	0.178	-	-42.4*	20	153	0
Chloromethane	0.209	0.211	-	-1	20	116	.01
Vinyl chloride	0.226	0.232	-	-2.7	20	107	.01
Bromomethane	40	34.636	-	13.4	20	98	0
Chloroethane	0.159	0.165	-	-3.8	20	109	.01
Trichlorofluoromethane	0.291	0.313	-	-7.6	20	112	0
Ethyl ether	0.14	0.144	-	-2.9	20	110	0
1,1-Dichloroethene	0.186	0.182	-	2.2	20	105	0
Carbon disulfide	0.598	0.58	-	3	20	104	.01
Freon-113	0.175	0.192*	-	-9.7	20	116	0
Acrolein	0.047	0.036*	-	23.4*	20	87	0
Methylene chloride	0.213	0.231	-	-8.5	20	117	0
Acetone	40	46.052	-	-15.1	20	123	0
trans-1,2-Dichloroethene	0.201	0.206	-	-2.5	20	109	0
Methyl acetate	0.223	0.247	-	-10.8	20	127	0
Methyl tert-butyl ether	0.672	0.726	-	-8	20	114	0
tert-Butyl alcohol	0.045	0.045*	-	0	20	107	-.02
Diisopropyl ether	0.806	0.957	-	-18.7	20	124	0
1,1-Dichloroethane	0.401	0.46	-	-14.7	20	122	0
Halothane	0.149	0.161	-	-8.1	20	113	0
Acrylonitrile	0.089	0.106	-	-19.1	20	129	0
Ethyl tert-butyl ether	0.774	0.849	-	-9.7	20	114	0
Vinyl acetate	0.637	0.798	-	-25.3*	20	129	0
cis-1,2-Dichloroethene	0.234	0.256	-	-9.4	20	116	0
2,2-Dichloropropane	0.328	0.361	-	-10.1	20	118	0
Bromochloromethane	0.101	0.106	-	-5	20	110	0
Cyclohexane	0.366	0.457	-	-24.9*	20	134	0
Chloroform	0.377	0.396	-	-5	20	113	0
Ethyl acetate	0.313	0.361	-	-15.3	20	129	0
Carbon tetrachloride	0.27	0.291	-	-7.8	20	114	0
Tetrahydrofuran	0.099	0.115	-	-16.2	20	129	0
Dibromofluoromethane	0.223	0.224	-	-0.4	20	111	0
1,1,1-Trichloroethane	0.322	0.345	-	-7.1	20	111	0
2-Butanone	0.149	0.156	-	-4.7	20	119	-.01
1,1-Dichloropropene	0.285	0.328	-	-15.1	20	122	0
Benzene	0.92	0.986	-	-7.2	20	113	0
tert-Amyl methyl ether	0.731	0.741	-	-1.4	20	106	0
1,2-Dichloroethane-d4	0.295	0.301	-	-2	20	114	0
1,2-Dichloroethane	0.324	0.342	-	-5.6	20	113	0
Methyl cyclohexane	0.365	0.426	-	-16.7	20	123	0
Trichloroethene	0.225	0.234	-	-4	20	112	0
Dibromomethane	0.136	0.132	-	2.9	20	102	0

* Value outside of QC limits.



Calibration Verification Summary

Form 7

Volatiles

Client : Loureiro Engineering Associates, In
 Project Name : CC HRE 2071 MASS AVE
 Instrument ID : VOA110
 Lab File ID : V10200716A01
 Sample No : WG1393032-2
 Channel :

Lab Number : L2029601
 Project Number : 13MA0.01
 Calibration Date : 07/16/20 06:01
 Init. Calib. Date(s) : 06/17/20 06/17/20
 Init. Calib. Times : 15:26 19:05

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.235	0.231	-	1.7	20	101	0
2-Chloroethyl vinyl ether	0.162	0.145	-	10.5	20	93	0
Bromodichloromethane	0.301	0.289	-	4	20	99	0
1,4-Dioxane	0.00321	0.00339*	-	-5.6	20	110	-.01
cis-1,3-Dichloropropene	0.389	0.374	-	3.9	20	99	0
Chlorobenzene-d5	1	1	-	0	20	102	0
Toluene-d8	1.3	1.263	-	2.8	20	99	0
Toluene	0.793	0.802	-	-1.1	20	97	0
4-Methyl-2-pentanone	0.167	0.174	-	-4.2	20	103	-.01
Tetrachloroethene	0.262	0.276	-	-5.3	20	99	0
trans-1,3-Dichloropropene	0.484	0.604	-	-24.8*	20	116	0
Ethyl methacrylate	0.462	0.524	-	-13.4	20	109	0
1,1,2-Trichloroethane	0.232	0.274	-	-18.1	20	111	0
Chlorodibromomethane	0.286	0.321	-	-12.2	20	106	-.01
1,3-Dichloropropane	0.494	0.596	-	-20.6*	20	115	0
1,2-Dibromoethane	0.273	0.309	-	-13.2	20	107	0
2-Hexanone	0.338	0.355	-	-5	20	110	-.01
Chlorobenzene	0.87	0.876	-	-0.7	20	98	0
Ethylbenzene	1.537	1.58	-	-2.8	20	98	0
1,1,1,2-Tetrachloroethane	0.285	0.294	-	-3.2	20	96	0
p/m Xylene	0.587	0.597	-	-1.7	20	95	0
o Xylene	0.58	0.573	-	1.2	20	92	0
Styrene	1.014	1.024	-	-1	20	92	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	111	0
Bromoform	0.349	0.308	-	11.7	20	95	0
Isopropylbenzene	2.994	2.756	-	7.9	20	97	0
4-Bromofluorobenzene	0.976	0.902	-	7.6	20	106	0
Bromobenzene	0.691	0.568	-	17.8	20	89	0
n-Propylbenzene	3.637	3.326	-	8.6	20	97	0
1,4-Dichlorobutane	1.074	1.006	-	6.3	20	102	0
1,1,2,2-Tetrachloroethane	0.812	0.715	-	11.9	20	95	0
4-Ethyltoluene	3.015	2.672	-	11.4	20	94	0
2-Chlorotoluene	2.132	1.91	-	10.4	20	95	0
1,3,5-Trimethylbenzene	2.58	2.344	-	9.1	20	96	0
1,2,3-Trichloropropane	0.705	0.64	-	9.2	20	99	0
trans-1,4-Dichloro-2-buten	0.255	0.266	-	-4.3	20	110	0
4-Chlorotoluene	2.251	2.068	-	8.1	20	99	0
tert-Butylbenzene	2.19	2.029	-	7.4	20	97	0
1,2,4-Trimethylbenzene	2.571	2.465	-	4.1	20	101	0
sec-Butylbenzene	3.317	3.045	-	8.2	20	96	0
p-Isopropyltoluene	2.863	2.83	-	1.2	20	104	0
1,3-Dichlorobenzene	1.427	1.335	-	6.4	20	100	0
1,4-Dichlorobenzene	1.427	1.349	-	5.5	20	102	0

* Value outside of QC limits.



Calibration Verification Summary

Form 7

Volatiles

Client : Loureiro Engineering Associates, In
 Project Name : CC HRE 2071 MASS AVE
 Instrument ID : VOA110
 Lab File ID : V10200716A01
 Sample No : WG1393032-2
 Channel :

Lab Number : L2029601
 Project Number : 13MA0.01
 Calibration Date : 07/16/20 06:01
 Init. Calib. Date(s) : 06/17/20 06/17/20
 Init. Calib. Times : 15:26 19:05

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.709	1.672	-	2.2	20	102	0
n-Butylbenzene	2.718	2.792	-	-2.7	20	108	0
1,2-Dichlorobenzene	1.337	1.259	-	5.8	20	98	0
1,2,4,5-Tetramethylbenzene	2.75	2.645	-	3.8	20	101	0
1,2-Dibromo-3-chloropropan	0.136	0.133	-	2.2	20	104	0
1,3,5-Trichlorobenzene	0.916	0.865	-	5.6	20	101	0
Hexachlorobutadiene	0.385	0.357	-	7.3	20	102	0
1,2,4-Trichlorobenzene	0.881	0.836	-	5.1	20	104	0
Naphthalene	2.851	2.53	-	11.3	20	95	0
1,2,3-Trichlorobenzene	0.843	0.718	-	14.8	20	92	0

* Value outside of QC limits.



Calibration Verification Summary

Form 7

Volatiles

Client : Loureiro Engineering Associates, In
 Project Name : CC HRE 2071 MASS AVE
 Instrument ID : VOA127
 Lab File ID : V27200717A01
 Sample No : WG1393325-7
 Channel :

Lab Number : L2029601
 Project Number : 13MA0.01
 Calibration Date : 07/17/20 05:39
 Init. Calib. Date(s) : 07/10/20 07/10/20
 Init. Calib. Times : 16:42 19:31

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	76	0
Dichlorodifluoromethane	0.196	0.207	-	-5.6	20	80	0
Chloromethane	0.171	0.183	-	-7	20	80	-.03
Vinyl chloride	0.231	0.249	-	-7.8	20	83	0
Bromomethane	0.277	0.27	-	2.5	20	80	0
Chloroethane	0.218	0.229	-	-5	20	85	0
Trichlorofluoromethane	0.55	0.61	-	-10.9	20	88	0
Ethyl ether	0.104	0.089	-	14.4	20	66	0
1,1-Dichloroethene	0.215	0.237	-	-10.2	20	85	0
Carbon disulfide	0.57	0.643	-	-12.8	20	87	0
Freon-113	0.225	0.248	-	-10.2	20	85	0
Acrolein	0.0107	0.0084*	-	21.5*	20	60	0
Methylene chloride	0.245	0.224	-	8.6	20	72	-.01
Acetone	40	30.216	-	24.5*	20	62	-.01
trans-1,2-Dichloroethene	0.235	0.248	-	-5.5	20	81	0
Methyl acetate	0.064	0.046*	-	28.1*	20	54	0
Methyl tert-butyl ether	0.463	0.387	-	16.4	20	62	0
tert-Butyl alcohol	0.01145	0.00726*	-	36.6*	20	52	-.02
Diisopropyl ether	0.451	0.421	-	6.7	20	69	-.01
1,1-Dichloroethane	0.366	0.373	-	-1.9	20	78	-.01
Halothane	0.189	0.207	-	-9.5	20	83	0
Acrylonitrile	0.031	0.025*	-	19.4	20	57	-.02
Ethyl tert-butyl ether	0.496	0.444	-	10.5	20	67	-.01
Vinyl acetate	0.275	0.223	-	18.9	20	63	-.01
cis-1,2-Dichloroethene	0.287	0.296	-	-3.1	20	78	-.02
2,2-Dichloropropane	0.307	0.317	-	-3.3	20	79	-.01
Bromochloromethane	0.122	0.119	-	2.5	20	72	-.02
Cyclohexane	0.287	0.31	-	-8	20	80	-.01
Chloroform	0.425	0.431	-	-1.4	20	79	-.01
Ethyl acetate	0.095	0.071	-	25.3*	20	57	0
Carbon tetrachloride	0.335	0.373	-	-11.3	20	86	0
Tetrahydrofuran	40	27.64	-	30.9*	20	57	0
Dibromofluoromethane	0.208	0.211	-	-1.4	20	79	0
1,1,1-Trichloroethane	0.372	0.407	-	-9.4	20	84	-.01
2-Butanone	40	31.637	-	20.9*	20	65	0
1,1-Dichloropropene	0.309	0.327	-	-5.8	20	80	0
Benzene	0.959	0.964	-	-0.5	20	79	0
tert-Amyl methyl ether	0.503	0.428	-	14.9	20	65	0
1,2-Dichloroethane-d4	0.172	0.162	-	5.8	20	74	-.01
1,2-Dichloroethane	0.24	0.212	-	11.7	20	70	0
Methyl cyclohexane	0.391	0.432	-	-10.5	20	81	0
Trichloroethene	0.26	0.274	-	-5.4	20	81	0
Dibromomethane	0.126	0.114	-	9.5	20	68	0

* Value outside of QC limits.



Calibration Verification Summary

Form 7

Volatiles

Client : Loureiro Engineering Associates, In
 Project Name : CC HRE 2071 MASS AVE
 Instrument ID : VOA127
 Lab File ID : V27200717A01
 Sample No : WG1393325-7
 Channel :

Lab Number : L2029601
 Project Number : 13MA0.01
 Calibration Date : 07/17/20 05:39
 Init. Calib. Date(s) : 07/10/20 07/10/20
 Init. Calib. Times : 16:42 19:31

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.204	0.197	-	3.4	20	74	-.01
2-Chloroethyl vinyl ether	0.092	0.073	-	20.7*	20	59	0
Bromodichloromethane	0.304	0.299	-	1.6	20	76	0
1,4-Dioxane	0.00166	0.00129*	-	22.3*	20	60	-.01
cis-1,3-Dichloropropene	0.336	0.313	-	6.8	20	72	0
Chlorobenzene-d5	1	1	-	0	20	74	0
Toluene-d8	1.052	1.066	-	-1.3	20	75	0
Toluene	0.833	0.868	-	-4.2	20	79	0
4-Methyl-2-pentanone	40	27.006	-	32.5*	20	54	0
Tetrachloroethene	0.377	0.422	-	-11.9	20	84	0
trans-1,3-Dichloropropene	0.35	0.328	-	6.3	20	68	0
Ethyl methacrylate	0.239	0.189	-	20.9*	20	59	0
1,1,2-Trichloroethane	0.195	0.177	-	9.2	20	67	0
Chlorodibromomethane	0.293	0.273	-	6.8	20	68	0
1,3-Dichloropropane	0.382	0.344	-	9.9	20	68	0
1,2-Dibromoethane	0.23	0.21	-	8.7	20	68	0
2-Hexanone	0.09	0.061*	-	32.2*	20	53	0
Chlorobenzene	1.018	0.982	-	3.5	20	79	0
Ethylbenzene	1.591	1.694	-	-6.5	20	81	0
1,1,1,2-Tetrachloroethane	0.349	0.34	-	2.6	20	75	0
p/m Xylene	0.676	0.726	-	-7.4	20	83	0
o Xylene	0.629	0.663	-	-5.4	20	80	0
Styrene	1.089	1.077	-	1.1	20	77	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	75	0
Bromoform	0.357	0.328	-	8.1	20	67	0
Isopropylbenzene	3.119	3.581	-	-14.8	20	83	0
4-Bromofluorobenzene	0.584	0.59	-	-1	20	75	0
Bromobenzene	0.743	0.771	-	-3.8	20	74	0
n-Propylbenzene	3.615	4.239	-	-17.3	20	84	0
1,4-Dichlorobutane	0.496	0.442	-	10.9	20	65	0
1,1,2,2-Tetrachloroethane	0.496	0.441	-	11.1	20	64	0
4-Ethyltoluene	2.977	3.438	-	-15.5	20	83	0
2-Chlorotoluene	1.955	2.604	-	-33.2*	20	99	0
1,3,5-Trimethylbenzene	2.661	3.085	-	-15.9	20	84	0
1,2,3-Trichloropropane	0.398	0.35	-	12.1	20	66	0
trans-1,4-Dichloro-2-buten	0.096	0.083	-	13.5	20	67	0
4-Chlorotoluene	2.055	2.329	-	-13.3	20	82	0
tert-Butylbenzene	2.344	2.714	-	-15.8	20	83	0
1,2,4-Trimethylbenzene	2.611	2.985	-	-14.3	20	83	0
sec-Butylbenzene	3.303	3.957	-	-19.8	20	86	0
p-Isopropyltoluene	3.034	3.62	-	-19.3	20	85	0
1,3-Dichlorobenzene	1.598	1.739	-	-8.8	20	82	0
1,4-Dichlorobenzene	1.63	1.737	-	-6.6	20	81	0

* Value outside of QC limits.



Calibration Verification Summary

Form 7

Volatiles

Client : Loureiro Engineering Associates, In
 Project Name : CC HRE 2071 MASS AVE
 Instrument ID : VOA127
 Lab File ID : V27200717A01
 Sample No : WG1393325-7
 Channel :

Lab Number : L2029601
 Project Number : 13MA0.01
 Calibration Date : 07/17/20 05:39
 Init. Calib. Date(s) : 07/10/20 07/10/20
 Init. Calib. Times : 16:42 19:31

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.72	2.116	-	-23*	20	87	0
n-Butylbenzene	2.783	3.436	-	-23.5*	20	89	0
1,2-Dichlorobenzene	1.419	1.503	-	-5.9	20	78	0
1,2,4,5-Tetramethylbenzene	2.55	2.7	-	-5.9	20	78	0
1,2-Dibromo-3-chloropropan	0.085	0.076	-	10.6	20	65	0
1,3,5-Trichlorobenzene	1.074	1.222	-	-13.8	20	82	0
Hexachlorobutadiene	0.462	0.53	-	-14.7	20	84	0
1,2,4-Trichlorobenzene	0.968	1.002	-	-3.5	20	76	0
Naphthalene	1.906	1.689	-	11.4	20	63	0
1,2,3-Trichlorobenzene	0.849	0.888	-	-4.6	20	75	0

* Value outside of QC limits.



APPENDIX C

Public Notifications



September 30, 2020

Cambridge Public Health Department

119 Windsor Street, Ground Level
Cambridge, MA, 02139

Attn: Claude-Alix Jacob

**RE: MCP Public Involvement Notification
Permanent Solution Statement
2072 Massachusetts Avenue, Cambridge, Massachusetts
RTN 3-36458**

Dear Claude-Alix Jacob:

Pursuant to the Public Involvement requirements of the Massachusetts Contingency Plan (MCP), referred to as 310 CMR 40.1403, this letter is intended to provide notification that a Permanent Solution Statement with No Conditions is available for review. A copy of the submittal is available at the Northeast Regional Office File Facility of the Massachusetts Department of Environmental Protection (MassDEP), located at 205B Lowell Street, Wilmington, MA 01887 or through MassDEP's online file viewer. See link below.

<https://eeaonline.eea.state.ma.us/portal#!/search/wastesite>).

Information on the Site may also be obtained by contacting Mr. Samuel Butcher, LSP, Loureiro Engineering Associates, Inc. at 781-878-1272.

Sincerely,

LOUREIRO ENGINEERING ASSOCIATES, INC.

Lauren M. McKinlay
Project Manager

Samuel W. Butcher, LSP,
Vice President

Loureiro Engineering Associates, Inc.

800 Hingham St., Suite 202S • Rockland, MA 02370 • 781.878.1272 • Fax 781.871.0991 • www.Loureiro.com

AN EMPLOYEE-OWNED COMPANY



September 30, 2020

The Mayor's Office

795 Massachusetts Ave., 2nd Floor
Cambridge, MA, 02139

Attn: Mayor Sumbul Siddiqui

**RE: MCP Public Involvement Notification
Permanent Solution Statement
2072 Massachusetts Avenue, Cambridge, Massachusetts
RTN 3-36458**

Dear Mayor Siddiqui:

Pursuant to the Public Involvement requirements of the Massachusetts Contingency Plan (MCP), referred to as 310 CMR 40.1403, this letter is intended to provide notification that a Permanent Solution Statement with No Conditions is available for review. A copy of the submittal is available at the Northeast Regional Office File Facility of the Massachusetts Department of Environmental Protection (MassDEP), located at 205B Lowell Street, Wilmington, MA 01887 or through MassDEP's online file viewer. See link below.

(<https://eeaonline.eea.state.ma.us/portal#!/search/wastesite>).

Information on the Site may also be obtained by contacting Mr. Samuel Butcher, LSP, Loureiro Engineering Associates, Inc. at 781-878-1272.

Sincerely,

LOUREIRO ENGINEERING ASSOCIATES, INC.

Lauren M. McKinlay
Project Manager

Samuel W. Butcher, LSP,
Vice President

Loureiro Engineering Associates, Inc.

800 Hingham St., Suite 202S • Rockland, MA 02370 • 781.878.1272 • Fax 781.871.0991 • www.Loureiro.com

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