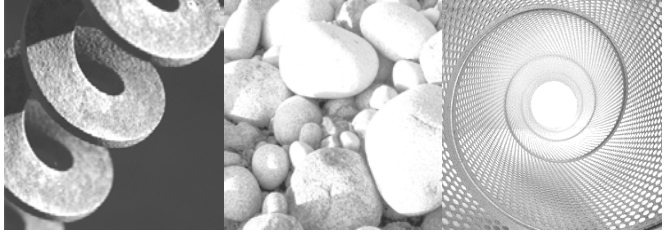

GEI Consultants

Consulting
Engineers and
Scientists

MassDEP RTN 3-18126

Release Abatement Measure Plan for Targeted Excavations, Lots 1 and 2

Former Tombarello Site
207 Marston Street, Lawrence, Massachusetts

Submitted to:
Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
Northeast Regional Office
205B Lowell Street
Wilmington, MA 01887

Submitted by:
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June 2020

Project 1802441

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1. Introduction

On behalf of the City of Lawrence, GEI Consultants, Inc. prepared this Release Abatement Measure (RAM) Plan for targeted soil excavations on both Lots 1 and 2 of the former Tombarello property at 207 Marston Street in Lawrence, Massachusetts (Fig. 1; the Site). The Site is listed by the Massachusetts Department of Environmental Protection (MassDEP) as a disposal site with Release Tracking Number (RTN) 3-18126 (Fig. 2). This RAM Plan was prepared in accordance with the requirements of the Massachusetts Contingency Plan (MCP; 310 CMR 40.0440).

The cleanup activities on Lot 1 will be conducted under an EPA Brownfields Cleanup Grant (Grant # BF00A00375) and the cleanup activities on Lot 2 will be conducted under a MassDevelopment Brownfields Recoverable Remediation Grant.

The original MassDEP RAM Transmittal Form (BWSC106) was submitted electronically via eDEP, and a copy is in Appendix A. Notification, including the purpose, nature, and expected duration of the RAM, has been provided to the Mayor of Lawrence and the City of Lawrence Board of Health in accordance with the public notice requirements of 310 CMR 40.1403(3)(d). Copies of the notification letters are in Appendix B.

1.1 Contact Information (310 CMR 40.0444[1][a])

Municipality conducting RAM with Exempt Status
Pedro Soto, Planning Director
Office of Planning & Development
City of Lawrence
12 Methuen Street
Lawrence, MA 01840
978-620-3501

Licensed Site Professional (LSP)
Ileen S. Gladstone, P.E., LSP, LEED AP
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1.2 Description of Release, Site Conditions, and Surrounding Receptors (310 CMR 40.0444[1][b])

1.2.1 Release Description and Background

An Environmental Site Assessment conducted in 1998 identified polychlorinated biphenyls (PCBs) in surface soil at concentrations representing a potential Imminent Hazard (IH). The Massachusetts Department of Environmental Protection (MassDEP) assigned RTN 3-18126

in March 1999 to the release and required that an Immediate Response Action (IRA) be conducted to address the potential IH. Condition. The IRA installed a fence at the Site perimeter to restrict access and eliminate the IH.

Subsequent investigations were conducted on both Lots 1 and 2 to evaluate the nature and extent of contamination, including MCP Phase II investigations in 2003 and subsequent PCB investigations in 2005 by Weston Solutions, Inc. (Weston) on behalf of a former property owner; a Preliminary Assessment/Site Investigation (PA/SI) in 2010 by Weston on behalf of the U.S. Environmental Protection Agency (EPA); a Targeted Brownfields Assessment (TBA) in 2016 by Nobis Engineering, Inc. on behalf of EPA; supplemental investigations on Lot 2 in 2019 and 2020 by GEI on behalf of the City of Lawrence; supplemental investigations on Lot 1 in 2019 by Credere Associates on behalf of the City of Lawrence; and investigations on Lot 1 in 2020 by GEI on behalf of the City of Lawrence.

Site contamination is primarily PCBs, metals, petroleum hydrocarbons, and polycyclic aromatic hydrocarbons (PAHs) in soil. Because PCBs at concentrations greater than 50 parts per million (ppm) are present in Site soil, in addition to compliance with the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000), assessment and cleanup is also subject to the Toxic Substances Control Act (TSCA; 40 CFR 761).

1.2.2 Site Description

The Site is an approximately 14-acre, property at 207 Marston Street in Lawrence, Massachusetts (Fig. 1). The Property has been sub-divided into two lots, Lot 1 and Lot 2 (Fig. 2). Lot 1 is a 2.6-acre parcel to the west and Lot 2 is an 11.4-acre parcel to the east.

The Site is developed with structures associated with its historical use as a metal recycling facility, including a metal shop/garage and furnace building and a former house. There are concrete foundations of other structures, including a baler/press area, small shear, and large shear building on the Site. Other Site features include a 10 to 20-foot-high soil berm located along the eastern and southern Site boundaries and soil and debris piles. The soil berms were reportedly constructed by pushing shallow soil from the Site toward the southern and eastern boundaries.

The entire Site is vacant and is surrounded with a gated and locked chain link fence to restrict access. A portion of the Site, primarily on Lot 1, is paved. The remainder of the Site that is not occupied with structures or concrete foundations, is covered with overgrown native vegetation.

1.2.3 Surrounding Land Use and Receptors

Residential properties abut the Site to the north, along Hoffman Avenue. An apartment complex is located northwest of the Site across Marston Street. West of the Site and across Marston Street is the Partham Elementary School. Commercial properties, including a cargo and freight company and an auto dealership, abut the Site to the south. The Site is bounded to the east by Route 495. The Merrimack River is east of Route 495.

Based on our review of the MassGIS Phase I Site Assessment Map showing the Site and surrounding area (Fig. 3) the environmental setting and potential sensitive receptors at the Site and in its vicinity include:

- Residential Population: The Site is located within a mixed-use area of Lawrence. The residential population within a ½-mile radius of the disposal site is estimated to be greater than 1,000.
- On-site Workers: There are no current on-site workers.
- Institutions: There are no Institutions within 500 feet of the Site.
- Drinking Water Supplies: A portion of the Site is located within a Medium Yield Non-Potential Drinking Water Source Area. There are no known Zone II areas, Interim Wellhead Protection Areas, Zone A areas, Potentially Productive Aquifers (PPA), private wells or Sole Source Aquifers within 500 feet of the Site.
- Surface Waters and Wetlands: The Merrimac River is located approximately 450 feet east of the Site.
- Fish Habitat: The nearest fish habitat is the Merrimack River, located approximately 450 feet east of the Site.
- Area of Critical Environmental Concern (ACEC): The Site is not located in an ACEC.
- Threatened or Endangered Species: There are no Natural Heritage and Endangered Species Program (NHESP) Estimated Habitats of Rare Wildlife or Priority Habitats of Rare Species within 500 feet of the Site.
- Protected Open Space: Lorenz Park, a Protected Open Space, is located about 380 feet southwest of the Site.

1.2.4 Quality Assurance Project Plan

In 2017, the City of Lawrence received an EPA Brownfields Cleanup Grant (Grant # BF00A00375) for Lot 1. As an EPA Brownfields Cleanup project, RAM activities on Lot 1 are performed in conformance with GEI's EPA approved Generic Quality Assurance Project

Plan (QAPP), Revision 1 dated May 6, 2019 (EPA RFA# 19055) and Addendum No. 1, Revision 01, dated March 11, 2020 prepared for Lot 1.

1.2.5 Compliance with Toxic Substance Control Act (TSCA)

GEI prepared and submitted to EPA for approval a "Self-Implementing PCB Cleanup and Disposal Plan" dated April 2020 for cleanup of Lot 1 (SIP). The Plan requests EPA approval for the offsite disposal of soil and asphalt generated from the northwest portion of Lot 1 at a Subtitle D landfill. We also requested approval under 40 CFR §761.61(c) for a deviation from the verification sampling frequency requirements of Subpart O of the TSCA regulations A copy of the Cleanup Plan is in Appendix C and EPA Approval is pending.

The Work on Lot 2 will be conducted in accordance with the Performance Based Cleanup and Disposal provisions of TSCA under 40 CFR 761.61(b).

2. RAM Objectives, Plan, and Schedule (310 CMR 40.0444[1][c])

2.1 Objective

The objectives of the RAM for Lot 1 are to achieve a Condition of No Significant Risk (NSR) to current receptors on the northwest portion of Lot 1 (Fig.4) by

- Removing and disposing of asphalt surface cover on the northwest portion of Lot 1.
- Excavating and disposing of soil on the northwest portion of Lot 1 with elevated extractable petroleum hydrocarbons (EPH) (Excavation Area #3).
- Excavating and disposing off-site soil on the northwest portion of Lot 1 (Excavation Area #4) to confirm PCBs are less than or equal to 1 ppm in remaining soil.

The objective of the RAM for Lot 2 (Fig. 5) is to achieve less than or equal to 100 ppm PCBs at selected areas by:

- Excavating and disposing of soil with PCB concentrations greater than 100 ppm (Excavation Areas #1 and #2).

2.2 Project Description

The City of Lawrence retained W.L. French Excavating Corporation of Billerica, Massachusetts to perform the RAM GEI, on behalf of the City of Lawrence, will provide an on-site field representative to monitor and document RAM activities including construction of Site controls, asphalt removal, excavation, perimeter air monitoring, soil management, soil verification sampling, backfilling, and seeding. The field representative will observe the work conducted for conformance with the plans and specifications. This information will be documented in the RAM Completion Report.

The plans and specifications for the Project are in Appendix D.

The RAM will be conducted entirely within the Site boundary and entirely on property owned by the City of Lawrence.

2.2.1 RAM Activities on Lot 1

2.2.1.1 Removal of the asphalt surface cover

The asphalt surface cover on the northwest portion of Lot 1 will be removed and disposed offsite (Fig. 4).

2.2.1.2 Soil Excavation

EPH contaminated soil will be excavated from Area #3 on Lot 1. The excavation will be about 10 feet wide by 10 feet long and extend to a depth of seven feet. The total in-situ volume of soil to be excavated from Excavation Area #3 is about 26 cubic yards.

PCB contaminated soil will be excavated from Area #4. The excavation will be approximately five feet wide by 110 feet long and extend to a depth of three feet. The total in-situ volume of soil to be excavated from Excavation Area #4 is about 61 cubic yards.

2.2.1.3 Soil Verification Sampling

Soil verification samples will be collected as described in the Site-Specific QAPP Addendum No. 1, Revision 01, dated March 11, 2020 that was prepared for Lot 1 cleanup activities.

Soil samples for EPH testing will be collected from the limits of Excavation Area #3. One sample will be collected from each of the four sidewalls of the excavation at a depth interval of 5 feet to 7 feet, and one sample will be collected from the bottom of the excavation at 7 feet. One field duplicate for EPH testing will also be collected. Soil samples for lead testing will be collected from the sidewalls of Excavation Area #3 from a depth of 0 to 3 feet. One field duplicate for lead testing will also be collected.

Soil samples for PCB testing will be collected from the limits of Excavation Area #4 at a frequency of one sample every 10 linear feet along the north and south sidewalls and bottom of the excavation. The sidewall samples will be collected at depth range of 1 to 1 ½ feet and the bottom samples will be collected at a depth of 3 feet. Two field duplicates will also be collected.

2.2.1.4 Backfill and Restoration

Upon completion of the excavations, a geotextile separation layer will be placed within the excavations and clean imported fill will be used to backfill the excavations. The northwest portion of Lot 1 will be hydroseeded.

2.2.1.5 Fence Installation

At completion of work on Lot 1, a new chain link fence will be installed along southern perimeter of removed asphalt to isolate the northwest portion of Lot 1 from the remainder of Lot 1.

2.2.2 RAM Activities on Lot 2

2.2.2.1 Excavation

Areas #1 and #2 will be excavated to remove soil with PCBs greater than 100 ppm.

Excavation Area #1 will be excavated to depths ranging from two to six feet (Fig. 5). The total in-situ volume of soil excavated from Area #1 is about 170 cubic yards.

Excavation Area #2 will be excavated to a depth of 3 feet. The final limits of excavation in Excavation Area #2 will be determined by the City based on available funding. If the entire Area #2 is excavated to the limits shown, it will be about 205 cubic yards (in-situ).

2.2.2.2 Soil Verification Sampling

Soil verification samples will be collected at a frequency of one sample every 20 linear feet along the sidewalls of the excavations, and one sample every 400 square feet (an approximately 20 ft by 20 ft area) at the bottoms of the excavations. One field duplicate sample will be collected and tested for every 20 samples collected.

2.2.2.3 Backfill and Restoration

Upon completion of the excavations, a geotextile separation layer will be placed within the excavations and clean imported fill will be used to backfill the excavations.

2.3 Schedule

The work will be conducted in June/July of 2020 and is expected to take six weeks to complete from mobilization to demobilization.

3. Remediation Waste Management (310 CMR 40.0444[1][D])

3.1 Soil Characterization for Offsite Disposal

3.1.1 Lot 1

GEI conducted investigations on Lot 1 in March 2020 on behalf of the City of Lawrence under an EPA Brownfields Cleanup Grant to characterize soil for offsite disposal.

On March 12, 2020, GEI observed Northern Drill Service (NDS), Inc. of Northborough, Massachusetts advance four soil borings at locations LOT1-DISP-01, LOT1-DISP-02A, LOT1-DISP-02B, and LOT1-DISP-02C (Fig. 4). The borings were advanced using a direct push Geoprobe drilling method. The soil boring at LOT1-DISP-01 was advanced to a depth of 7 feet and the soil borings at LOT1-DISP-02A, LOT1-DISP-02B, and LOT1-DISP-02C were advanced to a depth of 3 feet. All the borings were advanced through a surface cover of about 3-inches of asphalt pavement. Boring logs are in Appendix E.

A composite sample was collected from Lot1-Disp-01 by compositing soil collected from the boring across the 1 to 7-foot depth interval, which is representative of the soil planned for excavation. Composite sample Lot1-Disp-02comp was collected by compositing soil from locations LOT1-DISP-02A, LOT1-DISP-02B, and LOT1-DISP-02C. Samples from Lot1-Disp-02A through C were collected across the depth interval 1 to 3 feet. A grab sample, Lot1-Disp02grab, was collected from Lot1-Disp-02B.

The samples were submitted to ESS laboratories of Cranston, Rhode Island for chemical testing. Lot1-Disp-01 was tested for VOCs, SVOCs, PCBs, RCRA 8 metals, TCLP lead, TPH, ignitability, corrosivity, reactive cyanide and sulfide. Lot1-Disp-02comp was tested for SVOCs, PCBs, TPH, RCRA 8 metals, TCLP lead, ignitability, corrosivity, reactive cyanide and sulfide and Lot1-Disp02grab was tested for VOCs.

The results of chemical testing are summarized in Table 1 and the laboratory data report is in Appendix F.

3.1.2 Lot 2

On March 12 and 13, 2020 GEI observed NDS advance two soil borings on Lot 2 (Lot2-DISP-01 and Lot2-DISP-03) to collect samples for soil disposal characterization from the two areas planned for excavation under this RAM (Fig. 5). Soil borings were also

advanced and soil samples collected from other areas planned for future excavation. Those data will be included in future submittals.

Soil borings Lot2-DISP01 and Lot2-DISP03 were advanced to a depth of 3 feet. Soil samples were collected across the depth of each boring to generate one sample from each soil boring for chemical testing. Each sample was field screened for volatile organic compounds (VOCs) using the jar headspace method and a photoionization detector (PID). The samples were tested for VOCs, SVOCs, PCBs, RCRA 8 metals, TCLP lead, ignitability, corrosivity, reactive cyanide and sulfide. The sample from Lot 2 Disp-03 was also tested for TCLP cadmium.

Results of chemical testing are in Table 2 and laboratory data reports are in Appendix F.

3.2 Remediation Waste Management

Remediation waste materials requiring offsite disposal are excavated soil, removed asphalt, decontamination wastes, and used PPE. Remediation wastes will be transported to appropriate disposal facilities identified by the contractor based on material type and/or laboratory information provided by GEI.

3.2.1 Lot 1 Soil

Approximately 87 cubic yards of contaminated soil will be excavated for offsite disposal. Excavated soil will either be live loaded directly onto trucks for offsite disposal or placed into lined and covered containers in a designated onsite materials management area until offsite transportation is arranged. Soil excavated from Lot 1 will be disposed at an out-of-state Subtitle D non-hazardous waste landfill and transported under a MassDEP Bill of Lading (BOL; BWSC112).

3.2.2 Lot 2 Soil

Up to about 375 cubic yards of soil will be excavated. Excavated soil will either be live loaded directly onto trucks for offsite disposal or placed into lined and covered containers in a designated onsite materials management area until offsite transportation is arranged. Soil from Lot 2 will be disposed at an EPA-approved TSCA PCB disposal facility identified by the contractor.

Lot 2 soil will be transported offsite under hazardous waste manifests with appropriate waste codes, including the Massachusetts Hazardous Waste Code MA02 for wastes containing PCBs greater than 50 ppm.

3.3 Asphalt Debris

Approximately 330 cubic yards of asphalt will be removed from the northwest portion of Lot 1 and transported to an out-of-state Subtitle D non-hazardous waste landfill under a MassDEP BOL. Asphalt removal from Lot 2 is not planned as part of this RAM.

3.4 Decontamination Wastes and Personal Protective Equipment

Decontamination wastes, residues and PPE, generated from activities on Lot 1 will be managed as a less than 50 ppm PCB waste and disposed at an out-of-state Subtitle D non-hazardous waste landfill under a MassDEP BOL.

Materials generated from activities on Lot 2 will be managed and disposed of as PCB remediation waste at an EPA-approved TSCA PCB disposal facility. These materials will be transported using hazardous waste manifests.

Decontamination water and other liquids will be placed into containers and sampled by GEI. If total PCB concentrations in the decontamination water are < 0.5 micrograms per liter (µg/L), and no other contaminants have been added to the water, the water may be discharged into an on-site recharge pit. If GEI does not approve of the on-site recharge of decontamination water, the water will be disposed off-site at an EPA-approved TSCA PCB disposal facility.

4. Environmental Monitoring (310 CMR 40.0444[1][e])

4.1 Worker Health and Safety

The Contractor will prepare and implement a project-specific Health and Safety Plan (HASP) for the protection of its workers. A health and safety specification is part of the contract documents in Appendix D. GEI has prepared a project-specific HASP for the protection of its employees during the work, which includes work zone air monitoring for dust.

Both GEI and the Contractor's Health and Safety Plans address procedures to comply with the Commonwealth of Massachusetts Covid-19 Guidelines and Procedures for all Construction Sites and Workers at all Public Work.

4.2 Erosion and Sedimentation Controls

Erosion and sedimentation control measures will be implemented and will include coir logs, storm drain inlet protection and a truck decontamination station/wheel wash. The Contractor will inspect these measures periodically to evaluate their effectiveness at controlling runoff and erosion for the duration of the project. Soil will be removed from truck tires and equipment prior to leaving the Site. If warranted, a street sweeper will be used to remove soil that is tracked onto the street during the work.

4.3 Dust Control and Perimeter Air Monitoring

The Contractor will control dust, as necessary, using standard dust control techniques, such as spraying with water before and during excavation and soil handling. Excavated soil, if temporarily stored onsite prior to offsite disposal, will be placed in covered containers.

Continuous real-time perimeter air monitoring for dust at the Site perimeter will be performed by GEI during contaminated soil excavation and handling. Monitoring will be conducted in accordance with a project-specific Perimeter Air Monitoring Plan (PAMP) (Appendix G). The PAMP establishes alert levels that will trigger initiation of additional dust controls by the Contractor to prevent an exceedance of an established action level of 150 micrograms per cubic meter ($\mu g/m^3$) above background. The exceedance of 150 $\mu g/m^3$ will trigger additional mitigation actions by the Contractor as appropriate including temporarily suspending contaminated soil excavation and handling activities and/or reducing construction equipment traffic and/or speed.

An air monitoring summary report that summarizes the dust monitoring data collected during the project, alert level and action level exceedances noted, and responses to alert and action level exceedances, will be prepared and included in the RAM Completion Report.

5. Permits (310 CMR 40.0444[1][f])

The Work on Lot 1 will be conducted in accordance with the Self Implementing PCB Cleanup and Disposal Plan dated April 2020 prepared to meet the requirements of 40 CFR 761.61(a). Because this plan is also subject to 40 CFR §761.61(c), we acknowledge that the cleanup on Lot 1 cannot proceed until EPA issues a written decision.

The Work on Lot 2 will be conducted in accordance with the Performance Based Cleanup and Disposal provisions of TSCA under 40 CFR 761.61(b). No approvals or permits are required for the work on Lot 2.

6. Certifications

This RAM does not involve the excavation of greater than 1,500 cubic yards of soil contaminated by oil and/or hazardous materials at concentrations greater than the applicable Reportable Concentrations. Therefore, the certification statement required under 310 CMR 40.0442(5) is not required.

The seal and signature of the LSP that will oversee this RAM is provided on the RAM Transmittal Form (BWSC106) in Appendix A.

7. Limitations

This RAM Plan was prepared for the use of the City of Lawrence, the EPA and MassDEP, exclusively. The conclusions presented in this report are based solely on the information reported in this document. Additional information regarding the Site – not available to GEI at the time this report was prepared – may result in a modification of the findings above. The report has been prepared in accordance with generally accepted hydrogeological practices. No warranty, expressed or implied, is made.

Tables

Table 1. Chemical Testing Results - Soil Disposal Characterization Samples - Lot 1
Former Tombarello Site
Lawrence, Massachusetts

				Sample ID:	**1802441-Lot1-DISP01**	**1802441-Lot1-DISP02-Grab**	**1802441-Lot1-DISP02-Comp**
				Sample Location:	**Lot1-DISP01**	**Lot1-DISP02B**	**Lot1-DISP02A, B, C (Composite)**
				Sampling Date:	**03/12/2020**	**03/12/2020**	**03/12/2020**
				Sample Depth (ft):	**1 - 7**	**1 - 3**	**1 - 3**
				Lab Sample ID:	**20C0466-01**	**20C0466-02**	**20C0466-03**
Analyte	**Method**	**Units**	**Reuse Levels for In-State Unlined Landfill**	**Reuse Levels for In-State Lined Landfill**			
Volatile Organic Compounds (VOCs)	8260	mg/kg					NT
1,1,2,2-Tetrachloroethane			NS	NS	0.0059	< 0.0013	
Acetone			NS	NS	< 0.0068 G	0.123	
Methyl Ethyl Ketone (2-Butanone)			NS	NS	< 0.0068	0.0154	
Tetrachloroethene			NS	NS	0.0089	< 0.0032	
Total VOCs			4	10	0.0148	0.1384	
Semi-Volatile Organic Compounds (SVOCs)	8270	mg/kg				NT	
2-Methylnaphthalene			NS	NS	< 0.324		0.298
Acenaphthylene			NS	NS	< 0.752		1.4
Anthracene			NS	NS	< 1.50		2.3
Benzo(a)anthracene			NS	NS	2.28		5.58
Benzo(a)pyrene			NS	NS	2.52		5.77
Benzo(b)fluoranthene			NS	NS	2.42		4.97
Benzo(g,h,i)perylene			NS	NS	1.75		3.21
Benzo(k)fluoranthene			NS	NS	1.72		4
Chrysene			NS	NS	2.3		5.41
Dibenzo(a,h)anthracene			NS	NS	0.575		1.16
Fluoranthene			NS	NS	4.54		11.1
Fluorene			NS	NS	< 1.50		0.826
Indeno(1,2,3-cd)pyrene			NS	NS	1.5		3.07
Phenanthrene			NS	NS	2.43		8.3
Pyrene			NS	NS	4.39		10.8
Pyridine			NS	NS	<7.52		<3.44
Total SVOCs			100	100	26.425		68.194
Petroleum Hydrocarbons	8100M	mg/kg				NT	
Total petroleum hydrocarbons			2,500	5,000	352		876
Polychlorinated Biphenyls (PCBs)	8082	mg/kg				NT	
Aroclor 1242			NS	NS	< 0.06		0.1
Aroclor 1260			NS	NS	< 0.06		0.06
Total PCBs			2	2	ND		0.16
Total Metals		mg/kg				NT	
Arsenic	6010		40	40	6.61		4.93
Barium	6010		NS	NS	171		57.3
Cadmium	6010		30	80	1.17		< 0.45
Chromium	6010		1000	1000	33.9		15.6
Lead	6010		1000	2000	392		185
Mercury	6010		10	10	0.559		0.059
Selenium	6010		NS	NS	< 4.41		< 4.48
Silver	6010		NS	NS	< 0.44		< 0.45
TCLP Metals	1311	mg/L				NT	
Lead			5	5	0.281		1.26
Other							
pH	9045	S.U.	NS	NS	7.75	NT	7.15
Flashpoint	1010	°F	NS	NS	> 200	NT	> 200
Reactive Cyanide	7.3.3.2	mg/kg	NS	NS	< 2.0	NT	< 2.0
Reactive Sulfide	7.3.4.1	mg/kg	NS	NS	< 2.0	NT	< 2.0
Solids, Percent	2540G	%	NS	NS	88	93	93

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
2. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
3. Unlined and lined landfill disposal criteria are from MassDEP Policy #COMM-97-001, dated August 15, 1997.
4. NT = The sample was not tested for this analyte.
5. ND = The analyte was not detected above the laboratory reporting limit. See the laboratory data sheets for the laboratory reporting limit.
6. NS = No disposal facility criteria has been established for this analyte.
7 mg/kg = milligrams per kilogram
8. mg/L = milligrams per liter
9. S.U. = standard units.
10. deg F = degrees Fahrenheit.
11. Soil samples for VOC analysis were preserved in the field with deionized water.

Validators Qualifiers:

G The result is estimated due to duplicate precision outside control limits.

Table 2. Chemical Testing Results - Soil Disposal Characterization Samples - Lot 2
Former Tombarello Site
Lawrence, Massachusetts

			Sample ID:	1802441-Lot2-DISP01	1802441-Lot2-DISP03
			Sample Location:	DISP-01	DISP-03
			Sampling Date:	03/13/2020	03/12/2020
			Sample Depth (ft):	0 - 3	0 - 3
			Lab Sample ID:	20C0468-01	20C0467-04
Analyte	**Method**	**Units**			
Volatile Organic Compounds (VOCs)	8260	mg/kg			
1,2,3-Trichlorobenzene			< 0.322		< 0.0037
4-Methyl-2-pentanone			< 1.61		0.0248
Acetone			< 1.61	G	0.0389
Chlorobenzene			< 0.322		< 0.0037
Methyl Ethyl Ketone (2-Butanone)			< 1.61		< 0.0074
Naphthalene			33.5		0.0701
Tetrachloroethene			1.77		< 0.0037
Total VOCs			35.27		0.1338
Semi-Volatile Organic Compounds (SVOCs)	8270	mg/kg			
1,2,4-Trichlorobenzene			< 1.58		< 0.911
2,4-Dimethylphenol			1.34		< 0.205
2-Methylnaphthalene			26.6		1.37
Acenaphthene			85.5		5.98
Acenaphthylene			11.3		< 0.457
Anthracene			161		10.9
Benzo(a)anthracene			254		19.1
Benzo(a)pyrene			223		18.2
Benzo(b)fluoranthene			178		17.3
Benzo(g,h,i)perylene			108		8.86
Benzo(k)fluoranthene			155		11.4
Bis(2-ethylhexyl)phthalate			< 3.16		< 0.911
Chrysene			223		17.5
Dibenzo(a,h)anthracene			45.3		3.51
Dibenzofuran			59.8		3.52
Fluoranthene			561		43
Fluorene			85.5		5.82
Indeno(1,2,3-cd)pyrene			116		8.9
Naphthalene			50		3.71
Phenanthrene			507		38.3
Phenol			1.53		1.28
Pyrene			383		32.5
Pyridine			<15.8		<4.57
Total SVOCs			3235.9		251.2
Polychlorinated Biphenyls (PCBs)		mg/kg			
Aroclor 1242			38.5		5.3
Aroclor 1254 [2C]			< 2.9		< 2.7
Aroclor 1260			3.6		31.0
Total PCBs			42.1		36.3
Total Metals		mg/kg			
Arsenic	6010		88.2		11.1
Barium	6010		188		457
Cadmium	6010		0.92		63.7
Chromium	6010		32.1		49.2
Lead	6010		617		1330
Mercury	7471		0.887		0.746
Selenium	6010		< 4.70		< 5.31
Silver	6010		< 47.0		3.12
TCLP Metals	1311	mg/L			
Cadmium			NT		0.353
Lead			0.284		0.746
Other					
pH	9045	S.U.	7.50		7.61
Flashpoint	1010	°F	> 200		> 200
Reactive Cyanide	7.3.3.2	mg/kg	< 2.0		< 2.0
Reactive Sulfide	7.3.4.1	mg/kg	< 2.0		< 2.0
Solids, Percent	2540G	%	85		74

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
2. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
3. NT = The sample was not tested for this analyte.
4. mg/kg = milligrams per kilogram
5. mg/L = milligrams per liter.
6. S.U. = standard units.
7. deg F = degrees Fahrenheit.
8. Soil samples for low level VOC analysis were preserved in the field with deionized water. Soil samples for high level VOC analysis were preserved in the field with methanol.
9. VOC results for Lot2-DISP01 and Lot2-DISP05 are from the methanol-preserved samples, and all other VOC results are from the deionized water samples.

Validators Qualifiers:

G The result is estimated due to duplicate precision outside control limits

B The reported result is attributed to sampling or laboratory contamination

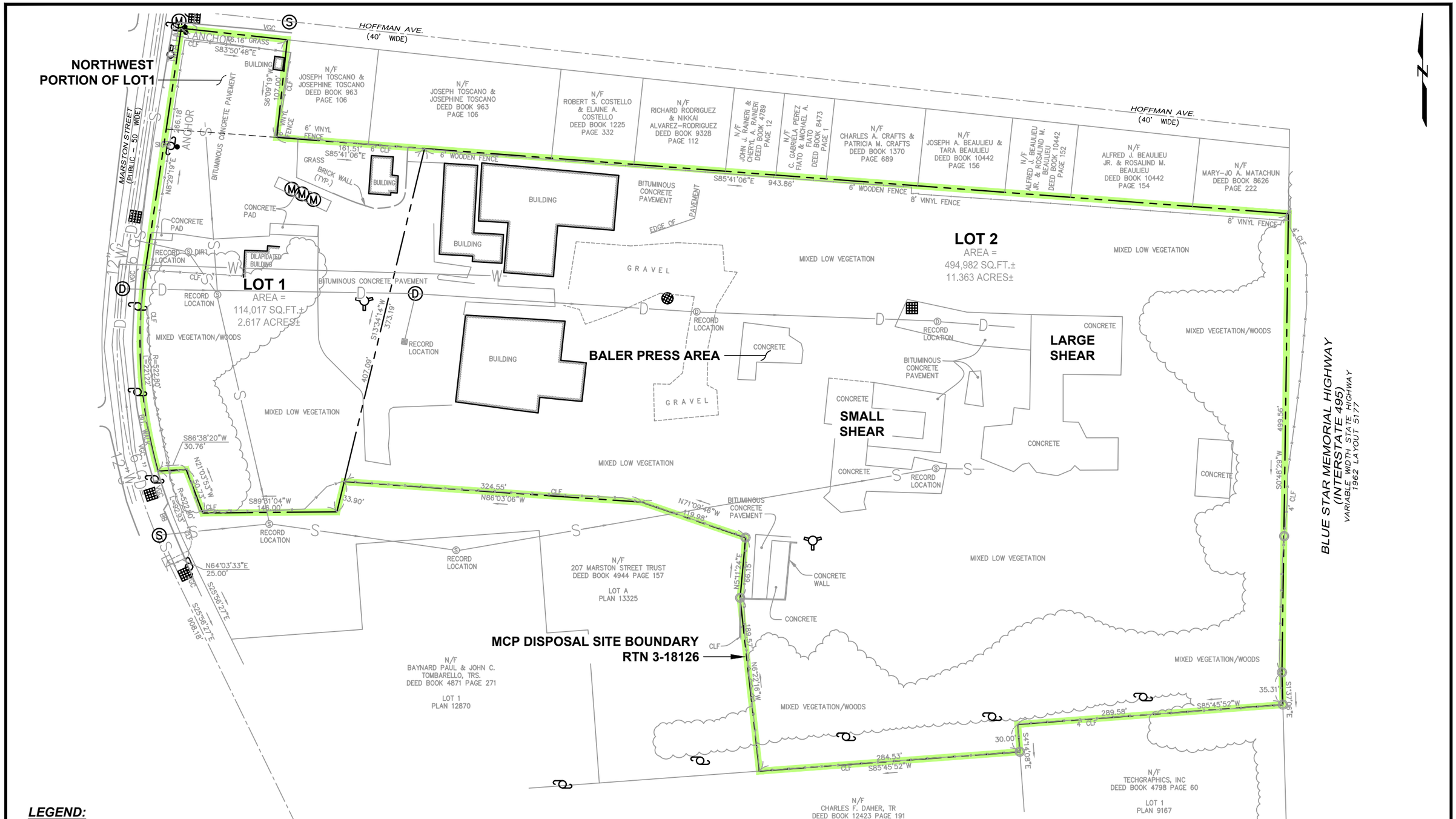
Figures

This Image provided by MassGIS is from U.S.G.S. Topographic
7.5 X 15 Minute Series
Lawrence, MA Quadrangle, 1987.
Datum is National Geodetic Vertical Datum of 1929 (NGVD29).
Contour Interval is 3 Meters.

MASSACHUSETTS
QUADRANGLE LOCATION

Release Abatement Measure Plan Former Tombarello Property - Lot 1 and Lot 2 Lawrence, Massachusetts	GEI Consultants	SITE LOCATION MAP
City of Lawrence Lawrence, Massachusetts	Project 1802441	June 2020 Fig. 1

B:\Working\LAWRENCE, CITY OF\1802441 Former Tombarello\00_CAD\Figures\RAM\1802441-01



LEGEND:

PROPERTY BOUNDARY AND MCP DISPOSAL SITE BOUNDARY (RTN 3-18126)

NOTES:

1. BASE PLAN FROM *"EXISTING CONDITIONS PLAN, 207 MARSTON STREET, LAWRENCE, MA,"* PREPARED BY NITSCH ENGINEERING INC. DATED 4/1/2019.

0 100 200

SCALE: 1" = 100'

Release Abatement Measure Plan Former Tombarello Property - Lot 1 and Lot 2 Lawrence, Massachusetts	GEI Consultants	DISPOSAL SITE PLAN
City of Lawrence Lawrence, Massachusetts	Project 1802441	June 2020 Fig. 2

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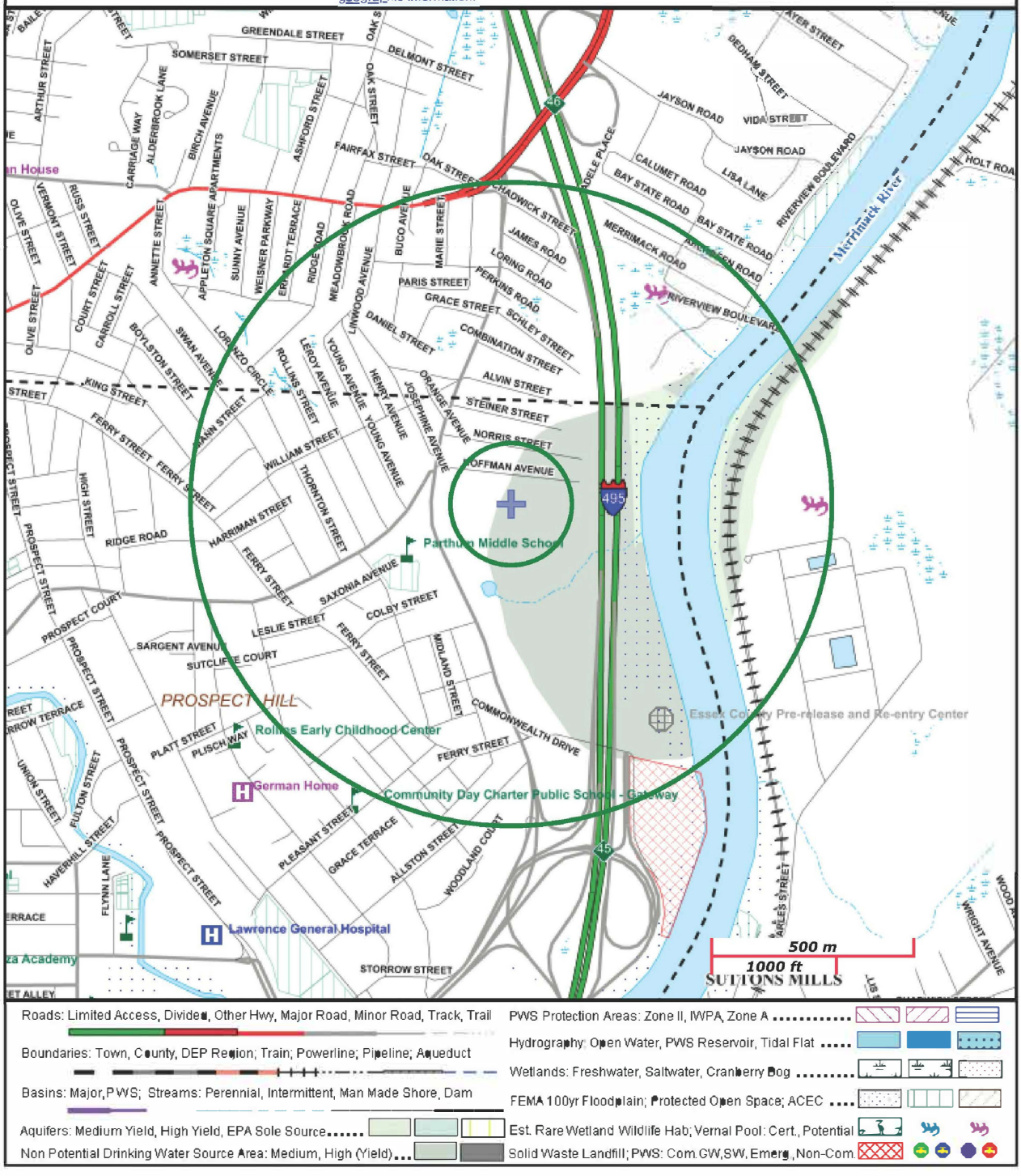
MassDEP - Bureau of Waste Site Cleanup

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

Site Information:
FORMER TOMBARELLO PROPERTY
207 MARSTON STREET LAWRENCE, MA
3-000018126
NAD83 UTM Meters:
4731867mN , 324768mE (Zone: 19)
April 14, 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

Release Abatement Measure Plan Former Tombarello Property - Lot 1 and Lot 2 Lawrence, Massachusetts	GEI Consultants	MASS DEP SITE SCORING MAP
City of Lawrence Lawrence, Massachusetts	Project 1802441	June 2020 Fig. 3

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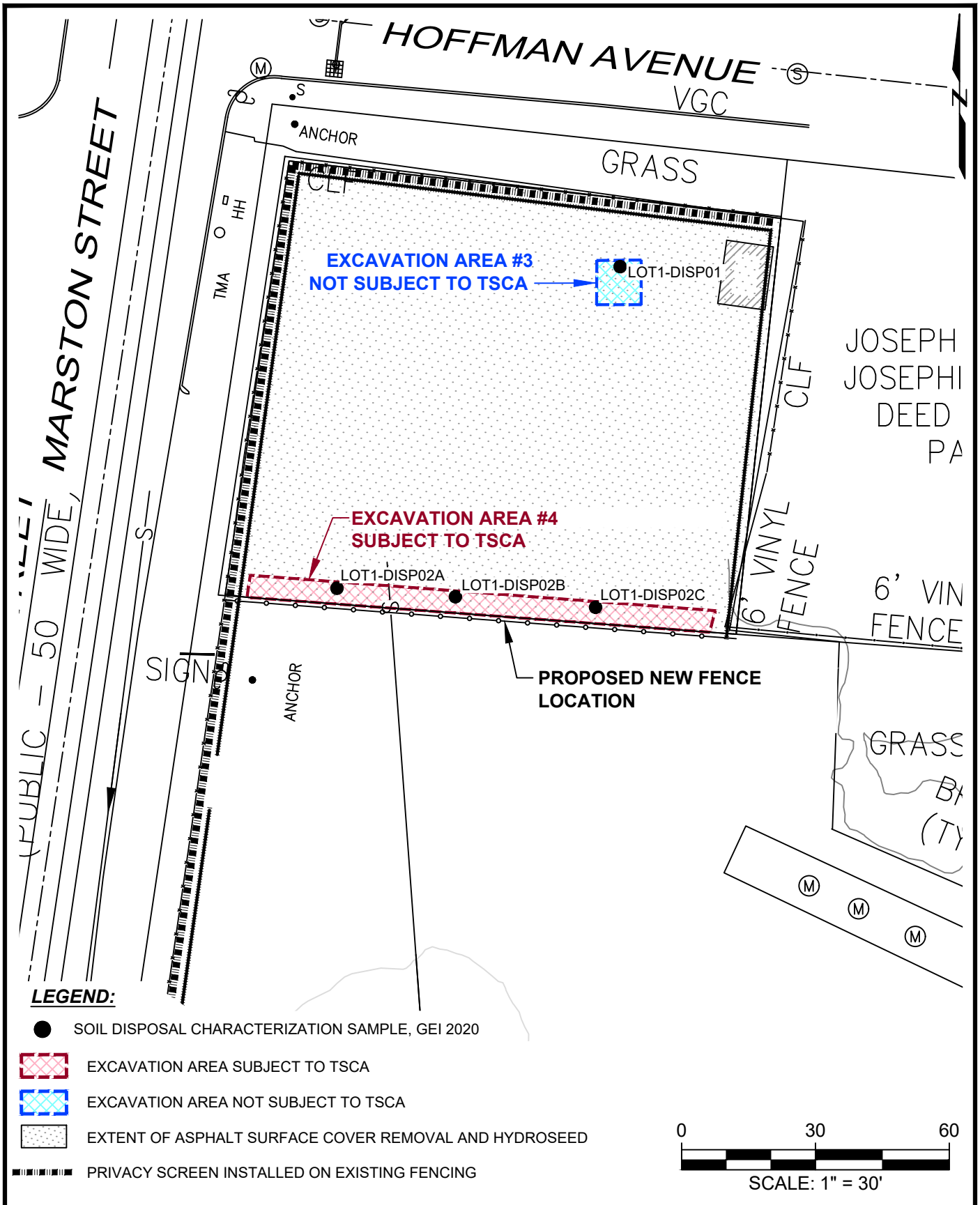
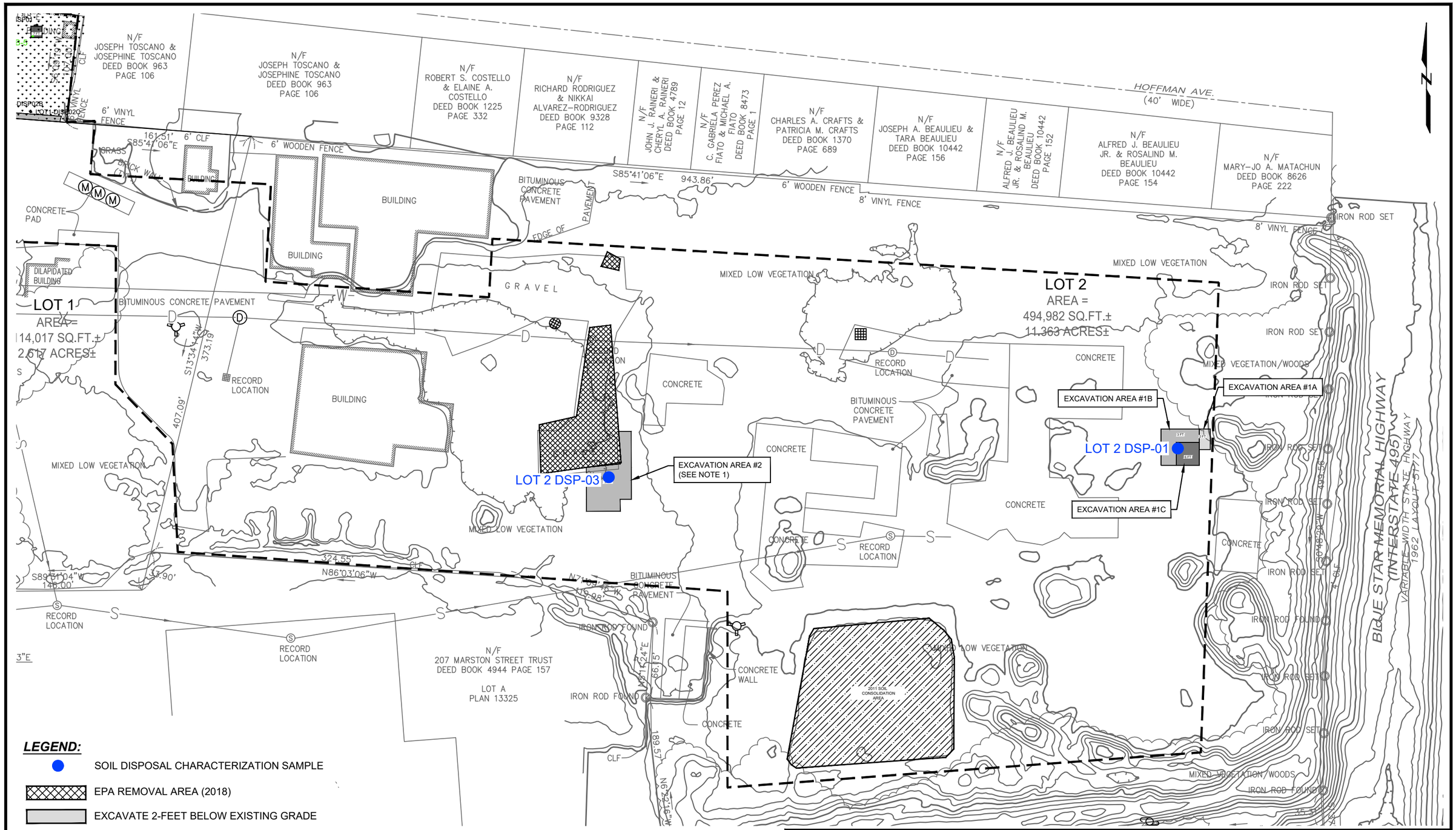


Release Abatement Measure Plan Former Tombarello Property - Lot 1 and Lot 2 Lawrence, Massachusetts	GEI Consultants	RELEASE ABATEMENT AREAS - LOT 1
City of Lawrence Lawrence, Massachusetts	Project 1802441	June 2020 Fig. 4

\\geiconsulta B:\Working\LAWRENCE, CITY OF\1802441 Former Tombarello\00_CAD\Figures\RAM\1802441-03.dwg - 4/20/2020



LEGEND:

- SOIL DISPOSAL CHARACTERIZATION SAMPLE
- EPA REMOVAL AREA (2018)
- EXCAVATE 2-FEET BELOW EXISTING GRADE
- EXCAVATE 3-FEET BELOW EXISTING GRADE
- EXCAVATE 6-FEET BELOW EXISTING GRADE

NOTES:

1. FINAL EXTENT OF EXCAVATION AREA #2 TO BE DETERMINED BASED ON AVAILABLE FUNDING.

Release Abatement Measure Plan
Former Tombarello Property - Lot 1 and Lot 2
Lawrence, Massachusetts

City of Lawrence
Lawrence, Massachusetts

GEI Consultants

RELEASE ABATEMENT MEASURE AREAS - LOT 2

Project 1802441 | June 2020 | Fig. 5

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Appendix A

MassDEP Transmittal Form (BWSC106)

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

RELEASE ABATEMENT MEASURE (RAM) TRANSMITTAL FORM
Pursuant to 310 CMR 40.0444 - 0446 (Subpart D)

BWSC 106 12

Release Tracking Number
3 - 18126

A. SITE LOCATION:

1. Site Name/Location Aid: TOMBARELLO AND SONS INC HOFMAN AVE
2. Street Address: 207 MARSTON ST
3. City/Town: LAWRENCE 4. Zip Code: 018410000

☑ 5. Check here if the disposal site that is the source of the release is Tier Classified. Check the current Tier Classification Category.

☑ a. Tier I ☐ b. Tier ID ☐ c. Tier II

B. THIS FORM IS BEING USED TO: (check all that apply)

1. List Submittal Date of Initial RAM Plan (if previously submitted): _____ (mm/dd/yyyy)

☑ 2. Submit an **Initial Release Abatement Measure (RAM) Plan**.

☐ a. Check here if the RAM is being conducted as part of the construction of a permanent structure. If checked, you must specify what type of permanent structure is to be erected in or in the immediate vicinity of the area where the RAM is to be conducted.

b. Specify type of permanent structure: (check all that apply) ☐ i. School ☐ ii. Residential ☐ iii. Commercial

☐ iv. Industrial ☐ v. Other Specify: _____

☐ 3. Submit a **Modified RAM Plan** of a previously submitted RAM Plan.

☐ 4. Submit a **RAM Status Report**.

☐ 5. Submit a **Remedial Monitoring Report**. (This report can only be submitted through eDEP, concurrent with a RAM Status Report.)

a. Type of Report: (check one) ☐ i. Initial Report ☐ ii. Interim Report ☐ iii. Final Report

b. Frequency of Submittal:

☐ i. A Remedial Monitoring Report(s) submitted every six months, concurrent with a RAM Status Report.
☐ ii. A Remedial Monitoring Report(s) submitted annually, concurrent with a RAM Status Report.

c. Number of Remedial Systems and/or Monitoring Programs: _____

A separate BWSC106A, RAM Remedial Monitoring Report, must be filled out for each Remedial System and/or Monitoring Program addressed by this transmittal form.

☐ 6. Submit a **RAM Completion Statement**.

☐ 7. Submit a **Revised RAM Completion Statement**.

8. Provide Additional RTNs:

☐ a. Check here if this RAM Submittal covers additional Release Tracking Numbers (RTNs). RTNs that have been previously linked to a Primary Tier Classified RTN do not need to be listed here. This section is intended to allow a RAM to cover more than one unclassified RTN and not show permanent linkage to a Primary Tier Classified RTN.

b. Provide the additional Release Tracking Number(s) covered by this RAM Submittal. ☐ - ☐ ☐ - ☐

☐ 9. Include in the **RAM Plan** or **Modified RAM Plan** a **Plan for the Application of Remedial Additives** near a sensitive receptor, pursuant to 310 CMR 40.0046(3).

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

C. RELEASE OR THREAT OF RELEASE CONDITIONS THAT WARRANT RAM:

1. Media Impacted and Receptors Affected: (check all that apply)

☐ a. Paved Surface ☐ b. Basement ☐ c. School
☐ d. Public Water Supply ☐ e. Surface Water ☐ f. Zone 2 ☐ g. Private Well ☐ h. Residence ☑ i. Soil
☐ j. Ground Water ☐ k. Sediments ☐ l. Wetland ☐ m. Storm Drain ☐ n. Indoor Air ☐ o. Air
☐ p. Soil Gas ☐ q. Sub-Slab Soil Gas ☐ r. Critical Exposure Pathway ☐ s. NAPL ☐ t. Unknown
☐ u. Others Specify: _____

2. Sources of the Release or TOR: (check all that apply)

☐ a. Transformer ☐ b. Fuel Tank ☐ c. Pipe
☐ d. OHM Delivery ☐ e. AST ☐ f. Drums ☐ g. Tanker Truck ☐ h. Hose ☐ i. Line
☐ j. UST Describe: _____ ☐ k. Vehicle ☐ l. Boat/Vessel
☐ m. Unknown ☑ n. Other: HISTORIC SITE OPERATIONS

3. Type of Release or TOR: (check all that apply)

☐ a. Dumping ☐ b. Fire ☐ c. AST Removal ☐ d. Overfill
☐ e. Rupture ☐ f. Vehicle Accident ☐ g. Leak ☐ h. Spill ☐ i. Test Failure ☐ j. TOR Only
☐ k. UST Removal Describe: _____
☑ l. Unknown ☑ m. Other: HISTORIC SITE OPERATIONS

4. Identify Oils and Hazardous Materials Released: (check all that apply)

☑ a. Oils ☐ b. Chlorinated Solvents
☑ c. Heavy Metals ☑ d. Others Specify: PCBS

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

☐ 1. Assessment and/or Monitoring Only
☐ 2. Temporary Covers or Caps
☐ 3. Deployment of Absorbent or Containment Materials
☐ 4. Temporary Water Supplies
☐ 5. Structure Venting System/HVAC Modification System
☐ 6. Temporary Evacuation or Relocation of Residents
☐ 7. Product or NAPL Recovery
☐ 8. Fencing and Sign Posting
☐ 9. Groundwater Treatment Systems
☐ 10. Soil Vapor Extraction
☐ 11. Remedial Additives
☐ 12. Air Sparging
☐ 13. Active Exposure Pathway Mitigation System
☐ 14. Passive Exposure Pathway Mitigation System
☐ 15. Monitored Natural Attenuation
☐ 16. In-Situ Chemical Oxidation

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

☑ 17. Excavation of Contaminated Soils

☐ a. Re-use, Recycling or Treatment ☐ i. On Site Estimated volume in cubic yards

☐ ii. Off Site Estimated volume in cubic yards

iia. Receiving Facility: Town: State:

iib. Receiving Facility: Town: State:

iii. Describe:

☐ b. Store ☐ i. On Site Estimated volume in cubic yards

☐ ii. Off Site Estimated volume in cubic yards

iia. Receiving Facility: Town: State:

iib. Receiving Facility: Town: State:

☑ c. Landfill ☐ i. Cover Estimated volume in cubic yards

Receiving Facility: Town: State:

☑ ii. Disposal Estimated volume in cubic yards 373

Receiving Facility: WASTE MANAGEMENT EMELLE Town: EMELLE State: AL

☐ 18. Removal of Drums, Tanks or Containers:

a. Describe Quantity and Amount:

b. Receiving Facility: Town: State:

c. Receiving Facility: Town: State:

☑ 19. Removal of Other Contaminated Media:

a. Specify Type and Volume: ASPHALT: ~330 CUBIC YARDS, SOIL: ~85 CUBIC YARDS

b. Receiving Facility: TURNKEY RECYCLING Town: ROCHESTER State: NH

c. Receiving Facility: Town: State:

☐ 20. Other Response Actions:

Describe:

☐ 21. Use of Innovative Technologies:

Describe:

E. 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 of this form indicates that a **Release Abatement Measure Plan** is being submitted, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed 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;

> if Section B of this form indicates that a **Release Abatement Measure Status Report** and/or **Remedial Monitoring Report** is being submitted, the response action(s) that is (are) the subject of this submittal (i) is (are) being 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;

> if Section B of this form indicates that a **Release Abatement Measure Completion Statement** is being submitted, 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 #:	9719				
2. First Name:	ILEEN S	3. Last Name:	GLADSTONE		
4. Telephone:	7817214012	5. Ext.:		6. Email:	igladstone@geiconsultan
7. Signature:					
8. Date:	(mm/dd/yyyy)	9. LSP Stamp:			

RELEASE ABATEMENT MEASURE (RAM) TRANSMITTAL FORM
Pursuant to 310 CMR 40.0444 - 0446 (Subpart D)

F. PERSON UNDERTAKING RAM:

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: CITY OF LAWRENCE

3. Contact First Name: PEDRO 4. Last Name: SOTO

5. Street: 12 METHUEN STREET 6. Title: PLANNING DIRECTOR

7. City/Town: LAWRENCE 8. State: MA 9. ZIP Code: 018400000

10. Telephone: 9786203501 11. Ext.: 12. Email: psoto@cityoflawrence.c

G. RELATIONSHIP TO RELEASE OR THREAT OF RELEASE OF PERSON UNDERTAKING RAM:

☑ 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 Undertaking RAM Specify Relationship:

H. REQUIRED ATTACHMENT AND SUBMITTALS:

☐ 1. Check here if any Remediation Waste, generated as a result of this RAM, will be stored, treated, managed, recycled or reused at the site following submission of the RAM Completion Statement. You must submit a Phase IV Remedy Implementation Plan along with the appropriate transmittal form (BWSC108).

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

☑ 3. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the implementation of a Release Abatement Measure.

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

☐ 5. If a RAM Compliance Fee is required for this RAM, check here to certify that a RAM Compliance Fee was submitted to DEP, P. O. Box 4062, Boston, MA 02211.

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

RELEASE ABATEMENT MEASURE (RAM) TRANSMITTAL FORM

Pursuant to 310 CMR 40.0444 - 0446 (Subpart D)

I. CERTIFICATION OF PERSON UNDERTAKING RAM:

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

2. By: _____ (Signature)

3. Title: PLANNING DIRECTOR

4. For: CITY OF LAWRENCE (Name of person or entity recorded in Section F)

5. Date: _____ (mm/dd/yyyy)

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

7. Street: _____

8. City/Town: _____ 9. State: _____ 10. ZIP Code: _____

11. Telephone: _____ 12. Ext.: _____ 13. Email: _____

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

Date Stamp (DEP USE ONLY:)

ATTACHMENT TO BWSC106
RTN 3-181826
QUESTION H.2.

The Response Actions on Lot 1 only are subject to the Toxic Substances Control Act (TSCA; 40 CFR 761) and EPA approval of the Self Implementing PCB Cleanup Plan dated April 2020 prepared by GEI for Lot 1.

Appendix B

Public Notification Letters

Consulting Engineers and Scientists

June 8, 2020
Project 1802441

Dr. Joel Gorn M.D.
Lawrence Board of Health
200 Common Street
Lawrence, MA 01840

Dear Dr. Gorn:

Re: Release Abatement Measure Plan for Targeted Excavations, Lots 1 and 2
Former Tombarello Property
207 Marston Street
Lawrence, Massachusetts
MassDEP RTN 3-18126

This letter notifies your office that the City of Lawrence intends to perform a Release Abatement Measure (RAM) at the above-referenced location. A RAM Plan has been submitted to the Massachusetts Department of Environmental Protection (MassDEP). We prepared this notification and RAM Plan on behalf of the City of Lawrence.

The property is an approximately 14-acre, property which has been sub-divided into two lots, Lot 1 and Lot 2. Lot 1 is a 2.6-acre parcel to the west and Lot 2 is an 11.4-acre parcel to the east.

The planned RAM for Lot 1 includes the excavation and offsite disposal of soil with elevated concentrations of extractable petroleum hydrocarbons (EPH) and polychlorinated biphenyls (PCBs) from select areas. The planned RAM for Lot 2 includes the excavation and offsite disposal of soil with elevated PCBs.

The project is expected to be conducted in June/July 2020 and take six weeks to complete. This notification is being made in fulfillment of the public notice requirements of the Massachusetts Contingency Plan (310 CMR 40.1403).

Please contact me at 781-721-4012 or IGladstone@geiconsultants.com if you have any questions.

Sincerely,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

Leslie A. Lombardo, P.E.
Project Manager

BFM/LAL/ISG:jam
c: MassDEP, Northeast Region
B:\Working\LAWRENCE, CITY OF\1802441 Former Tombarello\01_ADMIN\RAM Plan\App B Public Notice Ltrs\pub not ltrs.docx

GEI Consultants, Inc.
400 Unicorn Park Drive, Woburn, MA 01801
781.721.4000 fax: 781.721.4073

Consulting
Engineers and
Scientists

June 8, 2020
Project 1802441

Mayor Daniel Rivera
200 Common Street
3rd Floor, Room 309
Lawrence, MA 01840

Dear Mayor Rivera:

Re: Release Abatement Measure Plan for Targeted Excavations, Lots 1 and 2
Former Tombarello Property
207 Marston Street
Lawrence, Massachusetts
MassDEP RTN 3-18126

This letter notifies your office that the City of Lawrence intends to perform a Release Abatement Measure (RAM) at the above-referenced location. A RAM Plan has been submitted to the Massachusetts Department of Environmental Protection (MassDEP). We prepared this notification and RAM Plan on behalf of the City of Lawrence.

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GEI CONSULTANTS, INC.

Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

Leslie A. Lombardo, P.E.
Project Manager

BFM/LAL/ISG:jam
c: MassDEP, Northeast Region
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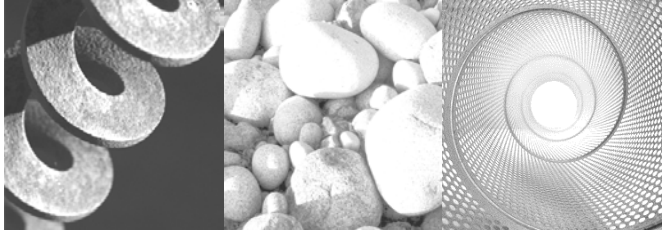
Appendix C

Self-Implementing PCB Cleanup and Disposal Plan



GEI Consultants

Consulting
Engineers and
Scientists

RTN 3-18126

Self-Implementing Polychlorinated Biphenyl Cleanup and Disposal Plan

Former Tombarello Property – Lot 1, Northwest Portion
207 Marston Street, Lawrence, Massachusetts

Submitted to:
Environmental Protection Agency Region 1
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Executive Summary

GEI Consultants, Inc., on behalf of the City of Lawrence, prepared this Self Implementing Polychlorinated Biphenyl (PCB) Cleanup and Disposal Plan (Cleanup Plan) for the removal and offsite disposal of PCB contaminated asphalt and soil on the northwest portion of Lot 1 (the Site) at 207 Marston Street in Lawrence, Massachusetts. The objective of the Cleanup Plan is to achieve ≤1 part per million (ppm) PCBs in soil and removal of PCB-contaminated asphalt pavement.

This Cleanup Plan has been prepared to meet the requirements for the notification of self-implementing onsite cleanup and disposal of PCB remediation waste under 40 CFR §761.61(a) of the Toxic Substances Control Act (TSCA; 40 CFR Part 761). We are also requesting approval under 40 CFR §761.61(c) for a deviation from the verification sampling frequency requirements of Subpart O of the TSCA regulations, and approval for the offsite disposal of excavated soil at an out-of-State lined landfill as non-hazardous waste (Subtitle D landfill) in accordance with 40 CFR §761.61(a)(5)(v)(A)(2).

Site Description

207 Marston Street, owned by the City of Lawrence, is subdivided into two lots, Lot 1, a 2.6-acre parcel, and Lot 2, an 11.4-acre parcel. Both lots are vacant. The Site that is the subject of this Cleanup Plan is an approximately 11,000 square foot area on the northwest portion of Lot 1. The Site is paved with asphalt and the only structure on the Site is a small shed.

The 207 Marston Street property is owned by the City of Lawrence, which acquired the property in May 2016 through foreclosure of tax title. A metals recycling facility operated at the property from about 1941 through 2001.

Site Characterization

The Site is a portion of a Massachusetts Department of Environmental Protection (MassDEP) disposal site assigned Release Tracking Number (RTN) 3-18126, which encompasses both Lots 1 and 2 (Disposal Site). Primary contaminants are PCBs, metals, and petroleum hydrocarbons in soil. PCBs greater than 100 ppm have been detected in soil on Lot 2 and up to 24 ppm PCBs have been detected in soil on the portion of Lot 1 south of the Site.

The highest PCB concentration detected in Site soil is 0.4 ppm and the highest PCB concentration in Site asphalt is 1.6 ppm. However, PCBs at 3 ppm were detected in soil about 5 ft south of the Site.

Contamination has been attributed to the historic use of the property as a metals recycling facility.

Cleanup Plan

The City's ultimate objective is to further subdivide Lot 1 to separate the Site from the remainder of Lot 1. The Site may be redeveloped for future use as a green space, mixed use (retail/residential), or commercial use; however, development plans have not yet been prepared.

Because of the proximity to the Site of PCBs in soil at 3 ppm; the presence of 1.6 ppm PCBs in a Site asphalt sample; and because the source of Site PCBs was historic activities on Lot 2 where PCBs are greater than 50 ppm, the removal of Site asphalt and soil at southern portion of the Site is subject to 40 CFR 761.61.

The City plans to clean up Site soil to PCB levels consistent with the TSCA cleanup level for a *high occupancy area* without restrictions, and to contaminant levels that pose No Significant Risk to a future receptor consistent with the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000). The cleanup plan includes work that is subject to both TSCA and the MCP, as well as work that is subject only to the MCP. The work that is subject only to the MCP includes excavation of an area at the northeast corner of the Site where extractable petroleum hydrocarbons (EPH) and lead are elevated, but PCBs are less than 1 ppm. This work is not discussed in detail in this Cleanup Plan.

This Cleanup Plan addresses the removal of asphalt from the entire Site and soil at the southern portion of the Site. Key components of the cleanup plan include:

- Removal and offsite disposal of asphalt at a Subtitle D landfill.
- Excavation and offsite disposal of soil at a Subtitle D landfill.
- Soil verification sampling for PCBs at a frequency of one excavation sidewall sample (from each sidewall) and one excavation bottom sample every 10 linear feet.
- Placement of a geotextile separation layer, backfilling with clean imported fill, and seeding.
- Construction of a new fence along the subdivision boundary to separate the Site from the remainder of Lot 1.

The northwest portion of Lot 1 may be subdivided by the City in the future. Although a deed restriction will be recorded for the Site to meet MCP requirements to restrict access to other contaminants in soil at depth (primarily lead), a TSCA deed notice is not planned as the PCB cleanup objective is ≤1 ppm.

1. Introduction

GEI Consultants, Inc., on behalf of the City of Lawrence, prepared this Self Implementing Polychlorinated Biphenyl (PCB) Cleanup and Disposal Plan (Cleanup Plan) for the northwest portion of Lot 1 (the Site) at 207 Marston Street in Lawrence, Massachusetts. The objective of the Cleanup Plan is to achieve ≤1 part per million (ppm) PCBs in soil and removal of PCB-contaminated asphalt pavement.

1.1 Site Description

The Site that is the subject of this Cleanup Plan is an approximately 11,000-square foot portion of Lot 1, a 2.6-acre parcel at 207 Marston Street in Lawrence, Massachusetts (Fig. 1 and 2). Lot 1 is part of a larger Massachusetts Department of Environmental Protection (MassDEP)-listed disposal site identified by Release Tracking Number (RTN 3-18126) (the Disposal Site) that includes the adjacent 11.4-acre Lot 2, also identified by the address 207 Marston Street (Fig. 2). In 2016, the Disposal Site, which is owned by the City of Lawrence, was subdivided into two lots, Lot 1 and Lot 2.

The Site is in a mixed-use area of Lawrence, Massachusetts Lawrence and is abutted by Marston Street to the west; an elementary school across Marston Street; Hoffman Avenue to the north; a residential property to the east; and the remainder of Lot 1 to the south. Both Lots 1 (including the Site) and 2 are vacant and access is restricted by a gated and locked chain link fence.

The Site is paved, and a small shed is on the northeast portion of the Site. Current Site conditions are shown in Fig. 2. The City may sub-divide Lot 1 in the future to separate the Site from the remainder of Lot 1. The Site may be redeveloped for use as a green space, mixed use (retail/residential), or commercial use.

1.2 Site Use and Ownership History

The 207 Marston Street property (Lots 1 and 2) is owned by the City of Lawrence, which acquired the property in May 2016 through foreclosure of tax title. Since 2001, the property has been vacant, except for a truck driving school, which operated for a short time in 2006.

A metals recycling facility (John C. Tombarello & Sons followed by American Recycling of Massachusetts, Inc.), operated at the property from about 1941 through 2001. Structures associated with the metals recycling operations included a scale house, metals shop/garage, furnace building, baler/press building, small shear and large shear buildings, most of which are located on Lot 2. A mobile car crusher also operated on Lot 2. A residential structure on Lot 1 was the home of a member of the Tombarello family.

The only structure on the northwest portion of Lot 1 (the Site) was and is a small shed-like structure that was a small office space. Based on a review of historic aerial photographs obtained from the Massachusetts Department of Transportation (MassDOT), the Site was paved sometime between 1957 and 1973.

Prior to development as a metal recycling facility, the northern portion of the property was farmland.

1.3 Background

Site contamination was initially identified on Lot 2 in 1998 during subsurface investigations for an ASTM Environmental Site Assessment (ESA). Polychlorinated biphenyls (PCBs) were identified in surface soil on Lot 2 at concentrations representing a potential Imminent Hazard (IH) condition under the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000). The Massachusetts Department of Environmental Protection (MassDEP) assigned RTN 3-18126 in March 1999 and required that an Immediate Response Action (IRA) be conducted to address the potential IH Condition. The IRA included installation of a fence at the Site perimeter, including Lot 1, to restrict access and eliminate the IH Condition; the fence remains in place.

Subsequent investigations were conducted on both Lots 1 and 2 to evaluate the nature and extent of contamination, including MCP Phase II investigations in 2003 and subsequent PCB investigations in 2005 by Weston Solutions, Inc. (Weston) on behalf of a former property owner; a Preliminary Assessment/Site Investigation (PA/SI) in 2010 by Weston on behalf of the U.S. Environmental Protection Agency (EPA); a Targeted Brownfields Assessment (TBA) in 2016 by Nobis Engineering, Inc. on behalf of EPA; supplemental investigations on Lot 2 in 2019 and 2020 by GEI on behalf of the City of Lawrence; supplemental investigations on Lot 1 in 2019 by Credere Associates on behalf of the City of Lawrence; and investigations on the Site in 2020 by GEI on behalf of the City of Lawrence.

In 2017, the City of Lawrence received an EPA Brownfields Cleanup Grant (Grant # BF00A00375) for Lot 1, which expires at the end of September 2020. Based on the distribution of contaminants on Lots 1 and 2, the City has concluded that the best use of cleanup grant funds available for Lot 1 is to clean up the northwest portion of Lot 1 (the Site) to meet the Toxic Substances Control Act (TSCA; 40 CFR Part 761) cleanup levels consistent with a *high occupancy area* without restrictions for future use as a green space, mixed use (retail/residential), or commercial use. The City plans to subdivide Lot 1 to separate the Site from the remainder of Lot 1 (Fig. 2).

The City plans to include the remainder of Lot 1 and Lot 2 in a future TSCA Risk-Based PCB Cleanup Plan for 207 Marston Street, as the City envisions the remainder of Lot 1 and Lot 2 being developed together for future commercial/light industrial use.

Although PCBs have not been detected in Site soil greater than 1 part per million (ppm), we are submitting this Cleanup Plan to comply with TSCA because:

- The source of Site contamination is PCBs from Lot 2 of which some of the PCB concentrations in soil are greater than 50 ppm.
- PCBs at 3 ppm were detected in a soil sample collected about 5 ft south of the Site.
- PCBs were detected in a Site asphalt sample at greater than 1 ppm.

1.4 Purpose

This document meets the requirements of 40 CFR §761.61(a) of TSCA for a Notification and Certification to the EPA Regional Administrator of a Self-Implementing On Site Cleanup and Disposal of PCB remediation waste. We are also requesting approval under 40 CFR §761.61(c) for a deviation from the verification sampling frequency requirements of Subpart O of the TSCA regulations. This deviation does not pose an unreasonable risk of injury to health or the environment because we understand the distribution of PCB contamination based on past site uses and areas of likely historic operations.

This Cleanup Plan summarizes the data collected to characterize PCB concentrations in Site soil and asphalt and documents a cleanup plan that will achieve residual concentrations of PCBs remaining in the soil at ≤1 ppm consistent with the TSCA cleanup level for use as a *high occupancy area* without restrictions. It also requests approval for disposal of asphalt and soil at a Subtitle D Non-Hazardous Waste Landfill (PCBs <50 ppm) in accordance with 40 CFR §761.61(a)(5)(v)(A)(2).

In accordance with 40 CFR 761.61(a)(3), this notification includes the following information:

- A discussion of the nature of the contamination.
- A summary of procedures used to sample contaminated materials including a figure showing sample locations and concentrations of PCBs in pre-cleanup characterization samples.
- A discussion of the extent of the identified contaminated area with a figure showing the location.
- A cleanup plan for the Site, including a schedule, description of technology, and approach.
- Written certification signed by the owner of the property (Appendix A).

1.5 Submittals

The written certification required under §761.61(a)(3)(E) signed by a representative of owner of the property where the cleanup will be conducted, The City of Lawrence, is in Appendix A.

In accordance with §761.61(a)(3), at least 30 days prior to the date that cleanup begins, written notification and certification must be made to the EPA Regional Administrator, the Massachusetts Department of Environmental Protection (MassDEP), and director of the county or local environmental protection agency where the cleanup will be conducted. In addition, because this plan is also subject to 40 CFR §761.61(c), we acknowledge that the cleanup cannot proceed until EPA issues a written decision.

A copy of this Cleanup Plan was submitted to MassDEP through eDEP, MassDEP's on-line filing system, using a BWSC126 Miscellaneous Document Transmittal form under RTN 3-18126. A copy of this Cleanup Plan was also submitted to the City of Lawrence Board of Health. Copies of the BWSC126 and letters transmitting the documents to MassDEP and the Lawrence Board of Health are in Appendix B. A Release Abatement Measure (RAM) Plan prepared to meet the requirements of the Massachusetts Contingency Plan (40 CFR 40.0000) will also be submitted to MassDEP, as required by the MCP, prior to beginning soil removal activities.

2. Site Characterization

Several investigations have been conducted at the Disposal Site since 1998. Below is a summary of investigations of PCBs in Site soil and adjacent to the southern portion of the Site. Investigations included collecting and testing soil, groundwater, and asphalt samples.

Investigation locations are shown in Fig. 3.

2.1 EPA Targeted Brownfields Assessment, Nobis (2016)

In 2016, Nobis, on behalf of EPA, completed a TBA at the Disposal Site to support the development of remedial alternatives. As part of the assessment one soil boring (NPA-01) was advanced on the Site and one soil boring (NPA-02) was advanced about 15 ft south of the Site. Soil boring logs are in Appendix C.

Soil samples were collected from depths of 0.5 to 2 ft and 2 to 3 ft. NPA-02 was also sampled at a depth of 6 to 7 ft. Samples were submitted to Eurofins/Spectrum Analytical in North Kingstown, Rhode Island for chemical testing. All samples, except for the sample from NPA-02 at 6 to 7 ft, were tested for PCBs. Some samples were also tested for extractable petroleum hydrocarbons (EPH) and/or metals. The sample from NPA-02 at 6 to 7 ft was tested for volatile organic compounds (VOCs).

The results of analysis of samples from NPA-01, which is on the Site, are in Table 1. The results of PCB testing of samples from NPA-02, which is south of the Site, are in Table 2. Lab data reports are in Appendix C.

Total PCB concentrations detected in Site soil samples (NPA-01) were 0.044 and 0.21 ppm.

Total PCB concentrations in the samples collected from NPA-02, south of the Site, were 0.13 and 7.1 ppm.

2.2 Supplemental Assessments, Credere (2019)

In September and December 2019, Credere, on behalf of the City of Lawrence, conducted investigations on Lot 1 to collect data to support a cleanup plan for the Site and the remainder of Lot 1.

2.2.1 September 2019 Investigations

Credere conducted the sampling and analysis in accordance with a Site-Specific Quality Assurance Project Plan (QAPP) Addendum to its Generic QAPP, dated August 26, 2019.

The September 2019 investigations included collecting asphalt and soil samples across Lot 1. Four soil borings (SB-1 through SB-4) were advanced on the Site and four asphalt samples (AS-1 through AS-4) were collected from the Site at the same locations as the soil borings. Asphalt samples were collected using an impact hammer drill from a depth of 0 to 0.5-inch and soil borings were advanced by a direct push drilling method (Geoprobe) to a depth of 10 ft. Boring logs are in Appendix D.

Soil samples were collected from depth intervals of 0 to 0.5 ft below the bottom of the asphalt surface, 1 to 2 ft, 3 to 5 ft, and 5 to 7 ft. The soil and asphalt samples were submitted to Alpha Analytical of Westborough, Massachusetts for chemical testing. Asphalt samples were tested for PCBs. All the soil samples, except for the samples collected from the 5 to 7 ft depth interval, were tested for PCBs. The 1 to 2 ft, 2 to 3 ft, and 5 to 7 ft samples were also tested for EPHs, VOCs, and Resource Conservation and Recovery Act (RCRA) 8 metals plus zinc. All PCBs were tested by EPA Method 8082A with manual Soxhlet extraction (EPA Method 3540C).

The soil sample chemical testing results are summarized in Table 1 and the asphalt sample chemical testing results are summarized in Table 3. Lab data reports are in Appendix D.

Total PCB concentrations detected in Site asphalt samples ranged from 0.184 to 1.61 ppm. Total PCB concentrations detected in Site soil samples ranged from 0.04 ppm to 0.4 ppm. The EPH fraction C_{19}-C_{36} Aliphatics concentration of 56,800 milligram per kilogram (mg/kg) detected in SB-2 (5-7) exceeds the MCP Upper Concentration Limit (UCL).

2.2.2 December 2019 Investigations

In December 2019, Credere advanced an additional 10 borings, SB-5 through SB-15 to delineate known contamination. Soil boring logs are in Appendix C. The sampling and analysis was conducted in accordance with a November 27, 2019 Amendment to Credere's August 2019 SSQAP.

Soil borings SB-5 through SB-10 were advanced to delineate an EPH fraction UCL exceedance and elevated lead detected in soil samples from boring SB-2. Samples collected from these borings were tested for EPH and lead. None of the samples were tested for PCBs. Results of EPH and lead testing are in Table 1.

Borings SB-11 through SB-15 were advanced south of the Site to delineate a PCB concentration of 7 ppm in soil boring NPA-02 (collected by Nobis in 2016) at a depth of 2 to 3 ft. Soil boring NPA-02 was originally thought to be located on the Site. Therefore, samples were collected to delineate PCB concentrations greater than 1 ppm for future cleanup. However, based on field observations, soil boring NPA-02 is located about 15 ft south of the Site. Samples were collected from borings SB-11 through SB-15, locations surrounding NPA-02, at depth intervals of 1 to 1.5 ft, 2 to 3 ft, and 3 to 4 ft and submitted to

Alpha for PCB testing. Fifteen soil samples were tested for PCBs by EPA Method 8082A with manual Soxhlet Extraction (EPA Method 3540). Detected PCB concentrations in the samples ranged from 0.156 to 3.02 ppm; PCBs were greater than 1 ppm in only one sample, SB-12 at a depth of 1 to 1.5 ft (3.02 ppm). Results of PCB testing are summarized in Table 2 and the lab data report is in Appendix D.

2.3 Supplemental Assessment, GEI (2020)

The cleanup of the Site will be targeted excavation of EPH contaminated soil in excess of the UCLs and soil along the southern boundary of the Site, 5 ft wide and 3 ft deep, because PCBs are located near the southern boundary of the Site (SB-12). To characterize this soil for offsite disposal, on March 12, 2020, GEI collected soil samples from the planned excavation areas for offsite disposal characterization.

GEI conducted the sampling and testing in accordance with the Site-Specific Quality Assurance Project Plan Addendum No. 1, Revision 01 Former Tombarello Property, Lot 1 Cleanup, 207 Marston Street, Lawrence, Massachusetts," dated March 11, 2020.

GEI retained Northern Drill Service, Inc. (NDI) of Northborough, Massachusetts to advance four soil borings at locations LOT1-DISP-01, LOT1-DISP-02A, LOT1-DISP-02B, and LOT1-DISP-02C. The borings were advanced using a direct push Geoprobe drilling method through a surface cover of about 3-inches of asphalt pavement. Boring logs are in Appendix C.

The soil boring LOT1-DISP-01 was in the area of the targeted EPH excavation and was advanced to a depth of 7 ft. A composite sample was collected from Lot1-Disp-01 by compositing soil collected from the boring across the 1 to 7-foot depth interval, which is representative of the soil planned for excavation.

The soil borings LOT1-DISP-02A, LOT1-DISP-02B, and LOT1-DISP-02C were advanced to a depth of 3 ft. Samples from Lot1-DISP-02A through C were collected across the depth interval 1 to 3 ft. Composite sample Lot1-Disp-02comp was collected by compositing soil from locations LOT1-DISP-02A, LOT1-DISP-02B, and LOT1-DISP-02C. A grab sample, Lot1-Disp02grab, was collected from Lot1-Disp-02B.

The samples were submitted to ESS laboratories of Cranston, Rhode Island for chemical testing. Lot1-DISP-01 was tested for VOCs, semi-volatile organic compounds (SVOCs), total petroleum hydrocarbons (TPH), PCBs, RCRA 8 metals, TCLP lead, ignitability, corrosivity, reactive cyanide and sulfide. Lot1-DISP-02comp was tested for SVOCs, PCBs, TPH, RCRA 8 metals, TCLP lead, ignitability, corrosivity, reactive cyanide and sulfide and Lot1-Disp02grab was tested for VOCs. All PCBs were tested by EPA Method 8082A with manual soxhlet extraction (EPA Method 3540).

The results of chemical testing are summarized in Table 4 and the laboratory data report is in Appendix D.

PCBs were not detected at a concentration above the laboratory reporting limit in Lot1-Disp-01 and were detected at 0.16 ppm in Lot1-Disp-02comp.

3. Nature and Extent of PCB Contamination

Results of chemical testing of Site soil for VOCs, petroleum hydrocarbons, PCBs, and metals are in Table 1. Results of PCB testing of soil samples collected adjacent to the southern limit of the Site and asphalt samples collected from the Site are in Tables 2 and 3, respectively. Soil boring logs are in Appendix C and laboratory data reports are in Appendix D.

PCB concentrations in soil by depth intervals of 0 to 1 foot, 1 to 2 ft, 2 to 3 ft, and greater than 3 ft, are illustrated in Figs. 4 through 7. PCB concentrations in asphalt samples are shown in Fig. 8.

Site soil is fill consisting of sand with varying amounts of coal, ash, brick, and glass is present beneath the asphalt to a depth of about 7 ft. The primary contaminants in Site soil are PCBs, metals, and petroleum hydrocarbons. PCB aroclors detected are aroclors 1248, 1254, 1260, and 1268, with aroclor 1260 the most prevalent.

The maximum PCB concentration in Site soil is 0.44 ppm. PCBs at 3.02 ppm are at a depth of about 1 to 1 ½ ft about 5 ft south of the Site (SB-12) and at 7 ppm at a depth of 2 to 3 ft about 15 ft south of the Site (NPA-02).

The Site is covered with asphalt ranging in thickness from 3 to 10-inches. PCBs in Site asphalt range from 0.18 to1.6 ppm (Fig. 8).

4. Cleanup Plan

The cleanup plan described in this Section applies only to the Site, the northwest portion of Lot 1, and will be conducted under an EPA Brownfields Cleanup Grant issued to the City of Lawrence for Lot 1. No cleanup is planned for the remainder of Lot 1. The contaminant conditions on the remainder of Lot 1 will be included in a future Risk-Based PCB Cleanup Plan (40 CFR 761.61(c)) that will be prepared for Lot 2.

4.1 Selected Cleanup Level

The City plans to develop the Site for use as a green space, or for mixed use including retail, multi-family residential, and/or commercial. Under these uses, the Site will meet the definition of a *high occupancy area*, as defined in 40 CFR 761.3. Therefore, a cleanup level of ≤1 ppm PCBs remaining in Site soil has been selected in accordance with §761.61(a)(4).

4.2 Key Cleanup Plan Elements

The objectives of the cleanup plan are to remove asphalt and Site soil with PCBs >1 ppm (Fig. 9). Key elements of the cleanup plan include:

- Removal and offsite disposal of the asphalt surface cover.
- Removal and offsite disposal of soil from a limited area along the southern boundary of the Site.
- Collection of soil verification samples from the limits of the excavation along the southern boundary for PCB testing.
- Backfill of excavated areas with clean imported fill.
- Restoration of the Site including placement of topsoil and seed across the Site.
- Subdivision of Lot 1 to separate the Site from the larger portion of Lot 1.
- Installation of a fence at the southern boundary of the Site to separate the Site from the remainder of Lot 1. There is a fence on the northern, eastern and western limits of the Site.

In addition to the excavation and offsite disposal of soil along the southern boundary of the Site, an area at the northeast portion of the Site will be excavated to remove EPH contaminated soil that exceed the MCP UCL. This work is not subject to TSCA because PCBs in this area of the Site are less than 1 ppm. Therefore, the excavation and offsite disposal of soil from this area is not further addressed in this Cleanup Plan.

Because the Site is within the limits of a MassDEP-listed disposal site, the excavation and offsite disposal of soil from both excavation areas will also be documented in a Release Abatement Measure (RAM) Plan and RAM Completion Report submitted to MassDEP.

The City will select a contractor to perform the cleanup work. The City has retained GEI to document the cleanup and to collect verification samples to confirm that the selected cleanup levels in remaining soil have been achieved.

4.2.1 Work Area Preparation

Prior to beginning the work, the contractor will construct and maintain a Materials Management Area (MMA), temporary decontamination pad/wheel wash, and a privacy screen on portions of the existing perimeter fence. The MMA and temporary decontamination pad/wheel wash will be located within a paved area on the larger portion of Lot 1.

4.2.2 Exclusion Zone

The Site is currently enclosed by a gated and locked chain link fence. This fence line will serve as the Exclusion Zone.

4.2.3 Health and Safety

The contractor will be required to prepare a Health and Safety Plan (HASP) to meet Occupational Safety and Health Administration (OSHA) requirements for the remediation activities. GEI will prepare a HASP for the protection of its employees during the remediation activities.

4.2.4 Inspections and Air Monitoring

GEI will provide an on-site field engineer to observe the removal of PCB-impacted materials and to conduct verification sampling, where necessary.

GEI will conduct monitoring for airborne dust at the perimeter of the Site throughout the day when PCB removal work is being performed. If dust action levels exceed 150 micrograms per cubic meter ($\mu g/m^3$) or visible dust is observed leaving the Site, then the contractor will be required to implement additional dust control measures.

4.2.5 Asphalt Removal

The Contractor will remove the asphalt to the existing fence line to the north, east and west, and to the southern limit of the Site as shown in Fig. 9. The existing fence will remain in place. Removal of asphalt beyond the fence line is not planned.

Removed asphalt will be direct loaded into trucks for offsite disposal..

4.2.6 Soil Excavation

Following removal of asphalt, soil along the southern boundary of the Site will be excavated to a depth of 3 ft to the limits shown in Fig. 9. The excavation will be a minimum of 5 ft wide (north to south) and will extend to within about 5 ft of the fence lines to the east and west. The final limits of the excavation will be surveyed by the Contractor.

Excavated soil will either be placed into lined and covered containers or direct loaded into trucks for offsite disposal.

4.2.7 Management and Disposal of Generated Waste Materials

Excavated soil and removed asphalt will be disposed of at out of state Subtitle D Non-Hazardous Waste Landfill (PCBs <50 ppm) in accordance with 40 CFR §761.61(a)(5)(v)(A)(2).

Other waste materials requiring offsite disposal that will be generated as a result of the excavation work will include used PPE, tools and equipment that cannot be decontaminated, and decontamination wastes. These waste materials will also be managed and disposed of at an out-of-State lined landfill as non-hazardous waste (Subtitle D landfill) in accordance with 40 CFR §761.61(a)(5)(v)(A)(2). Decontamination water may be recharged to the ground if no other contaminants were introduced to the water and if PCB concentrations in the water are <0.5 micrograms per liter (µg/L).

4.2.8 Verification Sampling and Analysis

Soil verification samples will be collected as described in the Site-Specific Quality Assurance Project Plan (QAPP) Addendum No. 1, Revision 01, dated March 11, 2020, which was prepared for Lot 1 cleanup activities. Samples will be collected from the bottom and the north and south sidewalls of the excavation to verify that PCBs remaining are ≤1 ppm. Samples will be collected at a frequency of one sample from the bottom and one sample from each sidewall per 10 linear feet. Samples will be collected using hand tools such as a trowel. The samples will be submitted to ESS for PCB testing by Method 8082 (manual Soxhlet extraction).

If the PCB concentration in either a bottom or north sidewall verification sample exceeds the cleanup level of 1 ppm, an additional one foot of soil will be excavated between the adjacent samples that meet the cleanup level and a re-verification sample will be collected. If a PCB concentration in a south sidewall sample exceeds the cleanup level of 1 ppm, no additional excavation will be performed to the south and the Lot 1 subdivision line will be surveyed one-foot north of the southern limit of excavation. Plans for Lot 1 subdivision are further discussed in Section 4.3.

Field quality control (QC) samples will include field duplicate samples and equipment blanks. One field duplicate per 20 samples and one equipment blank per day will be collected. The field duplicates will be split samples collected from a single homogenized sample, submitted in separate containers, labeled differently, and analyzed separately. Information from the analysis of field duplicate samples will be used to evaluate the precision and representativeness of sampling procedures

4.2.9 Data Review and Validation

GEI will perform data validation on all laboratory data collected during the project as described in GEI's Brownfields Program Generic Quality Assurance Project Plan for Projects in Massachusetts, Rev. 01, dated May 6, 2019.

4.3 Site Restoration and Lot 1 Subdivision

At the completion of excavation, a geotextile separation layer will be placed at the base of the excavation and will extend up the south sidewall. The excavation will be backfilled with clean imported fill and the entire Site will be seeded.

The City may subdivide Lot 1 in the future to separate the Site from the remainder of Lot 1. The approximate proposed subdivision boundary is shown in Fig. 9. However, if PCBs are detected at greater than 1 ppm in the southern sidewall of the excavation, the proposed subdivision line will be surveyed a minimum of one-foot north of the southern boundary of the excavation.

A chain-link fence will be installed along the southern border of the Site at the approximate location shown in Fig. 9.

4.4 Equipment Decontamination

At the completion of the excavation work, the Contractor will decontaminate the excavator bucket in accordance with the self-implementing decontamination procedures for moveable equipment (§761.79[c]). All vehicles and equipment used to handle excavated soil will pass through the vehicle decontamination/wheel wash to remove solids from wheels prior to exiting the Site.

4.5 Documentation

GEI, on behalf of the City, will prepare a completion report documenting the cleanup activities. The completion report will include the following items:

- A summary of PCB cleanup activities.
- A photographic log.

- A description of any deviations from this Cleanup Plan.
- Contaminated materials shipping documents and manifests.
- Verification sampling analytical results.

4.6 Schedule

The cleanup work is planned to start in mid-May 2020, pending approval of the plan by EPA.

5. Limitations

This report was prepared for the use of the City of Lawrence, exclusively. The findings provided by GEI in this report are based solely on the information reported in this document. Future investigations or information that was not available to GEI at the time of this investigation may result in a modification of the conclusions stated above. This report has been prepared in accordance with generally accepted engineering and geohydrological practices. No warranty, expressed or implied, is made.

Tables

Table 1. Chemical Testing Results - Soil Samples
Former Tombarello Property - Lot 1, Northwest Portion
Lawrence, Massachusetts

		Location Name	AS/SB-1	AS/SB-1	AS/SB-1	AS/SB-1	AS/SB-1	AS/SB-1	AS/SB-2	AS/SB-2	AS/SB-2	AS/SB-2	AS/SB-2	AS/SB-3	AS/SB-3	AS/SB-3	AS/SB-3	AS/SB-3	AS/SB-4	AS/SB-4	AS/SB-4	AS/SB-4
		Sample Name	SB-1 (0-0.5)	SB-1 (1-2)	SB-DUP-1	SB-1 (2-3)	SB-1 (3-5)	SB-1 (5-7)-2	SB-2 (0-0.5)	SB-2 (1-2)	SB-2 (2-3)	SB-2 (3-5)	SB-2 (5-7)-2	SB-3 (0-0.5)	SB-3 (1-2)	SB-3 (2-3)	SB-3 (3-5)	SB-3 (5-7)-2	SB-4 (0-0.5)	SB-4 (1-2)	SB-4 (2-3)	SB-4 (3-5)
		Start Depth	0	1	1	2	3	5	0	1	2	3	5	0	1	2	3	5	0	1	2	3
		End Depth	0.5	2	2	3	5	7	0.5	2	3	5	7	0.5	2	3	5	7	0.5	2	3	5
		Depth Unit	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
		Sample Date	9/5/2019	9/5/2019	9/5/2019	9/5/2019	9/5/2019	9/5/2019	9/4/2019	9/4/2019	9/4/2019	9/4/2019	9/4/2019	9/4/2019	9/4/2019	9/4/2019	9/4/2019	9/4/2019	9/4/2019	9/4/2019	9/4/2019	9/4/2019
		Parent Sample			SB-1 (1-2)																	
Analyte	**Units**	**CAS No.**																				
Volatile Organic Compounds	mg/kg		NT				NT		NT			NT		NT				NT		NT			NT
Acetone		67-64-1		0.28 J	< 0.0072	0.13		0.56 J		0.019	0.12		0.44 J		0.14	0.1		0.26		0.1	< 0.52	
Total 1,2-Dichloroethene		540-59-0		< 0.00093	< 0.00072	< 0.00079		< 0.0016		< 0.00085	< 0.00097		0.13		0.0014	< 0.00072		0.004		< 0.00074	< 0.052	
cis-1,2-Dichloroethene		156-59-2		< 0.00093	< 0.00072	< 0.00079		< 0.0016		< 0.00085	< 0.00097		0.13		0.0014	< 0.00072		0.004		< 0.00074	< 0.052	
Methyl ethyl ketone (2-Butanone)		78-93-3		< 0.0093	< 0.0072	< 0.0079		< 0.016		< 0.0085	< 0.0097		< 0.013		< 0.0074	< 0.0072		0.012		< 0.0074	< 0.52	
Naphthalene		91-20-3		< 0.0037	< 0.0029	< 0.0032		< 0.0065		0.024	< 0.0039		< 0.0053		< 0.0029	< 0.0029		< 0.0038		< 0.003	< 0.21	
Tetrachloroethene (PCE)		127-18-4		0.045	0.00066	0.00061		0.091		0.0014	0.00061		0.34		0.014	0.0058		0.011		< 0.00037	0.34	
Trichloroethene (TCE)		79-01-6		< 0.00046	< 0.00036	< 0.0004		< 0.00081		< 0.00042	< 0.00048		0.13		0.0015	0.00079		0.0019		< 0.00037	0.1	
EPH Compounds	mg/kg		NT				NT		NT			NT		NT				NT		NT			NT
C9-C18 Aliphatics		EPH918		ND	ND	ND		ND		ND	ND		ND		ND	ND		ND		ND	ND	
C19-C36 Aliphatics		EPH1936		113	199	< 71.7		98.5		418	17.0		**56800**		90.0	50.9		215		< 6.74	16.6	
C11-C22 Aromatics (Adjusted)		AROM11-22		203	315	271		59.3		265	102		1120		130	137		147		11.7	35.0	
Acenaphthene		83-32-9		1.31	1.97	< 3.58		< 0.411		< 0.728	0.930		< 15.9		< 0.689	0.973		< 0.788		< 0.337	< 0.340	
Anthracene		120-12-7		2.75	4.66	7.37		0.720		1.24	1.44		< 15.9		< 0.689	1.77		< 0.788		< 0.337	< 0.340	
Benzo(a)anthracene		56-55-3		6.30	10.2	14.2		1.68		3.49	5.54		< 15.9		1.54	4.62		1.33		< 0.337	1.38	
Benzo(b)fluoranthene		205-99-2		4.96	8.91	10.5		1.40		2.96	4.36		< 15.9		1.54	4.07		1.30		< 0.337	1.29	
Benzo(k)fluoranthene		207-08-9		5.25	8.80	11.5		1.40		2.89	4.34		< 15.9		1.62	3.89		1.44		< 0.337	1.34	
Benzo(g,h,i)perylene		191-24-2		3.06	5.53	6.20		0.901		1.83	2.30		< 15.9		1.01	2.82		0.935		< 0.337	0.982	
Benzo(a)pyrene		50-32-8		5.73	9.72	11.9		1.47		3.21	4.63		< 15.9		1.65	4.45		1.39		< 0.337	1.52	
Chrysene		218-01-9		6.78	11.8	13.8		1.80		3.46	5.61		< 15.9		1.80	4.72		1.55		< 0.337	1.38	
Dibenz(a,h)anthracene		53-70-3		1.11	1.84	< 3.58		< 0.411		< 0.728	0.775		< 15.9		< 0.689	0.818		< 0.788		< 0.337	< 0.340	
Fluoranthene		206-44-0		14.6	25.9	37.2		3.67		7.38	10.3		25.2		3.15	10.3		2.78		0.418	1.98	
Fluorene		86-73-7		1.10	1.76	< 3.58		< 0.411		< 0.728	0.689		< 15.9		< 0.689	0.752		< 0.788		< 0.337	< 0.340	
Indeno(1,2,3-cd)pyrene		193-39-5		3.58	6.32	7.27		1.06		2.11	2.77		< 15.9		1.17	3.14		1.05		< 0.337	1.06	
Naphthalene		91-20-3		< 0.690	0.919	< 3.58		< 0.411		< 0.728	< 0.353		< 15.9		< 0.689	< 0.699		< 0.788		< 0.337	< 0.340	
Phenanthrene		85-01-8		12.3	21.4	40.9		2.98		5.13	7.08		24.0		1.97	7.18		2.01		< 0.337	0.759	
Pyrene		129-00-0		12.6	21.8	28.6		2.97		6.52	8.71		22.3		2.77	8.53		2.46		0.395	1.82	
Polychlorinated Biphenyls (PCBs)	mg/kg							NT					NT					NT				
Aroclor 1248		12672-29-6	< 0.0342	< 0.0362	< 0.0331	< 0.0368	< 0.041		< 0.0339	< 0.035	< 0.0363	< 0.038		< 0.17	< 0.035	< 0.0344	< 0.0386		< 0.0341	< 0.0338	< 0.0341	< 0.0375
Aroclor 1254		11097-69-1	< 0.0342	< 0.0362	< 0.0331	< 0.0368	< 0.041		0.0403	< 0.035	< 0.0363	< 0.038		0.444	0.072	< 0.0344	< 0.0386		< 0.0341	< 0.0338	< 0.0341	< 0.0375
Aroclor 1260		11096-82-5	< 0.0342	0.0838	0.088	0.0514	< 0.041		< 0.0339	0.083	< 0.0363	< 0.038		< 0.17	0.0383	< 0.0344	0.0896		0.0533	< 0.0338	< 0.0341	< 0.0375
Aroclor 1268		11100-14-4	< 0.0342	< 0.0362	< 0.0331	< 0.0368	< 0.041		< 0.0339	< 0.035	< 0.0363	< 0.038		< 0.17	< 0.035	< 0.0344	< 0.0386		< 0.0341	< 0.0338	< 0.0341	< 0.0375
Total PCBs		1336-36-3	< 0.0342	0.0838	0.088	0.0514	< 0.041		0.0403	0.083	< 0.0363	< 0.038		0.444	0.11	< 0.0344	0.0896		0.0533	< 0.0338	< 0.0341	< 0.0375
Metals	mg/kg		NT				NT		NT			NT		NT				NT		NT			NT
Arsenic		7440-38-2		5.94	6.44	6.12		8.94		9.19	8.41		7.93		4.74	4.35		6.04		3.39	4.72	
Barium		7440-39-3		74.6	99.9	58.3		100		132	98.5		126		26.4	27.5		51.3		62.6	34.3	
Cadmium		7440-43-9		1.11	1.04	0.921		1.60		0.851	0.875		1.33		0.461	0.565		0.826		0.672	0.939	
Chromium		7440-47-3		25.6	30.6	13.9		16.9		67.9	47.7		41.3		17.8	9.98		25.0		47.3	11.3	
Hexavalent Chromium (Cr VI)		18540-29-9		< 0.870	< 0.840	< 0.894		< 1.01		< 0.885	1.13		< 0.985		< 0.853	< 0.846		< 0.966		< 0.846	< 0.857	
Lead		7439-92-1		342	371	236		272		215	149		698		48.7	108		153		12.6	99.1	
Mercury		7439-97-6		0.121	0.139	0.306		0.329		0.330	2.03		0.393		< 0.078	< 0.079		0.160		< 0.080	< 0.081	
Selenium		7782-49-2		NT	NT	NT		NT		NT	NT		NT		NT	NT		NT		NT	NT	
Silver		7440-22-4		< 0.425	< 0.408	< 0.417		< 0.496		< 0.436	< 0.425		< 0.493		< 0.412	< 0.404		< 0.459		< 0.410	< 0.429	
Zinc		7440-66-6		135	151	121		129		123	116		512		51.4	46.6		74.4		30.1	41.7	
Other																						
Percent Solids	%	SOLIDS	95.0	92.0	95.2	89.5	78.4	79.3	96.8	90.4	89.2	86.0	81.2	95.0	93.8	94.5	85.2	82.8	95.9	94.5	93.3	86.8
Oxidation Reduction Potential	millivolts	ORP	NT	160	130	130	NT	160	NT	140	160	NT	150	NT	150	130	NT	150	NT	140	190	NT
pH	s.u.	pH	NT	7.8	8.2	7.7	NT	7.5	NT	7.9	7.8	NT	7.6	NT	6.5	7.6	NT	6.2	NT	5.7	6.3	NT

Notes:

1. Only analytes detected in at least one sample are shown.
2. < = The analyte was not detected at a concentration above the specified laboratory reporting limit.
3. mg/kg = milligrams/kilogram or parts per million (ppm)
4. EPH = Extractable Petroleum Hydrocarbon
5. CAS No. = Chemical Abstracts Service Number
6. ND = The analyte was not detected at a concentration above the laboratory reporting limit.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

Table 1. Chemical Testing Results - Soil Samples
Former Tombarello Property - Lot 1, Northwest Portion
Lawrence, Massachusetts

		Location Name	AS/SB-4	NPA-01	NPA-01	SB-5	SB-6	SB-7	SB-8	SB-9	SB-10
		Sample Name	SB-4 (5-7)-2	NPA-01	NPA-01	SB-5	SB-6	SB-7	SB-8	SB-9	SB-10
		Start Depth	5	0.5	2	7	8	6	7	6	8
		End Depth	7	2	3	8	9	7	8	7	9
		Depth Unit	ft	ft	ft	ft	ft	ft	ft	ft	ft
		Sample Date	9/4/2019	6/10/2016	6/10/2016	12/23/2019	12/23/2019	12/23/2019	12/23/2019	12/23/2019	12/23/2019
		Parent Sample									
Analyte	**Units**	**CAS No.**									
Volatile Organic Compounds	mg/kg			NT	NT	NT	NT	NT	NT	NT	NT
Acetone		67-64-1	0.48 J								
Total 1,2-Dichloroethene		540-59-0	< 0.0012								
cis-1,2-Dichloroethene		156-59-2	< 0.0012								
Methyl ethyl ketone (2-Butanone)		78-93-3	< 0.012								
Naphthalene		91-20-3	< 0.005								
Tetrachloroethene (PCE)		127-18-4	0.061								
Trichloroethene (TCE)		79-01-6	< 0.00062								
EPH Compounds	mg/kg				NT						
C9-C18 Aliphatics		EPH918	ND	NT		ND	ND	ND	ND	ND	ND
C19-C36 Aliphatics		EPH1936	18.1	NT		< 10.5	16.4	26.1	340	40.4	26.3
C11-C22 Aromatics (Adjusted)		AROM11-22	21.9	NT		< 10.5	156	256	15.4	16	82.8
Acenaphthene		83-32-9	< 0.427	0.37 J		< 0.526	0.794	< 0.538	< 0.494	< 0.485	< 0.48
Anthracene		120-12-7	< 0.427	1.2 J		< 0.526	1.49	< 0.538	< 0.494	< 0.485	1.59
Benzo(a)anthracene		56-55-3	< 0.427	3.4 J		< 0.526	4.32	< 0.538	< 0.494	< 0.485	2.74
Benzo(b)fluoranthene		205-99-2	< 0.427	4.4 J		< 0.526	2.49	< 0.538	< 0.494	< 0.485	2.05
Benzo(k)fluoranthene		207-08-9	< 0.427	1.8 J		< 0.526	2.82	< 0.538	< 0.494	< 0.485	2.13
Benzo(g,h,i)perylene		191-24-2	< 0.427	1.7 J		< 0.526	2.01	< 0.538	< 0.494	< 0.485	1.32
Benzo(a)pyrene		50-32-8	< 0.427	3.3 J		< 0.526	3.58	< 0.538	< 0.494	< 0.485	2.31
Chrysene		218-01-9	< 0.427	3 J		< 0.526	4.8	< 0.538	< 0.494	< 0.485	2.78
Dibenz(a,h)anthracene		53-70-3	< 0.427	0.48 J		< 0.526	< 0.511	< 0.538	< 0.494	< 0.485	< 0.48
Fluoranthene		206-44-0	< 0.427	8 J		< 0.526	7.3	0.62	< 0.494	< 0.485	7.09
Fluorene		86-73-7	< 0.427	0.41 J		< 0.526	0.645	< 0.538	< 0.494	< 0.485	< 0.48
Indeno(1,2,3-cd)pyrene		193-39-5	< 0.427	1.9 J		< 0.526	1.98	< 0.538	< 0.494	< 0.485	1.37
Naphthalene		91-20-3	< 0.427	< 1.4		< 0.526	< 0.511	< 0.538	< 0.494	< 0.485	< 0.48
Phenanthrene		85-01-8	< 0.427	4.3 J		< 0.526	8.95	< 0.538	< 0.494	< 0.485	7.37
Pyrene		129-00-0	< 0.427	4.9 J		< 0.526	9.88	0.641	< 0.494	< 0.485	6.04
Polychlorinated Biphenyls (PCBs)	mg/kg					NT	NT	NT	NT	NT	NT
Aroclor 1248		12672-29-6	< 0.104	0.21	< 0.037						
Aroclor 1254		11097-69-1	< 0.104	< 0.071	< 0.037						
Aroclor 1260		11096-82-5	< 0.104	< 0.071	0.044						
Aroclor 1268		11100-14-4	< 0.104	< 0.071	< 0.037						
Total PCBs		1336-36-3	< 0.104	0.21	0.044						
Metals	mg/kg										
Arsenic		7440-38-2	9.82	5.1	8.9	NT	NT	NT	NT	NT	NT
Barium		7440-39-3	170	87	32	NT	NT	NT	NT	NT	NT
Cadmium		7440-43-9	0.733	0.61	0.2	NT	NT	NT	NT	NT	NT
Chromium		7440-47-3	11.9	18	13	NT	NT	NT	NT	NT	NT
Hexavalent Chromium (Cr VI)		18540-29-9	< 1.06	NT	NT	NT	NT	NT	NT	NT	NT
Lead		7439-92-1	96.0	350	100	110	1100	2800	240	25	7000
Mercury		7439-97-6	< 0.097	0.83	0.27	NT	NT	NT	NT	NT	NT
Selenium		7782-49-2	NT	0.83 J	0.73 J	NT	NT	NT	NT	NT	NT
Silver		7440-22-4	< 0.527	< 1.2	< 1	NT	NT	NT	NT	NT	NT
Zinc		7440-66-6	109	NT	NT	NT	NT	NT	NT	NT	NT
Other				NT	NT	NT	NT	NT	NT	NT	NT
Percent Solids	%	SOLIDS	75.3								
Oxidation Reduction Potential	millivolts	ORP	140								
pH	s.u.	pH	7.5								

Notes:
1. Only analytes detected in at least one sample are shown.
2. < = The analyte was not detected at a concentration above the specified laboratory reporting limit.
3. mg/kg = milligrams/kilogram or parts per million (ppm)
4. EPH = Extractable Petroleum Hydrocarbon
5. CAS No. = Chemical Abstracts Service Number
6. ND = The analyte was not detected at a concentration above the laboratory reporting limit.

Qualifying Notes:
J The reported result is below the laboratory reporting limit and is estimated.

Table 2. Chemical Testing Results - NPA-02 and Delineation Samples
Former Tombarello Property - Lot 1, Northwest Portion
Lawrence, Massachusetts

		Location Name	NPA-02	NPA-02	SB-11	SB-11	SB-11	SB-12	SB-12	SB-12	SB-13	SB-13	SB-13	SB-14	SB-14	SB-14	SB-15	SB-15	SB-15
		Sample Name	NPA-02	NPA-02	SB-11 1'-1.5'	SB-11 2'-3'	SB-11 3'-4'	SB-12 1'-1.5'	SB-12 2'-3'	SB-12 3'-4'	SB-13 1'-1.5'	SB-13 2'-3'	SB-13 3'-4'	SB-14 1'-1.5'	SB-14 2'-3'	SB-14 3'-4'	SB-15 1'-1.5'	SB-15 2'-3'	SB-15 3'-4'
		Start Depth	0.5	2	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
		End Depth	2	3	1.5	3	4	1.5	3	4	1.5	3	4	1.5	3	4	1.5	3	4
		Depth Unit	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
		Sample Date	6/10/2016	6/10/2016	12/23/2019	12/23/2019	12/23/2019	12/23/2019	12/23/2019	12/23/2019	12/23/2019	12/23/2019	12/23/2019	12/23/2019	12/23/2019	12/23/2019	12/23/2019	12/23/2019	12/23/2019
Analyte	**Units**	**CAS No.**																	
Polychlorinated Biphenyls (PCBs)	mg/kg																		
Aroclor 1242		53469-21-9									0.0654	< 0.0408	< 0.0362	< 0.0354	< 0.0351	< 0.034	< 0.0364	< 0.0376	< 0.0361
Aroclor 1248		12672-29-6	0.13	7.1 J	< 0.036	< 0.0359	< 0.0362	< 0.398	< 0.0388	< 0.0403	< 0.0365	< 0.0408	< 0.0362	< 0.0354	< 0.0351	< 0.034	< 0.0364	< 0.0376	< 0.0361
Aroclor 1254		11097-69-1	< 0.037	< 7.2	< 0.036	< 0.0359	< 0.0362	< 0.398	< 0.0388	< 0.0403	< 0.0365	< 0.0408	< 0.0362	0.102	< 0.0351	< 0.034	< 0.0364	< 0.0376	< 0.0361
Aroclor 1260		11096-82-5	< 0.037	< 7.2	< 0.036	< 0.0359	< 0.0362	3.02	0.0775	< 0.0403	0.531	< 0.0408	< 0.0362	0.054	< 0.0351	< 0.034	0.132	< 0.0376	< 0.0361
Aroclor 1268		11100-14-4	< 0.037	< 7.2	< 0.036	< 0.0359	< 0.0362	< 0.398	< 0.0388	< 0.0403	< 0.0365	< 0.0408	< 0.0362	< 0.0354	< 0.0351	< 0.034	< 0.0364	< 0.0376	< 0.0361
Total PCBs		1336-36-3	0.13	**7.1 J**	< 0.036	< 0.0359	< 0.0362	**3.02**	< 0.0388	< 0.0403	< 0.0365	< 0.0408	< 0.0362	0.156	< 0.0351	< 0.034	0.132	< 0.0376	< 0.0361

Notes:
1. Only analytes detected in at least one sample are shown.
2. < = The analyte was not detected at a concentration above the specified laboratory reporting limit.
3. Bolding indicates a result greater than 1 mg/kg.
4. mg/kg = milligrams/kilogram or parts per million (ppm)
5. CAS No. = Chemical Abstracts Service Number

Qualifying Notes:
J The reported result is below the laboratory reporting limit and is estimated.

Table 3. Chemical Testing Results - Asphalt Samples
Former Tombarello Property - Lot 1, Northwest Portion
Lawrence, Massachusetts

		Location Name	AS-1	AS-2	AS-DUP-1	AS-3	AS-4
		Sample Name	AS-1	AS-2	AS-2	AS-3	AS-4
		Start Depth	0	0	0	0	0
		End Depth	0.5	0.5	0.5	0.5	0.5
		Depth Unit	in	in	in	in	in
		Sample Date	9/3/2019	9/3/2019	9/3/2019	9/3/2019	9/3/2019
		Parent Sample			AS-2		
Analyte	**Units**	**CAS No.**					
Polychlorinated Biphenyls (PCBs)	mg/kg						
Aroclor 1248		12672-29-6	< 0.0373	<0.0343	< 0.0381	< 0.0343	< 0.038
Aroclor 1254		11097-69-1	< 0.056	< 0.0515	< 0.0572	< 0.0514	< 0.057
Aroclor 1260		11096-82-5	0.986	0.508	1.61	0.184	0.354
Aroclor 1268		11100-14-4	< 0.0187	< 0.0172	< 0.019	< 0.0172	< 0.019
Total PCBs		1336-36-3	0.986	0.508	**1.61**	0.184	0.354

Notes:

1. < = The analyte was not detected at a concentration above the specified laboratory reporting limit.
2. in = inches
3. mg/kg = milligrams/kilogram.
4. CAS No. = Chemical Abstracts Service Number
5. Bolding indicates the detected concentration is greater than 1 mg/kg.

Table 4. Chemical Testing Results - Soil Disposal Characterization Samples
Former Tombarello Property - Lot 1, Northwest Portion
Lawrence, Massachusetts

					Sample ID:	**1802441-Lot1-DISP01**	**1802441-Lot1-DISP02-Grab**	**1802441-Lot1-DISP02-Comp**
					Sample Location:	**Lot1-DISP01**	**Lot1-DISP02B**	**Lot1-DISP02A, B, C (Composite)**
					Sampling Date:	**03/12/2020**	**03/12/2020**	**03/12/2020**
					Sample Depth (ft):	**1 - 7**	**1 - 3**	**1 - 3**
					Lab Sample ID:	**20C0466-01**	**20C0466-02**	**20C0466-03**
Analyte	**Method**	**Units**	**Reuse Levels for In-State Unlined Landfill**	**Reuse Levels for In-State Lined Landfill**				
Volatile Organic Compounds (VOCs)	8260	mg/kg					NT
1,1,2,2-Tetrachloroethane			NS	NS	0.0059	< 0.0013	
Acetone			NS	NS	< 0.0068	0.123	
Methyl Ethyl Ketone (2-Butanone)			NS	NS	< 0.0068	0.0154	
Tetrachloroethene			NS	NS	0.0089	< 0.0032	
Total VOCs			4	10	0.0148	0.1384	
Semi-Volatile Organic Compounds (SVOCs)	8270	mg/kg				NT	
2-Methylnaphthalene			NS	NS	< 0.324		0.298
Acenaphthylene			NS	NS	< 0.752		1.4
Anthracene			NS	NS	< 1.50		2.3
Benzo(a)anthracene			NS	NS	2.28		5.58
Benzo(a)pyrene			NS	NS	2.52		5.77
Benzo(b)fluoranthene			NS	NS	2.42		4.97
Benzo(g,h,i)perylene			NS	NS	1.75		3.21
Benzo(k)fluoranthene			NS	NS	1.72		4
Chrysene			NS	NS	2.3		5.41
Dibenzo(a,h)anthracene			NS	NS	0.575		1.16
Fluoranthene			NS	NS	4.54		11.1
Fluorene			NS	NS	< 1.50		0.826
Indeno(1,2,3-cd)pyrene			NS	NS	1.5		3.07
Phenanthrene			NS	NS	2.43		8.3
Pyrene			NS	NS	4.39		10.8
Total SVOCs			100	100	26.425		68.194
Polychlorinated Biphenyls (PCBs)	8082	mg/kg				NT	
Aroclor 1242			NS	NS	< 0.06		0.1
Aroclor 1260			NS	NS	< 0.06		0.06
Total PCBs			2	2	ND		0.16
Petroleum Hydrocarbons	8100M	mg/kg				NT	
Total petroleum hydrocarbons			2,500	5,000	352		876

Table 4. Chemical Testing Results - Soil Disposal Characterization Samples
Former Tombarello Property - Lot 1, Northwest Portion
Lawrence, Massachusetts

					Sample ID:	1802441-Lot1-DISP01	1802441-Lot1-DISP02-Grab	1802441-Lot1-DISP02-Comp
					Sample Location:	Lot1-DISP01	Lot1-DISP02B	Lot1-DISP02A, B, C (Composite)
					Sampling Date:	03/12/2020	03/12/2020	03/12/2020
					Sample Depth (ft):	1 - 7	1 - 3	1 - 3
					Lab Sample ID:	20C0466-01	20C0466-02	20C0466-03
Analyte	**Method**	**Units**	**Reuse Levels for In-State Unlined Landfill**	**Reuse Levels for In-State Lined Landfill**				
Total Metals		mg/kg					NT	
Arsenic	7010/6010/6020		40	40		6.61		4.93
Barium	6010		NS	NS		171		57.3
Cadmium	6010		30	80		1.17		< 0.45
Chromium	6010		1000	1000		33.9		15.6
Lead	6010		1000	2000		392		185
Mercury	6010		10	10		0.559		0.059
Selenium	6010		NS	NS		< 4.41		< 4.48
Silver	7010/6010/6020		NS	NS		< 0.44		< 0.45
TCLP Metals	1311	mg/L					NT	
Lead			5	5		0.281		1.26
Chemistry								
pH	9045	S.U.	NS	NS		7.75	NT	7.15
Flashpoint	1010	°F	NS	NS		> 200	NT	> 200
Reactive Cyanide	7.3.3.2	mg/kg	NS	NS		< 2.0	NT	< 2.0
Reactive Sulfide	7.3.4.1	mg/kg	NS	NS		< 2.0	NT	< 2.0
Solids, Percent	2540G	%	NS	NS		88	93	93

General Notes:

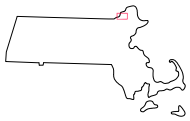
1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
2. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
3. Unlined and lined landfill disposal criteria are from MassDEP Policy #COMM-97-001, dated August 15, 1997.
4. NT = The sample was not tested for this analyte.
5. ND = The analyte was not detected above the laboratory reporting limit. See the laboratory data sheets for the laboratory reporting limit.
6. NS = No disposal facility criteria has been established for this analyte.
7 mg/kg = milligrams per kilogram
8. S.U. = standard units.
9. deg F = degrees Fahrenheit.
10. Soil samples for VOC analysis were preserved in the field with methanol.

Figures

0 1000 2000 4000 6000

SCALE, FEET

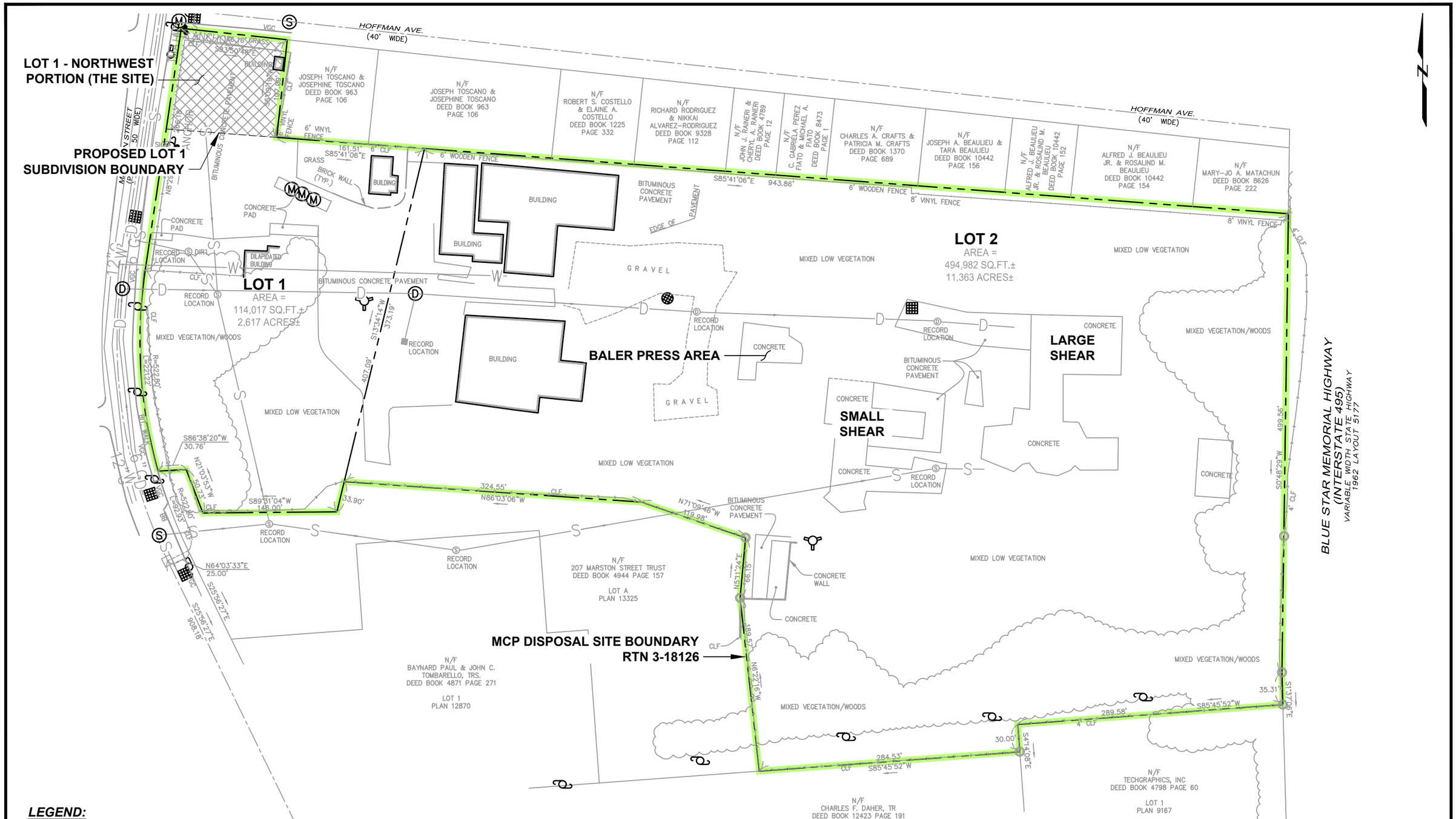
This Image provided by MassGIS is from U.S.G.S. Topographic
7.5 X 15 Minute Series
Lawrence, MA Quadrangle, 1987.
Datum is National Geodetic Vertical Datum of 1929 (NGVD29).
Contour Interval is 3 Meters.



MASSACHUSETTS
QUADRANGLE LOCATION

Self-Implementing PCB Cleanup and Disposal Plan Former Tombarello Property - Lot 1, Northwest Portion Lawrence, Massachusetts	GEI Consultants	SITE LOCATION MAP
City of Lawrence Lawrence, Massachusetts	Project 1802441	April 2020 Fig. 1

\\geiconsultants.com\Data\Data_Storage\Working\LAWRENCE, CITY OF\1802441 Former Tombarello\00_CAD\Figures\SIP\1802441-01



LEGEND:

PROPERTY BOUNDARY AND MCP DISPOSAL SITE BOUNDARY (RTN 3-18126)

NOTES:

1. BASE PLAN FROM *"EXISTING CONDITIONS PLAN, 207 MARSTON STREET, LAWRENCE, MA,"* PREPARED BY NITSCH ENGINEERING INC. DATED 4/1/2019.

Self-Implementing PCB Cleanup and Disposal Plan Former Tombarello Property - Lot 1, Northwest Portion Lawrence, Massachusetts	PROPERTY LAYOUT
City of Lawrence Lawrence, Massachusetts	GEI Consultants Project 1802441 · April 2020 · Fig. 2

\\geiconsulta B:\Working\LAWRENCE, CITY OF\1802441 Former Tombarello\00_CAD\Figures\SIP\1802441-02.dwg - 3/17/2020

SOURCE:

1. AERIAL IMAGE OBTAINED FROM GOOGLE EARTH PRO.

LEGEND:

Investigation

- Supplemental Investigations (Credere, 2019)
- EPA Targeted Brownfields Assessments (Nobis 2016)
- Soil Disposal Characterization (GEI, 2020)

Self-Implementing PCB Cleanup and Disposal Plan
Former Tombarello Property – Lot 1, Northwest Portion
Lawrence, Massachusetts

City of Lawrence
Lawrence, Massachusetts

GEI Consultants

INVESTIGATION LOCATIONS

Project 1802441 | April 2020 | Fig. 3

\\gtb1v-fs01\GIS\Projects\1802441_FormerTombarello\Fig 3 SIPCDP Investigation Locations Zoom.mxd

LEGEND:

PCB Concentrations

- Non-Detect
- < = 1 mg/kg
- > 1 mg/kg - < 50 mg/kg
- >= 50 mg/kg - < 100 mg/kg
- >= 100 mg/kg
- Sample Location (no data at this depth interval)
- Proposed Lot 1 Subdivision Boundary
- Property Line

SOURCE:

1. AERIAL IMAGE OBTAINED FROM GOOGLE EARTH PRO.

Self-Implementing PCB Cleanup and Disposal Plan
Former Tombarello Property – Lot 1, Northwest Portion
Lawrence, Massachusetts

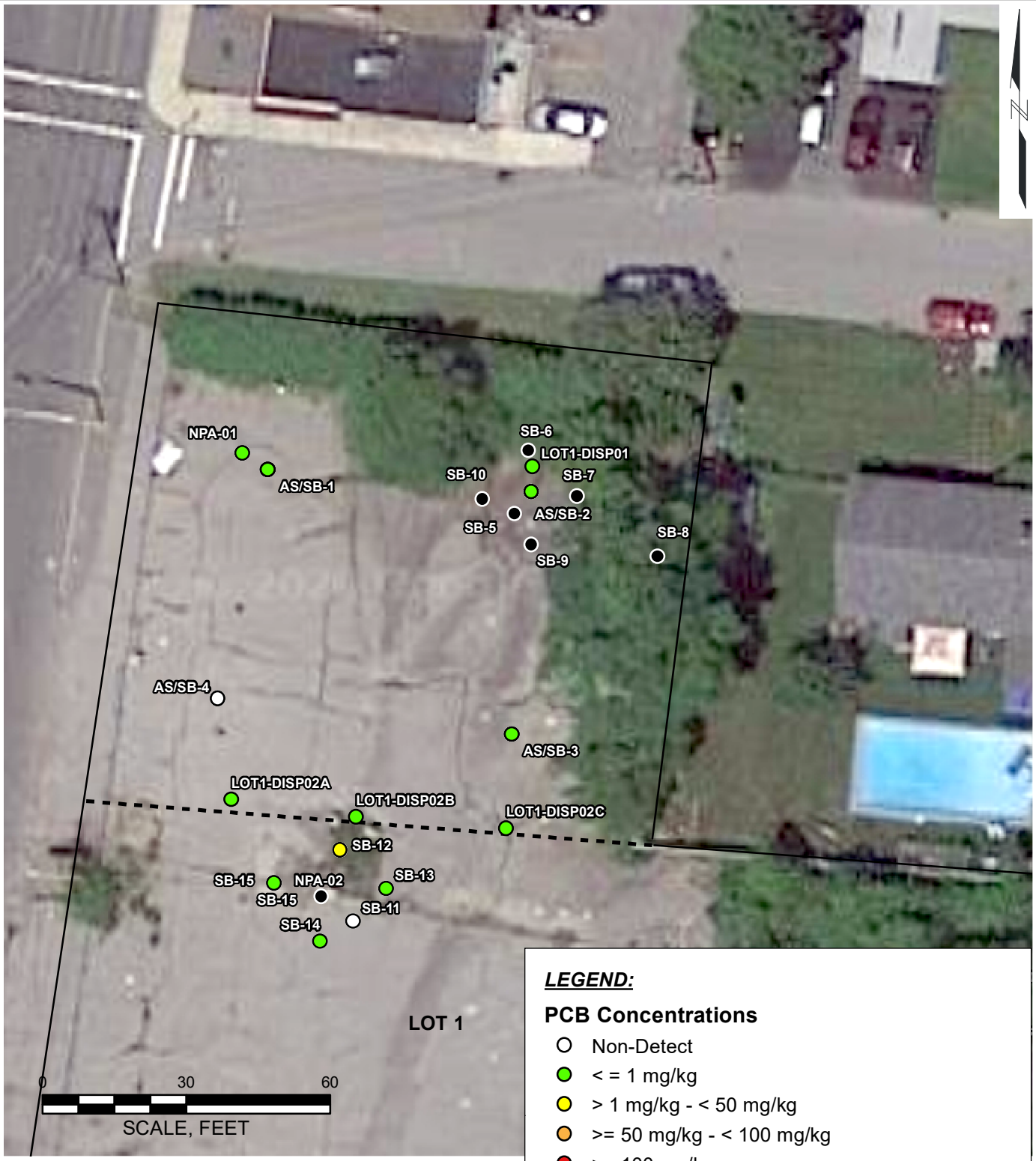
City of Lawrence
Lawrence, Massachusetts

GEI Consultants

PCB CONCENTRATIONS IN SOIL (0-1 FT)

Project 1802441 | April 2020 | Fig. 4

\\gtb1v-fs01\gis\Projects\1802441_FormerTombarello\Fig 4 SIPCDP Lot 1 PCB Soil 0-1 ft Zoom.mxd



LEGEND:

PCB Concentrations

- Non-Detect
- < = 1 mg/kg
- > 1 mg/kg - < 50 mg/kg
- >= 50 mg/kg - < 100 mg/kg
- >= 100 mg/kg
- Sample Location (no data at this depth interval)
- Proposed Lot 1 Subdivision Boundary
- Property Line

SOURCE:

1. AERIAL IMAGE OBTAINED FROM GOOGLE EARTH PRO.

Self-Implementing PCB Cleanup and Disposal Plan
Former Tombarello Property – Lot 1, Northwest Portion
Lawrence, Massachusetts

City of Lawrence
Lawrence, Massachusetts

GEI Consultants

PCB CONCENTRATIONS IN SOIL (1-2 FT)

Project 1802441 | April 2020 | Fig. 5

\\gtb1v-fs01\GIS\Projects\1802441_FormerTombarello\Fig 5 SIPCDP Lot 1 PCB Soil 1-2 ft ZOOM.mxd

SOURCE:
1. AERIAL IMAGE OBTAINED FROM GOOGLE EARTH PRO.

LEGEND:

PCB Concentrations

- Non-Detect
- < = 1 mg/kg
- > 1 mg/kg - < 50 mg/kg
- >= 50 mg/kg - < 100 mg/kg
- >= 100 mg/kg
- Sample Location (no data at this depth interval)
- Proposed Lot 1 Subdivision Boundary
- Property Line

Self-Implementing PCB Cleanup and Disposal Plan
Former Tombarello Property – Lot 1, Northwest Portion
Lawrence, Massachusetts

City of Lawrence
Lawrence, Massachusetts

GEI Consultants

PCB CONCENTRATIONS IN SOIL (2-3 FT)

Project 1802441 | April 2020 | Fig. 6

\\gtb1v-fs01\GIS\Projects\1802441_FormerTombarello\Fig 6 SIPCDP Lot 1 PCB Soil 2-3 ft zoom.mxd

SOURCE:
1. AERIAL IMAGE OBTAINED FROM GOOGLE EARTH PRO.

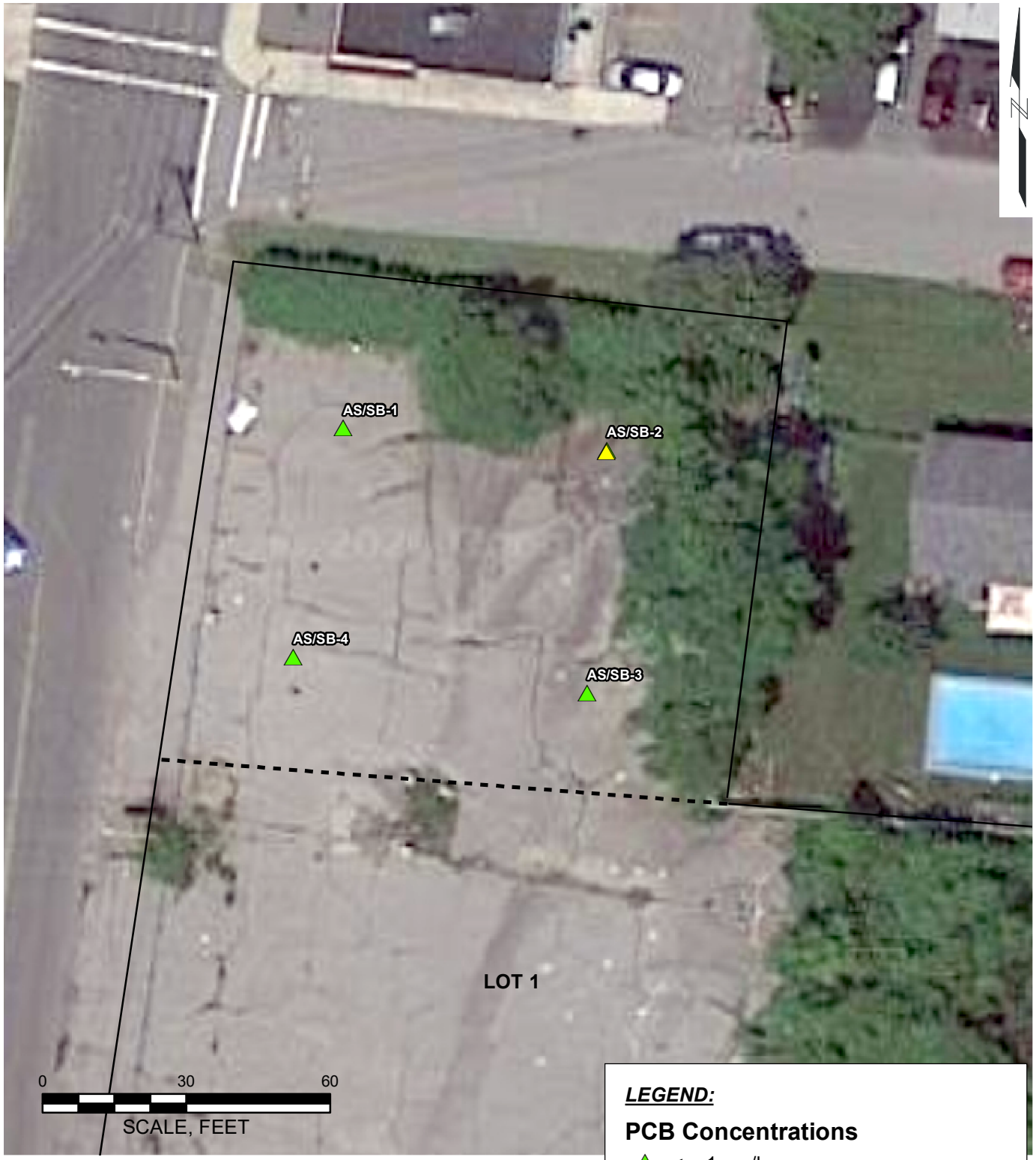
LEGEND:

PCB Concentrations

- Non-Detect
- < = 1 mg/kg
- > 1 mg/kg - < 50 mg/kg
- >= 50 mg/kg - < 100 mg/kg
- >= 100 mg/kg
- Sample Location (no data at this depth interval)
- Proposed Lot 1 Subdivision Boundary
- Property Line

Self-Implementing PCB Cleanup and Disposal Plan Former Tombarello Property – Lot 1, Northwest Portion Lawrence, Massachusetts	GEI Consultants	PCB CONCENTRATIONS IN SOIL (>3 FT)
City of Lawrence Lawrence, Massachusetts	Project 1802441	April 2020 Fig. 7

\\gtb1v-fs01\GIS\Projects\1802441_FormerTombarello\Fig 7 SIPCDP Lot 1 PCB Soil 3 ft zoom.mxd



SOURCE:
1. AERIAL IMAGE OBTAINED FROM GOOGLE EARTH PRO.

LEGEND:

PCB Concentrations

- < = 1 mg/kg
- > 1 mg/kg - < 50 mg/kg
- Proposed Lot 1 Subdivision Boundary
- Property Line

Self-Implementing PCB Cleanup and Disposal Plan
Former Tombarello Property – Lot 1, Northwest Portion
Lawrence, Massachusetts

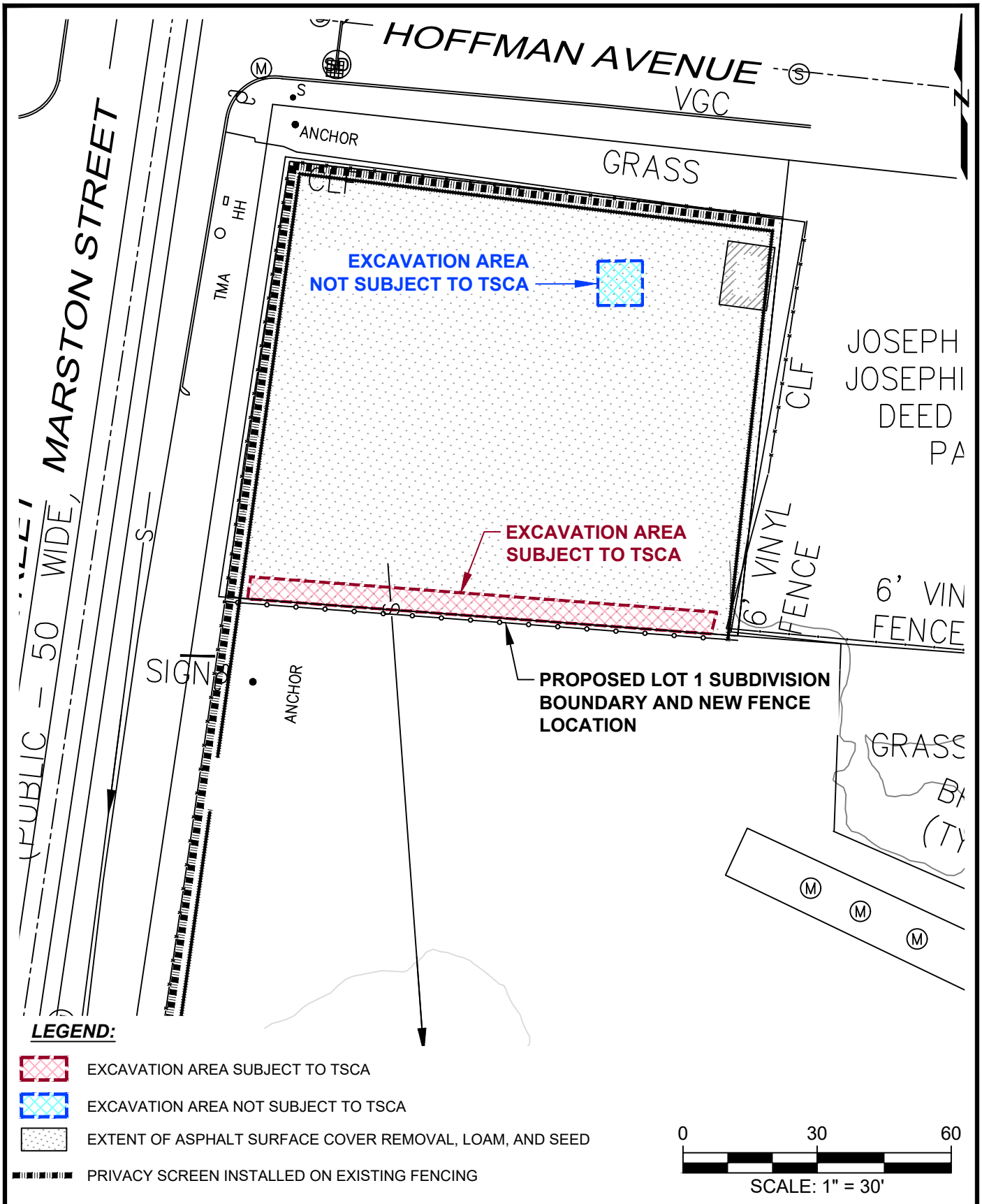
City of Lawrence
Lawrence, Massachusetts

GEI Consultants

PCB CONCENTRATIONS IN ASPHALT

Project 1802441 | April 2020 | Fig. 8

\\gtb1v-fs01\GIS\Projects\1802441_FormerTombarello\Fig 8 SIPCDP Lot 1 PCB Soil asphalt 0-1 ft zoom.mxd



Self-Implementing PCB Cleanup and Disposal Plan Former Tombarello Property - Lot 1, Northwest Portion Lawrence, Massachusetts	GEI Consultants	CLEANUP PLAN
City of Lawrence Lawrence, Massachusetts	Project 1802441	April 2020 Fig. 9

\\geiconsulta B:\Working\LAWRENCE, CITY OF\1802441 Former Tombarello\00_CAD\Figures\SIP\1802441-03.dwg - 3/17/2020

Appendix A

Certification

CERTIFICATION IN ACCORDANCE WITH 40 CFR Part 761.61

All sampling plans, sample collection procedures, sample preparation procedures, extraction procedures, and instrumental/chemical analysis procedures used to assess or characterize the PCB contamination at the cleanup site that is the subject of this document are on file at the following location:

Location: Former Tombarello Property – Lot 1, Northwest Portion
Address: 207 Marston Street, Lawrence, Massachusetts 01841

Contact: Pedro Soto, Office of Planning and Development
Phone: (978) 620-3501

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the sections of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Pedro Soto
Office of Planning and Development
The City of Lawrence

Appendix B

Copies of MassDEP and City of Lawrence Board of Health Transmittals

Consulting Engineers and Scientists

April 14, 2020
Project 1802441

Massachusetts Department of Environmental Protection
MassDEP Northeast Region
205B Lowell Street
Wilmington, MA 01887

To Whom It May Concern:

Re: Self-Implementing Polychlorinated Biphenyl Cleanup and Disposal Plan
Former Tombarello Property – Lot 1, Northwest Portion
207 Marston Street
Lawrence, Massachusetts
MassDEP RTN 3-18126

GEI Consultants, Inc., on behalf of the City of Lawrence, is submitting the attached Self-Implementing Polychlorinated Biphenyl Cleanup and Disposal Plan (PCB Cleanup Plan) for a portion of the property located at 207 Marston Street in Lawrence, Massachusetts. A copy of the MassDEP Miscellaneous Document Transmittal Form (BWSC 126) used to transmit the PCB Cleanup Plan to MassDEP is attached.

The PCB Cleanup Plan documents the plans for the removal of the asphalt surface cover and the excavation and offsite disposal of PCB-contaminated soil. The PCB Cleanup Plan was prepared to meet the requirements of Section 761.61(a) of the Toxic Substances Control Act regulations (TSCA; 40 CFR Part 761) and was submitted concurrently to the United States Environmental Protection Agency (EPA) Region I for approval.

This submittal is being made in fulfillment of the requirements of Section 761.61(a)(3) of the TSCA regulations.

Please contact me at 781.721.4012 or igladstone@geiconsultants.com, if you have any questions.

Very truly yours,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, LEED AP, P.E., LSP
Senior Vice President

SMT/LAL:jam

cc: Joanne Fagan, MassDEP (joanne.fagan@state.ma.us)
Enclosure
B:\Working\LAWRENCE, CITY OF\1802441 Former Tombarello\01_ADMIN\LOT 1 SIP\App B Notice Ltrs\App B1 Notice Ltr DEP.docx

GEI Consultants, Inc.
400 Unicorn Park Drive, Woburn, MA 01801
781.721.4000 fax: 781.721.4073

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

Miscellaneous Document Transmittal Form

BWSC 126

Release Tracking Number
3 - 18126

A. DISPOSAL SITE LOCATION:

1. Disposal Site Name: TOMBARELLO AND SONS INC HOFMAN AVE
2. Street Address: 207 MARSTON ST
3. City/Town: LAWRENCE 4. Zip Code: 018410000

B. THIS FORM IS BEING USED TO: (check all that apply)

☐ 1. Correct typographical errors and/or make corrections that do not materially affect the nature or complexity of the response actions. If changes are materially significant, then a revised or modified submittal must be made to the Department. List the report/form that is being corrected that is associated with the above Release Tracking Number (RTN). Attach an errata sheet containing a description of the errors and/or corrections.

Form/Report	Submittal Date(mm/dd/yyyy)	Transaction ID

☑ 2. Submit other documents associated with this RTN that cannot be submitted to the Department using any other BWSC transmittal form. Do not submit documents that are of a time-critical nature and/or that require a direct response from the Department and/or that require an LSP Opinion pursuant to 310 CMR 40.0015. (Section C is not required).

Description of Submittal TSCA PCB CLEANUP AND DISPOSAL PLAN, LOT 1 NW PORTION

☐ 3. Resign as LSP-of-Record for the above Release Tracking Number (RTN). Attach a copy of the LSP resignation letter. (Section D, E, and F are not required).

☐ 4. Submit copies of Public Notices required pursuant to 310 CMR 40.1400: (check all that apply)
(Section C is not required)

- ☐ a. Tier I Classification — ☐ Check here if submitting a copy of a legal notice
- ☐ b. Tier II Classification — ☐ Check here if submitting a copy of a legal notice
- ☐ c. Immediate Response Action (IRA)
- ☐ d. Release Abatement Measure (RAM)
- ☐ e. Downgradient Property Status (DPS)
- ☐ f. Utility-related Abatement Measure (URAM)
- ☐ g. Comprehensive Response Actions
- ☐ h. Activities related to recording/registering an Activity and Use Limitation (AUL) — ☐ Check here if submitting a copy of a legal notice
- ☐ i. Permanent or Temporary Solution

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

B. THIS FORM IS BEING USED TO(cont.): (check all that apply)

☐ 5. Submit Public Involvement Petition documents. (check all that apply). (Section C is not required).

- ☐ a. Submit a Public Involvement Petition
- ☐ b. Submit a Public Involvement Petition Retraction
- ☐ c. Submit a Positive Public Involvement Petition Designation Letter
- ☐ d. Submit a Negative Public Involvement Designation Letter
- ☐ e. Submit a Draft Public Involvement Petition Plan
- ☐ f. Submit a Revised Public Involvement Petition Plan
- ☐ g. Submit a Final Public Involvement Petition Plan
- ☐ h. Submit a Notice of Public Comment Period

  Date of Close of Comment Period : _____ (mm/dd/yyyy)
- ☐ i. Submit a copy of a Public Involvement Petition legal notice
- ☐ j. Submit a Notice of Public Meeting

  Meeting Date: _____ (mm/dd/yyyy)
- ☐ k. Submit other Public Involvement Petition related documents not specified above:

  Describe: _____

☐ 6. Submit a RCRA Contained-In-Determination to document that soil and/or groundwater is no longer considered a hazardous waste pursuant to state (310 CMR 30.00) and federal (Title 40, Chapter I, Part 261 of the Code of Federal Regulations) hazardous waste regulations.

☐ 7. Submit notification and documentation of Reclamation Soil Reuse pursuant to 310 CMR 40.0031(2).

C. LSP SIGNATURE:

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. 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 #: _____
2. First Name: _____ 3. Last Name: _____
4. Telephone: _____ 5. Ext.: _____ 6. Email: _____
7. Signature: _____
8. Date: _____ (mm/dd/yyyy)

D. PERSON MAKING A SUBMITTAL:

1. Check all that apply: ☐ a. Change in contact name ☐ b. Change of address ☑ c. Change in person undertaking response actions

2. Name of Organization: CITY OF LAWRENCE

3. Contact First Name: PEDRO 4. Last Name: SOTO

5. Street: 12 METHUEN STREET 6. Title: PLANNING DIRECTOR

7. City/Town: LAWRENCE 8. State: MA 9. ZIP Code: 018400000

10. Telephone: 9786203501 11. Ext.: 12. Email: psoto@cityoflawrence.com

☐ 13. Check here if the person is a Public Involvement Petitioner

E. RELATIONSHIP TO SITE 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 Undertaking Response Actions Specify Relationship: MUNICIPAL PROPERTY TAKEN FOR TAX FORECLOSURE

F. CERTIFICATION OF PERSON MAKING SUBMITTAL:

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

2. By: PEDRO SOTO (Signature) 3. Title:

4. For: CITY OF LAWRENCE (Name of person or entity recorded in Section D) 5. Date: 4/15/2020 (mm/dd/yyyy)

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

7. Street:

8. City/Town: 9. State: 10. ZIP Code:

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

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

Miscellaneous Document Transmittal Form

BWSC 126

Release Tracking Number
3 - 18126

☐ Check here if any non-updatable information provided on this form is incorrect, e. g. property address. Send corrections to BWSC.eDEP@state.ma.us

YOU MUST LEGIBLY COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.

Date Stamp (DEP USE ONLY):

Received by DEP on
4/15/2020 2:26:07
PM

Consulting
Engineers and
Scientists

April 14, 2020
Project 1802441

Dr. Joel Gorn M.D.
Chairman, Board of Health
200 Common Street
Lawrence, MA 01840

Dear Dr. Gorn:

Re: Self-Implementing Polychlorinated Biphenyl Cleanup and Disposal Plan
Former Tombarello Property – Lot 1, Northwest Portion
207 Marston Street
Lawrence, Massachusetts
MassDEP RTN 3-18126

GEI Consultants, Inc., on behalf of the City of Lawrence, is submitting the attached Self-Implementing Polychlorinated Biphenyl Cleanup and Disposal Plan (PCB Cleanup Plan) for a portion of the property located at 207 Marston Street in Lawrence, Massachusetts. The PCB Cleanup Plan documents the plans for the removal of the asphalt surface cover and the excavation and offsite disposal of PCB-contaminated soil.

The PCB Cleanup Plan was prepared to meet the requirements of Section 761.61(a) of the Toxic Substances Control Act regulations (TSCA; 40 CFR Part 761) and was submitted concurrently to the United States Environmental Protection Agency (EPA) Region I for approval.

This submittal is being made in fulfillment of the requirements of Section 761.61(a)(3) of the TSCA regulations.

Please contact me at 781.721.4012 or igladstone@geiconsultants.com, if you have any questions.

Very truly yours,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, LEED AP, P.E., LSP
Senior Vice President

SMT/LAL:jam
B:\Working\LAWRENCE, CITY OF\1802441 Former Tombarello\01_ADMIN\LOT 1 SIP\App B Notice Ltrs\App B2 Notice Ltr BOH.docx

GEI Consultants, Inc.
400 Unicorn Park Drive, Woburn, MA 01801
781.721.4000 fax: 781.721.4073

Appendix C

Boring Logs

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Tombarello Facility TBA

Location: 207 Marston Street, Lawrence, MA

Nobis Project No.: 80108.04

Boring No.: **NPA-01**

Boring Location: See Site Plan

Checked by:

Date Start: June 10, 2016

Date Finish: June 10, 2016

Contractor: Technical Drilling Services

Driller: T. Newton

Nobis Rep.: E. Johnson

Rig Type / Model: Geoprobe 6620DT

Hammer Type: N/A

Hammer Hoist: N/A

Ground Surface Elev.:

Datum:

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)		1.75 x 60
Advancement	Direct Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	SAMPLE INFORMATION Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	Ground Water	LITHOLOGY Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	S-1	20	0-2					ASPHALT / 0.5	S-1A (6"): Asphalt.	
1					1.5				S-1B (14"): Brown to black, fine to coarse SAND, some Gravel, trace Silt, trace coal, trace brick, trace glass. dry.	
2								FILL		
	S-2	12	2-3		0.1				S-2: Dark brown, fine to medium SAND, little Gravel, trace coal fragments. moist.	
3								/ 3.0		
4									Boring terminated at 3 feet.	
5										
6										
7										
8										
9										
10										

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

DRAFT

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 8/8/16 10:51 - R:\80000 TASK ORDERS\80108 BROWNFIELDS MULTI-SITE\TECHNICAL\LAWRENCE\BORING LOGS\80108.04 BORING LOGS.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Tombarello Facility TBA

Location: 207 Marston Street, Lawrence, MA

Nobis Project No.: 80108.04

Boring No.: **NPA-02 / MW-15**

Boring Location: See Site Plan

Checked by:

Date Start: June 10, 2016

Date Finish: June 10, 2016

Contractor: Technical Drilling Services

Driller: T. Newton

Nobis Rep.: E. Johnson

Rig Type / Model: Geoprobe 6620DT

Hammer Type: N/A

Hammer Hoist: N/A

Ground Surface Elev.:

Datum:

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)		1.75 x 60
Advancement	Direct Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	SAMPLE INFORMATION Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	LITHOLOGY Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	WELL DETAIL	NOTES
	S-1	18	0-2				ASPHALT / 0.5	S-1A (6"): Asphalt.		
1								S-1B (12"): Dark brown to black, fine to coarse SAND, little Gravel, little coal, trace Silt, trace slag. dry.		
2									Riser Bentonite	
	S-2	12	2-3					S-2: Brown to black, medium to coarse SAND, little Gravel, trace ash, trace coal, trace brick fragments. moist.		
3										
	S-3	31	3-8					S-3A (6"): Beige to brown, fine to coarse SAND, trace concrete. moist.		
4								S-3B (25"): Brown to black, fine SAND, little Silt, little Gravel, trace slag, trace coal. wet. Water encountered at approximately 6.5 feet.		
5							FILL			
6										
7										
8							/ 8.0		Sand Screen	
	S-4	48	8-13					S-4A (24"): Black to tan, fine to coarse SAND, trace Gravel. wet.		
9							SAND			
10										

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

DRAFT

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 8/8/16 10:51 - R:\80000 TASK ORDERS\80108 BROWNFIELDS MULTI-SITE\TECHNICAL\LAWRENCE\BORING LOGS\80108.04 BORING LOGS.GPJ

Credere Associates, LLC
776 Main Street
Westbrook, Maine 04092
Phone: 207-828-1272
Fax: 207-887-1051

Boring Log

SB-1

CLIENT MVPC
PROJECT NAME Tombarello
PROJECT # 17001426
PROJECT LOCATION Lawrence, MA
DATE STARTED 9/5/19
LOGGED BY Samantha Foote
CONTRACTOR Geosearch, Inc./Brian Houle
DEPTH TO WATER 6.5
DRILLING METHOD Direct Push
SAMPLER TYPE, DIAMETER NA, 1.5"
DRILLING EQUIPMENT Geoprobe 6610 DT Track Rig
HAMMER WEIGHT
NOTES bgs= Below ground surface; SAA= Same as above; groundwater encountered at 6.5 feet bgs.

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0.0	60/38		0.35	SB-1 (0-0.5)		0-7" ASPHALT.	
						7-11" Brown, fine to coarse SAND. Dry.	
			0.09	SB-1 (1-2)		11-26" Dark brown/gray, fine to coarse SAND, some Silt. Moist.	
			0.09				
2.5				SB-1 (2-3)		26-38" Black/orange/brown, fine to coarse SAND, some Fibrous Material, some Glass (fill). Moist. Coal and Coal Ash oberved in sample.	
			0.09				
			0.06	SB-1 (3-5)			
5.0	60/32		0.07			0-24" SAA. Wet at 18".	
				SB-1 (5-7)-1			
			0.06	SB-1 (5-7)-2			
			0.06			24-28" Dark gray, fine to coarse SAND, trace fine Gravel. Wet.	
7.5						28-32" Dark gray, very fine to medium SAND. Wet.	
			0.06				
			0.08				
10.0						End of boring at 10 feet bgs (no refusal).	
						Note: The 0-0.5 foot sample was collected immediately beneath the asphalt surface. The reported depth of any subsequent samples was measured from the surface.	
12.5							

CREDERE ENV 2015 - GINT STD US LAB.GDT - 3/23/20 16:01 - P:\17001426 MVPC ASSESSMENT\WORK\TOMBARELLO SITE-LAWRENCE\FIELD\TOMBARELLO_LOGS.GPJ

Credere Associates, LLC
776 Main Street
Westbrook, Maine 04092
Phone: 207-828-1272
Fax: 207-887-1051

Boring Log

SB-2

CLIENT MVPC
PROJECT NAME Tombarello
PROJECT # 17001426
PROJECT LOCATION Lawrence, MA
DATE STARTED 9/4/19
LOGGED BY Samantha Foote
CONTRACTOR Geosearch, Inc./Brian Houle
DEPTH TO WATER 7.5
DRILLING METHOD Direct Push
SAMPLER TYPE, DIAMETER NA, 1.5"
DRILLING EQUIPMENT Geoprobe 6610 DT Track Rig
HAMMER WEIGHT
NOTES bgs= Below ground surface; SAA= Same as above; groundwater encountered at 7.5 feet bgs.

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0.0	60/44		0.09	SB-2 (0-0.5)		0-10" ASPHALT.	
			0.10			10-12" Light brown, very fine to fine SAND, trace fine Gravel. Moist.	
				SB-2 (1-2)		12-32" Dark brown, fine to coarse SAND, little Silt, trace Glass, trace Brick, layer of brick from 21-22" (fill). Dry.	
			0.04				
2.5				SB-2 (2-3)		32-39" Brown, very fine to fine SAND. Moist.	
			0.00				
						39-44" Dark brown, fine to coarse SAND, little Silt, trace Glass, trace Brick (fill). Moist.	
			0.05	SB-2 (3-5)			
5.0	60/40		0.07			0-30" SAA.	
				SB-2 (5-7)-1			
			0.08	SB-2 (5-7)-2			
			0.31				
7.5						30-40" Light brown, very fine to fine SAND, little Silt. Wet.	
			0.03				
			0.07				
10.0						End of boring at 10 feet bgs (no refusal)	
						Note: The 0-0.5 foot sample was collected immediately beneath the asphalt surface. The reported depth of any subsequent samples was measured from the surface.	
12.5							

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Credere Associates, LLC
776 Main Street
Westbrook, Maine 04092
Phone: 207-828-1272
Fax: 207-887-1051

Boring Log

SB-3

CLIENT MVPC
PROJECT NAME Tombarello
PROJECT # 17001426
PROJECT LOCATION Lawrence, MA
DATE STARTED 9/4/19
LOGGED BY Samantha Foote
CONTRACTOR Geosearch, Inc./Brian Houle
DEPTH TO WATER 7
DRILLING METHOD Direct Push
SAMPLER TYPE, DIAMETER NA, 1.5"
DRILLING EQUIPMENT Geoprobe 6610 DT Track Rig
HAMMER WEIGHT
NOTES bgs= Below ground surface; SAA= Same as above; groundwater encountered at 7 feet bgs.

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0.0	60/48		0.21	SB-3 (0-0.5)		0-10" ASPHALT.	
			0.00	SB-3 (1-2)		10-44" Brown, very fine to medium SAND, trace Silt, brick observed at 20". Moist.	
2.5			0.03	SB-3 (2-3)			
			0.02				
			0.01	SB-3 (3-5)		44-48" Dark brown/black, fine to coarse SAND, little Silt, trace Glass, trace Brick (fill). Moist.	
5.0	60/53		0.07			0-14" SAA.	
			0.25	SB-3 (5-7)-1 SB-3 (5-7)-2		14-53" Brown, very fine to fine SAND, some Silt. Moist (wet at 7' bgs).	
			0.44				
7.5			0.91				
			0.12				
10.0						End of boring at 10 feet bgs (no refusal) Note: The 0-0.5 foot sample was collected immediately beneath the asphalt surface. The reported depth of any subsequent samples was measured from the surface.	
12.5							

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Credere Associates, LLC
776 Main Street
Westbrook, Maine 04092
Phone: 207-828-1272
Fax: 207-887-1051

Boring Log

SB-4

CLIENT MVPC
PROJECT NAME Tombarello
PROJECT # 17001426
PROJECT LOCATION Lawrence, MA
DATE STARTED 9/4/19
LOGGED BY Samantha Foote
CONTRACTOR Geosearch, Inc./Brian Houle
DEPTH TO WATER 7.08
DRILLING METHOD Direct Push
SAMPLER TYPE, DIAMETER NA, 1.5"
DRILLING EQUIPMENT Geoprobe 6610 DT Track Rig
HAMMER WEIGHT
NOTES bgs= Below ground surface; SAA= Same as above; groundwater encountered at 7.08 feet bgs.

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0.0	60/36		0.00	SB-4 (0-0.5)		0-10" ASPHALT.	
			0.00	SB-4 (1-2)		10-12" Brown/dark brown, very fine to medium SAND, little Silt. Moist. 12-20" Gray, crushed fine to coarse GRAVEL/CONCRETE. Dry. 20-28" Dark brown/black, fine to coarse SAND, trace Silt. Moist.	
			0.03	SB-4 (2-3)		28-32" Blue/black fine GRAVEL, some crushed fine to coarse Gravel. Dry.	
2.5			0.00			32-36" Light gray/tan, fine to coarse SAND, little Silt, fill materials throughout including glass/brick. Moist.	
			0.00	SB-4 (3-5)			
5.0	60/45		0.00			0-25" Same as above.	
			0.00	SB-4 (5-7)-1 SB-4 (5-7)-2			
			0.00			25-30" Brown with orange staining, very fine to medium SAND, trace Silt. Wet at 7.08 feet bgs.	
7.5			0.00			30-33" Light brown, fine to coarse SAND. Wet. 33-45" Dark gray very fine to fine SAND, some Silt. Wet.	
			0.00				
10.0						End of boring at 10 feet bgs (no refusal) Note: The 0-0.5 foot sample was collected immediately beneath the asphalt surface. The reported depth of any subsequent samples was measured from the surface.	
12.5							

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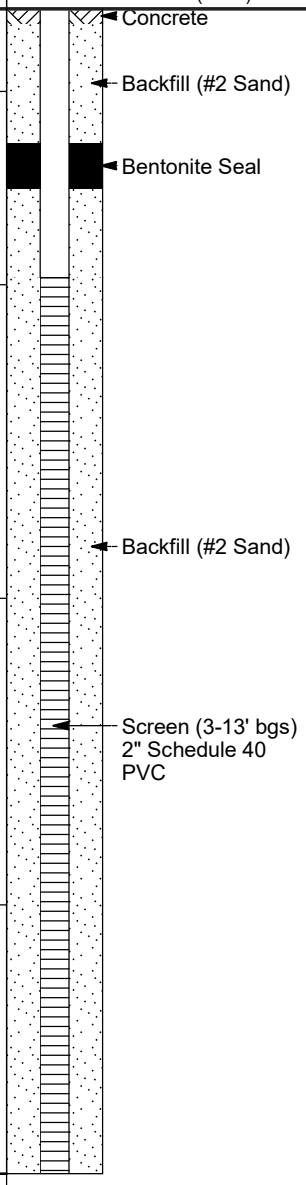
Credere Associates, LLC
776 Main Street
Westbrook, Maine 04092
Phone: 207-828-1272
Fax: 207-887-1051

Boring Log

SB-5

CLIENT MVPC **PROJECT NAME** Tombarello
PROJECT # 17001426 **PROJECT LOCATION** Lawrence, MA
DATE STARTED 12/23/19 **LOGGED BY** Christopher Beahm **DEPTH TO WATER** 6.58 **DIAMETER** 2
CONTRACTOR Technical Drilling Services/Darwin Neuton **WELL MATERIALS** PVC, 0.010" slotted screen, solid riser
DRILLING METHOD Direct Push **ANNULUS MATERIALS** #2 Silica Sand Bentonite Grout
DRILLING EQUIPMENT Geoprobe 6610 DT Track Rig **TOC ELEVATION** **GROUND ELEVATION** NA
NOTES bgs= Below ground surface; SAA= Same as above; groundwater encountered at 6.58 feet bgs.

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY
0.0	60/48		<1.0			0-11" ASPHALT.
						11-30" Dark Brown/gray, fine to coarse SAND, some Silt, trace fine Gravel. Moist.
2.5						30-37" BRICK (fill). Dry.
						37-48" Dark brown very fine to fine SAND, some Silt, trace fine Gravel (fill). Moist.
5.0	36/27		<1.0			0-19" SAA.
						19-27" Light brown, very fine to fine SAND, some Silt, little fine Gravel. Wet.
7.5						
10.0						0-36" SAA.
12.5						End of boring at 13 feet bgs (no refusal)



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Credere Associates, LLC
776 Main Street
Westbrook, Maine 04092
Phone: 207-828-1272
Fax: 207-887-1051

Boring Log

SB-6

CLIENT MVPC **PROJECT NAME** Tombarello
PROJECT # 17001426 **PROJECT LOCATION** Lawrence, MA
DATE STARTED 12/23/19 **LOGGED BY** Christopher Beahm **DEPTH TO WATER** 5.58 **DIAMETER** NA
CONTRACTOR Technical Drilling Services/Darwin Neuton **WELL MATERIALS** NA
DRILLING METHOD Direct Push **ANNULUS MATERIALS** NA
DRILLING EQUIPMENT Geoprobe 6610 DT Track Rig **TOC ELEVATION** **GROUND ELEVATION** NA
NOTES bgs= Below ground surface; SAA= Same as above; groundwater encountered at 5.58 feet bgs.

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0.0	60/37		<1.0			0-4" ASPHALT.	
						4-19" Dark brown, very fine to fine SAND, some Silt, trace fine Gravel (fill). Moist. Coal observed in sample.	
						19-29" Black, very fine to fine SAND, some Silt. Dry. Coal observed in sample.	
2.5						29-37" Light brown, fine SAND and SILT.	
5.0	48/40		<1.0	SB-6		0-9" Dark brown, very fine to fine SAND, some Silt, trace fine Gravel, trace Brick (fill). Moist. Coal Ash observed in sample.	
						9-30" Light brown, very fine to fine SAND, some Silt, trace fine Gravel (fill). Wet. Coal and Coal Ash observed in sample.	
7.5						30-40" Dark brown, very fine to fine SAND, some Silt. Wet.	
						End of Boring at 9 feet bgs (no refusal)	
10.0							
12.5							

CREDERE ENV 2015 - GINT STD US LAB.GDT - 2/4/20 16:33 - P:\17001426 MVPC ASSESSMENT\WORK\TOMBARELLO SITE-LAWRENCE\FIELD\TOMBARELLO_LOGS.GPJ

Credere Associates, LLC
776 Main Street
Westbrook, Maine 04092
Phone: 207-828-1272
Fax: 207-887-1051

Boring Log

SB-7

CLIENT MVPC **PROJECT NAME** Tombarello
PROJECT # 17001426 **PROJECT LOCATION** Lawrence, MA
DATE STARTED 12/23/19 **LOGGED BY** Christopher Beahm **DEPTH TO WATER** 3.17 **DIAMETER** NA
CONTRACTOR Technical Drilling Services/Darwin Neuton **WELL MATERIALS** NA
DRILLING METHOD Direct Push **ANNULUS MATERIALS** NA
DRILLING EQUIPMENT Geoprobe 6610 DT Track Rig **TOC ELEVATION** **GROUND ELEVATION** NA
NOTES bgs= Below ground surface; SAA= Same as above; groundwater encountered at 3.17 feet bgs.

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0.0	60/46		<1.0			0-8" ASPHALT.	
						8-24" Dark brown, very fine to fine SAND, some fine Gravel, trace Silt (fill). Moist. Coal and Clinker observed in sample.	
						24-28" Brick. Dry.	
2.5						28-38" Dark brown, very fine to fine SAND, some fine Gravel, trace Silt (fill). Moist. Coal and Coal Ash observed in sample.	
						38-46" Dark brown, very fine to fine SAND (fill). Wet. Coal and Coal Ash observed in sample.	
5.0	24/14		<1.0	SB-7		0-6" SAA.	
						6-14" Light Brown, fine SAND and SILT. Wet.	
						End of boring at 7 feet bgs (no refusal)	
7.5							
10.0							
12.5							

CREDERE ENV 2015 - GINT STD US LAB.GDT - 2/4/20 16:33 - P:\17001426 MVPC ASSESSMENT\WORK\TOMBARELLO SITE-LAWRENCE\FIELD\TOMBARELLO_LOGS.GPJ

Credere Associates, LLC
776 Main Street
Westbrook, Maine 04092
Phone: 207-828-1272
Fax: 207-887-1051

Boring Log

SB-8

CLIENT MVPC **PROJECT NAME** Tombarello
PROJECT # 17001426 **PROJECT LOCATION** Lawrence, MA
DATE STARTED 12/23/19 **LOGGED BY** Christopher Beahm **DEPTH TO WATER** 5.75 **DIAMETER** NA
CONTRACTOR Technical Drilling Services/Darwin Neuton **WELL MATERIALS** NA
DRILLING METHOD Direct Push **ANNULUS MATERIALS** NA
DRILLING EQUIPMENT Geoprobe 6610 DT Track Rig **TOC ELEVATION** **GROUND ELEVATION** NA
NOTES bgs= Below ground surface; SAA= Same as above; groundwater encountered at 5.75 feet bgs.

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0.0	60/37		<1.0			0-5" TOPSOIL.	
						5-11" ASPHALT.	
						11-18" Tan, very fine to fine SAND, little Silt. Moist.	
						18-37" Dark brown, very fine to fine SAND, some Silt, trace fine Gravel, trace Brick (fill). Moist. Coal observed in sample.	
2.5							
5.0	48/48		<1.0	SB-8		0-9" SAA.	
						9-29" Light brown, very fine to fine SAND, some Silt (fill). Wet. Coal observed in Samples.	
7.5						29-43" Tan, fine to coarse, SAND, some Silt. Wet.	
						End of boring at 9 feet bgs (no refusal)	
10.0							
12.5							

CREDERE ENV 2015 - GINT STD US LAB.GDT - 2/4/20 16:33 - P:\17001426 MVPC ASSESSMENT\WORK\TOMBARELLO SITE-LAWRENCE\FIELD\TOMBARELLO_LOGS.GPJ

Credere Associates, LLC
776 Main Street
Westbrook, Maine 04092
Phone: 207-828-1272
Fax: 207-887-1051

Boring Log

SB-9

CLIENT MVPC **PROJECT NAME** Tombarello
PROJECT # 17001426 **PROJECT LOCATION** Lawrence, MA
DATE STARTED 12/23/19 **LOGGED BY** Christopher Beahm **DEPTH TO WATER** 5.75 **DIAMETER** NA
CONTRACTOR Technical Drilling Services/Darwin Neuton **WELL MATERIALS** NA
DRILLING METHOD Direct Push **ANNULUS MATERIALS** NA
DRILLING EQUIPMENT Geoprobe 6610 DT Track Rig **TOC ELEVATION** **GROUND ELEVATION** NA
NOTES bgs= Below ground surface; SAA= Same as above; groundwater encountered at 5.75 feet bgs.

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0.0	60/41		<1.0			0-4" ASPHALT.	
						4-10" Gray, fine GRAVEL, some tan fine Sand, trace Silt. Dry.	
						10-33" Dark brown very fine to fine SAND, little Silt, trace Gravel. Moist.	
2.5						33-35" SAA.	
						35-41" Dark brown, very fine to fine SAND, little Silt, trace fine Gravel (fill). Moist. Coal and Ash observed in sample.	
5.0	24/24		<.10	SB-9		0-9" Dark brown/gray, very fine to fine SAND, some Silt, little fine Gravel (fill). Wet. Coal and Ash observed in sample.	
						9-24" Light brown, very fine to fine SAND, some Silt. Wet.	
7.5						End of boring at 7 feet bgs (no refusal)	
10.0							
12.5							

CREDERE ENV 2015 - GINT STD US LAB.GDT - 2/4/20 16:33 - P:\17001426 MVPC ASSESSMENT\WORK\TOMBARELLO SITE-LAWRENCE\FIELD\TOMBARELLO_LOGS.GPJ

Credere Associates, LLC
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Boring Log

SB-10

CLIENT MVPC **PROJECT NAME** Tombarello
PROJECT # 17001426 **PROJECT LOCATION** Lawrence, MA
DATE STARTED 12/23/19 **LOGGED BY** Christopher Beahm **DEPTH TO WATER** 6.33 **DIAMETER** NA
CONTRACTOR Technical Drilling Services/Darwin Neuton **WELL MATERIALS** NA
DRILLING METHOD Direct Push **ANNULUS MATERIALS** NA
DRILLING EQUIPMENT Geoprobe 6610 DT Track Rig **TOC ELEVATION** **GROUND ELEVATION** NA
NOTES bgs= Below ground surface; SAA= Same as above; groundwater encountered at 6.33 feet bgs.

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0.0	60/42		<1.0			0-7" ASPHALT.	
						7-17" Dark brown, very fine to fine SAND. Moist.	
						17-37" Tan, very fine to fine SAND, some Silt, trace fine gravel (fill). Moist. Coal, Ash, and Clinker observed in sample.	
2.5						37-42" BRICK.	
5.0	48/43		<1.0	SB-10		0-16" Dark brown, very fine to fine SAND, some Silt, little fine Gravel. Moist.	
						16-43" Dark brown/tan fine SAND (fill). Wet. Coal and Ash observed in sample.	
7.5							
						End of boring at 9 feet bgs (no refusal)	
10.0							
12.5							

CREDERE ENV 2015 - GINT STD US LAB GDT - 2/4/20 16:33 - P:\17001426 MVPC ASSESSMENT\WORK\TOMBARELLO SITE-LAWRENCE\FIELD\TOMBARELLO_LOGS.GPJ

Credere Associates, LLC
776 Main Street
Westbrook, Maine 04092
Phone: 207-828-1272
Fax: 207-887-1051

Boring Log

SB-11

CLIENT MVPC **PROJECT NAME** Tombarello
PROJECT # 17001426 **PROJECT LOCATION** Lawrence, MA
DATE STARTED 12/23/19 **LOGGED BY** Christopher Beahm **DEPTH TO WATER** 6.17 **DIAMETER** NA
CONTRACTOR Technical Drilling Services/Darwin Neuton **WELL MATERIALS** NA
DRILLING METHOD Direct Push **ANNULUS MATERIALS** NA
DRILLING EQUIPMENT Geoprobe 6610 DT Track Rig **TOC ELEVATION** **GROUND ELEVATION** NA
NOTES bgs= Below ground surface; SAA= Same as above; groundwater encountered at 6.17 feet bgs.

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0.0	60/43		<1.0			0-6" ASPHALT.	
				SB-11 (1-1.5)		6-20" Dark brown, very fine to fine SAND, little fine Gravel (fill). Moist. Coal and Ash observed in sample.	
						20-23" QUARTZ.	
				SB-11 (2-3)		23-33" Dark brown, very fine to fine SAND, some Silt, little fine Gravel. Moist.	
2.5				SB-11(3-4)		33-43" Tan, very fine to medium SAND, little Silt. Moist.	
				SB-11(4-5)			
5.0	36/31		<1.0			0-10" Dark brown, very fine to fine SAND, some fine Gravel, little Silt. Moist.	
				SB-11(5-7)		10-14" Dark brown, very fine to fine SAND, some fine Gravel. Moist. 14-24" Light brown, fine SAND, little Silt, trace fine Gravel. Wet.	
7.5						24-31" Light brown, coarse SAND, little Silt. Wet.	
						End of boring at 8 feet bgs (no refusal)	
10.0							
12.5							

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Credere Associates, LLC
776 Main Street
Westbrook, Maine 04092
Phone: 207-828-1272
Fax: 207-887-1051

Boring Log

SB-12

CLIENT MVPC **PROJECT NAME** Tombarello
PROJECT # 17001426 **PROJECT LOCATION** Lawrence, MA
DATE STARTED 12/23/19 **LOGGED BY** Christopher Beahm **DEPTH TO WATER** 5.5 **DIAMETER** NA
CONTRACTOR Technical Drilling Services/Darwin Neuton **WELL MATERIALS** NA
DRILLING METHOD Direct Push **ANNULUS MATERIALS** NA
DRILLING EQUIPMENT Geoprobe 6610 DT Track Rig **TOC ELEVATION** **GROUND ELEVATION** NA
NOTES bgs= Below ground surface; SAA= Same as above; groundwater encountered at 5.5 feet bgs.

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0.0	60/40		<1.0			0-3" TOPSOIL.	Well Finish:
						3-7" ASPHALT.	
						7-17" Dark brown, very fine to fine SAND, some Silt, little fine Gravel. Moist.	
				SB-12 (1-1.5)		17-19" Tan, very fine SAND and SILT. Moist.	
						19-35" Dark brown, very fine to fine SAND and SILT (fill). Moist. Coal and Ash observed in sample.	
2.5				SB-12 (2-3)			
						35-40" Light brown, very fine to fine SAND, some Silt (fill). Moist. Coal and Ash observed in sample.	No well installed
				SB-12 (3-5)			
				SB-12 (4-5)			
5.0	24/22		<1.0			0-6" Dark brown, very fine to fine SAND and SILT (fill). Moist. Coal and Ash observed in sample.	
				SB-12 (5-7)		6-22" Dark brown, fine to coarse SAND and SILT, some fine gravel. Wet.	
						End of boring 7 feet bgs (no refusal)	
7.5							
10.0							
12.5							

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Credere Associates, LLC
776 Main Street
Westbrook, Maine 04092
Phone: 207-828-1272
Fax: 207-887-1051

Boring Log

SB-13

CLIENT MVPC **PROJECT NAME** Tombarello
PROJECT # 17001426 **PROJECT LOCATION** Lawrence, MA
DATE STARTED 12/23/19 **LOGGED BY** Christopher Beahm **DEPTH TO WATER** 5.25 **DIAMETER** NA
CONTRACTOR Technical Drilling Services/Darwin Neuton **WELL MATERIALS** NA
DRILLING METHOD Direct Push **ANNULUS MATERIALS** NA
DRILLING EQUIPMENT Geoprobe 6610 DT Track Rig **TOC ELEVATION** **GROUND ELEVATION** NA
NOTES bgs= Below ground surface; SAA= Same as above; groundwater encountered at 5.25 feet bgs.

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0.0	60/36		<1.0			0-5" ASPHALT.	Well Finish:
						5-14" Dark brown, fine to coarse SAND, some Silt, trace fine Gavel. Dry.	
				SB-13 (1-1.5)		14-16" Tan, very fine to medium SAND, little Silt. Moist.	
						16-19" Dark brown, fine to medium SAND, some Silt. Moist.	
						19-21" BRICK.	
						21-36" Dark brown, coarse to medium SAND, little Silt. Moist.	
2.5				SB-13 (2-3)			
				SB-13 (3-4)			No Well Installed
				SB-13 (4-5)			
5.0	24/11		<1.0			0-3" SAA (except wet).	
						3-11" Dark brown, very fine to fine SAND, some Silt, little fine Gravel. Wet.	
				SB-13 (5-7)			
						End of boring at 7 feet bgs (no refusal)	
7.5							
10.0							
12.5							

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Credere Associates, LLC
776 Main Street
Westbrook, Maine 04092
Phone: 207-828-1272
Fax: 207-887-1051

Boring Log

SB-14

CLIENT MVPC **PROJECT NAME** Tombarello
PROJECT # 17001426 **PROJECT LOCATION** Lawrence, MA
DATE STARTED 12/23/19 **LOGGED BY** Christopher Beahm **DEPTH TO WATER** 5 **DIAMETER** NA
CONTRACTOR Technical Drilling Services/Darwin Neuton **WELL MATERIALS** NA
DRILLING METHOD Direct Push **ANNULUS MATERIALS** NA
DRILLING EQUIPMENT Geoprobe 6610 DT Track Rig **TOC ELEVATION** **GROUND ELEVATION** NA
NOTES bgs= Below ground surface; SAA= Same as above; groundwater encountered at 5 feet bgs.

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0.0	60/48		<1.0			0-6" ASPHALT.	Well Finish:
				SB-14 (1-1.5)		6-24" Dark brown/brown, fine to coarse SAND, some fine Gravel (fill). Dry.	
						24-30" Tan fine SAND, some Silt (fill). Dry.	
2.5				SB-14 (2-3)		30-48" Dark brown, fine SAND, trace Silt, fine Gravel. Moist.	
				SB-14 (3-4)			
				SB-14 (4-5)			No well installed
5.0	24/19		<1.0			0-19" Dark brown fine SAND, some Silt, trace fine Gravel (fill). Wet. Coal and Ash observed in sample.	
				SB-14 (5-7)			
						End of boring at 7 feet bgs (no refusal)	
7.5							
10.0							
12.5							

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Credere Associates, LLC
776 Main Street
Westbrook, Maine 04092
Phone: 207-828-1272
Fax: 207-887-1051

Boring Log

SB-15

CLIENT MVPC **PROJECT NAME** Tombarello
PROJECT # 17001426 **PROJECT LOCATION** Lawrence, MA
DATE STARTED 12/23/19 **LOGGED BY** Christopher Beahm **DEPTH TO WATER** 5.75 **DIAMETER** NA
CONTRACTOR Technical Drilling Services/Darwin Neuton **WELL MATERIALS** NA
DRILLING METHOD Direct Push **ANNULUS MATERIALS** NA
DRILLING EQUIPMENT Geoprobe 6610 DT Track Rig **TOC ELEVATION** **GROUND ELEVATION** NA
NOTES bgs= Below ground surface; SAA= Same as above; groundwater encountered at 5.75 feet bgs.

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0.0	60/41		<1.0			0-2" ASPHALT.	Well Finish:
				SB-15 (1-1.5)		2-23" Dark brown very fine to fine SAND, little fine Gravel (fill). Moist. Coal and Ash observed in sample.	
						23-25" BRICK.	
2.5				SB-15 (2-3)		25-35" Tan, fine to coarse SAND, little Silt. Moist.	
				SB-15 (3-4)		35-41" Dark brown, very fine to fine SAND, some Silt. Moist.	No well installed
				SB-15 (4-5)			
5.0	24/15		<1.0			0-9" Dark brown, very fine to fine SAND, some Silt. Moist.	
				SB-15 (5-7)		9-15" Light brown, fine SAND, some Silt. Wet.	
						End of boring at 7 feet bgs (no refusal)	
7.5							
10.0							
12.5							

CREDERE ENV 2015 - GINT STD US LAB.GDT - 2/4/20 16:33 - P:\17001426 MVPC ASSESSMENT\WORK\TOMBARELLO SITE-LAWRENCE\FIELD\TOMBARELLO_LOGS.GPJ

BORING INFORMATION

LOCATION: NE corner of NW portion of Lot 1
GROUND SURFACE EL. (ft): NA
VERTICAL DATUM: NA
TOTAL DEPTH (ft): 7.0
LOGGED BY: B.Lee
DATE START/END: 3/12/2020 - 3/12/2020
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: C. Devillers
RIG TYPE: Geoprobe 6620DT

BORING

Lot 1 Disp-01

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Geoprobe
CASING I.D./O.D.: 2.125 inch / 2.25 inch
DRILL ROD O.D.: NM
CORE BARREL TYPE: Macrocore
CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation
= Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 5	60/23	NA	0.0 ppm	FILL	S1: (0-3"): ASPHALT S1: (3-5"): WIDELY GRADED SAND WITH GRAVEL (SW); ~55% fine to coarse sand, ~ 40% subrounded gravel (0-0.25"), ~5% non-plastic fines, dark gray, loose. S1: (5-23"): WIDELY GRADED SAND WITH GRAVEL (SW); ~65% fine to coarse sand, ~30% subrounded gravel (0-1.5"), ~5% non-plastic fines, loose, black to brown. Contains brick and slag fragments
	5	S2	5 to 7	24/7	NA	0.1 ppm	SAND	S2: (0-7"): SILTY SAND (SM); ~70% fine to medium sand, ~30% sligtly plastic fines, medium dense, light brown.
								Bottom of boring at depth 7 ft.
	10							
	15							
	20							

NOTES: ppm = parts per million

PROJECT NAME: Former Tombarello Site
CITY/STATE: Lawrence, Massachussetts
GEI PROJECT NUMBER: 1802441

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME BORING LOGS 2020 - COPY.GPJ 3/31/20

BORING INFORMATION

LOCATION: Near south boundary of NW portion of Lot 1
GROUND SURFACE EL. (ft): NA
VERTICAL DATUM: NA
TOTAL DEPTH (ft): 3.0
LOGGED BY: B.Lee
DATE START/END: 3/12/2020 - 3/12/2020
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: C. Devillers
RIG TYPE: Geoprobe 6620DT

BORING

Lot 1 Disp-02A

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Geoprobe
CASING I.D./O.D.: 2.125 inch / 2.25 inch
DRILL ROD O.D.: NM
CORE BARREL TYPE: Macrocore
CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 3	36/27	NA	0.0 ppm	FILL	S1: (0-3"): ASPHALT S1: (3-7"): NARROWLY GRADED SAND WITH GRAVEL (SP); ~50% mostly fine sand, ~45% subangular gravel (0-0.5"), ~5% non-plastic fines, loose. S1: (7-15"): WIDELY GRADED SAND WITH GRAVEL (SW); ~65% fine to coarse sand, ~30% subangular gravel (0-0.75"), ~5% non-plastic fines, black, loose. Burnt odor. S1: (15-27"): WIDELY GRADED SAND (SW); ~90% fine to coarse sand, ~5% subrounded gravel (0-0.25"), ~5% non-plastic fines, tan to brown, loose. Bottom of boring at depth 3 ft.
	5							
	10							
	15							
	20							

NOTES: ppm = parts per million

PROJECT NAME: Former Tombarello Site
CITY/STATE: Lawrence, Massachussetts
GEI PROJECT NUMBER: 1802441

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME BORING LOGS 2020 - COPY.GPJ 3/31/20

BORING INFORMATION

LOCATION: Near south boundary of NW portion of Lot 1

GROUND SURFACE EL. (ft): NA | **DATE START/END:** 3/12/2020 - 3/12/2020

VERTICAL DATUM: NA | **DRILLING COMPANY:** Northern Drill Service, Inc.

TOTAL DEPTH (ft): 3.0 | **DRILLER NAME:** C. Devillers

LOGGED BY: B.Lee | **RIG TYPE:** Geoprobe 6620DT

BORING

Lot 1 Disp-02B

DRILLING INFORMATION

HAMMER TYPE: Automatic | **CASING I.D./O.D.:** 2.125 inch / 2.25 inch | **CORE BARREL TYPE:** Macrocore

AUGER I.D./O.D.: NA / NA | **DRILL ROD O.D.:** NM | **CORE BARREL I.D./O.D.** NA / NA

DRILLING METHOD: Geoprobe

ABBREVIATIONS:

Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer

S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger

Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter

NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 3	36/30	NA	0.3 ppm	FILL	S1: (0-3"): ASPHALT S1: (3-6"): WIDELY GRADED SAND WITH GRAVEL (SW); ~50% fine to coarse sand, ~45% subangular gravel (0-0.5"), ~5% non-plastic fines, loose, gray. S1: 6-30"): NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% mostly fine sand, ~10% non-plastic fines, ~5% subrounded gravel (0-0.25"), medium dense, dark brown. Bottom of boring at depth 3 ft.
	5							
	10							
	15							
	20							

NOTES: ppm = parts per million

PROJECT NAME: Former Tombarello Site

CITY/STATE: Lawrence, Massachussetts

GEI PROJECT NUMBER: 1802441

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME BORING LOGS 2020 - COPY.GPJ 3/31/20

BORING INFORMATION

LOCATION: Near south boundary of NW portion of Lot 1
GROUND SURFACE EL. (ft): NA
VERTICAL DATUM: NA
TOTAL DEPTH (ft): 3.0
LOGGED BY: B.Lee
DATE START/END: 3/12/2020 - 3/12/2020
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: C. Devillers
RIG TYPE: Geoprobe 6620DT

BORING

Lot 1 Disp-02C

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Geoprobe
CASING I.D./O.D.: 2.125 inch / 2.25 inch
DRILL ROD O.D.: NM
CORE BARREL TYPE: Macrocore
CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 3	36/27	NA	0.0 ppm	FILL	S1: (0-3"): ASPHALT S1: (3-5"): NARROWLY GRADED SAND WITH GRAVEL (SP); ~50% mostly fine sand, ~45% subangular gravel (0-0.5"), ~5% non-plastic fines, loose, light gray. S1: (5-23"): WIDELY GRADED SAND WITH GRAVEL (SW); ~70% fine to coarse sand, ~25% subangular gravel, ~5% non-plastic fines, loose, brown to black. S1: (23-27"): DRIED PAINT/CAULKING; No visible grains, white. Bottom of boring at depth 3 ft.

NOTES: ppm = parts per million

PROJECT NAME: Former Tombarello Site
CITY/STATE: Lawrence, Massachussetts
GEI PROJECT NUMBER: 1802441

GEI Consultants

Appendix D

Lab Data Reports

eurofins | Spectrum Analytical

☑ Final Report
☐ Re-Issued Report
☐ Revised Report
Report Date:
01-Jul-16 11:09

Laboratory Report

Nobis Engineering, Inc
585 Middlesex Street
Lowell, MA 01851

Work Order: R0530
Project : Lawrence, MA site
Project #:

Attn: Gail DeRuzzo

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
R0530-01	MS-02-0102	Soil	10-Jun-16 08:00	14-Jun-16 11:03
R0530-02	MS-02-0203	Soil	10-Jun-16 08:05	14-Jun-16 11:03
R0530-03	NPA-07-0.502	Soil	10-Jun-16 08:15	14-Jun-16 11:03
R0530-04	NPA-07-0203	Soil	10-Jun-16 08:20	14-Jun-16 11:03
R0530-05	MS-03-0102	Soil	10-Jun-16 08:45	14-Jun-16 11:03
R0530-06	MS-03-0203	Soil	10-Jun-16 08:50	14-Jun-16 11:03
R0530-07	MS-01-0102	Soil	10-Jun-16 09:05	14-Jun-16 11:03
R0530-08	MS-01-0203	Soil	10-Jun-16 09:10	14-Jun-16 11:03
R0530-09	MS-01-1213	Soil	10-Jun-16 09:15	14-Jun-16 11:03
R0530-10	NPA-06-0.502	Soil	10-Jun-16 10:00	14-Jun-16 11:03
R0530-11	NPA-06-0203	Soil	10-Jun-16 10:05	14-Jun-16 11:03
R0530-12	NPA-05-0.502	Soil	10-Jun-16 10:10	14-Jun-16 11:03
R0530-13	NPA-05-0203	Soil	10-Jun-16 10:15	14-Jun-16 11:03
R0530-14	NPA-04-0.502	Soil	10-Jun-16 10:20	14-Jun-16 11:03
R0530-15	NPA-04-0203	Soil	10-Jun-16 10:25	14-Jun-16 11:03
R0530-16	NPA-03-0.502	Soil	10-Jun-16 10:40	14-Jun-16 11:03
R0530-17	NPA-03-0203	Soil	10-Jun-16 10:45	14-Jun-16 11:03
R0530-18	NPA-01-0.502	Soil	10-Jun-16 10:55	14-Jun-16 11:03
R0530-19	NPA-01-0203	Soil	10-Jun-16 11:00	14-Jun-16 11:03
R0530-20	NPA-02-0.502	Soil	10-Jun-16 11:20	14-Jun-16 11:03
R0530-21	NPA-02-0203	Soil	10-Jun-16 11:25	14-Jun-16 11:03
R0530-22	NPA-02-0607	Soil	10-Jun-16 11:30	14-Jun-16 11:03
R0530-23	TB-01	Soil	10-Jun-16 08:00	14-Jun-16 11:03

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. The results relate only to the samples(s) as received. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

All applicable NELAC or USEPA CLP requirements have been met.

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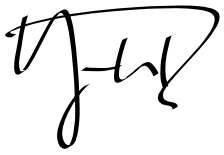
Please contact the Laboratory or Technical Director at 401-732-3400 with any questions regarding the data contained in the laboratory report.

Connecticut	PH-0153
Florida	E87664
Massachusetts	M-RI907
New Hampshire	2060
New Jersey	RI001
New York	11522
Rhode Island	LAI00349
USDA	P330-16-00031
USEPA - ISM	EP-W-14-032
USEPA - SOM	EP-W-14-032
Dod ELAP	L2247

NELAP ACCREDITED TNI LABORATORY

LABORATORY ACCREDITATION BUREAU ACCREDITED
Certificate # L2247 Testing

Authorized by:



Yihai Ding
Laboratory Director

MassDEP Analytical Protocol Certification Form

Laboratory Name: Eurofins Spectrum Analytical – RI Project #: R0530

Project Location: Lawrence RTN:

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

R0530-01 → R0530-23

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

CAM Protocol (check all that apply below):

8260 VOC CAM II A ☒	7470/7471 Hg CAM III B ☒	MassDEP VPH CAM IV A ☐	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☒	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☒	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☒	6020 Metals CAM III D ☐	8082 PCB CAM V A ☒	9014 Total Cyanide/PAC CAM VI A ☐	6860 Perchlorate CAM VIII B ☐	See Spectrum – MA report for EPH. Enclosed

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?	☒ Yes ☐ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☒ Yes ☐ 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?	☒ Yes ☐ 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"?	☒ Yes ☐ No
E	VPH, EPH, APH, and TO-15 only: See Spectrum-MA report for EPH 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?	☐ Yes ☐ No ☐ Yes ☐ 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)?	☒ Yes ☐ 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)?	☒ Yes ☐ No[1]

***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? See Narrative	☐ Yes ☒ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes ☒ No[1]

[1] *All negative responses must be addressed in an attached laboratory narrative.* SVOC = PAH only; Metals = RCRA 8

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Edward Lawler **Position:** Senior Project Manager

Printed Name: Edward Lawler **Date:** 7/1/16

REPORT NARRATIVE

Eurofins Spectrum Analytical, Inc.

Client : Nobis Engineering, Inc

Project: Lawrence, MA site

Laboratory Workorder / SDG #: R0530

SW846 8260C, VOC by GC-MS

I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered unless a Sample Condition Notification Form, or other record of communication is included with the Sample Receipt Documentation.

II. HOLDING TIMES

A. Sample Preparation:

All samples were prepared within the method-specified holding times.

B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

III. METHODS

Samples were analyzed following procedures in laboratory test code: SW846 8260C

IV. PREPARATION

Soil Samples were prepared following procedures in laboratory test code: SW5035

V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: V1
Instrument Type: GCMS-VOA

Description: HP5890 II / HP5972
Manufacturer: Hewlett-Packard
Model: 5890 / 5972

VI. ANALYSIS

A. Calibration:

Calibrations met the method/SOP acceptance criteria.

B. Blanks:

All method blanks were within the acceptance criteria.

C. Surrogates:

Surrogate standard percent recoveries were within the QC limits.

D. Spikes:

1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC limits with the following exceptions. Please note that most test procedures allow for several compounds outside of the QC limits for the LCS, although this may indicate a bias for this specific compound.

LCSD-84798 in batch 84798, recovery is above criteria for 1,4-Dioxane at 134% with criteria of (70-130).

2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

No client-requested MS/MSD analyses were included in this SDG.

E. Internal Standards:

Internal standard peak areas were within the QC limits.

F. Dilutions:

No sample in this SDG required analysis at dilution.

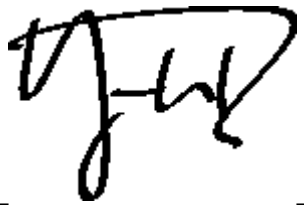
G. Samples:

No other unusual occurrences were noted during sample analysis.

H. Manual Integration

No manual integrations were performed on any sample or standard.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Signed:_____  _____

Date:_____6/27/2016_____

REPORT NARRATIVE

Eurofins Spectrum Analytical, Inc.

Client : Nobis Engineering, Inc

Project: Lawrence, MA site

Laboratory Workorder / SDG #: R0530

SW846 8270D, SVOA by GC-MS

I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered unless a Sample Condition Notification Form, or other record of communication is included with the Sample Receipt Documentation.

II. HOLDING TIMES

A. Sample Preparation:

All samples were prepared within the method-specified holding times with the following exceptions:

NPA-07-0.502 (R0530-03ARE) exceed by 3 Days
NPA-01-0.502 (R0530-18ARE) exceed by 3 Days

Please note these samples were initially extracted within holding times. They were re-extracted due to surrogate failures. Both sets of data are included.

B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

III. METHODS

Samples were analyzed following procedures in laboratory test code: SW846 8270D

IV. PREPARATION

Soil Samples were prepared following procedures in laboratory test code: SW3550B

V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: S3
Instrument Type: GCMS-SEMI
Description: HP6890 / HP5973
Manufacturer: Hewlett-Packard
Model: 6890 / 5973
GC Column used: 30 m X 0.25 mm ID [0.25 um thickness] ZB-Semi capillary column.

VI. ANALYSIS

A. Calibration:

Calibrations met the method/SOP acceptance criteria.

B. Blanks:

All method blanks were within the acceptance criteria.

C. Surrogates:

Surrogate standard percent recoveries were within the QC limits with the following exceptions. Please note that the acceptance criteria allow one surrogate recovery outside of the QC limits per fraction.

NPA-07-0.502 (R0530-03A), recovery is below criteria for 2-Fluorobiphenyl at 28% with criteria of (45-105), Nitrobenzene-d5 at 26% with criteria of (35-100) and Terphenyl-d14 at 28% with criteria of (30-125).

NPA-07-0.502 (R0530-03ARE) Surrogate outside of QC limit due to dilution, recovery is below criteria for 2-Fluorobiphenyl at 23% with criteria of (45-105), Nitrobenzene-d5 at 18% with criteria of (35-100) and Terphenyl-d14 at 19% with criteria of (30-125).

NPA-06-0.502 (R0530-10A) Surrogate outside of QC limit due to dilution, recovery is below criteria for 2-Fluorobiphenyl at 0% with criteria of (45-105), Nitrobenzene-d5 at 0% with criteria of (35-100) and Terphenyl-d14 at 0% with criteria of (30-125).

NPA-04-0203 (R0530-15A), recovery is below criteria for 2-Fluorobiphenyl at 44% with criteria of (45-105).

NPA-04-0203 (R0530-15ADL) Surrogate outside of QC limit due to

dilution, recovery is below criteria for 2-Fluorobiphenyl at 39% with criteria of (45-105) and Nitrobenzene-d5 at 34% with criteria of (35-100).

NPA-03-0.502 (R0530-16A) Surrogate outside of QC limit due to dilution, recovery is below criteria for 2-Fluorobiphenyl at 0% with criteria of (45-105), Nitrobenzene-d5 at 0% with criteria of (35-100) and Terphenyl-d14 at 0% with criteria of (30-125).

NPA-01-0.502 (R0530-18A), recovery is below criteria for 2-Fluorobiphenyl at 30% with criteria of (45-105) and Nitrobenzene-d5 at 26% with criteria of (35-100).

D. Spikes:

1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC limits.

2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

No client-requested MS/MSD analyses were included in this SDG.

E. Internal Standards:

Internal standard peak areas were within the QC limits with the following exceptions:

MS-02-0203 (R0530-02A), Peak area is outside QC Limits for Perylene-d12. Please note the internal standard peak areas were within the QC limits in the dilution analysis.

F. Dilutions:

The following samples were analyzed at dilution:

MS-02-0203 (R0530-02ADL) : Dilution Factor: 10
NPA-07-0.502 (R0530-03ARE) : Dilution Factor: 5
MS-01-0203 (R0530-08ADL) : Dilution Factor: 4
NPA-06-0.502 (R0530-10A) : Dilution Factor: 200
NPA-05-0.502 (R0530-12ADL) : Dilution Factor: 20
NPA-04-0203 (R0530-15ADL) : Dilution Factor: 10
NPA-03-0.502 (R0530-16A) : Dilution Factor: 100
NPA-01-0.502 (R0530-18ARE) : Dilution Factor: 4

G. Samples:

No other unusual occurrences were noted during sample analysis.

H. Manual Integration

Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required. Manual integrations are coded to provide the data reviewer justification for such action. The codes are labeled on the ion chromatogram signal (GC/MS signal) and chromatogram for GC based analysis as follows:

· M1 peak tailing or fronting
· M2 peak co-elution
· M3 rising or falling baseline
· M4 retention time shift
· M5 miscellaneous - under this category, the justification is explained
· M6 software did not integrate peak
· M7 partial peak integration

Manual integrations were performed on the following:

MS-02-0203 (R0530-02A) Benzo(k)fluoranthene due to M2

MS-02-0203 (R0530-02ADL) Benzo(k)fluoranthene due to M2

NPA-07-0.502 (R0530-03A) Benzo(k)fluoranthene due to M2

MS-01-0203 (R0530-08A) Benzo(k)fluoranthene due to M2

MS-01-0203 (R0530-08ADL) Benzo(k)fluoranthene due to M2

NPA-06-0.502 (R0530-10A) Benzo(k)fluoranthene due to M2

NPA-05-0.502 (R0530-12A) Benzo(k)fluoranthene due to M2

NPA-05-0.502 (R0530-12ADL) Benzo(k)fluoranthene due to M2

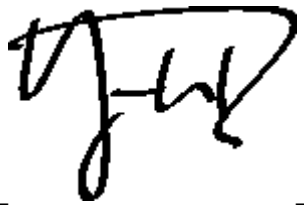
NPA-04-0203 (R0530-15A) Benzo(k)fluoranthene due to M6

NPA-04-0203 (R0530-15ADL) Benzo(k)fluoranthene due to M2

NPA-03-0.502 (R0530-16A) Benzo(k)fluoranthene due to M2

NPA-01-0.502 (R0530-18A) Benzo(k)fluoranthene due to M2

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Signed:_____  _____

Date:_____7/1/2016_____

REPORT NARRATIVE

Eurofins Spectrum Analytical, Inc.

Client : Nobis Engineering, Inc

Project: Lawrence, MA site

Laboratory Workorder / SDG #: R0530

SW846 8082A, PCB by GC-ECD

I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered unless a Sample Condition Notification Form, or other record of communication is included with the Sample Receipt Documentation.

II. HOLDING TIMES

A. Sample Preparation:

All samples were prepared within the method-specified holding times.

B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

III. METHODS

Samples were analyzed following procedures in laboratory test code: SW846 8082A

IV. PREPARATION

Soil Samples were prepared following procedures in laboratory test code: SW3540C

V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: E6
Instrument Type: GC-ECD
Description: HP6890
Manufacturer: Hewlett-Packard

Model: 6890
GC Column used: 30 m X 0.53 mm ID [0.50 um thickness] CLPPest capillary column.

VI. ANALYSIS

A. Calibration:

Calibrations met the method/SOP acceptance criteria.

B. Blanks:

All method blanks were within the acceptance criteria.

C. Surrogates:

Surrogate standard percent recoveries were within the QC limits with the following exceptions. Please note that the acceptance criteria allow one surrogate recovery outside of the QC limits per fraction.

MS-02-0102 (R0530-01A) Surrogate outside of QC limit due to dilution, recovery is above criteria for Decachlorobiphenyl on rear column at 161% with criteria of (60-125), recovery is below criteria for Decachlorobiphenyl on front column at 0% with criteria of (60-125) and Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147).

MS-02-0203 (R0530-02A) Surrogate outside of QC limit due to dilution, recovery is above criteria for Decachlorobiphenyl on rear column at 127% with criteria of (60-125), Decachlorobiphenyl on front column at 127% with criteria of (60-125), recovery is below criteria for and Tetrachloro-m-xylene on rear column at 13% with criteria of (34-147).

NPA-06-0.502 (R0530-10A) Surrogate outside of QC limit due to dilution, recovery is above criteria for Decachlorobiphenyl on rear column at 1278% with criteria of (60-125) and Decachlorobiphenyl on front column at 260% with criteria of (60-125).

NPA-06-0203 (R0530-11A), recovery is above criteria for Decachlorobiphenyl on rear column at 166% with criteria of (60-125), recovery is below criteria for and Decachlorobiphenyl on front column at 46% with criteria of (60-125).

NPA-05-0.502 (R0530-12A) Surrogate outside of QC limit due to dilution, recovery is above criteria for Decachlorobiphenyl on rear column at 203% with criteria of (60-125).

NPA-05-0203 (R0530-13A), recovery is above criteria for Decachlorobiphenyl on rear column at 294% with criteria of (60-125), recovery is below criteria for and Decachlorobiphenyl on front column at 39% with criteria of (60-125).

NPA-04-0203 (R0530-15A), recovery is below criteria for Decachlorobiphenyl on rear column at 60% with criteria of (60-125) and Decachlorobiphenyl on front column at 60% with criteria of (60-125).

NPA-03-0.502 (R0530-16A) Surrogate outside of QC limit due to dilution, recovery is above criteria for Decachlorobiphenyl on rear column at 1428% with criteria of (60-125), Decachlorobiphenyl on front column at 566% with criteria of (60-125), Tetrachloro-m-xylene on rear column at 271% with criteria of (34-147) and Tetrachloro-m-xylene on front column at 191% with criteria of (34-147).

NPA-01-0.502 (R0530-18A) Surrogate outside of QC limit due to dilution, recovery is above criteria for Decachlorobiphenyl on rear column at 221% with criteria of (60-125) and Decachlorobiphenyl on front column at 270% with criteria of (60-125).

NPA-02-0.502 (R0530-20A), recovery is above criteria for Decachlorobiphenyl on rear column at 343% with criteria of (60-125).

NPA-02-0203 (R0530-21A) Surrogate outside of QC limit due to dilution, recovery is below criteria for Tetrachloro-m-xylene on rear column at 0% with criteria of (34-147).

D. Spikes:

1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC limits.

2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

No client-requested MS/MSD analyses were included in this SDG.

E. Dilutions:

The following samples were analyzed at dilution:

MS-02-0102 (R0530-01A) : Dilution Factor: 200
MS-02-0203 (R0530-02A) : Dilution Factor: 10

NPA-07-0.502 (R0530-03A) : Dilution Factor: 10
NPA-06-0.502 (R0530-10A) : Dilution Factor: 10
NPA-05-0.502 (R0530-12A) : Dilution Factor: 2
NPA-03-0.502 (R0530-16A) : Dilution Factor: 10
NPA-01-0.502 (R0530-18A) : Dilution Factor: 2
NPA-02-0203 (R0530-21A) : Dilution Factor: 200

F. Samples:

The lower concentration between the primary and confirmatory GC column concentrations is reported due to the presence of interferences unless otherwise indicated. P flags are assigned to compounds when D% between the two columns are greater than 40%.

No other unusual occurrences were noted during sample analysis.

G. Manual Integration

Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required. Manual integrations are coded to provide the data reviewer justification for such action. The codes are labeled on the ion chromatogram signal (GC/MS signal) and chromatogram for GC based analysis as follows:

· M1 peak tailing or fronting
· M2 peak co-elution
· M3 rising or falling baseline
· M4 retention time shift
· M5 miscellaneous - under this category, the justification is explained
· M6 software did not integrate peak
· M7 partial peak integration

The following samples were manually integrated:

AR12483XA Aroclor-1248 on front column due to M4

AR12483XC Aroclor-1248 on front column due to M4

MS-02-0102 (R0530-01A) Aroclor-1248 on front column due to M4

MS-02-0203 (R0530-02A) Aroclor-1248 on front column due to M4

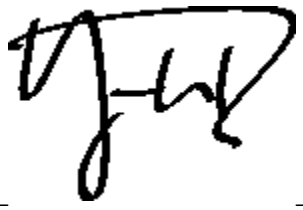
NPA-07-0.502 (R0530-03A) Aroclor-1248 on front column due to M4

NPA-06-0.502 (R0530-10A) Aroclor-1248 on rear column , Aroclor-1248 on front column due to M4

NPA-05-0.502 (R0530-12A) Aroclor-1248 on rear column , Aroclor-1248 on front column due to M4

NPA-01-0.502 (R0530-18A) Aroclor-1248 on rear column , Aroclor-1248 on front column due to M4

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Signed:_____  _____

Date:_____6/29/2016_____

REPORT NARRATIVE

Eurofins Spectrum Analytical, Inc.

Client : Nobis Engineering, Inc

Project: Lawrence, MA site

Laboratory Workorder / SDG #: R0530

SW846 6010C, SW846 7471B

I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered unless a Sample Condition Notification Form, or other record of communication is included with the Sample Receipt Documentation.

II. HOLDING TIMES

A. Sample Preparation:

All samples were prepared within the method-specified holding times.

B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

III. METHODS

Samples were analyzed following procedures in laboratory test codes: SW846 6010C, SW846 7471B

IV. PREPARATION

Soil Samples were prepared following procedures in laboratory test code: SW3050B
Soil Samples were prepared following procedures in laboratory test code: SW7471B

V. INSTRUMENTATION

The following instrumentation was used:

Instrument Code: FIMS2
Instrument Type: CVAA
Description: FIMS
Manufacturer: Perkin-Elmer
Model: FIMS100

Instrument Code: OPTIMA4
Instrument Type: ICP
Description: Optima 8300 ICP-OES
Manufacturer: Perkin-Elmer
Model: Optima 8300 ICP-OES

VI. ANALYSIS

A. Calibration:

Calibrations met the method/SOP acceptance criteria.

B. Blanks:

All method blanks were within the acceptance criteria.

C. Spikes:

1. Laboratory Control Spikes (LCS):

Percent recoveries for laboratory control samples were within the QC limits.

2. Matrix spike (MS):

Matrix spikes were performed on sample: NPA-02-0203 (R0530-21AMS).

Percent recoveries were within the QC limits with the exception of Arsenic.

D. Post Digestion Spike (PDS):

Post-digestion spike analysis was performed on sample: NPA-02-0203 (R0530-21APDS).

NPA-02-0203 (R0530-21APDS) for Arsenic due to recovery of this element outside of QC limits in the matrix spike.

E. Duplicate sample:

Duplicate analyses were performed on sample: NPA-02-0203 (R0530-21ADUP).

Relative percent differences were within the QC limits.

F. Serial Dilution (SD):

Serial Dilution analyses were performed on sample: NPA-02-0203 (R0530-21ASD).

Percent differences were within the QC limits.

G. Samples:

Elements marked with “BJR or JR” Qualifiers for DUP or SD does not meet the concentration criteria that are required to meet QC limits. Our software system used for the QC summary is unable to account for this and applies the R qualifier to all values over 20% RPD or 10%D regardless of concentration.

No other unusual occurrences were noted during sample analysis.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Eurofins Spectrum Analytical, Inc. RI, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Signed:

Date: 06/28/16

Client: Nobis Engineering, Inc
Client Sample ID: MS-01-1213 **Project:** Lawrence, MA site
Lab ID: R0530-09 **Collection Date:** 06/10/16 9:15

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8260C -- VOC by GC-MS							**SW8260_LOW_S**
Dichlorodifluoromethane	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
Chloromethane	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
Vinyl chloride	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
Bromomethane	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
Chloroethane	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
Trichlorofluoromethane	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
1,1-Dichloroethene	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
Acetone	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
Carbon disulfide	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
Methylene chloride	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
trans-1,2-Dichloroethene	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
Methyl tert-butyl ether	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
1,1-Dichloroethane	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
2-Butanone	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
cis-1,2-Dichloroethene	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
2,2-Dichloropropane	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
Bromochloromethane	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
Chloroform	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
1,1,1-Trichloroethane	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
1,1-Dichloropropene	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
Carbon tetrachloride	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
1,2-Dichloroethane	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
Benzene	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
Trichloroethene	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
1,2-Dichloropropane	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
Dibromomethane	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
Bromodichloromethane	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
cis-1,3-Dichloropropene	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
4-Methyl-2-pentanone	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
Toluene	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
trans-1,3-Dichloropropene	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
1,1,2-Trichloroethane	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
1,3-Dichloropropane	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
Tetrachloroethene	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
2-Hexanone	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
Dibromochloromethane	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
1,2-Dibromoethane	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
Chlorobenzene	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: MS-01-1213 **Project:** Lawrence, MA site
Lab ID: R0530-09 **Collection Date:** 06/10/16 9:15

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8260C -- VOC by GC-MS							**SW8260_LOW_S**
1,1,1,2-Tetrachloroethane	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
Ethylbenzene	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
m,p-Xylene	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
o-Xylene	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
Xylene (Total)	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
Styrene	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
Bromoform	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
Isopropylbenzene	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
1,1,2,2-Tetrachloroethane	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
Bromobenzene	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
1,2,3-Trichloropropane	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
n-Propylbenzene	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
2-Chlorotoluene	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
1,3,5-Trimethylbenzene	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
4-Chlorotoluene	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
tert-Butylbenzene	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
1,2,4-Trimethylbenzene	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
sec-Butylbenzene	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
4-Isopropyltoluene	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
1,3-Dichlorobenzene	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
1,4-Dichlorobenzene	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
n-Butylbenzene	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
1,2-Dichlorobenzene	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
1,2-Dibromo-3-chloropropane	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
1,2,4-Trichlorobenzene	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
Hexachlorobutadiene	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
1,2,3-Trichlorobenzene	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
Naphthalene	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
1,4-Dioxane	ND		91	ug/Kg	1	06/15/2016 13:53	84798
Diethyl ether	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
Diisopropyl ether	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
Ethyl tert-butyl ether	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
tert-Amyl Methyl ether	ND		4.5	ug/Kg	1	06/15/2016 13:53	84798
Tetrahydrofuran	ND		9.1	ug/Kg	1	06/15/2016 13:53	84798
Surrogate: Dibromofluoromethane	103		76-128	%REC	1	06/15/2016 13:53	84798
Surrogate: 1,2-Dichloroethane-d4	101		88-110	%REC	1	06/15/2016 13:53	84798
Surrogate: Toluene-d8	99.0		85-115	%REC	1	06/15/2016 13:53	84798
Surrogate: Bromofluorobenzene	98.9		85-120	%REC	1	06/15/2016 13:53	84798

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-02-0607 **Project:** Lawrence, MA site
Lab ID: R0530-22 **Collection Date:** 06/10/16 11:30

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8260C -- VOC by GC-MS							**SW8260_LOW_S**
Dichlorodifluoromethane	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
Chloromethane	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
Vinyl chloride	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
Bromomethane	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
Chloroethane	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
Trichlorofluoromethane	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
1,1-Dichloroethene	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
Acetone	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
Carbon disulfide	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
Methylene chloride	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
trans-1,2-Dichloroethene	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
Methyl tert-butyl ether	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
1,1-Dichloroethane	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
2-Butanone	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
cis-1,2-Dichloroethene	0.89	J	4.2	ug/Kg	1	06/15/2016 14:19	84798
2,2-Dichloropropane	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
Bromochloromethane	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
Chloroform	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
1,1,1-Trichloroethane	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
1,1-Dichloropropene	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
Carbon tetrachloride	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
1,2-Dichloroethane	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
Benzene	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
Trichloroethene	1.8	J	4.2	ug/Kg	1	06/15/2016 14:19	84798
1,2-Dichloropropane	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
Dibromomethane	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
Bromodichloromethane	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
cis-1,3-Dichloropropene	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
4-Methyl-2-pentanone	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
Toluene	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
trans-1,3-Dichloropropene	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
1,1,2-Trichloroethane	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
1,3-Dichloropropane	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
Tetrachloroethene	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
2-Hexanone	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
Dibromochloromethane	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
1,2-Dibromoethane	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
Chlorobenzene	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-02-0607 **Project:** Lawrence, MA site
Lab ID: R0530-22 **Collection Date:** 06/10/16 11:30

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8260C -- VOC by GC-MS							**SW8260_LOW_S**
1,1,1,2-Tetrachloroethane	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
Ethylbenzene	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
m,p-Xylene	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
o-Xylene	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
Xylene (Total)	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
Styrene	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
Bromoform	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
Isopropylbenzene	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
1,1,2,2-Tetrachloroethane	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
Bromobenzene	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
1,2,3-Trichloropropane	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
n-Propylbenzene	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
2-Chlorotoluene	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
1,3,5-Trimethylbenzene	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
4-Chlorotoluene	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
tert-Butylbenzene	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
1,2,4-Trimethylbenzene	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
sec-Butylbenzene	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
4-Isopropyltoluene	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
1,3-Dichlorobenzene	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
1,4-Dichlorobenzene	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
n-Butylbenzene	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
1,2-Dichlorobenzene	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
1,2-Dibromo-3-chloropropane	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
1,2,4-Trichlorobenzene	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
Hexachlorobutadiene	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
1,2,3-Trichlorobenzene	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
Naphthalene	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
1,4-Dioxane	ND		83	ug/Kg	1	06/15/2016 14:19	84798
Diethyl ether	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
Diisopropyl ether	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
Ethyl tert-butyl ether	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
tert-Amyl Methyl ether	ND		4.2	ug/Kg	1	06/15/2016 14:19	84798
Tetrahydrofuran	ND		8.3	ug/Kg	1	06/15/2016 14:19	84798
Surrogate: Dibromofluoromethane	107		76-128	%REC	1	06/15/2016 14:19	84798
Surrogate: 1,2-Dichloroethane-d4	110		88-110	%REC	1	06/15/2016 14:19	84798
Surrogate: Toluene-d8	106		85-115	%REC	1	06/15/2016 14:19	84798
Surrogate: Bromofluorobenzene	99.5		85-120	%REC	1	06/15/2016 14:19	84798

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: TB-01 **Project:** Lawrence, MA site
Lab ID: R0530-23 **Collection Date:** 06/10/16 8:00

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8260C -- VOC by GC-MS							**SW8260_LOW_S**
Dichlorodifluoromethane	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
Chloromethane	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
Vinyl chloride	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
Bromomethane	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
Chloroethane	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
Trichlorofluoromethane	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
1,1-Dichloroethene	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
Acetone	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
Carbon disulfide	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
Methylene chloride	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
trans-1,2-Dichloroethene	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
Methyl tert-butyl ether	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
1,1-Dichloroethane	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
2-Butanone	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
cis-1,2-Dichloroethene	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
2,2-Dichloropropane	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
Bromochloromethane	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
Chloroform	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
1,1,1-Trichloroethane	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
1,1-Dichloropropene	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
Carbon tetrachloride	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
1,2-Dichloroethane	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
Benzene	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
Trichloroethene	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
1,2-Dichloropropane	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
Dibromomethane	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
Bromodichloromethane	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
cis-1,3-Dichloropropene	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
4-Methyl-2-pentanone	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
Toluene	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
trans-1,3-Dichloropropene	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
1,1,2-Trichloroethane	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
1,3-Dichloropropane	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
Tetrachloroethene	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
2-Hexanone	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
Dibromochloromethane	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
1,2-Dibromoethane	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
Chlorobenzene	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: TB-01 **Project:** Lawrence, MA site
Lab ID: R0530-23 **Collection Date:** 06/10/16 8:00

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8260C -- VOC by GC-MS							**SW8260_LOW_S**
1,1,1,2-Tetrachloroethane	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
Ethylbenzene	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
m,p-Xylene	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
o-Xylene	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
Xylene (Total)	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
Styrene	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
Bromoform	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
Isopropylbenzene	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
1,1,2,2-Tetrachloroethane	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
Bromobenzene	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
1,2,3-Trichloropropane	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
n-Propylbenzene	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
2-Chlorotoluene	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
1,3,5-Trimethylbenzene	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
4-Chlorotoluene	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
tert-Butylbenzene	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
1,2,4-Trimethylbenzene	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
sec-Butylbenzene	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
4-Isopropyltoluene	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
1,3-Dichlorobenzene	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
1,4-Dichlorobenzene	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
n-Butylbenzene	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
1,2-Dichlorobenzene	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
1,2-Dibromo-3-chloropropane	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
1,2,4-Trichlorobenzene	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
Hexachlorobutadiene	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
1,2,3-Trichlorobenzene	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
Naphthalene	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
1,4-Dioxane	ND		100	ug/Kg	1	06/15/2016 14:46	84798
Diethyl ether	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
Diisopropyl ether	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
Ethyl tert-butyl ether	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
tert-Amyl Methyl ether	ND		5.0	ug/Kg	1	06/15/2016 14:46	84798
Tetrahydrofuran	ND		10	ug/Kg	1	06/15/2016 14:46	84798
Surrogate: Dibromofluoromethane	104		76-128	%REC	1	06/15/2016 14:46	84798
Surrogate: 1,2-Dichloroethane-d4	108		88-110	%REC	1	06/15/2016 14:46	84798
Surrogate: Toluene-d8	99.1		85-115	%REC	1	06/15/2016 14:46	84798
Surrogate: Bromofluorobenzene	102		85-120	%REC	1	06/15/2016 14:46	84798

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

CLIENT: Nobis Engineering, Inc
Work Order: R0530
Project: Lawrence, MA site

ANALYTICAL QC SUMMARY REPORT

SW8260_LOW_S

SW846 8260C -- VOC by GC-MS

Sample ID	**MB-84798**	SampType: **MBLK**	TestCode: **SW8260_LOW_S**	Prep Date:	**06/15/16 11:03**	Run ID:	**V1_160615A**
Client ID:	**MB-84798**	Batch ID: **84798**	Units: **ug/Kg**	Analysis Date:	**06/15/16 13:26**	SeqNo:	**2379929**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	ND	0.98	5.0									
Chloromethane	ND	0.80	5.0									
Vinyl chloride	ND	0.63	5.0									
Bromomethane	ND	1.1	5.0									
Chloroethane	ND	1.0	5.0									
Trichlorofluoromethane	ND	0.42	5.0									
1,1-Dichloroethene	ND	0.95	5.0									
Acetone	ND	1.6	5.0									
Carbon disulfide	ND	0.30	5.0									
Methylene chloride	ND	1.3	5.0									
trans-1,2-Dichloroethene	ND	0.53	5.0									
Methyl tert-butyl ether	ND	0.61	5.0									
1,1-Dichloroethane	ND	0.67	5.0									
2-Butanone	ND	2.0	5.0									
cis-1,2-Dichloroethene	ND	0.75	5.0									
2,2-Dichloropropane	ND	0.29	5.0									
Bromochloromethane	ND	0.76	5.0									
Chloroform	ND	0.64	5.0									
1,1,1-Trichloroethane	ND	0.53	5.0									
1,1-Dichloropropene	ND	0.81	5.0									
Carbon tetrachloride	ND	0.33	5.0									
1,2-Dichloroethane	ND	0.54	5.0									
Benzene	ND	0.61	5.0									
Trichloroethene	ND	0.62	5.0									
1,2-Dichloropropane	ND	0.69	5.0									
Dibromomethane	ND	0.58	5.0									
Bromodichloromethane	ND	0.97	5.0									
cis-1,3-Dichloropropene	ND	0.67	5.0									
4-Methyl-2-pentanone	ND	0.73	5.0									
Toluene	ND	0.47	5.0									
trans-1,3-Dichloropropene	ND	0.68	5.0									
1,1,2-Trichloroethane	ND	0.48	5.0									
1,3-Dichloropropane	ND	0.87	5.0									
Tetrachloroethene	ND	0.62	5.0									
2-Hexanone	ND	0.83	5.0									
Dibromochloromethane	ND	0.65	5.0									
1,2-Dibromoethane	ND	0.74	5.0									

Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank
J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

CLIENT: Nobis Engineering, Inc
Work Order: R0530
Project: Lawrence, MA site

ANALYTICAL QC SUMMARY REPORT

SW8260_LOW_S
SW846 8260C -- VOC by GC-MS

R0530

Sample ID	**MB-84798**	SampType: **MBLK**	TestCode: **SW8260_LOW_S**	Prep Date:	**06/15/16 11:03**	Run ID:	**V1_160615A**
Client ID:	**MB-84798**	Batch ID: **84798**	Units: **ug/Kg**	Analysis Date:	**06/15/16 13:26**	SeqNo:	**2379929**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	ND	0.51	5.0									
1,1,1,2-Tetrachloroethane	ND	0.77	5.0									
Ethylbenzene	ND	0.50	5.0									
m,p-Xylene	ND	1.6	5.0									
o-Xylene	ND	0.47	5.0									
Xylene (Total)	ND	0.47	5.0									
Styrene	ND	0.52	5.0									
Bromoform	ND	2.0	5.0									
Isopropylbenzene	ND	0.58	5.0									
1,1,2,2-Tetrachloroethane	ND	0.68	5.0									
Bromobenzene	ND	0.58	5.0									
1,2,3-Trichloropropane	ND	0.87	5.0									
n-Propylbenzene	ND	0.44	5.0									
2-Chlorotoluene	ND	0.74	5.0									
1,3,5-Trimethylbenzene	ND	0.61	5.0									
4-Chlorotoluene	ND	0.84	5.0									
tert-Butylbenzene	ND	0.52	5.0									
1,2,4-Trimethylbenzene	ND	0.57	5.0									
sec-Butylbenzene	ND	0.62	5.0									
4-Isopropyltoluene	ND	0.71	5.0									
1,3-Dichlorobenzene	ND	0.70	5.0									
1,4-Dichlorobenzene	ND	0.80	5.0									
n-Butylbenzene	ND	0.67	5.0									
1,2-Dichlorobenzene	ND	0.62	5.0									
1,2-Dibromo-3-chloropropane	ND	1.3	5.0									
1,2,4-Trichlorobenzene	ND	0.63	5.0									
Hexachlorobutadiene	ND	0.62	5.0									
1,2,3-Trichlorobenzene	ND	0.64	5.0									
Naphthalene	ND	0.78	5.0									
1,4-Dioxane	ND	61	100									
Diethyl ether	ND	1.3	5.0									
Diisopropyl ether	ND	0.61	5.0									
Ethyl tert-butyl ether	ND	0.85	5.0									
tert-Amyl Methyl ether	ND	1.1	5.0									
Tetrahydrofuran	ND	4.6	10									
Surrogate: Dibromofluoromethane	50.40		5.0	50.00	0	101	76	128	0			
Surrogate: 1,2-Dichloroethane-d4	51.90		5.0	50.00	0	104	88	110	0			

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Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank

m16.06.17.0957 J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

CLIENT: Nobis Engineering, Inc
Work Order: R0530
Project: Lawrence, MA site

ANALYTICAL QC SUMMARY REPORT

SW8260_LOW_S
SW846 8260C -- VOC by GC-MS

Sample ID	**MB-84798**	SampType:	**MBLK**	TestCode:	**SW8260_LOW_S**	Prep Date:	**06/15/16 11:03**	Run ID:	**V1_160615A**
Client ID:	**MB-84798**	Batch ID:	**84798**	Units:	**ug/Kg**	Analysis Date:	**06/15/16 13:26**	SeqNo:	**2379929**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surrogate: Toluene-d8	48.86		5.0	50.00	0	97.7	85	115	0			
Surrogate: Bromofluorobenzene	48.27		5.0	50.00	0	96.5	85	120	0			

Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank
J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

CLIENT: Nobis Engineering, Inc
Work Order: R0530
Project: Lawrence, MA site

ANALYTICAL QC SUMMARY REPORT

SW8260_LOW_S
SW846 8260C -- VOC by GC-MS

R0530

Sample ID **LCS-84798**	SampType: **LCS**	TestCode: **SW8260_LOW_S**	Prep Date: **06/15/16 11:03**	Run ID: **V1_160615A**			
Client ID: **LCS-84798**	Batch ID: **84798**	Units: **ug/Kg**	Analysis Date: **06/15/16 12:07**	SeqNo: **2379927**			

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	44.32	0.98	5.0	50.00	0	88.6	35	135	0			
Chloromethane	47.96	0.80	5.0	50.00	0	95.9	50	130	0			
Vinyl chloride	48.31	0.63	5.0	50.00	0	96.6	60	125	0			
Bromomethane	44.69	1.1	5.0	50.00	0	89.4	30	160	0			
Chloroethane	47.69	1.0	5.0	50.00	0	95.4	40	155	0			
Trichlorofluoromethane	47.99	0.42	5.0	50.00	0	96.0	25	185	0			
1,1-Dichloroethene	43.89	0.95	5.0	50.00	0	87.8	65	135	0			
Acetone	54.53	1.6	5.0	50.00	0	109	20	160	0			
Carbon disulfide	24.80	0.30	5.0	50.00	0	49.6	45	160	0			
Methylene chloride	47.11	1.3	5.0	50.00	0	94.2	55	140	0			
trans-1,2-Dichloroethene	45.86	0.53	5.0	50.00	0	91.7	65	135	0			
Methyl tert-butyl ether	49.25	0.61	5.0	50.00	0	98.5	75	126	0			
1,1-Dichloroethane	45.79	0.67	5.0	50.00	0	91.6	75	125	0			
2-Butanone	55.57	2.0	5.0	50.00	0	111	30	160	0			
cis-1,2-Dichloroethene	45.30	0.75	5.0	50.00	0	90.6	65	125	0			
2,2-Dichloropropane	56.09	0.29	5.0	50.00	0	112	65	135	0			
Bromochloromethane	47.28	0.76	5.0	50.00	0	94.6	70	125	0			
Chloroform	44.42	0.64	5.0	50.00	0	88.8	70	125	0			
1,1,1-Trichloroethane	52.31	0.53	5.0	50.00	0	105	70	135	0			
1,1-Dichloropropene	45.91	0.81	5.0	50.00	0	91.8	70	135	0			
Carbon tetrachloride	46.83	0.33	5.0	50.00	0	93.7	65	135	0			
1,2-Dichloroethane	48.05	0.54	5.0	50.00	0	96.1	70	135	0			
Benzene	45.98	0.61	5.0	50.00	0	92.0	75	125	0			
Trichloroethene	46.06	0.62	5.0	50.00	0	92.1	75	125	0			
1,2-Dichloropropane	48.80	0.69	5.0	50.00	0	97.6	70	120	0			
Dibromomethane	47.89	0.58	5.0	50.00	0	95.8	75	130	0			
Bromodichloromethane	47.31	0.97	5.0	50.00	0	94.6	70	130	0			
cis-1,3-Dichloropropene	48.61	0.67	5.0	50.00	0	97.2	70	125	0			
4-Methyl-2-pentanone	56.57	0.73	5.0	50.00	0	113	45	145	0			
Toluene	46.28	0.47	5.0	50.00	0	92.6	70	125	0			
trans-1,3-Dichloropropene	49.97	0.68	5.0	50.00	0	99.9	65	125	0			
1,1,2-Trichloroethane	48.58	0.48	5.0	50.00	0	97.2	60	125	0			
1,3-Dichloropropane	45.98	0.87	5.0	50.00	0	92.0	75	125	0			
Tetrachloroethene	40.94	0.62	5.0	50.00	0	81.9	65	140	0			
2-Hexanone	55.30	0.83	5.0	50.00	0	111	45	145	0			
Dibromochloromethane	47.15	0.65	5.0	50.00	0	94.3	65	130	0			
1,2-Dibromoethane	47.74	0.74	5.0	50.00	0	95.5	70	125	0			
Chlorobenzene	43.97	0.51	5.0	50.00	0	87.9	75	125	0			
1,1,1,2-Tetrachloroethane	45.22	0.77	5.0	50.00	0	90.4	75	125	0			

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Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank

m16.06.17.0957 J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

CLIENT: Nobis Engineering, Inc
Work Order: R0530
Project: Lawrence, MA site

ANALYTICAL QC SUMMARY REPORT

SW8260_LOW_S
SW846 8260C -- VOC by GC-MS

Sample ID	**LCS-84798**	SampType: **LCS**	TestCode: **SW8260_LOW_S**	Prep Date:	**06/15/16 11:03**	Run ID:	**V1_160615A**
Client ID:	**LCS-84798**	Batch ID: **84798**	Units: **ug/Kg**	Analysis Date:	**06/15/16 12:07**	SeqNo:	**2379927**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	43.69	0.50	5.0	50.00	0	87.4	75	125	0			
m,p-Xylene	85.77	1.6	5.0	100.0	0	85.8	80	125	0			
o-Xylene	45.47	0.47	5.0	50.00	0	90.9	75	125	0			
Xylene (Total)	131.2	0.47	5.0	150.0	0	87.5	83	125	0			
Styrene	44.81	0.52	5.0	50.00	0	89.6	75	125	0			
Bromoform	48.12	2.0	5.0	50.00	0	96.2	55	135	0			
Isopropylbenzene	45.43	0.58	5.0	50.00	0	90.9	75	130	0			
1,1,2,2-Tetrachloroethane	48.78	0.68	5.0	50.00	0	97.6	55	130	0			
Bromobenzene	45.46	0.58	5.0	50.00	0	90.9	65	120	0			
1,2,3-Trichloropropane	48.78	0.87	5.0	50.00	0	97.6	65	130	0			
n-Propylbenzene	45.89	0.44	5.0	50.00	0	91.8	65	135	0			
2-Chlorotoluene	44.71	0.74	5.0	50.00	0	89.4	70	130	0			
1,3,5-Trimethylbenzene	45.61	0.61	5.0	50.00	0	91.2	65	135	0			
4-Chlorotoluene	45.93	0.84	5.0	50.00	0	91.9	75	125	0			
tert-Butylbenzene	46.87	0.52	5.0	50.00	0	93.7	65	130	0			
1,2,4-Trimethylbenzene	46.35	0.57	5.0	50.00	0	92.7	65	135	0			
sec-Butylbenzene	45.93	0.62	5.0	50.00	0	91.9	65	130	0			
4-Isopropyltoluene	46.65	0.71	5.0	50.00	0	93.3	75	135	0			
1,3-Dichlorobenzene	45.93	0.70	5.0	50.00	0	91.9	70	125	0			
1,4-Dichlorobenzene	45.27	0.80	5.0	50.00	0	90.5	70	125	0			
n-Butylbenzene	47.22	0.67	5.0	50.00	0	94.4	65	140	0			
1,2-Dichlorobenzene	46.35	0.62	5.0	50.00	0	92.7	75	120	0			
1,2-Dibromo-3-chloropropane	56.74	1.3	5.0	50.00	0	113	40	135	0			
1,2,4-Trichlorobenzene	50.49	0.63	5.0	50.00	0	101	65	130	0			
Hexachlorobutadiene	45.01	0.62	5.0	50.00	0	90.0	55	140	0			
1,2,3-Trichlorobenzene	50.73	0.64	5.0	50.00	0	101	60	135	0			
Naphthalene	53.51	0.78	5.0	50.00	0	107	40	125	0			
1,4-Dioxane	1094	61	100	1000	0	109	70	130	0			
Diethyl ether	50.46	1.3	5.0	50.00	0	101	70	130	0			
Diisopropyl ether	47.24	0.61	5.0	50.00	0	94.5	70	130	0			
Ethyl tert-butyl ether	49.19	0.85	5.0	50.00	0	98.4	70	130	0			
tert-Amyl Methyl ether	49.29	1.1	5.0	50.00	0	98.6	70	130	0			
Tetrahydrofuran	109.5	4.6	10	100.0	0	110	70	130	0			
Surrogate: Dibromofluoromethane	50.17		5.0	50.00	0	100	76	128	0			
Surrogate: 1,2-Dichloroethane-d4	54.59		5.0	50.00	0	109	88	110	0			
Surrogate: Toluene-d8	48.42		5.0	50.00	0	96.8	85	115	0			

Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank
J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

CLIENT: Nobis Engineering, Inc
Work Order: R0530
Project: Lawrence, MA site

ANALYTICAL QC SUMMARY REPORT

SW8260_LOW_S
SW846 8260C -- VOC by GC-MS

Sample ID	**LCS-84798**	SampType:	**LCS**	TestCode:	**SW8260_LOW_S**	Prep Date:	**06/15/16 11:03**	Run ID:	**V1_160615A**		
Client ID:	**LCS-84798**	Batch ID:	**84798**	Units:	**ug/Kg**	Analysis Date:	**06/15/16 12:07**	SeqNo:	**2379927**		

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surrogate: Bromofluorobenzene	50.59		5.0	50.00	0	101	85	120	0			

Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank
J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

CLIENT: Nobis Engineering, Inc
Work Order: R0530
Project: Lawrence, MA site

ANALYTICAL QC SUMMARY REPORT

SW8260_LOW_S
SW846 8260C -- VOC by GC-MS

R0530

Sample ID	**LCSD-84798**	SampType: **LCSD**	TestCode: **SW8260_LOW_S**	Prep Date:	**06/15/16 11:03**	Run ID:	**V1_160615A**
Client ID:	**LCSD-84798**	Batch ID: **84798**	Units: **ug/Kg**	Analysis Date:	**06/15/16 12:34**	SeqNo:	**2379928**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	40.91	0.98	5.0	50.00	0	81.8	35	135	44.32	8.01	30	
Chloromethane	46.42	0.80	5.0	50.00	0	92.8	50	130	47.96	3.27	30	
Vinyl chloride	45.58	0.63	5.0	50.00	0	91.2	60	125	48.31	5.82	30	
Bromomethane	44.39	1.1	5.0	50.00	0	88.8	30	160	44.69	0.674	30	
Chloroethane	46.41	1.0	5.0	50.00	0	92.8	40	155	47.69	2.72	30	
Trichlorofluoromethane	46.31	0.42	5.0	50.00	0	92.6	25	185	47.99	3.56	30	
1,1-Dichloroethene	36.35	0.95	5.0	50.00	0	72.7	65	135	43.89	18.8	30	
Acetone	57.60	1.6	5.0	50.00	0	115	20	160	54.53	5.48	30	
Carbon disulfide	24.18	0.30	5.0	50.00	0	48.4	45	160	24.80	2.54	30	
Methylene chloride	46.55	1.3	5.0	50.00	0	93.1	55	140	47.11	1.19	30	
trans-1,2-Dichloroethene	46.83	0.53	5.0	50.00	0	93.7	65	135	45.86	2.09	30	
Methyl tert-butyl ether	50.15	0.61	5.0	50.00	0	100	75	126	49.25	1.82	30	
1,1-Dichloroethane	46.45	0.67	5.0	50.00	0	92.9	75	125	45.79	1.45	30	
2-Butanone	55.71	2.0	5.0	50.00	0	111	30	160	55.57	0.25	30	
cis-1,2-Dichloroethene	45.25	0.75	5.0	50.00	0	90.5	65	125	45.30	0.102	30	
2,2-Dichloropropane	54.88	0.29	5.0	50.00	0	110	65	135	56.09	2.19	30	
Bromochloromethane	47.79	0.76	5.0	50.00	0	95.6	70	125	47.28	1.07	30	
Chloroform	44.71	0.64	5.0	50.00	0	89.4	70	125	44.42	0.654	30	
1,1,1-Trichloroethane	51.15	0.53	5.0	50.00	0	102	70	135	52.31	2.24	30	
1,1-Dichloropropene	44.93	0.81	5.0	50.00	0	89.9	70	135	45.91	2.15	30	
Carbon tetrachloride	45.71	0.33	5.0	50.00	0	91.4	65	135	46.83	2.42	30	
1,2-Dichloroethane	47.20	0.54	5.0	50.00	0	94.4	70	135	48.05	1.78	30	
Benzene	45.05	0.61	5.0	50.00	0	90.1	75	125	45.98	2.04	30	
Trichloroethene	44.61	0.62	5.0	50.00	0	89.2	75	125	46.06	3.2	30	
1,2-Dichloropropane	49.10	0.69	5.0	50.00	0	98.2	70	120	48.80	0.617	30	
Dibromomethane	48.44	0.58	5.0	50.00	0	96.9	75	130	47.89	1.14	30	
Bromodichloromethane	47.42	0.97	5.0	50.00	0	94.8	70	130	47.31	0.237	30	
cis-1,3-Dichloropropene	49.28	0.67	5.0	50.00	0	98.6	70	125	48.61	1.38	30	
4-Methyl-2-pentanone	59.18	0.73	5.0	50.00	0	118	45	145	56.57	4.52	30	
Toluene	45.63	0.47	5.0	50.00	0	91.3	70	125	46.28	1.4	30	
trans-1,3-Dichloropropene	49.96	0.68	5.0	50.00	0	99.9	65	125	49.97	0.0134	30	
1,1,2-Trichloroethane	49.14	0.48	5.0	50.00	0	98.3	60	125	48.58	1.14	30	
1,3-Dichloropropane	47.44	0.87	5.0	50.00	0	94.9	75	125	45.98	3.12	30	
Tetrachloroethene	41.90	0.62	5.0	50.00	0	83.8	65	140	40.94	2.31	30	
2-Hexanone	55.45	0.83	5.0	50.00	0	111	45	145	55.30	0.263	30	
Dibromochloromethane	47.29	0.65	5.0	50.00	0	94.6	65	130	47.15	0.288	30	
1,2-Dibromoethane	48.61	0.74	5.0	50.00	0	97.2	70	125	47.74	1.81	30	
Chlorobenzene	44.68	0.51	5.0	50.00	0	89.4	75	125	43.97	1.6	30	
1,1,1,2-Tetrachloroethane	45.68	0.77	5.0	50.00	0	91.4	75	125	45.22	1.0	30	

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Qualifiers: ND - Not Detected at the MDL S - Recovery outside accepted recovery limits MDL - Method Detection Limit B - Analyte detected in the associated Method Blank

m16.06.17.0957 J - Analyte detected below quanititation limits R - RPD outside accepted recovery limits RL - Reporting Limit

CLIENT: Nobis Engineering, Inc
Work Order: R0530
Project: Lawrence, MA site

ANALYTICAL QC SUMMARY REPORT

SW8260_LOW_S
SW846 8260C -- VOC by GC-MS

Sample ID	**LCSD-84798**	SampType: **LCSD**	TestCode: **SW8260_LOW_S**	Prep Date:	**06/15/16 11:03**	Run ID:	**V1_160615A**
Client ID:	**LCSD-84798**	Batch ID: **84798**	Units: **ug/Kg**	Analysis Date:	**06/15/16 12:34**	SeqNo:	**2379928**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	43.55	0.50	5.0	50.00	0	87.1	75	125	43.69	0.329	30	
m,p-Xylene	86.93	1.6	5.0	100.0	0	86.9	80	125	85.77	1.35	30	
o-Xylene	44.60	0.47	5.0	50.00	0	89.2	75	125	45.47	1.92	30	
Xylene (Total)	131.5	0.47	5.0	150.0	0	87.7	83	125	131.2	0.228	30	
Styrene	45.67	0.52	5.0	50.00	0	91.3	75	125	44.81	1.9	30	
Bromoform	50.37	2.0	5.0	50.00	0	101	55	135	48.12	4.58	30	
Isopropylbenzene	45.30	0.58	5.0	50.00	0	90.6	75	130	45.43	0.285	30	
1,1,2,2-Tetrachloroethane	48.72	0.68	5.0	50.00	0	97.4	55	130	48.78	0.113	30	
Bromobenzene	45.92	0.58	5.0	50.00	0	91.8	65	120	45.46	1.01	30	
1,2,3-Trichloropropane	49.90	0.87	5.0	50.00	0	99.8	65	130	48.78	2.26	30	
n-Propylbenzene	44.52	0.44	5.0	50.00	0	89.0	65	135	45.89	3.02	30	
2-Chlorotoluene	44.56	0.74	5.0	50.00	0	89.1	70	130	44.71	0.328	30	
1,3,5-Trimethylbenzene	44.72	0.61	5.0	50.00	0	89.4	65	135	45.61	1.98	30	
4-Chlorotoluene	45.09	0.84	5.0	50.00	0	90.2	75	125	45.93	1.85	30	
tert-Butylbenzene	45.34	0.52	5.0	50.00	0	90.7	65	130	46.87	3.33	30	
1,2,4-Trimethylbenzene	45.41	0.57	5.0	50.00	0	90.8	65	135	46.35	2.06	30	
sec-Butylbenzene	43.77	0.62	5.0	50.00	0	87.5	65	130	45.93	4.8	30	
4-Isopropyltoluene	44.78	0.71	5.0	50.00	0	89.6	75	135	46.65	4.08	30	
1,3-Dichlorobenzene	44.83	0.70	5.0	50.00	0	89.7	70	125	45.93	2.43	30	
1,4-Dichlorobenzene	44.57	0.80	5.0	50.00	0	89.1	70	125	45.27	1.57	30	
n-Butylbenzene	44.01	0.67	5.0	50.00	0	88.0	65	140	47.22	7.05	30	
1,2-Dichlorobenzene	45.10	0.62	5.0	50.00	0	90.2	75	120	46.35	2.72	30	
1,2-Dibromo-3-chloropropane	56.05	1.3	5.0	50.00	0	112	40	135	56.74	1.23	30	
1,2,4-Trichlorobenzene	48.11	0.63	5.0	50.00	0	96.2	65	130	50.49	4.82	30	
Hexachlorobutadiene	39.52	0.62	5.0	50.00	0	79.0	55	140	45.01	13	30	
1,2,3-Trichlorobenzene	47.91	0.64	5.0	50.00	0	95.8	60	135	50.73	5.72	30	
Naphthalene	53.29	0.78	5.0	50.00	0	107	40	125	53.51	0.401	30	
1,4-Dioxane	1344	61	100	1000	0	134	70	130	1094	20.5	30	S
Diethyl ether	50.23	1.3	5.0	50.00	0	100	70	130	50.46	0.444	30	
Diisopropyl ether	47.57	0.61	5.0	50.00	0	95.1	70	130	47.24	0.692	30	
Ethyl tert-butyl ether	49.42	0.85	5.0	50.00	0	98.8	70	130	49.19	0.478	30	
tert-Amyl Methyl ether	49.69	1.1	5.0	50.00	0	99.4	70	130	49.29	0.809	30	
Tetrahydrofuran	107.2	4.6	10	100.0	0	107	70	130	109.5	2.15	30	
Surrogate: Dibromofluoromethane	50.61		5.0	50.00	0	101	76	128	0	0	30	
Surrogate: 1,2-Dichloroethane-d4	54.72		5.0	50.00	0	109	88	110	0	0	30	
Surrogate: Toluene-d8	48.92		5.0	50.00	0	97.8	85	115	0	0	30	

Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank
J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

CLIENT: Nobis Engineering, Inc
Work Order: R0530
Project: Lawrence, MA site

ANALYTICAL QC SUMMARY REPORT

SW8260_LOW_S
SW846 8260C -- VOC by GC-MS

Sample ID	**LCSD-84798**	SampType: **LCSD**	TestCode: **SW8260_LOW_S**	Prep Date:	**06/15/16 11:03**	Run ID:	**V1_160615A**
Client ID:	**LCSD-84798**	Batch ID: **84798**	Units: **ug/Kg**	Analysis Date:	**06/15/16 12:34**	SeqNo:	**2379928**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surrogate: Bromofluorobenzene	51.24		5.0	50.00	0	102	85	120	0	0	30	

Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank
J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: MS-02-0203
Lab ID: R0530-02
Project: Lawrence, MA site
Collection Date: 06/10/2016 8:05

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8270D -- SVOA by GC-MS							**SW8270_S**
Naphthalene	470		360	ug/Kg	1	06/23/2016 20:48	84857
2-Methylnaphthalene	360	J	360	ug/Kg	1	06/23/2016 20:48	84857
Acenaphthylene	370		360	ug/Kg	1	06/23/2016 20:48	84857
Acenaphthene	1800		360	ug/Kg	1	06/23/2016 20:48	84857
Fluorene	2500		360	ug/Kg	1	06/23/2016 20:48	84857
Phenanthrene	16000	E	360	ug/Kg	1	06/23/2016 20:48	84857
Anthracene	6200	E	360	ug/Kg	1	06/23/2016 20:48	84857
Fluoranthene	21000	E	360	ug/Kg	1	06/23/2016 20:48	84857
Pyrene	19000	E	360	ug/Kg	1	06/23/2016 20:48	84857
Benzo(a)anthracene	11000	E	360	ug/Kg	1	06/23/2016 20:48	84857
Chrysene	9600	E	360	ug/Kg	1	06/23/2016 20:48	84857
Benzo(b)fluoranthene	16000	E	360	ug/Kg	1	06/23/2016 20:48	84857
Benzo(k)fluoranthene	4000		360	ug/Kg	1	06/23/2016 20:48	84857
Benzo(a)pyrene	11000	E	360	ug/Kg	1	06/23/2016 20:48	84857
Indeno(1,2,3-cd)pyrene	8600	E	360	ug/Kg	1	06/23/2016 20:48	84857
Dibenzo(a,h)anthracene	1800		360	ug/Kg	1	06/23/2016 20:48	84857
Benzo(g,h,i)perylene	8400	E	360	ug/Kg	1	06/23/2016 20:48	84857
Surrogate: Nitrobenzene-d5	58.2		35-100	%REC	1	06/23/2016 20:48	84857
Surrogate: 2-Fluorobiphenyl	59.5		45-105	%REC	1	06/23/2016 20:48	84857
Surrogate: Terphenyl-d14	61.1		30-125	%REC	1	06/23/2016 20:48	84857

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: MS-02-0203 **Project:** Lawrence, MA site
Lab ID: R0530-02 **Collection Date:** 06/10/2016 8:05

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8270D -- SVOA by GC-MS							**SW8270_S**
Naphthalene	ND		3600	ug/Kg	10	06/24/2016 10:29	84857
2-Methylnaphthalene	ND		3600	ug/Kg	10	06/24/2016 10:29	84857
Acenaphthylene	ND		3600	ug/Kg	10	06/24/2016 10:29	84857
Acenaphthene	1800	J	3600	ug/Kg	10	06/24/2016 10:29	84857
Fluorene	2700	J	3600	ug/Kg	10	06/24/2016 10:29	84857
Phenanthrene	22000		3600	ug/Kg	10	06/24/2016 10:29	84857
Anthracene	6800		3600	ug/Kg	10	06/24/2016 10:29	84857
Fluoranthene	30000		3600	ug/Kg	10	06/24/2016 10:29	84857
Pyrene	20000		3600	ug/Kg	10	06/24/2016 10:29	84857
Benzo(a)anthracene	12000		3600	ug/Kg	10	06/24/2016 10:29	84857
Chrysene	11000		3600	ug/Kg	10	06/24/2016 10:29	84857
Benzo(b)fluoranthene	15000		3600	ug/Kg	10	06/24/2016 10:29	84857
Benzo(k)fluoranthene	5500		3600	ug/Kg	10	06/24/2016 10:29	84857
Benzo(a)pyrene	12000		3600	ug/Kg	10	06/24/2016 10:29	84857
Indeno(1,2,3-cd)pyrene	8200		3600	ug/Kg	10	06/24/2016 10:29	84857
Dibenzo(a,h)anthracene	2100	J	3600	ug/Kg	10	06/24/2016 10:29	84857
Benzo(g,h,i)perylene	7200		3600	ug/Kg	10	06/24/2016 10:29	84857
Surrogate: Nitrobenzene-d5	56.4		35-100	%REC	10	06/24/2016 10:29	84857
Surrogate: 2-Fluorobiphenyl	60.1		45-105	%REC	10	06/24/2016 10:29	84857
Surrogate: Terphenyl-d14	53.1		30-125	%REC	10	06/24/2016 10:29	84857

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-07-0.502
Lab ID: R0530-03
Project: Lawrence, MA site
Collection Date: 06/10/2016 8:15

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8270D -- SVOA by GC-MS							**SW8270_S**
Naphthalene	ND		360	ug/Kg	1	06/23/2016 21:22	84857
2-Methylnaphthalene	ND		360	ug/Kg	1	06/23/2016 21:22	84857
Acenaphthylene	230	J	360	ug/Kg	1	06/23/2016 21:22	84857
Acenaphthene	110	J	360	ug/Kg	1	06/23/2016 21:22	84857
Fluorene	150	J	360	ug/Kg	1	06/23/2016 21:22	84857
Phenanthrene	1800		360	ug/Kg	1	06/23/2016 21:22	84857
Anthracene	480		360	ug/Kg	1	06/23/2016 21:22	84857
Fluoranthene	2800		360	ug/Kg	1	06/23/2016 21:22	84857
Pyrene	2400		360	ug/Kg	1	06/23/2016 21:22	84857
Benzo(a)anthracene	1400		360	ug/Kg	1	06/23/2016 21:22	84857
Chrysene	1400		360	ug/Kg	1	06/23/2016 21:22	84857
Benzo(b)fluoranthene	1900		360	ug/Kg	1	06/23/2016 21:22	84857
Benzo(k)fluoranthene	900		360	ug/Kg	1	06/23/2016 21:22	84857
Benzo(a)pyrene	1500		360	ug/Kg	1	06/23/2016 21:22	84857
Indeno(1,2,3-cd)pyrene	990		360	ug/Kg	1	06/23/2016 21:22	84857
Dibenzo(a,h)anthracene	280	J	360	ug/Kg	1	06/23/2016 21:22	84857
Benzo(g,h,i)perylene	1100		360	ug/Kg	1	06/23/2016 21:22	84857
Surrogate: Nitrobenzene-d5	26.5	S	35-100	%REC	1	06/23/2016 21:22	84857
Surrogate: 2-Fluorobiphenyl	28.2	S	45-105	%REC	1	06/23/2016 21:22	84857
Surrogate: Terphenyl-d14	28.0	S	30-125	%REC	1	06/23/2016 21:22	84857

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-07-0.502
Lab ID: R0530-03
Project: Lawrence, MA site
Collection Date: 06/10/2016 8:15

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8270D -- SVOA by GC-MS							**SW8270_S**
Naphthalene	960	J	1800	ug/Kg	5	06/28/2016 12:48	84895
2-Methylnaphthalene	430	J	1800	ug/Kg	5	06/28/2016 12:48	84895
Acenaphthylene	ND		1800	ug/Kg	5	06/28/2016 12:48	84895
Acenaphthene	1200	J	1800	ug/Kg	5	06/28/2016 12:48	84895
Fluorene	1400	J	1800	ug/Kg	5	06/28/2016 12:48	84895
Phenanthrene	16000		1800	ug/Kg	5	06/28/2016 12:48	84895
Anthracene	3100		1800	ug/Kg	5	06/28/2016 12:48	84895
Fluoranthene	15000		1800	ug/Kg	5	06/28/2016 12:48	84895
Pyrene	9300		1800	ug/Kg	5	06/28/2016 12:48	84895
Benzo(a)anthracene	5500		1800	ug/Kg	5	06/28/2016 12:48	84895
Chrysene	5300		1800	ug/Kg	5	06/28/2016 12:48	84895
Benzo(b)fluoranthene	6200		1800	ug/Kg	5	06/28/2016 12:48	84895
Benzo(k)fluoranthene	2400		1800	ug/Kg	5	06/28/2016 12:48	84895
Benzo(a)pyrene	4600		1800	ug/Kg	5	06/28/2016 12:48	84895
Indeno(1,2,3-cd)pyrene	2800		1800	ug/Kg	5	06/28/2016 12:48	84895
Dibenzo(a,h)anthracene	800	J	1800	ug/Kg	5	06/28/2016 12:48	84895
Benzo(g,h,i)perylene	2300		1800	ug/Kg	5	06/28/2016 12:48	84895
Surrogate: Nitrobenzene-d5	18.3	S	35-100	%REC	5	06/28/2016 12:48	84895
Surrogate: 2-Fluorobiphenyl	22.6	S	45-105	%REC	5	06/28/2016 12:48	84895
Surrogate: Terphenyl-d14	19.4	S	30-125	%REC	5	06/28/2016 12:48	84895

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: MS-01-0203 **Project:** Lawrence, MA site
Lab ID: R0530-08 **Collection Date:** 06/10/2016 9:10

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8270D -- SVOA by GC-MS							**SW8270_S**
Naphthalene	200	J	380	ug/Kg	1	06/23/2016 21:46	84857
2-Methylnaphthalene	120	J	380	ug/Kg	1	06/23/2016 21:46	84857
Acenaphthylene	210	J	380	ug/Kg	1	06/23/2016 21:46	84857
Acenaphthene	520		380	ug/Kg	1	06/23/2016 21:46	84857
Fluorene	670		380	ug/Kg	1	06/23/2016 21:46	84857
Phenanthrene	5700		380	ug/Kg	1	06/23/2016 21:46	84857
Anthracene	1700		380	ug/Kg	1	06/23/2016 21:46	84857
Fluoranthene	7000	E	380	ug/Kg	1	06/23/2016 21:46	84857
Pyrene	5800		380	ug/Kg	1	06/23/2016 21:46	84857
Benzo(a)anthracene	3600		380	ug/Kg	1	06/23/2016 21:46	84857
Chrysene	3300		380	ug/Kg	1	06/23/2016 21:46	84857
Benzo(b)fluoranthene	4600		380	ug/Kg	1	06/23/2016 21:46	84857
Benzo(k)fluoranthene	1800		380	ug/Kg	1	06/23/2016 21:46	84857
Benzo(a)pyrene	3400		380	ug/Kg	1	06/23/2016 21:46	84857
Indeno(1,2,3-cd)pyrene	2100		380	ug/Kg	1	06/23/2016 21:46	84857
Dibenzo(a,h)anthracene	530		380	ug/Kg	1	06/23/2016 21:46	84857
Benzo(g,h,i)perylene	2000		380	ug/Kg	1	06/23/2016 21:46	84857
Surrogate: Nitrobenzene-d5	59.1		35-100	%REC	1	06/23/2016 21:46	84857
Surrogate: 2-Fluorobiphenyl	60.4		45-105	%REC	1	06/23/2016 21:46	84857
Surrogate: Terphenyl-d14	58.0		30-125	%REC	1	06/23/2016 21:46	84857

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: MS-01-0203 **Project:** Lawrence, MA site
Lab ID: R0530-08 **Collection Date:** 06/10/2016 9:10

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8270D -- SVOA by GC-MS							**SW8270_S**
Naphthalene	ND		1500	ug/Kg	4	06/24/2016 10:52	84857
2-Methylnaphthalene	ND		1500	ug/Kg	4	06/24/2016 10:52	84857
Acenaphthylene	ND		1500	ug/Kg	4	06/24/2016 10:52	84857
Acenaphthene	510	J	1500	ug/Kg	4	06/24/2016 10:52	84857
Fluorene	660	J	1500	ug/Kg	4	06/24/2016 10:52	84857
Phenanthrene	6100		1500	ug/Kg	4	06/24/2016 10:52	84857
Anthracene	1700		1500	ug/Kg	4	06/24/2016 10:52	84857
Fluoranthene	8500		1500	ug/Kg	4	06/24/2016 10:52	84857
Pyrene	6000		1500	ug/Kg	4	06/24/2016 10:52	84857
Benzo(a)anthracene	3600		1500	ug/Kg	4	06/24/2016 10:52	84857
Chrysene	3500		1500	ug/Kg	4	06/24/2016 10:52	84857
Benzo(b)fluoranthene	4000		1500	ug/Kg	4	06/24/2016 10:52	84857
Benzo(k)fluoranthene	1900		1500	ug/Kg	4	06/24/2016 10:52	84857
Benzo(a)pyrene	3300		1500	ug/Kg	4	06/24/2016 10:52	84857
Indeno(1,2,3-cd)pyrene	2400		1500	ug/Kg	4	06/24/2016 10:52	84857
Dibenzo(a,h)anthracene	620	J	1500	ug/Kg	4	06/24/2016 10:52	84857
Benzo(g,h,i)perylene	2100		1500	ug/Kg	4	06/24/2016 10:52	84857
Surrogate: Nitrobenzene-d5	56.1		35-100	%REC	4	06/24/2016 10:52	84857
Surrogate: 2-Fluorobiphenyl	59.4		45-105	%REC	4	06/24/2016 10:52	84857
Surrogate: Terphenyl-d14	57.3		30-125	%REC	4	06/24/2016 10:52	84857

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-06-0.502
Lab ID: R0530-10
Project: Lawrence, MA site
Collection Date: 06/10/2016 10:00

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8270D -- SVOA by GC-MS							**SW8270_S**
Naphthalene	39000	J	71000	ug/Kg	200	06/24/2016 14:14	84857
2-Methylnaphthalene	24000	J	71000	ug/Kg	200	06/24/2016 14:14	84857
Acenaphthylene	ND		71000	ug/Kg	200	06/24/2016 14:14	84857
Acenaphthene	59000	J	71000	ug/Kg	200	06/24/2016 14:14	84857
Fluorene	68000	J	71000	ug/Kg	200	06/24/2016 14:14	84857
Phenanthrene	660000		71000	ug/Kg	200	06/24/2016 14:14	84857
Anthracene	160000		71000	ug/Kg	200	06/24/2016 14:14	84857
Fluoranthene	750000		71000	ug/Kg	200	06/24/2016 14:14	84857
Pyrene	480000		71000	ug/Kg	200	06/24/2016 14:14	84857
Benzo(a)anthracene	280000		71000	ug/Kg	200	06/24/2016 14:14	84857
Chrysene	250000		71000	ug/Kg	200	06/24/2016 14:14	84857
Benzo(b)fluoranthene	330000		71000	ug/Kg	200	06/24/2016 14:14	84857
Benzo(k)fluoranthene	130000		71000	ug/Kg	200	06/24/2016 14:14	84857
Benzo(a)pyrene	250000		71000	ug/Kg	200	06/24/2016 14:14	84857
Indeno(1,2,3-cd)pyrene	130000		71000	ug/Kg	200	06/24/2016 14:14	84857
Dibenzo(a,h)anthracene	36000	J	71000	ug/Kg	200	06/24/2016 14:14	84857
Benzo(g,h,i)perylene	110000		71000	ug/Kg	200	06/24/2016 14:14	84857
Surrogate: Nitrobenzene-d5	0	S	35-100	%REC	200	06/24/2016 14:14	84857
Surrogate: 2-Fluorobiphenyl	0	S	45-105	%REC	200	06/24/2016 14:14	84857
Surrogate: Terphenyl-d14	0	S	30-125	%REC	200	06/24/2016 14:14	84857

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-05-0.502
Lab ID: R0530-12
Project: Lawrence, MA site
Collection Date: 06/10/2016 10:10

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8270D -- SVOA by GC-MS							**SW8270_S**
Naphthalene	2100		370	ug/Kg	1	06/23/2016 22:52	84857
2-Methylnaphthalene	1200		370	ug/Kg	1	06/23/2016 22:52	84857
Acenaphthylene	830		370	ug/Kg	1	06/23/2016 22:52	84857
Acenaphthene	5900		370	ug/Kg	1	06/23/2016 22:52	84857
Fluorene	7100	E	370	ug/Kg	1	06/23/2016 22:52	84857
Phenanthrene	40000	E	370	ug/Kg	1	06/23/2016 22:52	84857
Anthracene	13000	E	370	ug/Kg	1	06/23/2016 22:52	84857
Fluoranthene	43000	E	370	ug/Kg	1	06/23/2016 22:52	84857
Pyrene	42000	E	370	ug/Kg	1	06/23/2016 22:52	84857
Benzo(a)anthracene	32000	E	370	ug/Kg	1	06/23/2016 22:52	84857
Chrysene	22000	E	370	ug/Kg	1	06/23/2016 22:52	84857
Benzo(b)fluoranthene	37000	E	370	ug/Kg	1	06/23/2016 22:52	84857
Benzo(k)fluoranthene	5900		370	ug/Kg	1	06/23/2016 22:52	84857
Benzo(a)pyrene	15000	E	370	ug/Kg	1	06/23/2016 22:52	84857
Indeno(1,2,3-cd)pyrene	16000	E	370	ug/Kg	1	06/23/2016 22:52	84857
Dibenzo(a,h)anthracene	4400		370	ug/Kg	1	06/23/2016 22:52	84857
Benzo(g,h,i)perylene	14000	E	370	ug/Kg	1	06/23/2016 22:52	84857
Surrogate: Nitrobenzene-d5	51.0		35-100	%REC	1	06/23/2016 22:52	84857
Surrogate: 2-Fluorobiphenyl	52.5		45-105	%REC	1	06/23/2016 22:52	84857
Surrogate: Terphenyl-d14	69.1		30-125	%REC	1	06/23/2016 22:52	84857

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-05-0.502
Lab ID: R0530-12
Project: Lawrence, MA site
Collection Date: 06/10/2016 10:10

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8270D -- SVOA by GC-MS							**SW8270_S**
Naphthalene	2000	J	7300	ug/Kg	20	06/24/2016 11:55	84857
2-Methylnaphthalene	ND		7300	ug/Kg	20	06/24/2016 11:55	84857
Acenaphthylene	ND		7300	ug/Kg	20	06/24/2016 11:55	84857
Acenaphthene	5800	J	7300	ug/Kg	20	06/24/2016 11:55	84857
Fluorene	7200	J	7300	ug/Kg	20	06/24/2016 11:55	84857
Phenanthrene	58000		7300	ug/Kg	20	06/24/2016 11:55	84857
Anthracene	15000		7300	ug/Kg	20	06/24/2016 11:55	84857
Fluoranthene	68000		7300	ug/Kg	20	06/24/2016 11:55	84857
Pyrene	46000		7300	ug/Kg	20	06/24/2016 11:55	84857
Benzo(a)anthracene	29000		7300	ug/Kg	20	06/24/2016 11:55	84857
Chrysene	28000		7300	ug/Kg	20	06/24/2016 11:55	84857
Benzo(b)fluoranthene	32000		7300	ug/Kg	20	06/24/2016 11:55	84857
Benzo(k)fluoranthene	13000		7300	ug/Kg	20	06/24/2016 11:55	84857
Benzo(a)pyrene	24000		7300	ug/Kg	20	06/24/2016 11:55	84857
Indeno(1,2,3-cd)pyrene	15000		7300	ug/Kg	20	06/24/2016 11:55	84857
Dibenzo(a,h)anthracene	4400	J	7300	ug/Kg	20	06/24/2016 11:55	84857
Benzo(g,h,i)perylene	12000		7300	ug/Kg	20	06/24/2016 11:55	84857
Surrogate: Nitrobenzene-d5	44.1		35-100	%REC	20	06/24/2016 11:55	84857
Surrogate: 2-Fluorobiphenyl	47.3		45-105	%REC	20	06/24/2016 11:55	84857
Surrogate: Terphenyl-d14	45.9		30-125	%REC	20	06/24/2016 11:55	84857

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-04-0203
Lab ID: R0530-15
Project: Lawrence, MA site
Collection Date: 06/10/2016 10:25

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8270D -- SVOA by GC-MS							**SW8270_S**
Naphthalene	760		360	ug/Kg	1	06/23/2016 23:17	84857
2-Methylnaphthalene	370		360	ug/Kg	1	06/23/2016 23:17	84857
Acenaphthylene	410		360	ug/Kg	1	06/23/2016 23:17	84857
Acenaphthene	1400		360	ug/Kg	1	06/23/2016 23:17	84857
Fluorene	2100		360	ug/Kg	1	06/23/2016 23:17	84857
Phenanthrene	13000	E	360	ug/Kg	1	06/23/2016 23:17	84857
Anthracene	4900		360	ug/Kg	1	06/23/2016 23:17	84857
Fluoranthene	17000	E	360	ug/Kg	1	06/23/2016 23:17	84857
Pyrene	16000	E	360	ug/Kg	1	06/23/2016 23:17	84857
Benzo(a)anthracene	11000	E	360	ug/Kg	1	06/23/2016 23:17	84857
Chrysene	9400	E	360	ug/Kg	1	06/23/2016 23:17	84857
Benzo(b)fluoranthene	12000	E	360	ug/Kg	1	06/23/2016 23:17	84857
Benzo(k)fluoranthene	4800		360	ug/Kg	1	06/23/2016 23:17	84857
Benzo(a)pyrene	6100	E	360	ug/Kg	1	06/23/2016 23:17	84857
Indeno(1,2,3-cd)pyrene	6700	E	360	ug/Kg	1	06/23/2016 23:17	84857
Dibenzo(a,h)anthracene	1700		360	ug/Kg	1	06/23/2016 23:17	84857
Benzo(g,h,i)perylene	6200	E	360	ug/Kg	1	06/23/2016 23:17	84857
Surrogate: Nitrobenzene-d5	38.4		35-100	%REC	1	06/23/2016 23:17	84857
Surrogate: 2-Fluorobiphenyl	43.7	S	45-105	%REC	1	06/23/2016 23:17	84857
Surrogate: Terphenyl-d14	52.2		30-125	%REC	1	06/23/2016 23:17	84857

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-04-0203
Lab ID: R0530-15
Project: Lawrence, MA site
Collection Date: 06/10/2016 10:25

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8270D -- SVOA by GC-MS							**SW8270_S**
Naphthalene	ND		3600	ug/Kg	10	06/24/2016 12:18	84857
2-Methylnaphthalene	ND		3600	ug/Kg	10	06/24/2016 12:18	84857
Acenaphthylene	ND		3600	ug/Kg	10	06/24/2016 12:18	84857
Acenaphthene	1300	J	3600	ug/Kg	10	06/24/2016 12:18	84857
Fluorene	2000	J	3600	ug/Kg	10	06/24/2016 12:18	84857
Phenanthrene	15000		3600	ug/Kg	10	06/24/2016 12:18	84857
Anthracene	4800		3600	ug/Kg	10	06/24/2016 12:18	84857
Fluoranthene	23000		3600	ug/Kg	10	06/24/2016 12:18	84857
Pyrene	15000		3600	ug/Kg	10	06/24/2016 12:18	84857
Benzo(a)anthracene	11000		3600	ug/Kg	10	06/24/2016 12:18	84857
Chrysene	10000		3600	ug/Kg	10	06/24/2016 12:18	84857
Benzo(b)fluoranthene	12000		3600	ug/Kg	10	06/24/2016 12:18	84857
Benzo(k)fluoranthene	5500		3600	ug/Kg	10	06/24/2016 12:18	84857
Benzo(a)pyrene	10000		3600	ug/Kg	10	06/24/2016 12:18	84857
Indeno(1,2,3-cd)pyrene	5400		3600	ug/Kg	10	06/24/2016 12:18	84857
Dibenzo(a,h)anthracene	1700	J	3600	ug/Kg	10	06/24/2016 12:18	84857
Benzo(g,h,i)perylene	4900		3600	ug/Kg	10	06/24/2016 12:18	84857
Surrogate: Nitrobenzene-d5	33.7	S	35-100	%REC	10	06/24/2016 12:18	84857
Surrogate: 2-Fluorobiphenyl	38.8	S	45-105	%REC	10	06/24/2016 12:18	84857
Surrogate: Terphenyl-d14	37.3		30-125	%REC	10	06/24/2016 12:18	84857

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-03-0.502
Lab ID: R0530-16
Project: Lawrence, MA site
Collection Date: 06/10/2016 10:40

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8270D -- SVOA by GC-MS							**SW8270_S**
Naphthalene	ND		35000	ug/Kg	100	06/24/2016 14:44	84857
2-Methylnaphthalene	ND		35000	ug/Kg	100	06/24/2016 14:44	84857
Acenaphthylene	ND		35000	ug/Kg	100	06/24/2016 14:44	84857
Acenaphthene	25000	J	35000	ug/Kg	100	06/24/2016 14:44	84857
Fluorene	27000	J	35000	ug/Kg	100	06/24/2016 14:44	84857
Phenanthrene	230000		35000	ug/Kg	100	06/24/2016 14:44	84857
Anthracene	58000		35000	ug/Kg	100	06/24/2016 14:44	84857
Fluoranthene	280000		35000	ug/Kg	100	06/24/2016 14:44	84857
Pyrene	200000		35000	ug/Kg	100	06/24/2016 14:44	84857
Benzo(a)anthracene	120000		35000	ug/Kg	100	06/24/2016 14:44	84857
Chrysene	120000		35000	ug/Kg	100	06/24/2016 14:44	84857
Benzo(b)fluoranthene	130000		35000	ug/Kg	100	06/24/2016 14:44	84857
Benzo(k)fluoranthene	61000		35000	ug/Kg	100	06/24/2016 14:44	84857
Benzo(a)pyrene	100000		35000	ug/Kg	100	06/24/2016 14:44	84857
Indeno(1,2,3-cd)pyrene	51000		35000	ug/Kg	100	06/24/2016 14:44	84857
Dibenzo(a,h)anthracene	16000	J	35000	ug/Kg	100	06/24/2016 14:44	84857
Benzo(g,h,i)perylene	44000		35000	ug/Kg	100	06/24/2016 14:44	84857
Surrogate: Nitrobenzene-d5	0	S	35-100	%REC	100	06/24/2016 14:44	84857
Surrogate: 2-Fluorobiphenyl	0	S	45-105	%REC	100	06/24/2016 14:44	84857
Surrogate: Terphenyl-d14	0	S	30-125	%REC	100	06/24/2016 14:44	84857

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-01-0.502
Lab ID: R0530-18
Project: Lawrence, MA site
Collection Date: 06/10/2016 10:55

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8270D -- SVOA by GC-MS							**SW8270_S**
Naphthalene	ND		360	ug/Kg	1	06/24/2016 0:12	84857
2-Methylnaphthalene	ND		360	ug/Kg	1	06/24/2016 0:12	84857
Acenaphthylene	330	J	360	ug/Kg	1	06/24/2016 0:12	84857
Acenaphthene	140	J	360	ug/Kg	1	06/24/2016 0:12	84857
Fluorene	190	J	360	ug/Kg	1	06/24/2016 0:12	84857
Phenanthrene	1800		360	ug/Kg	1	06/24/2016 0:12	84857
Anthracene	560		360	ug/Kg	1	06/24/2016 0:12	84857
Fluoranthene	2900		360	ug/Kg	1	06/24/2016 0:12	84857
Pyrene	2800		360	ug/Kg	1	06/24/2016 0:12	84857
Benzo(a)anthracene	1400		360	ug/Kg	1	06/24/2016 0:12	84857
Chrysene	1400		360	ug/Kg	1	06/24/2016 0:12	84857
Benzo(b)fluoranthene	1900		360	ug/Kg	1	06/24/2016 0:12	84857
Benzo(k)fluoranthene	740		360	ug/Kg	1	06/24/2016 0:12	84857
Benzo(a)pyrene	1600		360	ug/Kg	1	06/24/2016 0:12	84857
Indeno(1,2,3-cd)pyrene	1200		360	ug/Kg	1	06/24/2016 0:12	84857
Dibenzo(a,h)anthracene	270	J	360	ug/Kg	1	06/24/2016 0:12	84857
Benzo(g,h,i)perylene	1200		360	ug/Kg	1	06/24/2016 0:12	84857
Surrogate: Nitrobenzene-d5	26.1	S	35-100	%REC	1	06/24/2016 0:12	84857
Surrogate: 2-Fluorobiphenyl	29.9	S	45-105	%REC	1	06/24/2016 0:12	84857
Surrogate: Terphenyl-d14	32.9		30-125	%REC	1	06/24/2016 0:12	84857

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-01-0.502
Lab ID: R0530-18
Project: Lawrence, MA site
Collection Date: 06/10/2016 10:55

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8270D -- SVOA by GC-MS							**SW8270_S**
Naphthalene	ND		1400	ug/Kg	4	06/28/2016 13:18	84895
2-Methylnaphthalene	ND		1400	ug/Kg	4	06/28/2016 13:18	84895
Acenaphthylene	560	J	1400	ug/Kg	4	06/28/2016 13:18	84895
Acenaphthene	370	J	1400	ug/Kg	4	06/28/2016 13:18	84895
Fluorene	410	J	1400	ug/Kg	4	06/28/2016 13:18	84895
Phenanthrene	4300		1400	ug/Kg	4	06/28/2016 13:18	84895
Anthracene	1200	J	1400	ug/Kg	4	06/28/2016 13:18	84895
Fluoranthene	8000		1400	ug/Kg	4	06/28/2016 13:18	84895
Pyrene	4900		1400	ug/Kg	4	06/28/2016 13:18	84895
Benzo(a)anthracene	3400		1400	ug/Kg	4	06/28/2016 13:18	84895
Chrysene	3000		1400	ug/Kg	4	06/28/2016 13:18	84895
Benzo(b)fluoranthene	4400		1400	ug/Kg	4	06/28/2016 13:18	84895
Benzo(k)fluoranthene	1800		1400	ug/Kg	4	06/28/2016 13:18	84895
Benzo(a)pyrene	3300		1400	ug/Kg	4	06/28/2016 13:18	84895
Indeno(1,2,3-cd)pyrene	1900		1400	ug/Kg	4	06/28/2016 13:18	84895
Dibenzo(a,h)anthracene	480	J	1400	ug/Kg	4	06/28/2016 13:18	84895
Benzo(g,h,i)perylene	1700		1400	ug/Kg	4	06/28/2016 13:18	84895
Surrogate: Nitrobenzene-d5	54.9		35-100	%REC	4	06/28/2016 13:18	84895
Surrogate: 2-Fluorobiphenyl	56.9		45-105	%REC	4	06/28/2016 13:18	84895
Surrogate: Terphenyl-d14	50.3		30-125	%REC	4	06/28/2016 13:18	84895

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

R0530

CLIENT: Nobis Engineering, Inc
Work Order: R0530
Project: Lawrence, MA site

ANALYTICAL QC SUMMARY REPORT

SW8270_S

SW846 8270D -- SVOA by GC-MS

Sample ID: **MB-84857** SampType: **MBLK** TestCode: **SW8270_S** Prep Date: **06/22/2016 9:49** Run ID: **S3_160623B**

Client ID: **MB-84857** Batch ID: **84857** Units: **ug/Kg** Analysis Date: **06/23/2016 16:30** SeqNo: **2383499**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	41	330									
2-Methylnaphthalene	ND	42	330									
Acenaphthylene	ND	37	330									
Acenaphthene	ND	39	330									
Fluorene	ND	33	330									
Phenanthrene	ND	26	330									
Anthracene	ND	27	330									
Fluoranthene	ND	29	330									
Pyrene	ND	32	330									
Benzo(a)anthracene	ND	33	330									
Chrysene	ND	29	330									
Benzo(b)fluoranthene	ND	40	330									
Benzo(k)fluoranthene	ND	43	330									
Benzo(a)pyrene	ND	31	330									
Indeno(1,2,3-cd)pyrene	ND	37	330									
Dibenzo(a,h)anthracene	ND	35	330									
Benzo(g,h,i)perylene	ND	38	330									
Surrogate: Nitrobenzene-d5	2311		330	3333	0	69.3	35	100	0			
Surrogate: 2-Fluorobiphenyl	2262		330	3333	0	67.9	45	105	0			
Surrogate: Terphenyl-d14	2271		330	3333	0	68.1	30	125	0			

Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank

m16.02.09.0928 J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

CLIENT: Nobis Engineering, Inc
Work Order: R0530
Project: Lawrence, MA site

ANALYTICAL QC SUMMARY REPORT

SW8270_S
SW846 8270D -- SVOA by GC-MS

Sample ID: **LCS-84857** SampType: **LCS** TestCode: **SW8270_S** Prep Date: **06/22/2016 9:49** Run ID: **S3_160623B**
Client ID: **LCS-84857** Batch ID: **84857** Units: **ug/Kg** Analysis Date: **06/23/2016 16:55** SeqNo: **2383500**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	2596	41	330	3333	0	77.9	40	105	0			
2-Methylnaphthalene	2505	42	330	3333	0	75.1	45	105	0			
Acenaphthylene	2534	37	330	3333	0	76.0	45	105	0			
Acenaphthene	2621	39	330	3333	0	78.6	45	110	0			
Fluorene	2697	33	330	3333	0	80.9	50	110	0			
Phenanthrene	2698	26	330	3333	0	80.9	50	110	0			
Anthracene	2683	27	330	3333	0	80.5	55	105	0			
Fluoranthene	2641	29	330	3333	0	79.2	55	115	0			
Pyrene	2623	32	330	3333	0	78.7	45	125	0			
Benzo(a)anthracene	2695	33	330	3333	0	80.8	50	110	0			
Chrysene	2537	29	330	3333	0	76.1	55	110	0			
Benzo(b)fluoranthene	2742	40	330	3333	0	82.3	45	115	0			
Benzo(k)fluoranthene	2868	43	330	3333	0	86.1	45	125	0			
Benzo(a)pyrene	2810	31	330	3333	0	84.3	50	110	0			
Indeno(1,2,3-cd)pyrene	2718	37	330	3333	0	81.5	40	120	0			
Dibenzo(a,h)anthracene	2796	35	330	3333	0	83.9	40	125	0			
Benzo(g,h,i)perylene	2714	38	330	3333	0	81.4	40	125	0			
Surrogate: Nitrobenzene-d5	2643		330	3333	0	79.3	35	100	0			
Surrogate: 2-Fluorobiphenyl	2629		330	3333	0	78.9	45	105	0			
Surrogate: Terphenyl-d14	2681		330	3333	0	80.4	30	125	0			

Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank
J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

CLIENT: Nobis Engineering, Inc
Work Order: R0530
Project: Lawrence, MA site

ANALYTICAL QC SUMMARY REPORT

SW8270_S
SW846 8270D -- SVOA by GC-MS

Sample ID: **LCSD-84857** SampType: **LCSD** TestCode: **SW8270_S** Prep Date: **06/22/2016 9:49** Run ID: **S3_160623B**
Client ID: **LCSD-84857** Batch ID: **84857** Units: **ug/Kg** Analysis Date: **06/23/2016 17:25** SeqNo: **2383501**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	2277	41	330	3333	0	68.3	40	105	2596	13.1	30	
2-Methylnaphthalene	2203	42	330	3333	0	66.1	45	105	2505	12.8	30	
Acenaphthylene	2295	37	330	3333	0	68.9	45	105	2534	9.89	30	
Acenaphthene	2326	39	330	3333	0	69.8	45	110	2621	11.9	30	
Fluorene	2430	33	330	3333	0	72.9	50	110	2697	10.4	30	
Phenanthrene	2571	26	330	3333	0	77.1	50	110	2698	4.82	30	
Anthracene	2466	27	330	3333	0	74.0	55	105	2683	8.43	30	
Fluoranthene	2497	29	330	3333	0	74.9	55	115	2641	5.62	30	
Pyrene	2536	32	330	3333	0	76.1	45	125	2623	3.41	30	
Benzo(a)anthracene	2520	33	330	3333	0	75.6	50	110	2695	6.68	30	
Chrysene	2513	29	330	3333	0	75.4	55	110	2537	0.96	30	
Benzo(b)fluoranthene	2613	40	330	3333	0	78.4	45	115	2742	4.84	30	
Benzo(k)fluoranthene	2758	43	330	3333	0	82.7	45	125	2868	3.93	30	
Benzo(a)pyrene	2646	31	330	3333	0	79.4	50	110	2810	6.03	30	
Indeno(1,2,3-cd)pyrene	2506	37	330	3333	0	75.2	40	120	2718	8.12	30	
Dibenzo(a,h)anthracene	2545	35	330	3333	0	76.4	40	125	2796	9.39	30	
Benzo(g,h,i)perylene	2546	38	330	3333	0	76.4	40	125	2714	6.38	30	
Surrogate: Nitrobenzene-d5	2268		330	3333	0	68.0	35	100	0			
Surrogate: 2-Fluorobiphenyl	2311		330	3333	0	69.3	45	105	0			
Surrogate: Terphenyl-d14	2452		330	3333	0	73.6	30	125	0			

Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank
J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: MS-02-0102
Lab ID: R0530-01
Project: Lawrence, MA site
Collection Date: 06/10/16 08:00

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8082A -- PCB by GC-ECD							**SW8082_S**
Aroclor-1016	ND		6900	ug/Kg	200	06/27/2016 20:07	84794
Aroclor-1221	ND		6900	ug/Kg	200	06/27/2016 20:07	84794
Aroclor-1232	ND		6900	ug/Kg	200	06/27/2016 20:07	84794
Aroclor-1242	ND		6900	ug/Kg	200	06/27/2016 20:07	84794
Aroclor-1248	13000		6900	ug/Kg	200	06/27/2016 20:07	84794
Aroclor-1254	ND		6900	ug/Kg	200	06/27/2016 20:07	84794
Aroclor-1260	3400	J	6900	ug/Kg	200	06/27/2016 20:07	84794
Aroclor-1262	ND		6900	ug/Kg	200	06/27/2016 20:07	84794
Aroclor-1268	ND		6900	ug/Kg	200	06/27/2016 20:07	84794
Surrogate: Tetrachloro-m-xylene	0	S	34-147	%REC	200	06/27/2016 20:07	84794
Surrogate: Decachlorobiphenyl	0	S	60-125	%REC	200	06/27/2016 20:07	84794

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: MS-02-0203
Lab ID: R0530-02
Project: Lawrence, MA site
Collection Date: 06/10/16 08:05

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8082A -- PCB by GC-ECD							**SW8082_S**
Aroclor-1016	ND		360	ug/Kg	10	06/27/2016 20:23	84794
Aroclor-1221	ND		360	ug/Kg	10	06/27/2016 20:23	84794
Aroclor-1232	ND		360	ug/Kg	10	06/27/2016 20:23	84794
Aroclor-1242	ND		360	ug/Kg	10	06/27/2016 20:23	84794
Aroclor-1248	1300		360	ug/Kg	10	06/27/2016 20:23	84794
Aroclor-1254	ND		360	ug/Kg	10	06/27/2016 20:23	84794
Aroclor-1260	3300		360	ug/Kg	10	06/27/2016 20:23	84794
Aroclor-1262	ND		360	ug/Kg	10	06/27/2016 20:23	84794
Aroclor-1268	ND		360	ug/Kg	10	06/27/2016 20:23	84794
Surrogate: Tetrachloro-m-xylene	12.9	S	34-147	%REC	10	06/27/2016 20:23	84794
Surrogate: Decachlorobiphenyl	127	S	60-125	%REC	10	06/27/2016 20:23	84794

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-07-0.502
Lab ID: R0530-03
Project: Lawrence, MA site
Collection Date: 06/10/16 08:15

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8082A -- PCB by GC-ECD							**SW8082_S**
Aroclor-1016	ND		360	ug/Kg	10	06/27/2016 20:40	84794
Aroclor-1221	ND		360	ug/Kg	10	06/27/2016 20:40	84794
Aroclor-1232	ND		360	ug/Kg	10	06/27/2016 20:40	84794
Aroclor-1242	ND		360	ug/Kg	10	06/27/2016 20:40	84794
Aroclor-1248	1400		360	ug/Kg	10	06/27/2016 20:40	84794
Aroclor-1254	ND		360	ug/Kg	10	06/27/2016 20:40	84794
Aroclor-1260	ND		360	ug/Kg	10	06/27/2016 20:40	84794
Aroclor-1262	ND		360	ug/Kg	10	06/27/2016 20:40	84794
Aroclor-1268	ND		360	ug/Kg	10	06/27/2016 20:40	84794
Surrogate: Tetrachloro-m-xylene	55.4		34-147	%REC	10	06/27/2016 20:40	84794
Surrogate: Decachlorobiphenyl	97.6		60-125	%REC	10	06/27/2016 20:40	84794

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-07-0203
Lab ID: R0530-04
Project: Lawrence, MA site
Collection Date: 06/10/16 08:20

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8082A -- PCB by GC-ECD							**SW8082_S**
Aroclor-1016	ND		34	ug/Kg	1	06/23/2016 06:20	84794
Aroclor-1221	ND		34	ug/Kg	1	06/23/2016 06:20	84794
Aroclor-1232	ND		34	ug/Kg	1	06/23/2016 06:20	84794
Aroclor-1242	ND		34	ug/Kg	1	06/23/2016 06:20	84794
Aroclor-1248	ND		34	ug/Kg	1	06/23/2016 06:20	84794
Aroclor-1254	ND		34	ug/Kg	1	06/23/2016 06:20	84794
Aroclor-1260	92		34	ug/Kg	1	06/23/2016 06:20	84794
Aroclor-1262	ND		34	ug/Kg	1	06/23/2016 06:20	84794
Aroclor-1268	ND		34	ug/Kg	1	06/23/2016 06:20	84794
Surrogate: Tetrachloro-m-xylene	53.3		34-147	%REC	1	06/23/2016 06:20	84794
Surrogate: Decachlorobiphenyl	67.0		60-125	%REC	1	06/23/2016 06:20	84794

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: MS-03-0102
Lab ID: R0530-05
Project: Lawrence, MA site
Collection Date: 06/10/16 08:45

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8082A -- PCB by GC-ECD							**SW8082_S**
Aroclor-1016	ND		35	ug/Kg	1	06/23/2016 06:37	84794
Aroclor-1221	ND		35	ug/Kg	1	06/23/2016 06:37	84794
Aroclor-1232	ND		35	ug/Kg	1	06/23/2016 06:37	84794
Aroclor-1242	ND		35	ug/Kg	1	06/23/2016 06:37	84794
Aroclor-1248	230		35	ug/Kg	1	06/23/2016 06:37	84794
Aroclor-1254	ND		35	ug/Kg	1	06/23/2016 06:37	84794
Aroclor-1260	92		35	ug/Kg	1	06/23/2016 06:37	84794
Aroclor-1262	ND		35	ug/Kg	1	06/23/2016 06:37	84794
Aroclor-1268	ND		35	ug/Kg	1	06/23/2016 06:37	84794
Surrogate: Tetrachloro-m-xylene	54.5		34-147	%REC	1	06/23/2016 06:37	84794
Surrogate: Decachlorobiphenyl	66.2		60-125	%REC	1	06/23/2016 06:37	84794

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: MS-03-0203
Lab ID: R0530-06
Project: Lawrence, MA site
Collection Date: 06/10/16 08:50

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8082A -- PCB by GC-ECD							**SW8082_S**
Aroclor-1016	ND		36	ug/Kg	1	06/23/2016 06:54	84794
Aroclor-1221	ND		36	ug/Kg	1	06/23/2016 06:54	84794
Aroclor-1232	ND		36	ug/Kg	1	06/23/2016 06:54	84794
Aroclor-1242	ND		36	ug/Kg	1	06/23/2016 06:54	84794
Aroclor-1248	340		36	ug/Kg	1	06/23/2016 06:54	84794
Aroclor-1254	ND		36	ug/Kg	1	06/23/2016 06:54	84794
Aroclor-1260	120		36	ug/Kg	1	06/23/2016 06:54	84794
Aroclor-1262	ND		36	ug/Kg	1	06/23/2016 06:54	84794
Aroclor-1268	ND		36	ug/Kg	1	06/23/2016 06:54	84794
Surrogate: Tetrachloro-m-xylene	59.4		34-147	%REC	1	06/23/2016 06:54	84794
Surrogate: Decachlorobiphenyl	80.4		60-125	%REC	1	06/23/2016 06:54	84794

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: MS-01-0102 **Project:** Lawrence, MA site
Lab ID: R0530-07 **Collection Date:** 06/10/16 09:05

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8082A -- PCB by GC-ECD							**SW8082_S**
Aroclor-1016	ND		33	ug/Kg	1	06/23/2016 08:01	84795
Aroclor-1221	ND		33	ug/Kg	1	06/23/2016 08:01	84795
Aroclor-1232	ND		33	ug/Kg	1	06/23/2016 08:01	84795
Aroclor-1242	ND		33	ug/Kg	1	06/23/2016 08:01	84795
Aroclor-1248	29	J	33	ug/Kg	1	06/23/2016 08:01	84795
Aroclor-1254	ND		33	ug/Kg	1	06/23/2016 08:01	84795
Aroclor-1260	38		33	ug/Kg	1	06/23/2016 08:01	84795
Aroclor-1262	ND		33	ug/Kg	1	06/23/2016 08:01	84795
Aroclor-1268	ND		33	ug/Kg	1	06/23/2016 08:01	84795
Surrogate: Tetrachloro-m-xylene	65.2		34-147	%REC	1	06/23/2016 08:01	84795
Surrogate: Decachlorobiphenyl	100		60-125	%REC	1	06/23/2016 08:01	84795

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: MS-01-0203
Lab ID: R0530-08
Project: Lawrence, MA site
Collection Date: 06/10/16 09:10

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8082A -- PCB by GC-ECD							**SW8082_S**
Aroclor-1016	ND		38	ug/Kg	1	06/23/2016 08:18	84795
Aroclor-1221	ND		38	ug/Kg	1	06/23/2016 08:18	84795
Aroclor-1232	ND		38	ug/Kg	1	06/23/2016 08:18	84795
Aroclor-1242	ND		38	ug/Kg	1	06/23/2016 08:18	84795
Aroclor-1248	230		38	ug/Kg	1	06/23/2016 08:18	84795
Aroclor-1254	ND		38	ug/Kg	1	06/23/2016 08:18	84795
Aroclor-1260	74		38	ug/Kg	1	06/23/2016 08:18	84795
Aroclor-1262	ND		38	ug/Kg	1	06/23/2016 08:18	84795
Aroclor-1268	ND		38	ug/Kg	1	06/23/2016 08:18	84795
Surrogate: Tetrachloro-m-xylene	54.3		34-147	%REC	1	06/23/2016 08:18	84795
Surrogate: Decachlorobiphenyl	87.3		60-125	%REC	1	06/23/2016 08:18	84795

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-06-0.502
Lab ID: R0530-10
Project: Lawrence, MA site
Collection Date: 06/10/16 10:00

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8082A -- PCB by GC-ECD							**SW8082_S**
Aroclor-1016	ND		370	ug/Kg	10	06/27/2016 20:57	84795
Aroclor-1221	ND		370	ug/Kg	10	06/27/2016 20:57	84795
Aroclor-1232	ND		370	ug/Kg	10	06/27/2016 20:57	84795
Aroclor-1242	ND		370	ug/Kg	10	06/27/2016 20:57	84795
Aroclor-1248	620		370	ug/Kg	10	06/27/2016 20:57	84795
Aroclor-1254	ND		370	ug/Kg	10	06/27/2016 20:57	84795
Aroclor-1260	1500		370	ug/Kg	10	06/27/2016 20:57	84795
Aroclor-1262	ND		370	ug/Kg	10	06/27/2016 20:57	84795
Aroclor-1268	ND		370	ug/Kg	10	06/27/2016 20:57	84795
Surrogate: Tetrachloro-m-xylene	112		34-147	%REC	10	06/27/2016 20:57	84795
Surrogate: Decachlorobiphenyl	260	S	60-125	%REC	10	06/27/2016 20:57	84795

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-06-0203
Lab ID: R0530-11
Project: Lawrence, MA site
Collection Date: 06/10/16 10:05

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8082A -- PCB by GC-ECD							**SW8082_S**
Aroclor-1016	ND		38	ug/Kg	1	06/23/2016 08:52	84795
Aroclor-1221	ND		38	ug/Kg	1	06/23/2016 08:52	84795
Aroclor-1232	ND		38	ug/Kg	1	06/23/2016 08:52	84795
Aroclor-1242	ND		38	ug/Kg	1	06/23/2016 08:52	84795
Aroclor-1248	ND		38	ug/Kg	1	06/23/2016 08:52	84795
Aroclor-1254	ND		38	ug/Kg	1	06/23/2016 08:52	84795
Aroclor-1260	ND		38	ug/Kg	1	06/23/2016 08:52	84795
Aroclor-1262	ND		38	ug/Kg	1	06/23/2016 08:52	84795
Aroclor-1268	ND		38	ug/Kg	1	06/23/2016 08:52	84795
Surrogate: Tetrachloro-m-xylene	38.4		34-147	%REC	1	06/23/2016 08:52	84795
Surrogate: Decachlorobiphenyl	45.9	S	60-125	%REC	1	06/23/2016 08:52	84795

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-05-0.502
Lab ID: R0530-12
Project: Lawrence, MA site
Collection Date: 06/10/16 10:10

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8082A -- PCB by GC-ECD							**SW8082_S**
Aroclor-1016	ND		75	ug/Kg	2	06/27/2016 21:14	84795
Aroclor-1221	ND		75	ug/Kg	2	06/27/2016 21:14	84795
Aroclor-1232	ND		75	ug/Kg	2	06/27/2016 21:14	84795
Aroclor-1242	ND		75	ug/Kg	2	06/27/2016 21:14	84795
Aroclor-1248	99		75	ug/Kg	2	06/27/2016 21:14	84795
Aroclor-1254	ND		75	ug/Kg	2	06/27/2016 21:14	84795
Aroclor-1260	ND		75	ug/Kg	2	06/27/2016 21:14	84795
Aroclor-1262	ND		75	ug/Kg	2	06/27/2016 21:14	84795
Aroclor-1268	ND		75	ug/Kg	2	06/27/2016 21:14	84795
Surrogate: Tetrachloro-m-xylene	52.9		34-147	%REC	2	06/27/2016 21:14	84795
Surrogate: Decachlorobiphenyl	98.5		60-125	%REC	2	06/27/2016 21:14	84795

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-05-0203
Lab ID: R0530-13
Project: Lawrence, MA site
Collection Date: 06/10/16 10:15

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8082A -- PCB by GC-ECD							**SW8082_S**
Aroclor-1016	ND		38	ug/Kg	1	06/23/2016 09:26	84795
Aroclor-1221	ND		38	ug/Kg	1	06/23/2016 09:26	84795
Aroclor-1232	ND		38	ug/Kg	1	06/23/2016 09:26	84795
Aroclor-1242	ND		38	ug/Kg	1	06/23/2016 09:26	84795
Aroclor-1248	ND		38	ug/Kg	1	06/23/2016 09:26	84795
Aroclor-1254	ND		38	ug/Kg	1	06/23/2016 09:26	84795
Aroclor-1260	450		38	ug/Kg	1	06/23/2016 09:26	84795
Aroclor-1262	ND		38	ug/Kg	1	06/23/2016 09:26	84795
Aroclor-1268	ND		38	ug/Kg	1	06/23/2016 09:26	84795
Surrogate: Tetrachloro-m-xylene	46.8		34-147	%REC	1	06/23/2016 09:26	84795
Surrogate: Decachlorobiphenyl	39.3	S	60-125	%REC	1	06/23/2016 09:26	84795

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-04-0.502 **Project:** Lawrence, MA site
Lab ID: R0530-14 **Collection Date:** 06/10/16 10:20

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8082A -- PCB by GC-ECD							**SW8082_S**
Aroclor-1016	ND		35	ug/Kg	1	06/23/2016 09:42	84795
Aroclor-1221	ND		35	ug/Kg	1	06/23/2016 09:42	84795
Aroclor-1232	ND		35	ug/Kg	1	06/23/2016 09:42	84795
Aroclor-1242	ND		35	ug/Kg	1	06/23/2016 09:42	84795
Aroclor-1248	32	J	35	ug/Kg	1	06/23/2016 09:42	84795
Aroclor-1254	ND		35	ug/Kg	1	06/23/2016 09:42	84795
Aroclor-1260	ND		35	ug/Kg	1	06/23/2016 09:42	84795
Aroclor-1262	ND		35	ug/Kg	1	06/23/2016 09:42	84795
Aroclor-1268	ND		35	ug/Kg	1	06/23/2016 09:42	84795
Surrogate: Tetrachloro-m-xylene	45.5		34-147	%REC	1	06/23/2016 09:42	84795
Surrogate: Decachlorobiphenyl	60.0		60-125	%REC	1	06/23/2016 09:42	84795

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-04-0203
Lab ID: R0530-15
Project: Lawrence, MA site
Collection Date: 06/10/16 10:25

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8082A -- PCB by GC-ECD							**SW8082_S**
Aroclor-1016	ND		36	ug/Kg	1	06/23/2016 09:59	84795
Aroclor-1221	ND		36	ug/Kg	1	06/23/2016 09:59	84795
Aroclor-1232	ND		36	ug/Kg	1	06/23/2016 09:59	84795
Aroclor-1242	ND		36	ug/Kg	1	06/23/2016 09:59	84795
Aroclor-1248	ND		36	ug/Kg	1	06/23/2016 09:59	84795
Aroclor-1254	ND		36	ug/Kg	1	06/23/2016 09:59	84795
Aroclor-1260	26	J	36	ug/Kg	1	06/23/2016 09:59	84795
Aroclor-1262	ND		36	ug/Kg	1	06/23/2016 09:59	84795
Aroclor-1268	ND		36	ug/Kg	1	06/23/2016 09:59	84795
Surrogate: Tetrachloro-m-xylene	51.1		34-147	%REC	1	06/23/2016 09:59	84795
Surrogate: Decachlorobiphenyl	59.7	S	60-125	%REC	1	06/23/2016 09:59	84795

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-03-0.502
Lab ID: R0530-16
Project: Lawrence, MA site
Collection Date: 06/10/16 10:40

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8082A -- PCB by GC-ECD							**SW8082_S**
Aroclor-1016	ND		350	ug/Kg	10	06/27/2016 21:31	84795
Aroclor-1221	ND		350	ug/Kg	10	06/27/2016 21:31	84795
Aroclor-1232	ND		350	ug/Kg	10	06/27/2016 21:31	84795
Aroclor-1242	ND		350	ug/Kg	10	06/27/2016 21:31	84795
Aroclor-1248	ND		350	ug/Kg	10	06/27/2016 21:31	84795
Aroclor-1254	ND		350	ug/Kg	10	06/27/2016 21:31	84795
Aroclor-1260	250	J	350	ug/Kg	10	06/27/2016 21:31	84795
Aroclor-1262	ND		350	ug/Kg	10	06/27/2016 21:31	84795
Aroclor-1268	ND		350	ug/Kg	10	06/27/2016 21:31	84795
Surrogate: Tetrachloro-m-xylene	191	S	34-147	%REC	10	06/27/2016 21:31	84795
Surrogate: Decachlorobiphenyl	566	S	60-125	%REC	10	06/27/2016 21:31	84795

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-03-0203
Lab ID: R0530-17
Project: Lawrence, MA site
Collection Date: 06/10/16 10:45

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8082A -- PCB by GC-ECD							**SW8082_S**
Aroclor-1016	ND		37	ug/Kg	1	06/23/2016 10:33	84795
Aroclor-1221	ND		37	ug/Kg	1	06/23/2016 10:33	84795
Aroclor-1232	ND		37	ug/Kg	1	06/23/2016 10:33	84795
Aroclor-1242	ND		37	ug/Kg	1	06/23/2016 10:33	84795
Aroclor-1248	ND		37	ug/Kg	1	06/23/2016 10:33	84795
Aroclor-1254	ND		37	ug/Kg	1	06/23/2016 10:33	84795
Aroclor-1260	ND		37	ug/Kg	1	06/23/2016 10:33	84795
Aroclor-1262	ND		37	ug/Kg	1	06/23/2016 10:33	84795
Aroclor-1268	ND		37	ug/Kg	1	06/23/2016 10:33	84795
Surrogate: Tetrachloro-m-xylene	51.3		34-147	%REC	1	06/23/2016 10:33	84795
Surrogate: Decachlorobiphenyl	63.7		60-125	%REC	1	06/23/2016 10:33	84795

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-01-0.502
Lab ID: R0530-18
Project: Lawrence, MA site
Collection Date: 06/10/16 10:55

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8082A -- PCB by GC-ECD							**SW8082_S**
Aroclor-1016	ND		71	ug/Kg	2	06/27/2016 21:48	84795
Aroclor-1221	ND		71	ug/Kg	2	06/27/2016 21:48	84795
Aroclor-1232	ND		71	ug/Kg	2	06/27/2016 21:48	84795
Aroclor-1242	ND		71	ug/Kg	2	06/27/2016 21:48	84795
Aroclor-1248	210		71	ug/Kg	2	06/27/2016 21:48	84795
Aroclor-1254	ND		71	ug/Kg	2	06/27/2016 21:48	84795
Aroclor-1260	ND		71	ug/Kg	2	06/27/2016 21:48	84795
Aroclor-1262	ND		71	ug/Kg	2	06/27/2016 21:48	84795
Aroclor-1268	ND		71	ug/Kg	2	06/27/2016 21:48	84795
Surrogate: Tetrachloro-m-xylene	124		34-147	%REC	2	06/27/2016 21:48	84795
Surrogate: Decachlorobiphenyl	221	S	60-125	%REC	2	06/27/2016 21:48	84795

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-01-0203
Lab ID: R0530-19
Project: Lawrence, MA site
Collection Date: 06/10/16 11:00

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8082A -- PCB by GC-ECD							**SW8082_S**
Aroclor-1016	ND		37	ug/Kg	1	06/23/2016 11:07	84795
Aroclor-1221	ND		37	ug/Kg	1	06/23/2016 11:07	84795
Aroclor-1232	ND		37	ug/Kg	1	06/23/2016 11:07	84795
Aroclor-1242	ND		37	ug/Kg	1	06/23/2016 11:07	84795
Aroclor-1248	ND		37	ug/Kg	1	06/23/2016 11:07	84795
Aroclor-1254	ND		37	ug/Kg	1	06/23/2016 11:07	84795
Aroclor-1260	44		37	ug/Kg	1	06/23/2016 11:07	84795
Aroclor-1262	ND		37	ug/Kg	1	06/23/2016 11:07	84795
Aroclor-1268	ND		37	ug/Kg	1	06/23/2016 11:07	84795
Surrogate: Tetrachloro-m-xylene	98.4		34-147	%REC	1	06/23/2016 11:07	84795
Surrogate: Decachlorobiphenyl	93.0		60-125	%REC	1	06/23/2016 11:07	84795

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-02-0.502
Lab ID: R0530-20
Project: Lawrence, MA site
Collection Date: 06/10/16 11:20

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8082A -- PCB by GC-ECD							**SW8082_S**
Aroclor-1016	ND		37	ug/Kg	1	06/23/2016 11:24	84795
Aroclor-1221	ND		37	ug/Kg	1	06/23/2016 11:24	84795
Aroclor-1232	ND		37	ug/Kg	1	06/23/2016 11:24	84795
Aroclor-1242	ND		37	ug/Kg	1	06/23/2016 11:24	84795
Aroclor-1248	130		37	ug/Kg	1	06/23/2016 11:24	84795
Aroclor-1254	ND		37	ug/Kg	1	06/23/2016 11:24	84795
Aroclor-1260	ND		37	ug/Kg	1	06/23/2016 11:24	84795
Aroclor-1262	ND		37	ug/Kg	1	06/23/2016 11:24	84795
Aroclor-1268	ND		37	ug/Kg	1	06/23/2016 11:24	84795
Surrogate: Tetrachloro-m-xylene	57.8		34-147	%REC	1	06/23/2016 11:24	84795
Surrogate: Decachlorobiphenyl	95.6		60-125	%REC	1	06/23/2016 11:24	84795

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-02-0203
Lab ID: R0530-21
Project: Lawrence, MA site
Collection Date: 06/10/16 11:25

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8082A -- PCB by GC-ECD							**SW8082_S**
Aroclor-1016	ND		7200	ug/Kg	200	06/27/2016 22:05	84795
Aroclor-1221	ND		7200	ug/Kg	200	06/27/2016 22:05	84795
Aroclor-1232	ND		7200	ug/Kg	200	06/27/2016 22:05	84795
Aroclor-1242	ND		7200	ug/Kg	200	06/27/2016 22:05	84795
Aroclor-1248	7100	J	7200	ug/Kg	200	06/27/2016 22:05	84795
Aroclor-1254	ND		7200	ug/Kg	200	06/27/2016 22:05	84795
Aroclor-1260	ND		7200	ug/Kg	200	06/27/2016 22:05	84795
Aroclor-1262	ND		7200	ug/Kg	200	06/27/2016 22:05	84795
Aroclor-1268	ND		7200	ug/Kg	200	06/27/2016 22:05	84795
Surrogate: Tetrachloro-m-xylene	0	S	34-147	%REC	200	06/27/2016 22:05	84795
Surrogate: Decachlorobiphenyl	93.6		60-125	%REC	200	06/27/2016 22:05	84795

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

CLIENT: Nobis Engineering, Inc

Work Order: R0530

Project: Lawrence, MA site

ANALYTICAL QC SUMMARY REPORT

SW8082_S

SW846 8082A -- PCB by GC-ECD

Sample ID: **MB-84794** SampType: **MBLK** TestCode: **SW8082_S** Prep Date: **06/15/16 10:18** Run ID: **E5_160624A**

Client ID: **MB-84794** Batch ID: **84794** Units: **ug/Kg** Analysis Date: **06/25/16 02:34** SeqNo: **2384251**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor-1016	ND	2.5	33									
Aroclor-1221	ND	4.4	33									
Aroclor-1232	ND	2.4	33									
Aroclor-1242	ND	2.5	33									
Aroclor-1248	ND	3.8	33									
Aroclor-1254	ND	4.4	33									
Aroclor-1260	ND	1.8	33									
Aroclor-1262	ND	2.0	33									
Aroclor-1268	ND	1.6	33									

Sample ID: **MB-84794** SampType: **MBLK** TestCode: **SW8082_S** Prep Date: **06/15/16 10:18** Run ID: **E5_160624B**

Client ID: **MB-84794** Batch ID: **84794** Units: **ug/Kg** Analysis Date: **06/25/16 02:34** SeqNo: **2384308**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surrogate: Tetrachloro-m-xylene	13.84		1.7	20.00	0	69.2	34	147	0			
Surrogate: Decachlorobiphenyl	38.49		3.3	40.00	0	96.2	60	125	0			

Sample ID: **MB-84794** SampType: **MBLK** TestCode: **SW8082_S** Prep Date: **06/15/16 10:18** Run ID: **E6_160627A**

Client ID: **MB-84794** Batch ID: **84794** Units: **ug/Kg** Analysis Date: **06/27/16 19:50** SeqNo: **2384419**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor-1016	ND	2.5	33	0	0	0	0	0	0			
Aroclor-1221	ND	4.4	33	0	0	0	0	0	0			
Aroclor-1232	ND	2.4	33	0	0	0	0	0	0			
Aroclor-1242	ND	2.5	33	0	0	0	0	0	0			
Aroclor-1248	ND	3.8	33	0	0	0	0	0	0			
Aroclor-1254	ND	4.4	33	0	0	0	0	0	0			
Aroclor-1260	ND	1.8	33	0	0	0	0	0	0			
Aroclor-1262	ND	2.0	33	0	0	0	0	0	0			
Aroclor-1268	ND	1.6	33	0	0	0	0	0	0			
Surrogate: Tetrachloro-m-xylene	7.625		1.7	20.00	0	38.1	34	147	0			

Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank; J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

CLIENT: Nobis Engineering, Inc
Work Order: R0530
Project: Lawrence, MA site

ANALYTICAL QC SUMMARY REPORT

SW8082_S
SW846 8082A -- PCB by GC-ECD

Sample ID: **MB-84794**	SampType: **MBLK**	TestCode: **SW8082_S**			Prep Date: **06/15/16 10:18**				Run ID: **E6_160627B**		
Client ID: **MB-84794**	Batch ID: **84794**	Units: **ug/Kg**			Analysis Date: **06/27/16 19:50**				SeqNo: **2384440**		
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surrogate: Decachlorobiphenyl	25.23		3.3	40.00	0	63.1	60	125	0			

Sample ID: **MB-84795**	SampType: **MBLK**	TestCode: **SW8082_S**			Prep Date: **06/15/16 10:24**				Run ID: **E6_160622C**		
Client ID: **MB-84795**	Batch ID: **84795**	Units: **ug/Kg**			Analysis Date: **06/23/16 07:11**				SeqNo: **2383824**		
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor-1016	ND	2.5	33									
Aroclor-1221	ND	4.4	33									
Aroclor-1232	ND	2.4	33									
Aroclor-1242	ND	2.5	33									
Aroclor-1248	ND	3.8	33									
Aroclor-1254	ND	4.4	33									
Aroclor-1260	ND	1.8	33									
Aroclor-1262	ND	2.0	33									
Aroclor-1268	ND	1.6	33									

Sample ID: **MB-84795**	SampType: **MBLK**	TestCode: **SW8082_S**			Prep Date: **06/15/16 10:24**				Run ID: **E6_160622D**		
Client ID: **MB-84795**	Batch ID: **84795**	Units: **ug/Kg**			Analysis Date: **06/23/16 07:11**				SeqNo: **2383841**		
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surrogate: Tetrachloro-m-xylene	14.38		1.7	20.00	0	71.9	34	147	0			
Surrogate: Decachlorobiphenyl	30.19		3.3	40.00	0	75.5	60	125	0			

Sample ID: **LCS-84794**	SampType: **LCS**	TestCode: **SW8082_S**			Prep Date: **06/15/16 10:18**				Run ID: **E6_160622C**		
Client ID: **LCS-84794**	Batch ID: **84794**	Units: **ug/Kg**			Analysis Date: **06/23/16 04:56**				SeqNo: **2383819**		
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surrogate: Tetrachloro-m-xylene	15.10		1.7	20.00	0	75.5	34	147	0			

Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank
J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

CLIENT: Nobis Engineering, Inc
Work Order: R0530
Project: Lawrence, MA site

ANALYTICAL QC SUMMARY REPORT

SW8082_S
SW846 8082A -- PCB by GC-ECD

Sample ID: **LCS-84794** SampType: **LCS** TestCode: **SW8082_S** Prep Date: **06/15/16 10:18** Run ID: **E6_160622D**
Client ID: **LCS-84794** Batch ID: **84794** Units: **ug/Kg** Analysis Date: **06/23/16 04:56** SeqNo: **2383836**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor-1016	126.1	2.5	33	133.3	0	94.6	40	140	0			
Aroclor-1260	106.1	1.8	33	133.3	0	79.6	60	130	0			
Surrogate: Decachlorobiphenyl	41.73		3.3	40.00	0	104	60	125	0			

Sample ID: **LCS-84794** SampType: **LCS** TestCode: **SW8082_S** Prep Date: **06/15/16 10:18** Run ID: **E5_160624A**
Client ID: **LCS-84794** Batch ID: **84794** Units: **ug/Kg** Analysis Date: **06/25/16 02:51** SeqNo: **2384252**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor-1016	96.79	2.5	33	133.3	0	72.6	40	140	0			
Aroclor-1260	95.04	1.8	33	133.3	0	71.3	60	130	0			
Surrogate: Decachlorobiphenyl	39.11		3.3	40.00	0	97.8	60	125	0			

Sample ID: **LCS-84794** SampType: **LCS** TestCode: **SW8082_S** Prep Date: **06/15/16 10:18** Run ID: **E5_160624B**
Client ID: **LCS-84794** Batch ID: **84794** Units: **ug/Kg** Analysis Date: **06/25/16 02:51** SeqNo: **2384309**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surrogate: Tetrachloro-m-xylene	12.42		1.7	20.00	0	62.1	34	147	0			

Sample ID: **LCS-84795** SampType: **LCS** TestCode: **SW8082_S** Prep Date: **06/15/16 10:24** Run ID: **E6_160622D**
Client ID: **LCS-84795** Batch ID: **84795** Units: **ug/Kg** Analysis Date: **06/23/16 07:28** SeqNo: **2383842**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor-1016	121.9	2.5	33	133.3	0	91.4	40	140	0			
Aroclor-1260	88.20	1.8	33	133.3	0	66.2	60	130	0			
Surrogate: Tetrachloro-m-xylene	14.61		1.7	20.00	0	73.1	34	147	0			
Surrogate: Decachlorobiphenyl	34.58		3.3	40.00	0	86.4	60	125	0			

Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank
J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

CLIENT: Nobis Engineering, Inc
Work Order: R0530
Project: Lawrence, MA site

ANALYTICAL QC SUMMARY REPORT

SW8082_S
SW846 8082A -- PCB by GC-ECD

Sample ID: **LCSD-84794** SampType: **LCSD** TestCode: **SW8082_S** Prep Date: **06/15/16 10:18** Run ID: **E6_160622C**
Client ID: **LCSD-84794** Batch ID: **84794** Units: **ug/Kg** Analysis Date: **06/23/16 05:13** SeqNo: **2383820**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor-1016	127.4	2.5	33	133.3	0	95.5	40	140	128.0	0.502	30	
Surrogate: Tetrachloro-m-xylene	13.95		1.7	20.00	0	69.7	34	147	0			

Sample ID: **LCSD-84794** SampType: **LCSD** TestCode: **SW8082_S** Prep Date: **06/15/16 10:18** Run ID: **E6_160622D**
Client ID: **LCSD-84794** Batch ID: **84794** Units: **ug/Kg** Analysis Date: **06/23/16 05:13** SeqNo: **2383837**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor-1260	104.4	1.8	33	133.3	0	78.3	60	130	106.1	1.59	30	
Surrogate: Decachlorobiphenyl	42.92		3.3	40.00	0	107	60	125	0			

Sample ID: **LCSD-84794** SampType: **LCSD** TestCode: **SW8082_S** Prep Date: **06/15/16 10:18** Run ID: **E5_160624A**
Client ID: **LCSD-84794** Batch ID: **84794** Units: **ug/Kg** Analysis Date: **06/25/16 03:08** SeqNo: **2384253**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor-1016	93.04	2.5	33	133.3	0	69.8	40	140	96.79	3.95	30	
Aroclor-1260	91.87	1.8	33	133.3	0	68.9	60	130	95.04	3.39	30	

Sample ID: **LCSD-84794** SampType: **LCSD** TestCode: **SW8082_S** Prep Date: **06/15/16 10:18** Run ID: **E5_160624B**
Client ID: **LCSD-84794** Batch ID: **84794** Units: **ug/Kg** Analysis Date: **06/25/16 03:08** SeqNo: **2384310**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surrogate: Tetrachloro-m-xylene	11.62		1.7	20.00	0	58.1	34	147	0			
Surrogate: Decachlorobiphenyl	39.29		3.3	40.00	0	98.2	60	125	0			

Sample ID: **LCSD-84795** SampType: **LCSD** TestCode: **SW8082_S** Prep Date: **06/15/16 10:24** Run ID: **E6_160622C**
Client ID: **LCSD-84795** Batch ID: **84795** Units: **ug/Kg** Analysis Date: **06/23/16 07:45** SeqNo: **2383826**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor-1016	130.8	2.5	33	133.3	0	98.1	40	140	125.0	4.49	30	
Surrogate: Tetrachloro-m-xylene	14.44		1.7	20.00	0	72.2	34	147	0			

Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank
J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

CLIENT: Nobis Engineering, Inc
Work Order: R0530
Project: Lawrence, MA site

ANALYTICAL QC SUMMARY REPORT

SW8082_S

SW846 8082A -- PCB by GC-ECD

Sample ID: **LCSD-84795** SampType: **LCSD** TestCode: **SW8082_S** Prep Date: **06/15/16 10:24** Run ID: **E6_160622D**
Client ID: **LCSD-84795** Batch ID: **84795** Units: **ug/Kg** Analysis Date: **06/23/16 07:45** SeqNo: **2383843**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor-1260	90.90	1.8	33	133.3	0	68.2	60	130	88.20	3.01	30	
Surrogate: Decachlorobiphenyl	34.97		3.3	40.00	0	87.4	60	125	0			

Qualifiers:
ND - Not Detected at the MDL
J - Analyte detected below quanititation limits
S - Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
MDL - Method Detection Limit
RL - Reporting Limit
B - Analyte detected in the associated Method Blank

Client: Nobis Engineering, Inc
Client Sample ID: MS-02-0102 **Project:** Lawrence, MA site
Lab ID: R0530-01 **Collection Date:** 06/10/16 8:00

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 6010C -- Metals by ICP							**SW6010_S**
Arsenic	8.7		0.88	mg/Kg	1	06/23/2016 16:10	84852
Barium	120		8.8	mg/Kg	1	06/23/2016 16:10	84852
Cadmium	2.0		0.22	mg/Kg	1	06/23/2016 16:10	84852
Chromium	45	B	0.88	mg/Kg	1	06/23/2016 16:10	84852
Lead	160	B	0.44	mg/Kg	1	06/23/2016 16:10	84852
Selenium	1.0	J	1.3	mg/Kg	1	06/23/2016 16:10	84852
Silver	0.32	J	1.3	mg/Kg	1	06/23/2016 16:10	84852
SW846 7471B -- Mercury by FIA							**SW7471**
Mercury	0.21		0.039	mg/Kg	1	06/27/2016 16:28	84866

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: MS-02-0203 **Project:** Lawrence, MA site
Lab ID: R0530-02 **Collection Date:** 06/10/16 8:05

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 6010C -- Metals by ICP							**SW6010_S**
Arsenic	8.9		0.91	mg/Kg	1	06/23/2016 16:14	84852
Barium	210		9.1	mg/Kg	1	06/23/2016 16:14	84852
Cadmium	4.9		0.23	mg/Kg	1	06/23/2016 16:14	84852
Chromium	45	B	0.91	mg/Kg	1	06/23/2016 16:14	84852
Lead	490	B	0.46	mg/Kg	1	06/23/2016 16:14	84852
Selenium	0.79	J	1.4	mg/Kg	1	06/23/2016 16:14	84852
Silver	0.13	J	1.4	mg/Kg	1	06/23/2016 16:14	84852
SW846 7471B -- Mercury by FIA							**SW7471**
Mercury	0.38		0.041	mg/Kg	1	06/27/2016 16:30	84866

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-07-0.502 **Project:** Lawrence, MA site
Lab ID: R0530-03 **Collection Date:** 06/10/16 8:15

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 6010C -- Metals by ICP							**SW6010_S**
Arsenic	8.4		1.0	mg/Kg	1	06/23/2016 16:18	84852
Barium	120		10	mg/Kg	1	06/23/2016 16:18	84852
Cadmium	1.3		0.25	mg/Kg	1	06/23/2016 16:18	84852
Chromium	32	B	1.0	mg/Kg	1	06/23/2016 16:18	84852
Lead	450	B	0.50	mg/Kg	1	06/23/2016 16:18	84852
Selenium	ND		1.5	mg/Kg	1	06/23/2016 16:18	84852
Silver	0.10	J	1.5	mg/Kg	1	06/23/2016 16:18	84852
SW846 7471B -- Mercury by FIA							**SW7471**
Mercury	1.3		0.039	mg/Kg	1	06/27/2016 16:31	84866

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-07-0203 **Project:** Lawrence, MA site
Lab ID: R0530-04 **Collection Date:** 06/10/16 8:20

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 6010C -- Metals by ICP							**SW6010_S**
Arsenic	9.9		0.75	mg/Kg	1	06/23/2016 16:22	84852
Barium	140		7.5	mg/Kg	1	06/23/2016 16:22	84852
Cadmium	0.45		0.19	mg/Kg	1	06/23/2016 16:22	84852
Chromium	22	B	0.75	mg/Kg	1	06/23/2016 16:22	84852
Lead	710	B	0.38	mg/Kg	1	06/23/2016 16:22	84852
Selenium	0.52	J	1.1	mg/Kg	1	06/23/2016 16:22	84852
Silver	0.12	J	1.1	mg/Kg	1	06/23/2016 16:22	84852
SW846 7471B -- Mercury by FIA							**SW7471**
Mercury	0.50		0.041	mg/Kg	1	06/27/2016 16:33	84866

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: MS-03-0102 **Project:** Lawrence, MA site
Lab ID: R0530-05 **Collection Date:** 06/10/16 8:45

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 6010C -- Metals by ICP							**SW6010_S**
Arsenic	8.1		1.0	mg/Kg	1	06/23/2016 16:26	84852
Barium	130		10	mg/Kg	1	06/23/2016 16:26	84852
Cadmium	2.0		0.25	mg/Kg	1	06/23/2016 16:26	84852
Chromium	21	B	1.0	mg/Kg	1	06/23/2016 16:26	84852
Lead	190	B	0.50	mg/Kg	1	06/23/2016 16:26	84852
Selenium	0.71	J	1.5	mg/Kg	1	06/23/2016 16:26	84852
Silver	ND		1.5	mg/Kg	1	06/23/2016 16:26	84852
SW846 7471B -- Mercury by FIA							**SW7471**
Mercury	0.11		0.041	mg/Kg	1	06/27/2016 16:35	84866

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: MS-03-0203 **Project:** Lawrence, MA site
Lab ID: R0530-06 **Collection Date:** 06/10/16 8:50

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 6010C -- Metals by ICP							**SW6010_S**
Arsenic	8.3		1.0	mg/Kg	1	06/23/2016 16:37	84852
Barium	110		10	mg/Kg	1	06/23/2016 16:37	84852
Cadmium	1.4		0.25	mg/Kg	1	06/23/2016 16:37	84852
Chromium	26	B	1.0	mg/Kg	1	06/23/2016 16:37	84852
Lead	210	B	0.51	mg/Kg	1	06/23/2016 16:37	84852
Selenium	0.78	J	1.5	mg/Kg	1	06/23/2016 16:37	84852
Silver	0.078	J	1.5	mg/Kg	1	06/23/2016 16:37	84852
SW846 7471B -- Mercury by FIA							**SW7471**
Mercury	0.18		0.036	mg/Kg	1	06/27/2016 16:40	84866

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: MS-01-0102 **Project:** Lawrence, MA site
Lab ID: R0530-07 **Collection Date:** 06/10/16 9:05

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 6010C -- Metals by ICP							**SW6010_S**
Arsenic	9.4		0.94	mg/Kg	1	06/23/2016 16:40	84852
Barium	190		9.4	mg/Kg	1	06/23/2016 16:40	84852
Cadmium	0.37		0.23	mg/Kg	1	06/23/2016 16:40	84852
Chromium	44	B	0.94	mg/Kg	1	06/23/2016 16:40	84852
Lead	230	B	0.47	mg/Kg	1	06/23/2016 16:40	84852
Selenium	0.88	J	1.4	mg/Kg	1	06/23/2016 16:40	84852
Silver	ND		1.4	mg/Kg	1	06/23/2016 16:40	84852
SW846 7471B -- Mercury by FIA							**SW7471**
Mercury	0.076		0.036	mg/Kg	1	06/27/2016 16:41	84866

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: MS-01-0203 **Project:** Lawrence, MA site
Lab ID: R0530-08 **Collection Date:** 06/10/16 9:10

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 6010C -- Metals by ICP							**SW6010_S**
Arsenic	9.6		0.87	mg/Kg	1	06/23/2016 16:44	84852
Barium	85		8.7	mg/Kg	1	06/23/2016 16:44	84852
Cadmium	1.0		0.22	mg/Kg	1	06/23/2016 16:44	84852
Chromium	26	B	0.87	mg/Kg	1	06/23/2016 16:44	84852
Lead	190	B	0.43	mg/Kg	1	06/23/2016 16:44	84852
Selenium	1.1	J	1.3	mg/Kg	1	06/23/2016 16:44	84852
Silver	ND		1.3	mg/Kg	1	06/23/2016 16:44	84852
SW846 7471B -- Mercury by FIA							**SW7471**
Mercury	1.2		0.042	mg/Kg	1	06/27/2016 16:43	84866

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-06-0.502 **Project:** Lawrence, MA site
Lab ID: R0530-10 **Collection Date:** 06/10/16 10:00

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 6010C -- Metals by ICP							**SW6010_S**
Arsenic	18		0.72	mg/Kg	1	06/23/2016 16:48	84852
Barium	140		7.2	mg/Kg	1	06/23/2016 16:48	84852
Cadmium	0.74		0.18	mg/Kg	1	06/23/2016 16:48	84852
Chromium	56	B	0.72	mg/Kg	1	06/23/2016 16:48	84852
Lead	320	B	0.36	mg/Kg	1	06/23/2016 16:48	84852
Selenium	2.0		1.1	mg/Kg	1	06/23/2016 16:48	84852
Silver	0.18	J	1.1	mg/Kg	1	06/23/2016 16:48	84852
SW846 7471B -- Mercury by FIA							**SW7471**
Mercury	0.32		0.042	mg/Kg	1	06/27/2016 16:45	84866

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-06-0203 **Project:** Lawrence, MA site
Lab ID: R0530-11 **Collection Date:** 06/10/16 10:05

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 6010C -- Metals by ICP							**SW6010_S**
Arsenic	9.8		0.88	mg/Kg	1	06/23/2016 16:52	84852
Barium	450		8.8	mg/Kg	1	06/23/2016 16:52	84852
Cadmium	5.8		0.22	mg/Kg	1	06/23/2016 16:52	84852
Chromium	43	B	0.88	mg/Kg	1	06/23/2016 16:52	84852
Lead	750	B	0.44	mg/Kg	1	06/23/2016 16:52	84852
Selenium	ND		1.3	mg/Kg	1	06/23/2016 16:52	84852
Silver	0.15	J	1.3	mg/Kg	1	06/23/2016 16:52	84852
SW846 7471B -- Mercury by FIA							**SW7471**
Mercury	0.22		0.041	mg/Kg	1	06/27/2016 16:46	84866

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-05-0.502 **Project:** Lawrence, MA site
Lab ID: R0530-12 **Collection Date:** 06/10/16 10:10

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 6010C -- Metals by ICP							**SW6010_S**
Arsenic	8.6		1.0	mg/Kg	1	06/23/2016 16:55	84852
Barium	97		10	mg/Kg	1	06/23/2016 16:55	84852
Cadmium	0.62		0.26	mg/Kg	1	06/23/2016 16:55	84852
Chromium	15	B	1.0	mg/Kg	1	06/23/2016 16:55	84852
Lead	270	B	0.52	mg/Kg	1	06/23/2016 16:55	84852
Selenium	ND		1.6	mg/Kg	1	06/23/2016 16:55	84852
Silver	ND		1.6	mg/Kg	1	06/23/2016 16:55	84852
SW846 7471B -- Mercury by FIA							**SW7471**
Mercury	0.31		0.041	mg/Kg	1	06/27/2016 16:48	84866

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-05-0203
Lab ID: R0530-13
Project: Lawrence, MA site
Collection Date: 06/10/16 10:15

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 6010C -- Metals by ICP							**SW6010_S**
Arsenic	13		0.97	mg/Kg	1	06/23/2016 16:59	84852
Barium	66		9.7	mg/Kg	1	06/23/2016 16:59	84852
Cadmium	9.0		0.24	mg/Kg	1	06/23/2016 16:59	84852
Chromium	25	B	0.97	mg/Kg	1	06/23/2016 16:59	84852
Lead	370	B	0.49	mg/Kg	1	06/23/2016 16:59	84852
Selenium	0.68	J	1.5	mg/Kg	1	06/23/2016 16:59	84852
Silver	0.21	J	1.5	mg/Kg	1	06/23/2016 16:59	84852
SW846 7471B -- Mercury by FIA							**SW7471**
Mercury	0.95		0.044	mg/Kg	1	06/27/2016 16:53	84866

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-04-0.502 **Project:** Lawrence, MA site
Lab ID: R0530-14 **Collection Date:** 06/10/16 10:20

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 6010C -- Metals by ICP							**SW6010_S**
Arsenic	7.0		0.85	mg/Kg	1	06/23/2016 17:10	84852
Barium	65		8.5	mg/Kg	1	06/23/2016 17:10	84852
Cadmium	0.46		0.21	mg/Kg	1	06/23/2016 17:10	84852
Chromium	26	B	0.85	mg/Kg	1	06/23/2016 17:10	84852
Lead	450	B	0.42	mg/Kg	1	06/23/2016 17:10	84852
Selenium	ND		1.3	mg/Kg	1	06/23/2016 17:10	84852
Silver	ND		1.3	mg/Kg	1	06/23/2016 17:10	84852
SW846 7471B -- Mercury by FIA							**SW7471**
Mercury	0.37		0.037	mg/Kg	1	06/27/2016 16:55	84866

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-04-0203 **Project:** Lawrence, MA site
Lab ID: R0530-15 **Collection Date:** 06/10/16 10:25

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 6010C -- Metals by ICP							**SW6010_S**
Arsenic	8.5		0.91	mg/Kg	1	06/23/2016 17:14	84852
Barium	39		9.1	mg/Kg	1	06/23/2016 17:14	84852
Cadmium	1.1		0.23	mg/Kg	1	06/23/2016 17:14	84852
Chromium	15	B	0.91	mg/Kg	1	06/23/2016 17:14	84852
Lead	250	B	0.45	mg/Kg	1	06/23/2016 17:14	84852
Selenium	ND		1.4	mg/Kg	1	06/23/2016 17:14	84852
Silver	ND		1.4	mg/Kg	1	06/23/2016 17:14	84852
SW846 7471B -- Mercury by FIA							**SW7471**
Mercury	0.15		0.040	mg/Kg	1	06/27/2016 16:56	84866

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-03-0.502 **Project:** Lawrence, MA site
Lab ID: R0530-16 **Collection Date:** 06/10/16 10:40

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 6010C -- Metals by ICP							**SW6010_S**
Arsenic	9.3		0.92	mg/Kg	1	06/23/2016 17:18	84852
Barium	91		9.2	mg/Kg	1	06/23/2016 17:18	84852
Cadmium	0.33		0.23	mg/Kg	1	06/23/2016 17:18	84852
Chromium	32	B	0.92	mg/Kg	1	06/23/2016 17:18	84852
Lead	390	B	0.46	mg/Kg	1	06/23/2016 17:18	84852
Selenium	1.3	J	1.4	mg/Kg	1	06/23/2016 17:18	84852
Silver	ND		1.4	mg/Kg	1	06/23/2016 17:18	84852
SW846 7471B -- Mercury by FIA							**SW7471**
Mercury	0.18		0.037	mg/Kg	1	06/27/2016 16:58	84866

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-03-0203 **Project:** Lawrence, MA site
Lab ID: R0530-17 **Collection Date:** 06/10/16 10:45

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 6010C -- Metals by ICP							**SW6010_S**
Arsenic	4.9		1.0	mg/Kg	1	06/23/2016 17:21	84852
Barium	91		10	mg/Kg	1	06/23/2016 17:21	84852
Cadmium	0.19	J	0.25	mg/Kg	1	06/23/2016 17:21	84852
Chromium	10	B	1.0	mg/Kg	1	06/23/2016 17:21	84852
Lead	600	B	0.51	mg/Kg	1	06/23/2016 17:21	84852
Selenium	ND		1.5	mg/Kg	1	06/23/2016 17:21	84852
Silver	ND		1.5	mg/Kg	1	06/23/2016 17:21	84852
SW846 7471B -- Mercury by FIA							**SW7471**
Mercury	0.21		0.042	mg/Kg	1	06/27/2016 17:00	84866

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-01-0.502 **Project:** Lawrence, MA site
Lab ID: R0530-18 **Collection Date:** 06/10/16 10:55

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 6010C -- Metals by ICP							**SW6010_S**
Arsenic	5.1		0.79	mg/Kg	1	06/23/2016 17:25	84852
Barium	87		7.9	mg/Kg	1	06/23/2016 17:25	84852
Cadmium	0.61		0.20	mg/Kg	1	06/23/2016 17:25	84852
Chromium	18	B	0.79	mg/Kg	1	06/23/2016 17:25	84852
Lead	350	B	0.39	mg/Kg	1	06/23/2016 17:25	84852
Selenium	0.83	J	1.2	mg/Kg	1	06/23/2016 17:25	84852
Silver	ND		1.2	mg/Kg	1	06/23/2016 17:25	84852
SW846 7471B -- Mercury by FIA							**SW7471**
Mercury	0.83		0.040	mg/Kg	1	06/27/2016 17:02	84866

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-01-0203 **Project:** Lawrence, MA site
Lab ID: R0530-19 **Collection Date:** 06/10/16 11:00

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 6010C -- Metals by ICP							**SW6010_S**
Arsenic	8.9		0.70	mg/Kg	1	06/23/2016 17:29	84852
Barium	32		7.0	mg/Kg	1	06/23/2016 17:29	84852
Cadmium	0.20		0.17	mg/Kg	1	06/23/2016 17:29	84852
Chromium	13	B	0.70	mg/Kg	1	06/23/2016 17:29	84852
Lead	100	B	0.35	mg/Kg	1	06/23/2016 17:29	84852
Selenium	0.73	J	1.0	mg/Kg	1	06/23/2016 17:29	84852
Silver	ND		1.0	mg/Kg	1	06/23/2016 17:29	84852
SW846 7471B -- Mercury by FIA							**SW7471**
Mercury	0.27		0.043	mg/Kg	1	06/27/2016 17:07	84866

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-02-0.502 **Project:** Lawrence, MA site
Lab ID: R0530-20 **Collection Date:** 06/10/16 11:20

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 6010C -- Metals by ICP							**SW6010_S**
Arsenic	6.2		0.95	mg/Kg	1	06/23/2016 17:33	84852
Barium	58		9.5	mg/Kg	1	06/23/2016 17:33	84852
Cadmium	0.63		0.24	mg/Kg	1	06/23/2016 17:33	84852
Chromium	21	B	0.95	mg/Kg	1	06/23/2016 17:33	84852
Lead	230	B	0.47	mg/Kg	1	06/23/2016 17:33	84852
Selenium	0.75	J	1.4	mg/Kg	1	06/23/2016 17:33	84852
Silver	ND		1.4	mg/Kg	1	06/23/2016 17:33	84852
SW846 7471B -- Mercury by FIA							**SW7471**
Mercury	0.12		0.038	mg/Kg	1	06/27/2016 17:08	84866

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Nobis Engineering, Inc
Client Sample ID: NPA-02-0203 **Project:** Lawrence, MA site
Lab ID: R0530-21 **Collection Date:** 06/10/16 11:25

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 6010C -- Metals by ICP							**SW6010_S**
Arsenic	8.4		0.95	mg/Kg	1	06/23/2016 17:44	84852
Barium	49		9.5	mg/Kg	1	06/23/2016 17:44	84852
Cadmium	0.15	J	0.24	mg/Kg	1	06/23/2016 17:44	84852
Chromium	17	B	0.95	mg/Kg	1	06/23/2016 17:44	84852
Lead	160	B	0.47	mg/Kg	1	06/23/2016 17:44	84852
Selenium	ND		1.4	mg/Kg	1	06/23/2016 17:44	84852
Silver	ND		1.4	mg/Kg	1	06/23/2016 17:44	84852
SW846 7471B -- Mercury by FIA							**SW7471**
Mercury	0.12		0.039	mg/Kg	1	06/27/2016 17:10	84866

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

R0530

CLIENT: Nobis Engineering, Inc
Work Order: R0530
Project: Lawrence, MA site

ANALYTICAL QC SUMMARY REPORT

SW6010_S
SW846 6010C -- Metals by ICP

Sample ID	MB-84852	SampType:	MBLK	TestCode:	SW6010_S	Prep Date:	06/22/16 14:10	Run ID:	OPTIMA4_160623D
Client ID:	MB-84852	Batch ID:	84852	Units:	mg/Kg	Analysis Date:	06/23/16 16:03	SeqNo:	2383386

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.41	1.0									
Barium	ND	0.031	10									
Cadmium	ND	0.015	0.25									
Chromium	0.02016	0.019	1.0									J
Lead	0.2822	0.17	0.50									J
Selenium	ND	0.64	1.5									
Silver	ND	0.064	1.5									

Sample ID	LCS-84852	SampType:	LCS	TestCode:	SW6010_S	Prep Date:	06/22/16 14:10	Run ID:	OPTIMA4_160623D
Client ID:	LCS-84852	Batch ID:	84852	Units:	mg/Kg	Analysis Date:	06/23/16 16:07	SeqNo:	2383387

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	24.56	0.41	1.0	25.00	0	98.2	80	120	0			
Barium	498.5	0.031	10	500.0	0	99.7	80	120	0			
Cadmium	12.59	0.015	0.25	12.50	0	101	80	120	0			
Chromium	50.03	0.019	1.0	50.00	0	100	80	120	0			B
Lead	25.01	0.17	0.50	25.00	0	100	80	120	0			B
Selenium	23.27	0.64	1.5	25.00	0	93.1	80	120	0			
Silver	60.11	0.064	1.5	62.50	0	96.2	75	120	0			

Sample ID	R0530-21ADUP	SampType:	DUP	TestCode:	SW6010_S	Prep Date:	06/22/16 14:10	Run ID:	OPTIMA4_160623D
Client ID:	NPA-02-0203	Batch ID:	84852	Units:	mg/Kg	Analysis Date:	06/23/16 17:47	SeqNo:	2383414

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	4.853	0.41	1.0	0	0	0	0	0	8.366	53.2	20	R
Barium	55.43	0.031	10	0	0	0	0	0	49.16	12	20	
Cadmium	0.2760	0.015	0.25	0	0	0	0	0	0.1494	59.5	20	R
Chromium	14.76	0.019	1.0	0	0	0	0	0	17.43	16.6	20	B
Lead	177.5	0.17	0.50	0	0	0	0	0	160.1	10.3	20	B
Selenium	ND	0.65	1.5	0	0	0	0	0	0	0	20	
Silver	ND	0.065	1.5	0	0	0	0	0	0	0	20	

Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank
J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

CLIENT: Nobis Engineering, Inc
Work Order: R0530
Project: Lawrence, MA site

ANALYTICAL QC SUMMARY REPORT

SW6010_S
SW846 6010C -- Metals by ICP

Sample ID	R0530-21AMS	SampType:	MS	TestCode:	SW6010_S	Prep Date:	06/22/16 14:10	Run ID:	OPTIMA4_160623D
Client ID:	NPA-02-0203	Batch ID:	84852	Units:	mg/Kg	Analysis Date:	06/23/16 17:51	SeqNo:	2383415

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	22.68	0.31	0.76	19.08	8.366	75.0	80	120	0			S
Barium	423.9	0.024	7.6	381.7	49.16	98.2	80	120	0			
Cadmium	9.356	0.011	0.19	9.542	0.1494	96.5	80	120	0			
Chromium	48.61	0.015	0.76	38.17	17.43	81.7	80	120	0			B
Lead	176.8	0.13	0.38	19.08	160.1	87.3	80	120	0			B
Selenium	17.89	0.49	1.1	19.08	0	93.7	80	120	0			
Silver	44.80	0.049	1.1	47.71	0	93.9	75	120	0			

Sample ID	R0530-21ASD	SampType:	SD	TestCode:	SW6010_S	Prep Date:	06/22/16 14:10	Run ID:	OPTIMA4_160623D
Client ID:	NPA-02-0203	Batch ID:	84852	Units:	mg/Kg	Analysis Date:	06/23/16 17:55	SeqNo:	2383416

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.806	1.9	4.7	0	0	0	0	0	8.366	5.12	10	
Barium	54.41	0.15	47	0	0	0	0	0	49.16	10.1	10	R
Cadmium	0.1979	0.071	1.2	0	0	0	0	0	0.1494	27.9	10	JR
Chromium	19.30	0.090	4.7	0	0	0	0	0	17.43	10.2	10	BR
Lead	180.5	0.81	2.4	0	0	0	0	0	160.1	12	10	BR
Selenium	ND	3.0	7.1	0	0	0	0	0	0	0	10	
Silver	ND	0.30	7.1	0	0	0	0	0	0	0	10	

Sample ID	R0530-21APDS	SampType:	PDS	TestCode:	SW6010_S	Prep Date:	06/22/16 14:10	Run ID:	OPTIMA4_160623D
Client ID:	NPA-02-0203	Batch ID:	84852	Units:	mg/Kg	Analysis Date:	06/23/16 17:58	SeqNo:	2383417

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	32.06	0.39	0.95	23.69	8.366	100	75	125	0			

Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank
J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

CLIENT: Nobis Engineering, Inc
Work Order: R0530
Project: Lawrence, MA site

ANALYTICAL QC SUMMARY REPORT

SW7471
SW846 7471B -- Mercury by FIA

Sample ID	**MB-84866**	SampType:	**MBLK**	TestCode:	**SW7471**	Prep Date:	**06/24/16 9:50**	Run ID:	**FIMS2_160627A**		
Client ID:	**MB-84866**	Batch ID:	**84866**	Units:	**mg/Kg**	Analysis Date:	**06/27/16 16:25**	SeqNo:	**2383995**		

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.0021	0.033									

Sample ID	**LCS-84866**	SampType:	**LCS**	TestCode:	**SW7471**	Prep Date:	**06/24/16 9:50**	Run ID:	**FIMS2_160627A**		
Client ID:	**LCS-84866**	Batch ID:	**84866**	Units:	**mg/Kg**	Analysis Date:	**06/27/16 16:26**	SeqNo:	**2383996**		

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.7852	0.0021	0.033	0.7580	0	104	80	120	0			

Sample ID	**R0530-21ADUP**	SampType:	**DUP**	TestCode:	**SW7471**	Prep Date:	**06/24/16 9:50**	Run ID:	**FIMS2_160627A**		
Client ID:	**NPA-02-0203**	Batch ID:	**84866**	Units:	**mg/Kg**	Analysis Date:	**06/27/16 17:12**	SeqNo:	**2384023**		

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.1006	0.0025	0.040	0	0	0	0	0	0.1204	18	20	

Sample ID	**R0530-21AMS**	SampType:	**MS**	TestCode:	**SW7471**	Prep Date:	**06/24/16 9:50**	Run ID:	**FIMS2_160627A**		
Client ID:	**NPA-02-0203**	Batch ID:	**84866**	Units:	**mg/Kg**	Analysis Date:	**06/27/16 17:13**	SeqNo:	**2384024**		

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.034	0.0025	0.040	0.9090	0.1204	100	80	120	0			

Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank
J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

eurofins | Spectrum Analytical

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

Report Date:
24-Jun-16 16:44

Laboratory Report

Eurofins Spectrum Analytical, Inc.
646 Camp Ave.
North Kingstown, RI 02852
Attn: Edward Lawler

Project: Lawrence, MA Site
Project #: R0530

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SC22560-01	MS-02-0203	Soil	10-Jun-16 08:05	15-Jun-16 16:17

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00098
USDA # S-51435

Authorized by:

June O'Connor
Laboratory Director

Eurofins Spectrum Analytical holds primary NELAC certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 14 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum is currently accredited for the specific method or analyte indicated. Please refer to our Quality web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

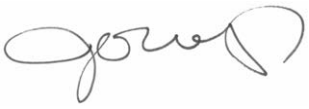
The following outlines the condition of all EPH samples contained within this report upon laboratory receipt.

Matrices	Soil
Containers	✓ Satisfactory
Aqueous Preservative	✓ N/A pH≤2 pH>2 pH adjusted to <2 in lab
Temperature	Received on ice Received at 4 ± 2 ºC ✓ Other: 1.4ºC

Were all QA/QC procedures followed as required by the EPH method? *Yes*
Were any significant modifications made to the EPH method as specified in Section 11.3? *No*
Were all performance/acceptance standards for required QA/QC procedures achieved? *Yes*

I attest that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Authorized by:



June O'Connor
Laboratory Director

MassDEP Analytical Protocol Certification Form

Laboratory Name: Eurofins Spectrum Analytical, Inc.	**Project #:** R0530
Project Location: Lawrence, MA Site	**RTN:**
This form provides certifications for the following data set: SC22560-01	
Matrices: Soil	

CAM Protocol

8260 VOC CAM II A	7470/7471 Hg CAM III B	MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM II B	7010 Metals CAM III C	✓ MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B
6010 Metals CAM III A	6020 Metals CAM III D	8082 PCB CAM V A	9012 Total Cyanide/PAC CAM VI A	9014 Total Cyanide/PAC CAM VI A	6860 Perchlorate CAM VIII B

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?	✓ Yes No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	✓ Yes 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?	✓ Yes 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"?	✓ Yes No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	✓ Yes No Yes 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)?	✓ Yes No

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

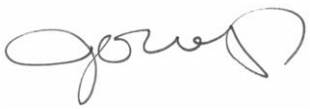
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	Yes ✓ No

***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?	Yes ✓ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	✓ Yes No

All negative responses are addressed in a case narrative on the cover page of this report.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.



June O'Connor
Laboratory Director
Date: 6/24/2016

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received 1.4 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

MADEP has published a list of analytical methods (CAM) which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of MCP decisions. "Presumptive Certainty" can be established only for those methods published by the MADEP in the MCP CAM. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method. Regulatory limits may not be achieved if specific method and/or technique was not requested on the Chain of Custody.

According to WSC-CAM 5/2009 Rev.1, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended recovery range, a range has been set based on historical control limits.

Some target analytes which are not listed as exceptions in the Summary of CAM Reporting Limits may exceed the recommended RL based on sample initial volume or weight provided, % moisture content, or responsiveness of a particular analyte to purge and trap instrumentation.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

MADEP EPH 5/2004 R

Calibration:

1604020

Analyte quantified by quadratic equation type calibration.

Benzo (a) pyrene
Benzo (g,h,i) perylene
Dibenzo (a,h) anthracene
Indeno (1,2,3-cd) pyrene

This affected the following samples:

S603014-ICV2

Laboratory Control Samples:

1610262 BSD

C9-C18 Aliphatic Hydrocarbons RPD 29% (25%) is outside individual acceptance criteria.

Sample Acceptance Check Form

Client:	Eurofins Spectrum Analytical, Inc. - RI
Project:	Lawrence, MA Site / R0530
Work Order:	SC22560
Sample(s) received on:	6/15/2016

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
Were custody seals present?	☐	☑	☐
Were custody seals intact?	☐	☐	☑
Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
Were samples refrigerated upon transfer to laboratory representative?	☑	☐	☐
Were sample containers received intact?	☑	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
Were samples accompanied by a Chain of Custody document?	☑	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☐	☑	☐
Did sample container labels agree with Chain of Custody document?	☑	☐	☐
Were samples received within method-specific holding times?	☑	☐	☐

Summary of Hits

Lab ID: SC22560-01 **Client ID:** MS-02-0203

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Anthracene	6.48		1.79	mg/kg	MADEP EPH 5/2004 R
Benzo (a) anthracene	13.9		1.79	mg/kg	MADEP EPH 5/2004 R
Benzo (a) pyrene	13.1		1.79	mg/kg	MADEP EPH 5/2004 R
Benzo (b) fluoranthene	7.31		1.79	mg/kg	MADEP EPH 5/2004 R
Benzo (g,h,i) perylene	8.30		1.79	mg/kg	MADEP EPH 5/2004 R
Benzo (k) fluoranthene	10.1		1.79	mg/kg	MADEP EPH 5/2004 R
C11-C22 Aromatic Hydrocarbons	347		53.8	mg/kg	MADEP EPH 5/2004 R
Chrysene	11.8		1.79	mg/kg	MADEP EPH 5/2004 R
Dibenzo (a,h) anthracene	2.11		1.79	mg/kg	MADEP EPH 5/2004 R
Fluoranthene	29.5		1.79	mg/kg	MADEP EPH 5/2004 R
Fluorene	2.37		1.79	mg/kg	MADEP EPH 5/2004 R
Indeno (1,2,3-cd) pyrene	7.48		1.79	mg/kg	MADEP EPH 5/2004 R
Phenanthrene	22.9		1.79	mg/kg	MADEP EPH 5/2004 R
Pyrene	23.1		1.79	mg/kg	MADEP EPH 5/2004 R
Unadjusted C11-C22 Aromatic Hydrocarbons	508		53.8	mg/kg	MADEP EPH 5/2004 R

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MS-02-0203	R0530	Soil	10-Jun-16 08:05	15-Jun-16
SC22560-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Extractable Petroleum Hydrocarbons													
MADEP EPH													
Prepared by method SW846 3545A													
	C9-C18 Aliphatic Hydrocarbons	< 53.8		mg/kg dry	53.8	12.9	1	MADEP EPH 5/2004 R	17-Jun-16	23-Jun-16	NAA	1610262	
	C19-C36 Aliphatic Hydrocarbons	< 53.8		mg/kg dry	53.8	12.4	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	**347**		mg/kg dry	53.8	27.9	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	**508**		mg/kg dry	53.8	27.9	1	"	"	"	"	"	
91-20-3	Naphthalene	< 1.79		mg/kg dry	1.79	1.42	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	< 1.79		mg/kg dry	1.79	0.770	1	"	"	"	"	"	
208-96-8	Acenaphthylene	< 1.79		mg/kg dry	1.79	1.14	1	"	"	"	"	"	
83-32-9	Acenaphthene	< 1.79		mg/kg dry	1.79	1.08	1	"	"	"	"	"	
86-73-7	Fluorene	**2.37**		mg/kg dry	1.79	1.11	1	"	"	"	"	"	
85-01-8	Phenanthrene	**22.9**		mg/kg dry	1.79	1.06	1	"	"	"	"	"	
120-12-7	Anthracene	**6.48**		mg/kg dry	1.79	0.985	1	"	"	"	"	"	
206-44-0	Fluoranthene	**29.5**		mg/kg dry	1.79	1.19	1	"	"	"	"	"	
129-00-0	Pyrene	**23.1**		mg/kg dry	1.79	0.920	1	"	"	"	"	"	
56-55-3	Benzo (a) anthracene	**13.9**		mg/kg dry	1.79	1.14	1	"	"	"	"	"	
218-01-9	Chrysene	**11.8**		mg/kg dry	1.79	1.32	1	"	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	**7.31**		mg/kg dry	1.79	1.53	1	"	"	"	"	"	
207-08-9	Benzo (k) fluoranthene	**10.1**		mg/kg dry	1.79	1.66	1	"	"	"	"	"	
50-32-8	Benzo (a) pyrene	**13.1**		mg/kg dry	1.79	1.20	1	"	"	"	"	"	
193-39-5	Indeno (1,2,3-cd) pyrene	**7.48**		mg/kg dry	1.79	1.10	1	"	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	**2.11**		mg/kg dry	1.79	0.872	1	"	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	**8.30**		mg/kg dry	1.79	1.01	1	"	"	"	"	"	
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*140*			*40-140 %*			"	"	"	"	"	
84-15-1	*Ortho-Terphenyl*	*44*			*40-140 %*			"	"	"	"	"	
321-60-8	*2-Fluorobiphenyl*	*75*			*40-140 %*			"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**91.6**		%			1	SM2540 G Mod.	16-Jun-16	16-Jun-16	DT	1610228	

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1610262 - SW846 3545A										
Blank (1610262-BLK1)					Prepared & Analyzed: 17-Jun-16					
C9-C18 Aliphatic Hydrocarbons	< 9.95		mg/kg wet	9.95						
C19-C36 Aliphatic Hydrocarbons	< 9.95		mg/kg wet	9.95						
C11-C22 Aromatic Hydrocarbons	< 9.95		mg/kg wet	9.95						
Unadjusted C11-C22 Aromatic Hydrocarbons	< 9.95		mg/kg wet	9.95						
Total Petroleum Hydrocarbons	< 29.9		mg/kg wet	29.9						
Unadjusted Total Petroleum Hydrocarbons	< 29.9		mg/kg wet	29.9						
Naphthalene	< 0.331		mg/kg wet	0.331						
2-Methylnaphthalene	< 0.331		mg/kg wet	0.331						
Acenaphthylene	< 0.331		mg/kg wet	0.331						
Acenaphthene	< 0.331		mg/kg wet	0.331						
Fluorene	< 0.331		mg/kg wet	0.331						
Phenanthrene	< 0.331		mg/kg wet	0.331						
Anthracene	< 0.331		mg/kg wet	0.331						
Fluoranthene	< 0.331		mg/kg wet	0.331						
Pyrene	< 0.331		mg/kg wet	0.331						
Benzo (a) anthracene	< 0.331		mg/kg wet	0.331						
Chrysene	< 0.331		mg/kg wet	0.331						
Benzo (b) fluoranthene	< 0.331		mg/kg wet	0.331						
Benzo (k) fluoranthene	< 0.331		mg/kg wet	0.331						
Benzo (a) pyrene	< 0.331		mg/kg wet	0.331						
Indeno (1,2,3-cd) pyrene	< 0.331		mg/kg wet	0.331						
Dibenzo (a,h) anthracene	< 0.331		mg/kg wet	0.331						
Benzo (g,h,i) perylene	< 0.331		mg/kg wet	0.331						
n-Nonane (C9)	< 0.331		mg/kg wet	0.331						
n-Decane	< 0.331		mg/kg wet	0.331						
n-Dodecane	< 0.331		mg/kg wet	0.331						
n-Tetradecane	< 0.331		mg/kg wet	0.331						
n-Hexadecane	< 0.331		mg/kg wet	0.331						
n-Octadecane	< 0.331		mg/kg wet	0.331						
n-Nonadecane	< 0.331		mg/kg wet	0.331						
n-Eicosane	< 0.331		mg/kg wet	0.331						
n-Docosane	< 0.331		mg/kg wet	0.331						
n-Tetracosane	< 0.331		mg/kg wet	0.331						
n-Hexacosane	< 0.331		mg/kg wet	0.331						
n-Octacosane	< 0.331		mg/kg wet	0.331						
n-Triacontane	< 0.331		mg/kg wet	0.331						
n-Hexatriacontane	< 0.331		mg/kg wet	0.331						
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet							
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet							
Surrogate: 1-Chlorooctadecane	*2.65*		mg/kg wet		*3.32*		*80*	*40-140*		
Surrogate: Ortho-Terphenyl	*2.14*		mg/kg wet		*3.32*		*64*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*1.30*		mg/kg wet		*2.65*		*49*	*40-140*		
LCS (1610262-BS1)					Prepared & Analyzed: 17-Jun-16					
C9-C18 Aliphatic Hydrocarbons	**44.3**		mg/kg wet	9.74	39.0		114	40-140		
C19-C36 Aliphatic Hydrocarbons	**39.0**		mg/kg wet	9.74	52.0		75	40-140		
Unadjusted C11-C22 Aromatic Hydrocarbons	**24.7**		mg/kg wet	9.74	44.2		56	40-140		
Naphthalene	**1.13**		mg/kg wet	0.324	2.60		44	40-140		
2-Methylnaphthalene	**1.25**		mg/kg wet	0.324	2.60		48	40-140		
Acenaphthylene	**1.24**		mg/kg wet	0.324	2.60		48	40-140		
Acenaphthene	**1.26**		mg/kg wet	0.324	2.60		49	40-140		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1610262 - SW846 3545A										
LCS (1610262-BS1)					Prepared & Analyzed: 17-Jun-16					
Fluorene	**1.37**		mg/kg wet	0.324	2.60		53	40-140		
Phenanthrene	**1.45**		mg/kg wet	0.324	2.60		56	40-140		
Anthracene	**1.39**		mg/kg wet	0.324	2.60		54	40-140		
Fluoranthene	**1.52**		mg/kg wet	0.324	2.60		59	40-140		
Pyrene	**1.52**		mg/kg wet	0.324	2.60		58	40-140		
Benzo (a) anthracene	**1.69**		mg/kg wet	0.324	2.60		65	40-140		
Chrysene	**1.63**		mg/kg wet	0.324	2.60		63	40-140		
Benzo (b) fluoranthene	**1.66**		mg/kg wet	0.324	2.60		64	40-140		
Benzo (k) fluoranthene	**1.74**		mg/kg wet	0.324	2.60		67	40-140		
Benzo (a) pyrene	**1.73**		mg/kg wet	0.324	2.60		66	40-140		
Indeno (1,2,3-cd) pyrene	**1.51**		mg/kg wet	0.324	2.60		58	40-140		
Dibenzo (a,h) anthracene	**1.43**		mg/kg wet	0.324	2.60		55	40-140		
Benzo (g,h,i) perylene	**1.42**		mg/kg wet	0.324	2.60		54	40-140		
n-Nonane (C9)	**2.64**		mg/kg wet	0.324	6.49		41	30-140		
n-Decane	**2.88**		mg/kg wet	0.324	6.49		44	40-140		
n-Dodecane	**3.29**		mg/kg wet	0.324	6.49		51	40-140		
n-Tetradecane	**3.69**		mg/kg wet	0.324	6.49		57	40-140		
n-Hexadecane	**4.13**		mg/kg wet	0.324	6.49		64	40-140		
n-Octadecane	**4.34**		mg/kg wet	0.324	6.49		67	40-140		
n-Nonadecane	**4.42**		mg/kg wet	0.324	6.49		68	40-140		
n-Eicosane	**4.44**		mg/kg wet	0.324	6.49		68	40-140		
n-Docosane	**4.57**		mg/kg wet	0.324	6.49		70	40-140		
n-Tetracosane	**4.67**		mg/kg wet	0.324	6.49		72	40-140		
n-Hexacosane	**4.74**		mg/kg wet	0.324	6.49		73	40-140		
n-Octacosane	**4.74**		mg/kg wet	0.324	6.49		73	40-140		
n-Triacontane	**4.70**		mg/kg wet	0.324	6.49		72	40-140		
n-Hexatriacontane	**4.44**		mg/kg wet	0.324	6.49		68	40-140		
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet					0-200		
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet					0-200		
Surrogate: 1-Chlorooctadecane	*2.71*		mg/kg wet		*3.25*		*83*	*40-140*		
Surrogate: Ortho-Terphenyl	*1.99*		mg/kg wet		*3.25*		*61*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*1.48*		mg/kg wet		*2.60*		*57*	*40-140*		
LCS (1610262-BS2)					Prepared & Analyzed: 17-Jun-16					
C9-C18 Aliphatic Hydrocarbons	**41.2**		mg/kg wet	10.0	40.0		103	40-140		
C19-C36 Aliphatic Hydrocarbons	**28.1**		mg/kg wet	10.0	53.3		53	40-140		
Unadjusted C11-C22 Aromatic Hydrocarbons	**32.3**		mg/kg wet	10.0	45.3		71	40-140		
Naphthalene	**1.10**		mg/kg wet	0.333	2.67		41	40-140		
2-Methylnaphthalene	**1.36**		mg/kg wet	0.333	2.67		51	40-140		
Acenaphthylene	**1.33**		mg/kg wet	0.333	2.67		50	40-140		
Acenaphthene	**1.39**		mg/kg wet	0.333	2.67		52	40-140		
Fluorene	**1.55**		mg/kg wet	0.333	2.67		58	40-140		
Phenanthrene	**1.67**		mg/kg wet	0.333	2.67		63	40-140		
Anthracene	**1.64**		mg/kg wet	0.333	2.67		62	40-140		
Fluoranthene	**1.78**		mg/kg wet	0.333	2.67		67	40-140		
Pyrene	**1.76**		mg/kg wet	0.333	2.67		66	40-140		
Benzo (a) anthracene	**1.90**		mg/kg wet	0.333	2.67		71	40-140		
Chrysene	**1.89**		mg/kg wet	0.333	2.67		71	40-140		
Benzo (b) fluoranthene	**1.46**		mg/kg wet	0.333	2.67		55	40-140		
Benzo (k) fluoranthene	**2.00**		mg/kg wet	0.333	2.67		75	40-140		
Benzo (a) pyrene	**2.00**		mg/kg wet	0.333	2.67		75	40-140		
Indeno (1,2,3-cd) pyrene	**1.77**		mg/kg wet	0.333	2.67		66	40-140		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1610262 - SW846 3545A										
LCS (1610262-BS2)					Prepared & Analyzed: 17-Jun-16					
Dibenzo (a,h) anthracene	**1.67**		mg/kg wet	0.333	2.67		62	40-140		
Benzo (g,h,i) perylene	**1.68**		mg/kg wet	0.333	2.67		63	40-140		
n-Nonane (C9)	**2.89**		mg/kg wet	0.333	6.67		43	30-140		
n-Decane	**3.37**		mg/kg wet	0.333	6.67		51	40-140		
n-Dodecane	**3.53**		mg/kg wet	0.333	6.67		53	40-140		
n-Tetradecane	**3.90**		mg/kg wet	0.333	6.67		59	40-140		
n-Hexadecane	**4.29**		mg/kg wet	0.333	6.67		64	40-140		
n-Octadecane	**4.55**		mg/kg wet	0.333	6.67		68	40-140		
n-Nonadecane	**4.71**		mg/kg wet	0.333	6.67		71	40-140		
n-Eicosane	**4.76**		mg/kg wet	0.333	6.67		71	40-140		
n-Docosane	**4.95**		mg/kg wet	0.333	6.67		74	40-140		
n-Tetracosane	**5.03**		mg/kg wet	0.333	6.67		75	40-140		
n-Hexacosane	**5.09**		mg/kg wet	0.333	6.67		76	40-140		
n-Octacosane	**5.04**		mg/kg wet	0.333	6.67		76	40-140		
n-Triacontane	**4.93**		mg/kg wet	0.333	6.67		74	40-140		
n-Hexatriacontane	**4.68**		mg/kg wet	0.333	6.67		70	40-140		
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet					0-200		
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet					0-200		
Surrogate: 1-Chlorooctadecane	*2.77*		mg/kg wet		*3.33*		*83*	*40-140*		
Surrogate: Ortho-Terphenyl	*2.17*		mg/kg wet		*3.33*		*65*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*1.47*		mg/kg wet		*2.67*		*55*	*40-140*		
LCS Dup (1610262-BSD1)					Prepared & Analyzed: 17-Jun-16					
C9-C18 Aliphatic Hydrocarbons	**33.1**	QR2	mg/kg wet	9.53	38.1		87	40-140	29	25
C19-C36 Aliphatic Hydrocarbons	**31.0**		mg/kg wet	9.53	50.8		61	40-140	23	25
Unadjusted C11-C22 Aromatic Hydrocarbons	**30.7**		mg/kg wet	9.53	43.2		71	40-140	22	25
Naphthalene	**1.10**		mg/kg wet	0.317	2.54		43	40-140	3	25
2-Methylnaphthalene	**1.31**		mg/kg wet	0.317	2.54		52	40-140	4	25
Acenaphthylene	**1.39**		mg/kg wet	0.317	2.54		55	40-140	11	25
Acenaphthene	**1.43**		mg/kg wet	0.317	2.54		56	40-140	12	25
Fluorene	**1.54**		mg/kg wet	0.317	2.54		61	40-140	11	25
Phenanthrene	**1.70**		mg/kg wet	0.317	2.54		67	40-140	16	25
Anthracene	**1.62**		mg/kg wet	0.317	2.54		64	40-140	15	25
Fluoranthene	**1.81**		mg/kg wet	0.317	2.54		71	40-140	17	25
Pyrene	**1.79**		mg/kg wet	0.317	2.54		71	40-140	17	25
Benzo (a) anthracene	**1.98**		mg/kg wet	0.317	2.54		78	40-140	16	25
Chrysene	**1.92**		mg/kg wet	0.317	2.54		76	40-140	17	25
Benzo (b) fluoranthene	**1.68**		mg/kg wet	0.317	2.54		66	40-140	1	25
Benzo (k) fluoranthene	**2.02**		mg/kg wet	0.317	2.54		80	40-140	15	25
Benzo (a) pyrene	**2.05**		mg/kg wet	0.317	2.54		80	40-140	17	25
Indeno (1,2,3-cd) pyrene	**1.81**		mg/kg wet	0.317	2.54		71	40-140	18	25
Dibenzo (a,h) anthracene	**1.74**		mg/kg wet	0.317	2.54		69	40-140	20	25
Benzo (g,h,i) perylene	**1.70**		mg/kg wet	0.317	2.54		67	40-140	18	25
n-Nonane (C9)	**2.61**		mg/kg wet	0.317	6.36		41	30-140	1	25
n-Decane	**3.12**		mg/kg wet	0.317	6.36		49	40-140	8	25
n-Dodecane	**3.53**		mg/kg wet	0.317	6.36		55	40-140	7	25
n-Tetradecane	**4.05**		mg/kg wet	0.317	6.36		64	40-140	9	25
n-Hexadecane	**4.58**		mg/kg wet	0.317	6.36		72	40-140	10	25
n-Octadecane	**4.87**		mg/kg wet	0.317	6.36		77	40-140	11	25
n-Nonadecane	**4.99**		mg/kg wet	0.317	6.36		79	40-140	12	25
n-Eicosane	**5.04**		mg/kg wet	0.317	6.36		79	40-140	13	25
n-Docosane	**5.24**		mg/kg wet	0.317	6.36		83	40-140	14	25

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1610262 - SW846 3545A										
LCS Dup (1610262-BSD1)					Prepared & Analyzed: 17-Jun-16					
n-Tetracosane	**5.31**		mg/kg wet	0.317	6.36		84	40-140	13	25
n-Hexacosane	**5.35**		mg/kg wet	0.317	6.36		84	40-140	12	25
n-Octacosane	**5.33**		mg/kg wet	0.317	6.36		84	40-140	12	25
n-Triacontane	**5.25**		mg/kg wet	0.317	6.36		83	40-140	11	25
n-Hexatriacontane	**4.93**		mg/kg wet	0.317	6.36		78	40-140	10	25
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet					0-200		200
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet					0-200		200
Surrogate: 1-Chlorooctadecane	*2.97*		mg/kg wet		*3.18*		*93*	*40-140*		
Surrogate: Ortho-Terphenyl	*2.34*		mg/kg wet		*3.18*		*74*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*1.50*		mg/kg wet		*2.54*		*59*	*40-140*		

Extractable Petroleum Hydrocarbons - CCV Evaluation Report

Analyte(s)	Average RF	CCRF	% D	Limit
Batch S605292				
Calibration Check (S605292-CCV1)				
C9-C18 Aliphatic Hydrocarbons	225670.7	168519	6.2	25
C19-C36 Aliphatic Hydrocarbons	1433281	381938.3	-13.4	25
Unadjusted C11-C22 Aromatic Hydrocarbons	24.03551	18.29397	6.2	20
Naphthalene	7.378404	6.262801	-15.1	20
2-Methylnaphthalene	4.308346	4.170433	-3.2	20
Acenaphthylene	7.460001	6.069671	-18.6	20
Acenaphthene	4.845007	3.943643	-18.6	20
Fluorene	5.074137	4.079455	-19.6	20
Phenanthrene	6.753278	5.706565	-15.5	20
Anthracene	7.709496	6.36792	-17.4	20
Fluoranthene	7.305509	6.125997	-16.1	20
Pyrene	7.652392	6.491395	-15.2	20
Benzo (a) anthracene	5.896059	5.748127	-2.5	20
Chrysene	6.7393	6.303664	-6.5	20
Benzo (b) fluoranthene	6.035965	5.783452	-4.2	20
Benzo (k) fluoranthene	6.638118	6.811018	2.6	20
Benzo (a) pyrene	5.579656	5.478201	1.3	20
Indeno (1,2,3-cd) pyrene	6.366253	6.231507	-0.8	20
Dibenzo (a,h) anthracene	5.317723	5.176049	-4.9	20
Benzo (g,h,i) perylene	5.394442	5.288708	-0.9	20
n-Nonane (C9)	205747.8	184318.5	-10.4	25
n-Decane	204813.1	183336	-10.5	25
n-Dodecane	203877.7	178778.4	-12.3	25
n-Tetradecane	201712.1	177688.7	-11.9	25
n-Hexadecane	195278.5	172921	-11.4	25
n-Octadecane	187431.2	167738.6	-10.5	25
n-Nonadecane	181249.4	165008.5	-9.0	25
n-Eicosane	176548	163907.9	-7.2	25
n-Docosane	168319.2	162872.7	-3.2	25
n-Tetracosane	163462.3	165015.7	1.0	25
n-Hexacosane	158574.7	168499.8	6.3	25
n-Octacosane	158586.1	170403.3	7.5	25
n-Triacontane	158880.7	169917.2	6.9	25
n-Hexatriacontane	159740.7	163186.1	2.2	25
Naphthalene (aliphatic fraction)	247081.9			
2-Methylnaphthalene (aliphatic fraction)	252288.7			
Calibration Check (S605292-CCV2)				
C9-C18 Aliphatic Hydrocarbons	225670.7	179907.2	14.2	25
C19-C36 Aliphatic Hydrocarbons	1433281	386573	-10.1	25
Unadjusted C11-C22 Aromatic Hydrocarbons	24.03551	18.20576	5.6	20
Naphthalene	7.378404	7.169804	-2.8	20
2-Methylnaphthalene	4.308346	4.670931	8.4	20
Acenaphthylene	7.460001	6.483015	-13.1	20
Acenaphthene	4.845007	4.110963	-15.2	20
Fluorene	5.074137	4.522879	-10.9	20
Phenanthrene	6.753278	6.216779	-7.9	20
Anthracene	7.709496	6.198325	-19.6	20
Fluoranthene	7.305509	6.294186	-13.8	20
Pyrene	7.652392	6.590944	-13.9	20
Benzo (a) anthracene	5.896059	5.013844	-15.0	20
Chrysene	6.7393	5.769109	-14.4	20

Extractable Petroleum Hydrocarbons - CCV Evaluation Report

Analyte(s)	Average RF	CCRF	% D	Limit
Batch S605292				
Calibration Check (S605292-CCV2)				
Benzo (b) fluoranthene	6.035965	5.5179	-8.6	20
Benzo (k) fluoranthene	6.638118	5.71247	-13.9	20
Benzo (a) pyrene	5.579656	4.503427	-16.7	20
Indeno (1,2,3-cd) pyrene	6.366253	5.213377	-16.8	20
Dibenzo (a,h) anthracene	5.317723	4.675918	-14.1	20
Benzo (g,h,i) perylene	5.394442	4.761396	-10.6	20
n-Nonane (C9)	205747.8	171724.5	-16.5	25
n-Decane	204813.1	176284.4	-13.9	25
n-Dodecane	203877.7	167628.2	-17.8	25
n-Tetradecane	201712.1	161426.5	-20.0	25
n-Hexadecane	195278.5	156526.9	-19.8	25
n-Octadecane	187431.2	150493.1	-19.7	25
n-Nonadecane	181249.4	148854.5	-17.9	25
n-Eicosane	176548	144372.7	-18.2	25
n-Docosane	168319.2	149138.7	-11.4	25
n-Tetracosane	163462.3	133438.5	-18.4	25
n-Hexacosane	158574.7	138113.9	-12.9	25
n-Octacosane	158586.1	137030.2	-13.6	25
n-Triacontane	158880.7	134202.3	-15.5	25
n-Hexatriacontane	159740.7	130215.1	-18.5	25
Naphthalene (aliphatic fraction)	247081.9			
2-Methylnaphthalene (aliphatic fraction)	252288.7			

Notes and Definitions

QR2	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

SC225603CH

CHAIN-OF-CUSTODY RECORD

eurofins | Spectrum Analytical

WorkOrder : R0530
Project: Lawrence, MA site
Report Type : LEVEL 2
Purchase Order : R0530

Due Date : 6/24/2016
FAX Due Date :
Report To : Edward A Lawler

EDD Types :
Please generate a Little PEL EDD

Subcontractor:
Eurofins Spectrum Analytical, Inc. - MA
11 Almgren Drive
Agawam, Massachusetts 01001

Phone: (413) 789-9018

EQuISFacilityCode: N/A

Invoice To:
Eurofins Spectrum Analytical, Inc.
2425 New Holland Pike
Lancaster, PA 17601
Attention: Accounts Payable
AccountsPayable@EurofinsUS.com

= number of containers

Requested Test

Client Sample ID	Collection Date	#	Matrix	DUP/MS/MSD	Mitkem Sample ID	MAEPH_S
MS-02-0203 SC225603-01	06/10/2016 08:05	1	Soil		R0530-02B	X

1) MAEPH_S, MA EPH BY GC-FID

Use 'Client Sample IDs' when reporting data. If needed, truncate 'Client Sample IDs' to fit on reports. Use full 'Client Sample ID' when generating EDD.

Comments: Needs MA-MCP form with data report.

1.4|0|1.4|0|1

		Date/Time			Date/Time
Relinquished by:	Edward A Lawler		**Received by:**	David Dec	6/15/16 11:30
Relinquished by:	David Dec	6/15/16 11:55	**Received by:**	CMR	6/15/16 1617

06/15/2016
Page 1 of 1

646 Camp Ave * North Kingstown * RI * 028524008 * 401-732-3400 * 401-732-3499
www.EurofinsUS.com/Spectrum

[X] REF

Eurofins Spectrum Analytical, Inc. -- ESAI-RI

WorkOrder: R0530

Client ID: NOBIS
Project: Lawrence, MA site
WO Name: Lawrence, MA site
Location: LAWRENCE,
Comments: Needs MA-MCP form with data report.

Case:
SDG:
PO: 16-80108.04-001

HC Due: 06/24/16
Fax Due:
Fax Report: ☐

Report Level: LEVEL 2
Special Program:
EDD: EQUIIS_4_EFW_LabSMP

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
R0530-01A	MS-02-0102	06/10/2016 08:00	06/14/2016	Soil	PMoist	/					P2
R0530-01A	MS-02-0102	06/10/2016 08:00	06/14/2016	Soil	SW6010_S	/ RCRA8				Y	P2
R0530-01A	MS-02-0102	06/10/2016 08:00	06/14/2016	Soil	SW7471	/ RCRA8					P2
R0530-01A	MS-02-0102	06/10/2016 08:00	06/14/2016	Soil	SW8082_S	/ Incl. Ar1262, Ar1268				Y	P2
R0530-02A	MS-02-0203	06/10/2016 08:05	06/14/2016	Soil	PMoist	/					P2
R0530-02A	MS-02-0203	06/10/2016 08:05	06/14/2016	Soil	SW6010_S	/ RCRA8				Y	P2
R0530-02A	MS-02-0203	06/10/2016 08:05	06/14/2016	Soil	SW7471	/ RCRA8					P2
R0530-02A	MS-02-0203	06/10/2016 08:05	06/14/2016	Soil	SW8082_S	/ Incl. Ar1262, Ar1268				Y	P2
R0530-02A	MS-02-0203	06/10/2016 08:05	06/14/2016	Soil	SW8270_S	/ 8270_PAH,				Y	P2
R0530-02B	MS-02-0203	06/10/2016 08:05	06/14/2016	Soil	MAEPH_S	/ SPECTRUM--Sub to Agawam					SUB
R0530-03A	NPA-07-0.502	06/10/2016 08:15	06/14/2016	Soil	PMoist	/					P2
R0530-03A	NPA-07-0.502	06/10/2016 08:15	06/14/2016	Soil	SW6010_S	/ RCRA8				Y	P2
R0530-03A	NPA-07-0.502	06/10/2016 08:15	06/14/2016	Soil	SW7471	/ RCRA8					P2
R0530-03A	NPA-07-0.502	06/10/2016 08:15	06/14/2016	Soil	SW8082_S	/ Incl. Ar1262, Ar1268				Y	P2
R0530-03A	NPA-07-0.502	06/10/2016 08:15	06/14/2016	Soil	SW8270_S	/ 8270_PAH,				Y	P2
R0530-04A	NPA-07-0203	06/10/2016 08:20	06/14/2016	Soil	PMoist	/					P2
R0530-04A	NPA-07-0203	06/10/2016 08:20	06/14/2016	Soil	SW6010_S	/ RCRA8				Y	P2
R0530-04A	NPA-07-0203	06/10/2016 08:20	06/14/2016	Soil	SW7471	/ RCRA8					P2
R0530-04A	NPA-07-0203	06/10/2016 08:20	06/14/2016	Soil	SW8082_S	/ Incl. Ar1262, Ar1268				Y	P2
R0530-05A	MS-03-0102	06/10/2016 08:45	06/14/2016	Soil	PMoist	/					P2
R0530-05A	MS-03-0102	06/10/2016 08:45	06/14/2016	Soil	SW6010_S	/ RCRA8				Y	P2
R0530-05A	MS-03-0102	06/10/2016 08:45	06/14/2016	Soil	SW7471	/ RCRA8					P2
R0530-05A	MS-03-0102	06/10/2016 08:45	06/14/2016	Soil	SW8082_S	/ Incl. Ar1262, Ar1268				Y	P2

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

06/21/2016 08:10 Lab Client Rep: Edward A Lawler

Eurofins Spectrum Analytical, Inc. -- ESAI-RI

WorkOrder: R0530

Client ID: NOBIS
Project: Lawrence, MA site
WO Name: Lawrence, MA site
Location: LAWRENCE,
Comments: Needs MA-MCP form with data report.

Case:
SDG:
PO: 16-80108.04-001

HC Due: 06/24/16
Fax Due:
Fax Report: ☐

Report Level: LEVEL 2
Special Program:
EDD: EQUIIS_4_EFW_LabSMP

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
R0530-06A	MS-03-0203	06/10/2016 08:50	06/14/2016	Soil	PMoist	/					P2
R0530-06A	MS-03-0203	06/10/2016 08:50	06/14/2016	Soil	SW6010_S	/ RCRA8				Y	P2
R0530-06A	MS-03-0203	06/10/2016 08:50	06/14/2016	Soil	SW7471	/ RCRA8					P2
R0530-06A	MS-03-0203	06/10/2016 08:50	06/14/2016	Soil	SW8082_S	/ Incl. Ar1262, Ar1268				Y	P2
R0530-07A	MS-01-0102	06/10/2016 09:05	06/14/2016	Soil	PMoist	/					P2
R0530-07A	MS-01-0102	06/10/2016 09:05	06/14/2016	Soil	SW6010_S	/ RCRA8				Y	P2
R0530-07A	MS-01-0102	06/10/2016 09:05	06/14/2016	Soil	SW7471	/ RCRA8					P2
R0530-07A	MS-01-0102	06/10/2016 09:05	06/14/2016	Soil	SW8082_S	/ Incl. Ar1262, Ar1268				Y	P2
R0530-08A	MS-01-0203	06/10/2016 09:10	06/14/2016	Soil	PMoist	/					P2
R0530-08A	MS-01-0203	06/10/2016 09:10	06/14/2016	Soil	SW6010_S	/ RCRA8				Y	P2
R0530-08A	MS-01-0203	06/10/2016 09:10	06/14/2016	Soil	SW7471	/ RCRA8					P2
R0530-08A	MS-01-0203	06/10/2016 09:10	06/14/2016	Soil	SW8082_S	/ Incl. Ar1262, Ar1268				Y	P2
R0530-08A	MS-01-0203	06/10/2016 09:10	06/14/2016	Soil	SW8270_S	/ 8270_PAH,				Y	P2
R0530-09A	MS-01-1213	06/10/2016 09:15	06/14/2016	Soil	SW8260_LOW_S	/				Y	VOA
R0530-09B	MS-01-1213	06/10/2016 09:15	06/14/2016	Soil	SW8260_MED_S	/		Y		Y	VOA
R0530-10A	NPA-06-0.502	06/10/2016 10:00	06/14/2016	Soil	PMoist	/					P2
R0530-10A	NPA-06-0.502	06/10/2016 10:00	06/14/2016	Soil	SW6010_S	/ RCRA8				Y	P2
R0530-10A	NPA-06-0.502	06/10/2016 10:00	06/14/2016	Soil	SW7471	/ RCRA8					P2
R0530-10A	NPA-06-0.502	06/10/2016 10:00	06/14/2016	Soil	SW8082_S	/ Incl. Ar1262, Ar1268				Y	P2
R0530-10A	NPA-06-0.502	06/10/2016 10:00	06/14/2016	Soil	SW8270_S	/ 8270_PAH,				Y	P2
R0530-11A	NPA-06-0203	06/10/2016 10:05	06/14/2016	Soil	PMoist	/					P2
R0530-11A	NPA-06-0203	06/10/2016 10:05	06/14/2016	Soil	SW6010_S	/ RCRA8				Y	P2
R0530-11A	NPA-06-0203	06/10/2016 10:05	06/14/2016	Soil	SW7471	/ RCRA8					P2

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

Eurofins Spectrum Analytical, Inc. -- ESAI-RI

WorkOrder: R0530

Client ID: NOBIS
Project: Lawrence, MA site
WO Name: Lawrence, MA site
Location: LAWRENCE,
Comments: Needs MA-MCP form with data report.

Case:
SDG:
PO: 16-80108.04-001

HC Due: 06/24/16
Fax Due:
Fax Report: ☐

Report Level: LEVEL 2
Special Program:
EDD: EQUIIS_4_EFW_LabSMP

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
R0530-11A	NPA-06-0203	06/10/2016 10:05	06/14/2016	Soil	SW8082_S	/ Incl. Ar1262, Ar1268				Y	P2
R0530-12A	NPA-05-0.502	06/10/2016 10:10	06/14/2016	Soil	PMoist	/					P2
R0530-12A	NPA-05-0.502	06/10/2016 10:10	06/14/2016	Soil	SW6010_S	/ RCRA8				Y	P2
R0530-12A	NPA-05-0.502	06/10/2016 10:10	06/14/2016	Soil	SW7471	/ RCRA8					P2
R0530-12A	NPA-05-0.502	06/10/2016 10:10	06/14/2016	Soil	SW8082_S	/ Incl. Ar1262, Ar1268				Y	P2
R0530-12A	NPA-05-0.502	06/10/2016 10:10	06/14/2016	Soil	SW8270_S	/ 8270_PAH,				Y	P2
R0530-13A	NPA-05-0203	06/10/2016 10:15	06/14/2016	Soil	PMoist	/					P2
R0530-13A	NPA-05-0203	06/10/2016 10:15	06/14/2016	Soil	SW6010_S	/ RCRA8				Y	P2
R0530-13A	NPA-05-0203	06/10/2016 10:15	06/14/2016	Soil	SW7471	/ RCRA8					P2
R0530-13A	NPA-05-0203	06/10/2016 10:15	06/14/2016	Soil	SW8082_S	/ Incl. Ar1262, Ar1268				Y	P2
R0530-14A	NPA-04-0.502	06/10/2016 10:20	06/14/2016	Soil	PMoist	/					P2
R0530-14A	NPA-04-0.502	06/10/2016 10:20	06/14/2016	Soil	SW6010_S	/ RCRA8				Y	P2
R0530-14A	NPA-04-0.502	06/10/2016 10:20	06/14/2016	Soil	SW7471	/ RCRA8					P2
R0530-14A	NPA-04-0.502	06/10/2016 10:20	06/14/2016	Soil	SW8082_S	/ Incl. Ar1262, Ar1268				Y	P2
R0530-15A	NPA-04-0203	06/10/2016 10:25	06/14/2016	Soil	PMoist	/					P2
R0530-15A	NPA-04-0203	06/10/2016 10:25	06/14/2016	Soil	SW6010_S	/ RCRA8				Y	P2
R0530-15A	NPA-04-0203	06/10/2016 10:25	06/14/2016	Soil	SW7471	/ RCRA8					P2
R0530-15A	NPA-04-0203	06/10/2016 10:25	06/14/2016	Soil	SW8082_S	/ Incl. Ar1262, Ar1268				Y	P2
R0530-15A	NPA-04-0203	06/10/2016 10:25	06/14/2016	Soil	SW8270_S	/ 8270_PAH,				Y	P2
R0530-16A	NPA-03-0.502	06/10/2016 10:40	06/14/2016	Soil	PMoist	/					P2
R0530-16A	NPA-03-0.502	06/10/2016 10:40	06/14/2016	Soil	SW6010_S	/ RCRA8				Y	P2
R0530-16A	NPA-03-0.502	06/10/2016 10:40	06/14/2016	Soil	SW7471	/ RCRA8					P2
R0530-16A	NPA-03-0.502	06/10/2016 10:40	06/14/2016	Soil	SW8082_S	/ Incl. Ar1262, Ar1268				Y	P2
R0530-16A	NPA-03-0.502	06/10/2016 10:40	06/14/2016	Soil	SW8270_S	/ 8270_PAH,				Y	P2

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

Lab Client Rep: Edward A Lawler

Eurofins Spectrum Analytical, Inc. -- ESAI-RI

WorkOrder: R0530

Client ID: NOBIS
Project: Lawrence, MA site
WO Name: Lawrence, MA site
Location: LAWRENCE,
Comments: Needs MA-MCP form with data report.

Case:
SDG:
PO: 16-80108.04-001

HC Due: 06/24/16
Fax Due:
Fax Report: ☐

Report Level: LEVEL 2
Special Program:
EDD: EQUIIS_4_EFW_LabSMP

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
R0530-17A	NPA-03-0203	06/10/2016 10:45	06/14/2016	Soil	PMoist	/					P2
R0530-17A	NPA-03-0203	06/10/2016 10:45	06/14/2016	Soil	SW6010_S	/ RCRA8				Y	P2
R0530-17A	NPA-03-0203	06/10/2016 10:45	06/14/2016	Soil	SW7471	/ RCRA8					P2
R0530-17A	NPA-03-0203	06/10/2016 10:45	06/14/2016	Soil	SW8082_S	/ Incl. Ar1262, Ar1268				Y	P2
R0530-18A	NPA-01-0.502	06/10/2016 10:55	06/14/2016	Soil	PMoist	/					P2
R0530-18A	NPA-01-0.502	06/10/2016 10:55	06/14/2016	Soil	SW6010_S	/ RCRA8				Y	P2
R0530-18A	NPA-01-0.502	06/10/2016 10:55	06/14/2016	Soil	SW7471	/ RCRA8					P2
R0530-18A	NPA-01-0.502	06/10/2016 10:55	06/14/2016	Soil	SW8082_S	/ Incl. Ar1262, Ar1268				Y	P2
R0530-18A	NPA-01-0.502	06/10/2016 10:55	06/14/2016	Soil	SW8270_S	/ 8270_PAH,				Y	P2
R0530-19A	NPA-01-0203	06/10/2016 11:00	06/14/2016	Soil	PMoist	/					P2
R0530-19A	NPA-01-0203	06/10/2016 11:00	06/14/2016	Soil	SW6010_S	/ RCRA8				Y	P2
R0530-19A	NPA-01-0203	06/10/2016 11:00	06/14/2016	Soil	SW7471	/ RCRA8					P2
R0530-19A	NPA-01-0203	06/10/2016 11:00	06/14/2016	Soil	SW8082_S	/ Incl. Ar1262, Ar1268				Y	P2
R0530-20A	NPA-02-0.502	06/10/2016 11:20	06/14/2016	Soil	PMoist	/					P2
R0530-20A	NPA-02-0.502	06/10/2016 11:20	06/14/2016	Soil	SW6010_S	/ RCRA8				Y	P2
R0530-20A	NPA-02-0.502	06/10/2016 11:20	06/14/2016	Soil	SW7471	/ RCRA8					P2
R0530-20A	NPA-02-0.502	06/10/2016 11:20	06/14/2016	Soil	SW8082_S	/ Incl. Ar1262, Ar1268				Y	P2
R0530-21A	NPA-02-0203	06/10/2016 11:25	06/14/2016	Soil	PMoist	/					P2
R0530-21A	NPA-02-0203	06/10/2016 11:25	06/14/2016	Soil	SW6010_S	/ RCRA8				Y	P2
R0530-21A	NPA-02-0203	06/10/2016 11:25	06/14/2016	Soil	SW7471	/ RCRA8					P2
R0530-21A	NPA-02-0203	06/10/2016 11:25	06/14/2016	Soil	SW8082_S	/ Incl. Ar1262, Ar1268				Y	P2
R0530-22A	NPA-02-0607	06/10/2016 11:30	06/14/2016	Soil	SW8260_LOW_S	/				Y	VOA
R0530-22B	NPA-02-0607	06/10/2016 11:30	06/14/2016	Soil	SW8260_MED_S	/		Y		Y	VOA

HF = Fraction logged in but all tests have been placed on hold

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Eurofins Spectrum Analytical, Inc. -- ESAI-RI

WorkOrder: R0530

Client ID: NOBIS
Project: Lawrence, MA site
WO Name: Lawrence, MA site
Location: LAWRENCE,
Comments: Needs MA-MCP form with data report.

Case:
SDG:
PO: 16-80108.04-001

HC Due: 06/24/16
Fax Due:
Fax Report: ☐

Report Level: LEVEL 2
Special Program:
EDD: EQUIIS_4_EFW_LabSMP

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
R0530-23A	TB-01	06/10/2016 08:00	06/14/2016	Soil	SW8260_LOW_S	/				Y	VOA
R0530-23B	TB-01	06/10/2016 08:00	06/14/2016	Soil	SW8260_MED_S	/		Y		Y	VOA

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

R0580

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CHAIN OF CUSTODY RECORD

Page 1 of 3

Special Handling:

☐ Standard TAT - 7 to 10 business days

☐ Rush TAT - Date Needed: _____

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 60 days unless otherwise instructed.

Report To: NOBIS ENGINEERING

Telephone #:

Project Mgr: A. ROY / S. VETERE

Invoice To:

P.O No.: _____ Quote #: _____

Project No: 80108.04

Site Name: LAWRENCE TBA

Location: LAWRENCE State: MA

Sampler(s): EHJ, AG

F=Field Filtered 1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11= MeOH 12= _____

DW=Dinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1= _____ X2= _____ X3= _____

G= Grab C=Compsite

List Preservative Code below: 9/11

QA/QC Reporting Notes:
* additional charges may appply

MA DEP MCP CAM Report? ☐ Yes ☐ No
CT DPH RCP Report? ☐ Yes ☐ No
☐ Standard ☐ No QC ☐ DQA*
☐ ASP A* ☐ ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ Tier II* ☐ Tier IV*
☐ Other: _____
State-specific reporting standards:

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	PCBs	RCRA 8 METALS	PAHs	EPH	VOCs				Check if chlorinated
	MS-02-0102	6/10/16	800	G	SO		1			X	X							☐
	MS-02-0203		805				2			X	X	X	X					☐
	NPA-07-0.502		815				2			X	X	X						☐
	NPA-07-0203		820				1			X	X							☐
	MS-03-0102		845				1			X	X							☐
	MS-03-0203		850				1			X	X							☐
	MS-01-0102		905				1			X	X							☐
	MS-01-0203		910				2			X	X	X						☐
	MS-01-1213		915			3								X				☐
	NPA-06-0.502		1000				2			X	X	X						☐

Relinquished by:	Received by:	Date:	Time:	Temp °C
	Nobis Fridge	6/10/16	16:25	Observed 1.4
	DSR	6/13/16	13:4	Correction Factor 0
DSR	SUBOUT	6/13/16		Corrected 1.4
Fedex 674476 8:25		6/14/16	11:03	IR ID # 01

☐ EDD format: _____

☐ E-mail to: _____

Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken

☐ Ambient ☐ Iced ☒ Refrigerated ☒ DI VOA Frozen ☐ Soil Jar Frozen

2.0°C IR

R0530

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CHAIN OF CUSTODY RECORD

Page 2 of 3

Special Handling:

☐ Standard TAT - 7 to 10 business days

☐ Rush TAT - Date Needed: _____

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 60 days unless otherwise instructed.

Report To: NOBIS ENGINEERING

Telephone #:

Project Mgr: A. ROY / S. VETERE

Invoice To:

P.O No.: _____ Quote #: _____

Project No: 80108.04

Site Name: LAWRENCE TBA

Location: LAWRENCE State: MA

Sampler(s): EJ
AG

F=Field Filtered 1=$Na_2S_2O_3$ 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11=_____ 12=_____

List Preservative Code below:

QA/QC Reporting Notes:
* additional charges may appply

DW=Dinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1=_____ X2=_____ X3=_____

G= Grab C=Compsite

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	PCBs	RCRA 8 METALS	PAHs	Check if chlorinated
	NPA-06-0203	6/10/16	1005	G	SO		1			X	X		☐
	NPA-05-0.502		1010				2			X	X	X	☐
	NPA-05-0203		1015				1			X	X		☐
	NPA-04-0.502		1020				1			X	X		☐
	NPA-04-0203		1025				2			X	X	X	☐
	NPA-03-0.502		1040				2			X	X	X	☐
	NPA-03-0203		1045				1			X	X		☐
	NPA-01-0.502		1055				2			X	X	X	☐
	NPA-01-0203		1100				1			X	X		☐
	NPA-02-0.502		1120				1			X	X		☐

MA DEP MCP CAM Report? ☐ Yes ☐ No
CT DPH RCP Report? ☐ Yes ☐ No
☐ Standard ☐ No QC ☐ DQA*
☐ ASP A* ☐ ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ Tier II* ☐ Tier IV*
☐ Other: _____
State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:	Temp °C
	Nobis fridge	6/10/16	10:30	Observed 1.4
	BSC	6/13/16	1314	Correction Factor 0
	SUBCAT	6/13/16		Corrected 1.4
8:25	IKT	6/14/16	11:03	IR/ID 01

☐ EDD format: _____

☐ E-mail to: _____

Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken

☐ Ambient ☐ Iced ☒ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

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2.0°C IR

R0530

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CHAIN OF CUSTODY RECORD

Page 3 of 3

Special Handling:

☐ Standard TAT - 7 to 10 business days

☐ Rush TAT - Date Needed: _____

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 60 days unless otherwise instructed.

Report To: NOBIS ENGINEERING

Invoice To:

Project No: 80108.04

Site Name: LAWRENCE TBA

Location: LAWRENCE State: MA

Sampler(s): EJ, AG

Telephone #:

Project Mgr: A. ROY / S. VETERE

P.O No.: _____ Quote #: _____

F=Field Filtered 1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11= MeOH 12= _____

DW=Dinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1= _____ X2= _____ X3= _____

G= Grab C=Composite

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	List Preservative Code below: 3/11	Analysis: PCBs	Analysis: RCRA 8 METALS	Analysis: VOCs	Check if chlorinated
	NPA-02-0203	6/10/16	1125	G	SO		1				X	X		☐
	NPA-02-0607	↓	1130	↓	↓	3							X	☐
	TB-01	6/10/16	0800	↓	↓	2							X	☐
														☐
														☐
														☐
														☐
														☐
														☐
														☐

QA/QC Reporting Notes:
* additional charges may appply

MA DEP MCP CAM Report? ☐ Yes ☐ No
CT DPH RCP Report? ☐ Yes ☐ No
☐ Standard ☐ No QC ☐ DQA*
☐ ASP A* ☐ ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ Tier II* ☐ Tier IV*
☐ Other: _____
State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:	Temp °C
	Nobis fridge	6/10/16	16:35	Observed 1.4
	DSC	6/13/16	1314	Correction Factor 0
	SUB OUT	6/13/16		Corrected 1.4
		6/13/16	11:03	IR ID # 01

☐ EDD format: _____

☐ E-mail to: _____

Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken

☐ Ambient ☐ Iced ☒ Refrigerated ☒ DI VOA Frozen ☐ Soil Jar Frozen

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Eurofins Spectrum Analytical, Inc. -- ESAI-RI

Received By: SH	Page 01 of 01
Reviewed By: KP	Log-in Date 06/14/2016
Work Order: R0530	Client Name: Nobis Engineering, Inc
Project Name/Event: Lawrence, MA site	

Remarks: (1/2) Please see associated sample/extract transfer logbook pages submitted with this data package.

1. Custody Seal(s)	Present / Absent
	Intact / Broken
2. Custody Seal Nos.	N/A
3. Traffic Reports/ Chain of Custody Records (TR/COCs) or Packing Lists	Present / Absent
4. Airbill	AirBill / Sticker
	Present / Absent
5. Airbill No.	Courier N/A
6. Sample Tags	Present / Absent
Sample Tag Numbers	Listed / Not Listed on Chain-of-Custody
7. Sample Condition	Intact / Broken / Leaking
8. Cooler Temperature Indicator Bottle	Present / Absent
9. Cooler Temperature	2.0 °C
10. Does information on TR/COCs and sample tags agree?	Yes / No
11. Date Received at Laboratory	06/14/2016
12. Time Received	11:03

Sample Transfer	
Fraction (1) TVOA/VOA	Fraction (2) SVOA/PEST/ARO
Area #	Area #
By	By
On	On

	Preservation (pH)						
Lab Sample ID	HNO3	H2SO4	HCl	NaOH	H3PO4	VOA Matrix	Soil HeadSpace or Air Bubble > or equal to 1/4"
R0530-01							
R0530-02							
R0530-03							
R0530-04							
R0530-05							
R0530-06							
R0530-07							
R0530-08							
R0530-09						F/M	
R0530-10							
R0530-11							
R0530-12							
R0530-13							
R0530-14							
R0530-15							
R0530-16							
R0530-17							
R0530-18							
R0530-19							
R0530-20							
R0530-21							
R0530-22						F/M	
R0530-23						F/M	

IR Temp Gun ID:MT-74

CoolantCondition: ICE

Preservative Name/Lot No:

VOA Matrix Key:

US = Unpreserved Soil	A= Air
UA = Unpreserved Aqueous	H = HCl
M = MeOH	E = Encore
N = NaHSO4	F = Freeze

See Sample Condition Notification/Corrective Action Form Yes / No

Last Page of Data Report

ANALYTICAL REPORT

Lab Number:	L1940717
Client:	Credere Associates, LLC 776 Main Street Westbrook, ME 04092
ATTN:	Sean Gannon
Phone:	(207) 828-1272
Project Name:	TOMBARELLO SITE
Project Number:	17001426
Report Date:	09/20/19

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: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1940717-01	AS-5	SOLID	LAWRENCE, MA	09/03/19 11:05	09/06/19
L1940717-02	AS-6	SOLID	LAWRENCE, MA	09/03/19 11:15	09/06/19
L1940717-03	AS-7	SOLID	LAWRENCE, MA	09/03/19 11:20	09/06/19
L1940717-04	AS-8	SOLID	LAWRENCE, MA	09/03/19 11:25	09/06/19
L1940717-05	AS-1	SOLID	LAWRENCE, MA	09/03/19 11:45	09/06/19
L1940717-06	AS-2	SOLID	LAWRENCE, MA	09/03/19 11:50	09/06/19
L1940717-07	AS-3	SOLID	LAWRENCE, MA	09/03/19 11:55	09/06/19
L1940717-08	AS-4	SOLID	LAWRENCE, MA	09/03/19 12:05	09/06/19
L1940717-09	AS-DUP-1	SOLID	LAWRENCE, MA	09/03/19 00:00	09/06/19
L1940717-10	SB-4 (0-0.5)	SOIL	LAWRENCE, MA	09/04/19 08:30	09/06/19
L1940717-11	SB-4 (1-2)	SOIL	LAWRENCE, MA	09/04/19 08:50	09/06/19
L1940717-12	SB-4 (2-3)	SOIL	LAWRENCE, MA	09/04/19 08:40	09/06/19
L1940717-13	SB-4 (3-5)	SOIL	LAWRENCE, MA	09/04/19 09:05	09/06/19
L1940717-14	SB-4 (5-7)-1	SOIL	LAWRENCE, MA	09/04/19 09:10	09/06/19
L1940717-15	SB-4 (5-7)-2	SOIL	LAWRENCE, MA	09/04/19 09:10	09/06/19
L1940717-16	SB-3 (0-0.5)	SOIL	LAWRENCE, MA	09/04/19 09:20	09/06/19
L1940717-17	SB-3 (1-2)	SOIL	LAWRENCE, MA	09/04/19 09:25	09/06/19
L1940717-18	SB-3 (2-3)	SOIL	LAWRENCE, MA	09/04/19 09:30	09/06/19
L1940717-19	SB-3 (3-5)	SOIL	LAWRENCE, MA	09/04/19 09:35	09/06/19
L1940717-20	SB-3 (5-7)-1	SOIL	LAWRENCE, MA	09/04/19 09:40	09/06/19
L1940717-21	SB-3 (5-7)-2	SOIL	LAWRENCE, MA	09/04/19 09:40	09/06/19
L1940717-22	SB-2 (0-0.5)	SOIL	LAWRENCE, MA	09/04/19 10:00	09/06/19
L1940717-23	SB-2 (1-2)	SOIL	LAWRENCE, MA	09/04/19 10:05	09/06/19
L1940717-24	SB-2 (2-3)	SOIL	LAWRENCE, MA	09/04/19 10:07	09/06/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1940717-25	SB-2 (3-5)	SOIL	LAWRENCE, MA	09/04/19 10:15	09/06/19
L1940717-26	SB-2 (5-7)-1	SOIL	LAWRENCE, MA	09/04/19 10:20	09/06/19
L1940717-27	SB-2 (5-7)-2	SOIL	LAWRENCE, MA	09/04/19 10:20	09/06/19
L1940717-28	E-07 (1-2)	SOIL	LAWRENCE, MA	09/04/19 11:00	09/06/19
L1940717-29	E-07 (2-3)	SOIL	LAWRENCE, MA	09/04/19 11:03	09/06/19
L1940717-30	E-07 (3-5)	SOIL	LAWRENCE, MA	09/04/19 11:06	09/06/19
L1940717-31	E-07 (5-7)	SOIL	LAWRENCE, MA	09/04/19 11:09	09/06/19
L1940717-32	E-08 (1-2)	SOIL	LAWRENCE, MA	09/04/19 11:25	09/06/19
L1940717-33	E-08 (2-3)	SOIL	LAWRENCE, MA	09/04/19 11:30	09/06/19
L1940717-34	E-08 (3-5)	SOIL	LAWRENCE, MA	09/04/19 11:35	09/06/19
L1940717-35	E-08 (5-7)	SOIL	LAWRENCE, MA	09/04/19 11:40	09/06/19
L1940717-36	D-08 (1-2)	SOIL	LAWRENCE, MA	09/04/19 11:53	09/06/19
L1940717-37	D-08 (2-3)	SOIL	LAWRENCE, MA	09/04/19 11:56	09/06/19
L1940717-38	D-08 (3-5)	SOIL	LAWRENCE, MA	09/04/19 11:59	09/06/19
L1940717-39	D-08 (5-7)	SOIL	LAWRENCE, MA	09/04/19 12:03	09/06/19
L1940717-40	D-07 (1-2)	SOIL	LAWRENCE, MA	09/04/19 12:12	09/06/19
L1940717-41	D-07 (2-3)	SOIL	LAWRENCE, MA	09/04/19 12:14	09/06/19
L1940717-42	D-07 (3-5)	SOIL	LAWRENCE, MA	09/04/19 12:20	09/06/19
L1940717-43	D-07 (5-7)	SOIL	LAWRENCE, MA	09/04/19 12:25	09/06/19
L1940717-44	D-07 (1-3)	SOIL	LAWRENCE, MA	09/04/19 12:16	09/06/19
L1940717-45	D-07 (7-9)	SOIL	LAWRENCE, MA	09/04/19 12:30	09/06/19
L1940717-46	D-06 (1-2)	SOIL	LAWRENCE, MA	09/04/19 12:50	09/06/19
L1940717-47	D-06 (2-3)	SOIL	LAWRENCE, MA	09/04/19 12:53	09/06/19
L1940717-48	D-06 (3-5)	SOIL	LAWRENCE, MA	09/04/19 12:56	09/06/19
L1940717-49	D-06 (5-7)	SOIL	LAWRENCE, MA	09/04/19 12:59	09/06/19
L1940717-50	SB-DUP-5	SOIL	LAWRENCE, MA	09/04/19 00:00	09/06/19
L1940717-51	E-06 (1-2)	SOIL	LAWRENCE, MA	09/04/19 13:22	09/06/19
L1940717-52	E-06 (2-3)	SOIL	LAWRENCE, MA	09/04/19 13:26	09/06/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1940717-53	E-06 (3-5)	SOIL	LAWRENCE, MA	09/04/19 13:28	09/06/19
L1940717-54	E-06 (5-7)-1	SOIL	LAWRENCE, MA	09/04/19 13:35	09/06/19
L1940717-55	E-06 (1-3)	SOIL	LAWRENCE, MA	09/04/19 13:24	09/06/19
L1940717-56	E-06 (5-7)-2	SOIL	LAWRENCE, MA	09/04/19 13:35	09/06/19
L1940717-57	E-05 (1-2)	SOIL	LAWRENCE, MA	09/04/19 14:10	09/06/19
L1940717-58	E-05 (2-3)	SOIL	LAWRENCE, MA	09/04/19 14:12	09/06/19
L1940717-59	E-05 (3-5)	SOIL	LAWRENCE, MA	09/04/19 14:14	09/06/19
L1940717-60	E-05 (5-7)	SOIL	LAWRENCE, MA	09/04/19 14:16	09/06/19
L1940717-61	SB-DUP-6	SOIL	LAWRENCE, MA	09/04/19 00:00	09/06/19
L1940717-62	D-05 (1-2)	SOIL	LAWRENCE, MA	09/04/19 14:30	09/06/19
L1940717-63	D-05 (2-3)	SOIL	LAWRENCE, MA	09/04/19 14:33	09/06/19
L1940717-64	D-05 (3-5)	SOIL	LAWRENCE, MA	09/04/19 14:36	09/06/19
L1940717-65	D-05 (5-7)	SOIL	LAWRENCE, MA	09/04/19 14:39	09/06/19
L1940717-66	D-09 (1-2)	SOIL	LAWRENCE, MA	09/04/19 14:50	09/06/19
L1940717-67	D-09 (2-3)	SOIL	LAWRENCE, MA	09/04/19 14:53	09/06/19
L1940717-68	D-09 (3-5)	SOIL	LAWRENCE, MA	09/04/19 14:56	09/06/19
L1940717-69	D-09 (5-7)	SOIL	LAWRENCE, MA	09/04/19 14:59	09/06/19
L1940717-70	B-06 (1-2)	SOIL	LAWRENCE, MA	09/04/19 15:15	09/06/19
L1940717-71	B-06 (2-3)	SOIL	LAWRENCE, MA	09/04/19 15:18	09/06/19
L1940717-72	B-06 (3-5)	SOIL	LAWRENCE, MA	09/04/19 15:21	09/06/19
L1940717-73	B-06 (5-7)	SOIL	LAWRENCE, MA	09/04/19 15:24	09/06/19
L1940717-74	B-07 (1-2)	SOIL	LAWRENCE, MA	09/04/19 15:27	09/06/19
L1940717-75	B-07 (2-3)	SOIL	LAWRENCE, MA	09/04/19 15:29	09/06/19
L1940717-76	B-07 (3-5)	SOIL	LAWRENCE, MA	09/04/19 15:31	09/06/19
L1940717-77	B-07 (5-7)	SOIL	LAWRENCE, MA	09/04/19 15:33	09/06/19
L1940717-78	C-07 (1-2)	SOIL	LAWRENCE, MA	09/05/19 08:25	09/06/19
L1940717-79	C-07 (2-3)	SOIL	LAWRENCE, MA	09/05/19 08:30	09/06/19
L1940717-80	C-07 (3-5)	SOIL	LAWRENCE, MA	09/05/19 08:35	09/06/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1940717-81	C-07 (5-7)	SOIL	LAWRENCE, MA	09/05/19 08:40	09/06/19
L1940717-82	A-07 (1-2)	SOIL	LAWRENCE, MA	09/05/19 08:53	09/06/19
L1940717-83	A-07 (2-3)	SOIL	LAWRENCE, MA	09/05/19 08:56	09/06/19
L1940717-84	A-07 (3-5)	SOIL	LAWRENCE, MA	09/05/19 08:59	09/06/19
L1940717-85	A-07 (5-7)	SOIL	LAWRENCE, MA	09/05/19 09:02	09/06/19
L1940717-86	C-08 (1-2)	SOIL	LAWRENCE, MA	09/05/19 09:08	09/06/19
L1940717-87	C-08 (2-3)	SOIL	LAWRENCE, MA	09/05/19 09:11	09/06/19
L1940717-88	C-08 (3-5)	SOIL	LAWRENCE, MA	09/05/19 09:14	09/06/19
L1940717-89	C-08 (5-7)	SOIL	LAWRENCE, MA	09/05/19 09:17	09/06/19
L1940717-90	SB-DUP-4	SOIL	LAWRENCE, MA	09/05/19 00:00	09/06/19
L1940717-91	B-08 (1-2)	SOIL	LAWRENCE, MA	09/05/19 09:28	09/06/19
L1940717-92	B-08 (2-3)	SOIL	LAWRENCE, MA	09/05/19 09:30	09/06/19
L1940717-93	B-08 (3-5)	SOIL	LAWRENCE, MA	09/05/19 09:32	09/06/19
L1940717-94	B-08 (5-7)	SOIL	LAWRENCE, MA	09/05/19 09:34	09/06/19
L1940717-95	C-09 (1-2)	SOIL	LAWRENCE, MA	09/05/19 09:40	09/06/19
L1940717-96	C-09 (2-3)	SOIL	LAWRENCE, MA	09/05/19 09:42	09/06/19
L1940717-97	C-09 (3-5)	SOIL	LAWRENCE, MA	09/05/19 09:44	09/06/19
L1940717-98	C-09 (5-7)	SOIL	LAWRENCE, MA	09/05/19 09:46	09/06/19
L1940717-99	B-09 (1-2)	SOIL	LAWRENCE, MA	09/05/19 09:53	09/06/19
L1940717-100	SB-DUP-3	SOIL	LAWRENCE, MA	09/05/19 00:00	09/06/19
L1940717-101	B-09 (1-3)	SOIL	LAWRENCE, MA	09/05/19 09:54	09/06/19
L1940717-102	B-09 (2-3)	SOIL	LAWRENCE, MA	09/05/19 09:55	09/06/19
L1940717-103	B-09 (3-5)	SOIL	LAWRENCE, MA	09/05/19 09:57	09/06/19
L1940717-104	B-09 (5-7)-1	SOIL	LAWRENCE, MA	09/05/19 09:59	09/06/19
L1940717-105	B-09 (5-7)-2	SOIL	LAWRENCE, MA	09/05/19 10:02	09/06/19
L1940717-106	A-06 (1-2)	SOIL	LAWRENCE, MA	09/05/19 10:33	09/06/19
L1940717-107	A-06 (2-3)	SOIL	LAWRENCE, MA	09/05/19 10:36	09/06/19
L1940717-108	A-06 (3-5)	SOIL	LAWRENCE, MA	09/05/19 10:39	09/06/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1940717-109	A-06 (5-7)	SOIL	LAWRENCE, MA	09/05/19 10:42	09/06/19
L1940717-110	SB-DUP-2	SOIL	LAWRENCE, MA	09/05/19 00:00	09/06/19
L1940717-111	B-05 (1-2)	SOIL	LAWRENCE, MA	09/05/19 10:48	09/06/19
L1940717-112	B-05 (2-3)	SOIL	LAWRENCE, MA	09/05/19 10:51	09/06/19
L1940717-113	B-05 (1-3)	SOIL	LAWRENCE, MA	09/05/19 10:54	09/06/19
L1940717-114	B-05 (3-5)-1	SOIL	LAWRENCE, MA	09/05/19 10:57	09/06/19
L1940717-115	B-05 (3-5)-2	SOIL	LAWRENCE, MA	09/05/19 10:57	09/06/19
L1940717-116	B-05 (5-7)	SOIL	LAWRENCE, MA	09/05/19 11:00	09/06/19
L1940717-117	C-05 (1-2)	SOIL	LAWRENCE, MA	09/05/19 11:12	09/06/19
L1940717-118	C-05 (2-3)	SOIL	LAWRENCE, MA	09/05/19 11:15	09/06/19
L1940717-119	C-05 (3-5)	SOIL	LAWRENCE, MA	09/05/19 11:18	09/06/19
L1940717-120	C-05 (5-7)	SOIL	LAWRENCE, MA	09/05/19 11:21	09/06/19
L1940717-121	C-06 (1-2)	SOIL	LAWRENCE, MA	09/05/19 11:32	09/06/19
L1940717-122	C-06 (2-3)	SOIL	LAWRENCE, MA	09/05/19 11:34	09/06/19
L1940717-123	C-06 (3-5)	SOIL	LAWRENCE, MA	09/05/19 11:36	09/06/19
L1940717-124	C-06 (5-7)	SOIL	LAWRENCE, MA	09/05/19 11:38	09/06/19
L1940717-125	A-05 (1-2)	SOIL	LAWRENCE, MA	09/05/19 12:12	09/06/19
L1940717-126	A-05 (2-3)	SOIL	LAWRENCE, MA	09/05/19 12:14	09/06/19
L1940717-127	A-05 (3-5)	SOIL	LAWRENCE, MA	09/05/19 12:16	09/06/19
L1940717-128	A-05 (5-7)	SOIL	LAWRENCE, MA	09/05/19 12:18	09/06/19
L1940717-129	E-02 (1-2)	SOIL	LAWRENCE, MA	09/05/19 13:05	09/06/19
L1940717-130	E-02 (2-3)	SOIL	LAWRENCE, MA	09/05/19 13:08	09/06/19
L1940717-131	E-02 (3-5)	SOIL	LAWRENCE, MA	09/05/19 13:11	09/06/19
L1940717-132	E-02 (5-7)	SOIL	LAWRENCE, MA	09/05/19 13:14	09/06/19
L1940717-133	B-04 (1-2)	SOIL	LAWRENCE, MA	09/05/19 13:20	09/06/19
L1940717-134	B-04 (2-3)	SOIL	LAWRENCE, MA	09/05/19 13:23	09/06/19
L1940717-135	B-04 (3-5)	SOIL	LAWRENCE, MA	09/05/19 13:26	09/06/19
L1940717-136	B-04 (5-7)	SOIL	LAWRENCE, MA	09/05/19 13:29	09/06/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1940717-137	SB-1 (0-0.5)	SOIL	LAWRENCE, MA	09/05/19 13:33	09/06/19
L1940717-138	SB-1 (1-2)	SOIL	LAWRENCE, MA	09/05/19 13:36	09/06/19
L1940717-139	SB-1 (2-3)	SOIL	LAWRENCE, MA	09/05/19 13:39	09/06/19
L1940717-140	SB-DUP-1	SOIL	LAWRENCE, MA	09/05/19 00:00	09/06/19
L1940717-141	SB-1 (3-5)	SOIL	LAWRENCE, MA	09/05/19 13:42	09/06/19
L1940717-142	SB-1 (5-7)-1	SOIL	LAWRENCE, MA	09/05/19 13:45	09/06/19
L1940717-143	SB-1 (5-7)-2	SOIL	LAWRENCE, MA	09/05/19 13:48	09/06/19
L1940717-144	TRIP BLANK	SOIL	LAWRENCE, MA	09/05/19 00:00	09/06/19

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

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?	NO
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)?	NO

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:	TOMBARELLO SITE	**Lab Number:**	L1940717
Project Number:	17001426	**Report Date:**	09/20/19

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:	TOMBARELLO SITE	**Lab Number:**	L1940717
Project Number:	17001426	**Report Date:**	09/20/19

Case Narrative (continued)

Report Submission

September 20, 2019: This final report includes the results of all requested analyses.

September 17, 2019: This is a preliminary report.

MCP Related Narratives

Sample Receipt

In reference to question A:

L1940717-11, -12, -15, -17, -18, -21, -23, -24, -27, -44, -45, -50, -55, and -56: The water-preserved VOA vials for Volatile Organics Low-Level analysis were received at the laboratory beyond the 48 hour holding time required for freezing. The client was notified and the results of the analysis are reported.

Volatile Organics

L1940717-15, -27, -44, -138, and -143 were analyzed as a High Level Methanol in order to quantitate the sample within the calibration range. The result should be considered estimated, and is qualified with an E flag, for any compound that exceeded the calibration on the initial Low Level analysis. The results of both analyses are reported. Differences were noted between the results of the analyses which have been attributed to vial discrepancies. Further re-analysis could not be performed due to the existing vials being compromised.

In reference to question G:

L1940717-12, -50, and -113: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

L1940717-23: The internal standard (IS) response for 1,4-dichlorobenzene-d4 (33%) and the surrogate recovery for 1,2-dichloroethane-d4 (141%) were outside the acceptance criteria; however, re-analysis achieved a similar result: 1,4-dichlorobenzene-d4 (34%). The results of both analyses are reported; however, since the IS response was below method criteria, all associated compounds and surrogate recoveries are considered to have a potentially high bias.

The initial calibration, associated with L1940717-11, -12, -18, -27, -44, -45, -50, -55, -56, -101, -105, -

Case Narrative (continued)

113, -115, -138, -139, -140, and -143 did not meet the method required minimum response factor on the lowest calibration standard for 1,4-dioxane (0.0034), as well as the average response factor for 1,4-dioxane. The initial calibration, associated with L1940717-15, -17, -21, -23, and -24 did not meet the method required minimum response factor on the lowest calibration standard for 4-methyl-2-pentanone (0.0798) and 1,4-dioxane (0.0013), 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 (175%). The continuing calibration standards, associated with L1940717-11, -12, -15, -17, -18, -21, -23, -24, -27, -44, -45, -50, -55, -56, -101, -105, -113, -115, -138, -139, -140, and -143, are outside the acceptance criteria for several compounds; however, they are within overall method allowances. Copies of the continuing calibration standards are included as an addendum to this report.

EPH

In reference to question G:

L1940717-17, -18, -21, -23, -27, -44, -50, -55, -56, -101, -105, -113, -138, -139, and -140: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

L1940717-27, -44, and -56: The surrogate recoveries are below the acceptance criteria for chloro-octadecane (0%) and o-terphenyl (0%) due to the dilution required to quantitate the sample. Re-extraction was not required; therefore, the results of the original analysis are reported.

L1940717-50: The surrogate recovery is outside the acceptance criteria for o-terphenyl (250%); however, the sample was not re-extracted due to coelution with obvious interferences. A copy of the chromatogram is included as an attachment to this report.

PCBs

L1940717-15: The sample has elevated detection limits due to limited sample volume available for analysis.

In reference to question G:

L1940717-16, -32, -40, -51, -57, -61, -66, -67, -86, -99, -100, -102, -105, -111, and -117: One or more

Case Narrative (continued)

of the target analytes did not achieve the requested CAM reporting limits.
In reference to question H:
L1940717-02, -32, -40, -51, -57, -61, -66, -67, -86, -99, and -100: The surrogate recoveries are below the acceptance criteria for 2,4,5,6-tetrachloro-m-xylene (0%) and decachlorobiphenyl (0%) due to the dilution required to quantitate the sample. Re-extraction was not required; therefore, the results of the original analysis are reported.

Total Metals
In reference to question H:
The WG1284380-4/-5 MS/MSD recoveries, performed on L1940717-23, are outside the acceptance criteria for barium (65%/61%) and zinc (MSD 144%). Re-analysis of the MS yielded unacceptable recoveries for barium and zinc in the range of 30-74% or >125%. The LCS recoveries were within acceptance criteria for these analytes; therefore, no further action was taken.
The WG1284380-4/-5 MS/MSD recoveries, performed on L1940717-23, are outside the acceptance criteria for chromium (MSD 0%) and lead (0%/0%). Re-analysis of the MS yielded unacceptable recoveries for chromium and lead of <30%. The MS % recoveries are <30%, but the sample detections are above the RL. The LCS recoveries are acceptable; therefore, no further action was taken. The MS/MSD RPD for chromium (42%) is above the acceptance criteria.
The WG1284380-7/-8 MS/MSD recoveries, performed on L1940717-113, are outside the acceptance criteria for chromium (MS 70%), lead (46%/140%), and zinc (818%/64%). Re-analysis of the MS yielded unacceptable recoveries for chromium, lead, and zinc in the range of 30-74% or >125%. The LCS recoveries were within acceptance criteria for these analytes; therefore, no further action was taken. The MS/MSD RPD for zinc (77%) is above the acceptance criteria.
The WG1284469-5 MSD recovery, performed on L1940717-139, is outside the acceptance criteria for mercury (141%). Re-analysis of the MSD yielded an unacceptable recovery for mercury in the range of 30-74% or >125%. The LCS recovery was within acceptance criteria for this analyte; therefore, no further action was taken.

Project Name: TOMBARELLO SITE **Lab Number:** L1940717
Project Number: 17001426 **Report Date:** 09/20/19

Case Narrative (continued)

The WG1284649-4/-5 MS/MSD recoveries, performed on L1940717-139, are outside the acceptance criteria for arsenic (149%/149%). Re-analysis of the MS yielded an unacceptable recovery for arsenic in the range of >125%. The LCS recovery was within acceptance criteria for this analyte; therefore, no further action was taken.

The WG1284380-6 serial dilution analysis, associated with L1940717-23, had a %D above the acceptance criteria for barium (22%), lead (30%), and zinc (28%).

The WG1284380-9 serial dilution analysis, associated with L1940717-113, had a %D above the acceptance criteria for lead (26%) and zinc (28%).

In reference to question I:

All samples were analyzed for a subset of MCP analytes per client request.

Chromium, Hexavalent

LCS/LCSD SRM Lot#: ERA D101-192

In reference to question A:

L1940717-11, -12, -15, -17, -18, -21, -23, -24, -27, -44, -45, -50, -55, -56, -101, -105, -113, -115, -138, -139, -140, and -143: The analyses of pH and ORP were performed beyond the required 24hr holding time specified per the Sample Collection, Preservation, and Handling Procedures for Hexavalent Chromium (Cr(VI)) by WSC-CAM-VI B.

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: Kelly Stenstrom

Title: Technical Director/Representative Date: 09/20/19

QC OUTLIER SUMMARY REPORT

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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	WG1284521-3	Dichlorodifluoromethane	LCS	141	70-130	15	potential high bias
8260C	Batch QC	WG1284521-4	Dichlorodifluoromethane	LCSD	137	70-130	15	potential high bias
8260C	Batch QC	WG1284780-4	Acetone	LCSD	134	70-130	44	potential high bias
8260C	Batch QC	WG1284929-3	Chloromethane	LCS	137	70-130	138,143	potential high bias
8260C	Batch QC	WG1284929-3	Acetone	LCS	133	70-130	138,143	potential high bias
8260C	Batch QC	WG1284929-4	Chloromethane	LCSD	138	70-130	138,143	potential high bias
8260C	Batch QC	WG1284929-4	Acetone	LCSD	137	70-130	138,143	potential high bias
MCP Volatile Organics by EPA 5035 Low - Westborough Lab								
8260C	SB-2 (1-2)	L1940717-23	1,2-Dichloroethane-d4	Surrogate	141	70-130	-	potential high bias
8260C	Batch QC	WG1284397-3	Trichlorofluoromethane	LCS	132	70-130	15,17,23	potential high bias
8260C	Batch QC	WG1284397-3	1,2-Dichloroethane	LCS	135	70-130	15,17,23	potential high bias
8260C	Batch QC	WG1284397-3	Chloromethane	LCS	133	70-130	15,17,23	potential high bias
8260C	Batch QC	WG1284397-3	Dichlorodifluoromethane	LCS	152	70-130	15,17,23	potential high bias
8260C	Batch QC	WG1284397-4	1,2-Dichloroethane	LCSD	132	70-130	15,17,23	potential high bias
8260C	Batch QC	WG1284397-4	Chloromethane	LCSD	131	70-130	15,17,23	potential high bias
8260C	Batch QC	WG1284397-4	Dichlorodifluoromethane	LCSD	148	70-130	15,17,23	potential high bias
8260C	Batch QC	WG1284519-3	Dichlorodifluoromethane	LCS	141	70-130	21,23-24	potential high bias
8260C	Batch QC	WG1284519-4	Dichlorodifluoromethane	LCSD	137	70-130	21,23-24	potential high bias
8260C	Batch QC	WG1284781-4	Acetone	LCSD	134	70-130	18,105,140	potential high bias
Extractable Petroleum Hydrocarbons - Westborough Lab								
EPH-04-1.1	SB-2 (5-7)-2	L1940717-27 D	Chloro-Octadecane	Surrogate	0	40-140	-	- - not applicable - -
EPH-04-1.1	SB-2 (5-7)-2	L1940717-27 D	o-Terphenyl	Surrogate	0	40-140	-	- - not applicable - -
EPH-04-1.1	D-07 (1-3)	L1940717-44 D	Chloro-Octadecane	Surrogate	0	40-140	-	- - not applicable - -
EPH-04-1.1	D-07 (1-3)	L1940717-44 D	o-Terphenyl	Surrogate	0	40-140	-	- - not applicable - -
EPH-04-1.1	SB-DUP-5	L1940717-50 D	o-Terphenyl	Surrogate	250	40-140	-	potential high bias
EPH-04-1.1	E-06 (5-7)-2	L1940717-56 D	Chloro-Octadecane	Surrogate	0	40-140	-	- - not applicable - -
EPH-04-1.1	E-06 (5-7)-2	L1940717-56 D	o-Terphenyl	Surrogate	0	40-140	-	- - not applicable - -
EPH-04-1.1	Batch QC	WG1283558-3	C9-C18 Aliphatics	LCSD	27	25	45,50,55-56,143	non-directional bias

QC OUTLIER SUMMARY REPORT

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
EPH-04-1.1	Batch QC	WG1283558-3	Naphthalene	LCSD	29	25	45,50,55-56,143	non-directional bias
EPH-04-1.1	Batch QC	WG1283558-3	2-Methylnaphthalene	LCSD	28	25	45,50,55-56,143	non-directional bias
EPH-04-1.1	Batch QC	WG1283558-3	Acenaphthylene	LCSD	27	25	45,50,55-56,143	non-directional bias
EPH-04-1.1	Batch QC	WG1283558-3	Acenaphthene	LCSD	27	25	45,50,55-56,143	non-directional bias
EPH-04-1.1	Batch QC	WG1283558-3	Nonane (C9)	LCSD	33	25	45,50,55-56,143	non-directional bias
EPH-04-1.1	Batch QC	WG1283558-3	Decane (C10)	LCSD	31	25	45,50,55-56,143	non-directional bias
EPH-04-1.1	Batch QC	WG1283558-3	Dodecane (C12)	LCSD	31	25	45,50,55-56,143	non-directional bias
EPH-04-1.1	Batch QC	WG1283558-3	Tetradecane (C14)	LCSD	30	25	45,50,55-56,143	non-directional bias
MCP Polychlorinated Biphenyls - Westborough Lab								
8082A	AS-6	L1940717-02 D	2,4,5,6-Tetrachloro-m-xylene (A)	Surrogate	0	30-150	-	- - not applicable - -
8082A	AS-6	L1940717-02 D	2,4,5,6-Tetrachloro-m-xylene (B)	Surrogate	0	30-150	-	- - not applicable - -
8082A	AS-6	L1940717-02 D	Decachlorobiphenyl (A)	Surrogate	0	30-150	-	- - not applicable - -
8082A	AS-6	L1940717-02 D	Decachlorobiphenyl (B)	Surrogate	0	30-150	-	- - not applicable - -
8082A	SB-DUP-3	L1940717-100 D	2,4,5,6-Tetrachloro-m-xylene (A)	Surrogate	0	30-150	-	- - not applicable - -
8082A	SB-DUP-3	L1940717-100 D	2,4,5,6-Tetrachloro-m-xylene (B)	Surrogate	0	30-150	-	- - not applicable - -
8082A	SB-DUP-3	L1940717-100 D	Decachlorobiphenyl (A)	Surrogate	0	30-150	-	- - not applicable - -
8082A	SB-DUP-3	L1940717-100 D	Decachlorobiphenyl (B)	Surrogate	0	30-150	-	- - not applicable - -
8082A	B-09 (2-3)	L1940717-102 D	Decachlorobiphenyl (B)	Surrogate	181	30-150	-	potential high bias
8082A	B-09 (5-7)-2	L1940717-105 D	Decachlorobiphenyl (B)	Surrogate	167	30-150	-	potential high bias
8082A	A-05 (2-3)	L1940717-126	Decachlorobiphenyl (B)	Surrogate	158	30-150	-	potential high bias
8082A	SB-4 (5-7)-2	L1940717-15	Decachlorobiphenyl (A)	Surrogate	27	30-150	-	potential low bias
8082A	E-08 (1-2)	L1940717-32 D	2,4,5,6-Tetrachloro-m-xylene (A)	Surrogate	0	30-150	-	- - not applicable - -
8082A	E-08 (1-2)	L1940717-32 D	2,4,5,6-Tetrachloro-m-xylene (B)	Surrogate	0	30-150	-	- - not applicable - -
8082A	E-08 (1-2)	L1940717-32 D	Decachlorobiphenyl (A)	Surrogate	0	30-150	-	- - not applicable - -
8082A	E-08 (1-2)	L1940717-32 D	Decachlorobiphenyl (B)	Surrogate	0	30-150	-	- - not applicable - -

QC OUTLIER SUMMARY REPORT

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
8082A	D-07 (1-2)	L1940717-40 D	2,4,5,6-Tetrachloro-m-xylene (A)	Surrogate	0	30-150	-	- - not applicable - -
8082A	D-07 (1-2)	L1940717-40 D	2,4,5,6-Tetrachloro-m-xylene (B)	Surrogate	0	30-150	-	- - not applicable - -
8082A	D-07 (1-2)	L1940717-40 D	Decachlorobiphenyl (A)	Surrogate	0	30-150	-	- - not applicable - -
8082A	D-07 (1-2)	L1940717-40 D	Decachlorobiphenyl (B)	Surrogate	0	30-150	-	- - not applicable - -
8082A	E-06 (1-2)	L1940717-51 D	2,4,5,6-Tetrachloro-m-xylene (A)	Surrogate	0	30-150	-	- - not applicable - -
8082A	E-06 (1-2)	L1940717-51 D	2,4,5,6-Tetrachloro-m-xylene (B)	Surrogate	0	30-150	-	- - not applicable - -
8082A	E-06 (1-2)	L1940717-51 D	Decachlorobiphenyl (A)	Surrogate	0	30-150	-	- - not applicable - -
8082A	E-06 (1-2)	L1940717-51 D	Decachlorobiphenyl (B)	Surrogate	0	30-150	-	- - not applicable - -
8082A	E-06 (2-3)	L1940717-52	Decachlorobiphenyl (B)	Surrogate	163	30-150	-	potential high bias
8082A	E-05 (1-2)	L1940717-57 D	2,4,5,6-Tetrachloro-m-xylene (A)	Surrogate	0	30-150	-	- - not applicable - -
8082A	E-05 (1-2)	L1940717-57 D	2,4,5,6-Tetrachloro-m-xylene (B)	Surrogate	0	30-150	-	- - not applicable - -
8082A	E-05 (1-2)	L1940717-57 D	Decachlorobiphenyl (A)	Surrogate	0	30-150	-	- - not applicable - -
8082A	E-05 (1-2)	L1940717-57 D	Decachlorobiphenyl (B)	Surrogate	0	30-150	-	- - not applicable - -
8082A	SB-DUP-6	L1940717-61 D	2,4,5,6-Tetrachloro-m-xylene (A)	Surrogate	0	30-150	-	- - not applicable - -
8082A	SB-DUP-6	L1940717-61 D	2,4,5,6-Tetrachloro-m-xylene (B)	Surrogate	0	30-150	-	- - not applicable - -
8082A	SB-DUP-6	L1940717-61 D	Decachlorobiphenyl (A)	Surrogate	0	30-150	-	- - not applicable - -
8082A	SB-DUP-6	L1940717-61 D	Decachlorobiphenyl (B)	Surrogate	0	30-150	-	- - not applicable - -
8082A	D-09 (1-2)	L1940717-66 D	2,4,5,6-Tetrachloro-m-xylene (A)	Surrogate	0	30-150	-	- - not applicable - -
8082A	D-09 (1-2)	L1940717-66 D	2,4,5,6-Tetrachloro-m-xylene (B)	Surrogate	0	30-150	-	- - not applicable - -
8082A	D-09 (1-2)	L1940717-66 D	Decachlorobiphenyl (A)	Surrogate	0	30-150	-	- - not applicable - -
8082A	D-09 (1-2)	L1940717-66 D	Decachlorobiphenyl (B)	Surrogate	0	30-150	-	- - not applicable - -
8082A	D-09 (2-3)	L1940717-67 D	2,4,5,6-Tetrachloro-m-xylene (A)	Surrogate	0	30-150	-	- - not applicable - -
8082A	D-09 (2-3)	L1940717-67 D	2,4,5,6-Tetrachloro-m-xylene (B)	Surrogate	0	30-150	-	- - not applicable - -
8082A	D-09 (2-3)	L1940717-67 D	Decachlorobiphenyl (A)	Surrogate	0	30-150	-	- - not applicable - -
8082A	D-09 (2-3)	L1940717-67 D	Decachlorobiphenyl (B)	Surrogate	0	30-150	-	- - not applicable - -
8082A	C-08 (1-2)	L1940717-86 D	2,4,5,6-Tetrachloro-m-xylene (A)	Surrogate	0	30-150	-	- - not applicable - -
8082A	C-08 (1-2)	L1940717-86 D	2,4,5,6-Tetrachloro-m-xylene (B)	Surrogate	0	30-150	-	- - not applicable - -
8082A	C-08 (1-2)	L1940717-86 D	Decachlorobiphenyl (A)	Surrogate	0	30-150	-	- - not applicable - -
8082A	C-08 (1-2)	L1940717-86 D	Decachlorobiphenyl (B)	Surrogate	0	30-150	-	- - not applicable - -

QC OUTLIER SUMMARY REPORT

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
8082A	C-08 (2-3)	L1940717-87	Decachlorobiphenyl (B)	Surrogate	153	30-150	-	potential high bias
8082A	SB-DUP-4	L1940717-90	Decachlorobiphenyl (B)	Surrogate	158	30-150	-	potential high bias
8082A	B-09 (1-2)	L1940717-99 D	2,4,5,6-Tetrachloro-m-xylene (A)	Surrogate	0	30-150	-	- - not applicable - -
8082A	B-09 (1-2)	L1940717-99 D	2,4,5,6-Tetrachloro-m-xylene (B)	Surrogate	0	30-150	-	- - not applicable - -
8082A	B-09 (1-2)	L1940717-99 D	Decachlorobiphenyl (A)	Surrogate	0	30-150	-	- - not applicable - -
8082A	B-09 (1-2)	L1940717-99 D	Decachlorobiphenyl (B)	Surrogate	0	30-150	-	- - not applicable - -
MCP Total Metals - Mansfield Lab								
6010D	Batch QC (L1940717-23)	WG1284380-4	Barium, Total	MS	65	75-125	11-12,15,17-18,21,23-24,27,44-45,50,55-56,101,105,113,115,138,140	potential low bias
6010D	Batch QC (L1940717-23)	WG1284380-4	Lead, Total	MS	0	75-125	11-12,15,17-18,21,23-24,27,44-45,50,55-56,101,105,113,115,138,140	potential low bias
6010D	Batch QC (L1940717-23)	WG1284380-5	Barium, Total	MSD	61	75-125	11-12,15,17-18,21,23-24,27,44-45,50,55-56,101,105,113,115,138,140	potential low bias
6010D	Batch QC (L1940717-23)	WG1284380-5	Chromium, Total	MSD	0	75-125	11-12,15,17-18,21,23-24,27,44-45,50,55-56,101,105,113,115,138,140	potential low bias

QC OUTLIER SUMMARY REPORT

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
6010D	Batch QC (L1940717-23)	WG1284380-5	Chromium, Total	MSD	42	35	11-12,15,17-18,21,23-24,27,44-45,50,55-56,101,105,113,115,138,140	non-directional bias
6010D	Batch QC (L1940717-23)	WG1284380-5	Lead, Total	MSD	0	75-125	11-12,15,17-18,21,23-24,27,44-45,50,55-56,101,105,113,115,138,140	potential low bias
6010D	Batch QC (L1940717-23)	WG1284380-5	Zinc, Total	MSD	144	75-125	11-12,15,17-18,21,23-24,27,44-45,50,55-56,101,105,113,115,138,140	potential high bias
6010D	Batch QC (L1940717-23)	WG1284380-6	Barium, Total	SERDIL	22	35	11-12,15,17-18,21,23-24,27,44-45,50,55-56,101,105,113,115,138,140	non-directional bias
6010D	Batch QC (L1940717-23)	WG1284380-6	Lead, Total	SERDIL	30	35	11-12,15,17-18,21,23-24,27,44-45,50,55-56,101,105,113,115,138,140	non-directional bias
6010D	Batch QC (L1940717-23)	WG1284380-6	Zinc, Total	SERDIL	28	35	11-12,15,17-	non-directional bias

QC OUTLIER SUMMARY REPORT

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
6010D	Batch QC (L1940717-113)	WG1284380-7	Chromium, Total	MS	70	75-125	18,21,23-24,27,44-45,50,55-56,101,105,113,115,138,140	potential low bias
6010D	Batch QC (L1940717-113)	WG1284380-7	Lead, Total	MS	46	75-125	11-12,15,17-18,21,23-24,27,44-45,50,55-56,101,105,113,115,138,140	potential low bias
6010D	Batch QC (L1940717-113)	WG1284380-7	Zinc, Total	MS	818	75-125	11-12,15,17-18,21,23-24,27,44-45,50,55-56,101,105,113,115,138,140	potential high bias
6010D	Batch QC (L1940717-113)	WG1284380-8	Lead, Total	MSD	140	75-125	11-12,15,17-18,21,23-24,27,44-45,50,55-56,101,105,113,115,138,140	potential high bias
6010D	Batch QC (L1940717-113)	WG1284380-8	Zinc, Total	MSD	64	75-125	11-12,15,17-18,21,23-24,27,44-	potential low bias

QC OUTLIER SUMMARY REPORT

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
6010D	Batch QC (L1940717-113)	WG1284380-8	Zinc, Total	MSD	77	35	45,50,55-56,101,105,113,115,138,140	non-directional bias
6010D	Batch QC (L1940717-113)	WG1284380-9	Lead, Total	SERDIL	26	35	11-12,15,17-18,21,23-24,27,44-45,50,55-56,101,105,113,115,138,140	non-directional bias
6010D	Batch QC (L1940717-113)	WG1284380-9	Zinc, Total	SERDIL	28	35	11-12,15,17-18,21,23-24,27,44-45,50,55-56,101,105,113,115,138,140	non-directional bias
6010D	Batch QC (L1940717-139)	WG1284649-4	Arsenic, Total	MS	149	75-125	139,143	potential high bias
6010D	Batch QC (L1940717-139)	WG1284649-5	Arsenic, Total	MSD	149	75-125	139,143	potential high bias
7471B	Batch QC (L1940717-139)	WG1284469-5	Mercury, Total	MSD	141	75-125	139	potential high bias

ORGANICS

VOLATILES

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-11
Client ID: SB-4 (1-2)
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 08:50
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/15/19 20:33
Analyst: NLK
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.7	--	1
1,1-Dichloroethane	ND		ug/kg	0.74	--	1
Chloroform	ND		ug/kg	1.1	--	1
Carbon tetrachloride	ND		ug/kg	0.74	--	1
1,2-Dichloropropane	ND		ug/kg	0.74	--	1
Dibromochloromethane	ND		ug/kg	0.74	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.74	--	1
Tetrachloroethene	ND		ug/kg	0.37	--	1
Chlorobenzene	ND		ug/kg	0.37	--	1
Trichlorofluoromethane	ND		ug/kg	3.0	--	1
1,2-Dichloroethane	ND		ug/kg	0.74	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.37	--	1
Bromodichloromethane	ND		ug/kg	0.37	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.74	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.37	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.37	--	1
1,1-Dichloropropene	ND		ug/kg	0.37	--	1
Bromoform	ND		ug/kg	3.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.37	--	1
Benzene	ND		ug/kg	0.37	--	1
Toluene	ND		ug/kg	0.74	--	1
Ethylbenzene	ND		ug/kg	0.74	--	1
Chloromethane	ND		ug/kg	3.0	--	1
Bromomethane	ND		ug/kg	1.5	--	1
Vinyl chloride	ND		ug/kg	0.74	--	1
Chloroethane	ND		ug/kg	1.5	--	1
1,1-Dichloroethene	ND		ug/kg	0.74	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.1	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-11 Date Collected: 09/04/19 08:50

Client ID: SB-4 (1-2) Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	0.37	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.5	--	1
Methyl tert butyl ether	ND		ug/kg	1.5	--	1
p/m-Xylene	ND		ug/kg	1.5	--	1
o-Xylene	ND		ug/kg	0.74	--	1
Xylenes, Total	ND		ug/kg	0.74	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.74	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.74	--	1
Dibromomethane	ND		ug/kg	1.5	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.5	--	1
Styrene	ND		ug/kg	0.74	--	1
Dichlorodifluoromethane	ND		ug/kg	7.4	--	1
Acetone	100		ug/kg	7.4	--	1
Carbon disulfide	ND		ug/kg	7.4	--	1
Methyl ethyl ketone	ND		ug/kg	7.4	--	1
Methyl isobutyl ketone	ND		ug/kg	7.4	--	1
2-Hexanone	ND		ug/kg	7.4	--	1
Bromochloromethane	ND		ug/kg	1.5	--	1
Tetrahydrofuran	ND		ug/kg	3.0	--	1
2,2-Dichloropropane	ND		ug/kg	1.5	--	1
1,2-Dibromoethane	ND		ug/kg	0.74	--	1
1,3-Dichloropropane	ND		ug/kg	1.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.37	--	1
Bromobenzene	ND		ug/kg	1.5	--	1
n-Butylbenzene	ND		ug/kg	0.74	--	1
sec-Butylbenzene	ND		ug/kg	0.74	--	1
tert-Butylbenzene	ND		ug/kg	1.5	--	1
o-Chlorotoluene	ND		ug/kg	1.5	--	1
p-Chlorotoluene	ND		ug/kg	1.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.2	--	1
Hexachlorobutadiene	ND		ug/kg	3.0	--	1
Isopropylbenzene	ND		ug/kg	0.74	--	1
p-Isopropyltoluene	ND		ug/kg	0.74	--	1
Naphthalene	ND		ug/kg	3.0	--	1
n-Propylbenzene	ND		ug/kg	0.74	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-11 Date Collected: 09/04/19 08:50

Client ID: SB-4 (1-2) Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	1.5	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.5	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.5	--	1
Diethyl ether	ND		ug/kg	1.5	--	1
Diisopropyl Ether	ND		ug/kg	1.5	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.5	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.5	--	1
1,4-Dioxane	ND		ug/kg	60	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	98		70-130

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-12
Client ID: SB-4 (2-3)
Sample Location: LAWRENCE, MA

Date Collected: 09/04/19 08:40
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/15/19 19:20
Analyst: NLK
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	260	--	1
1,1-Dichloroethane	ND		ug/kg	52	--	1
Chloroform	ND		ug/kg	78	--	1
Carbon tetrachloride	ND		ug/kg	52	--	1
1,2-Dichloropropane	ND		ug/kg	52	--	1
Dibromochloromethane	ND		ug/kg	52	--	1
1,1,2-Trichloroethane	ND		ug/kg	52	--	1
Tetrachloroethene	340		ug/kg	26	--	1
Chlorobenzene	ND		ug/kg	26	--	1
Trichlorofluoromethane	ND		ug/kg	210	--	1
1,2-Dichloroethane	ND		ug/kg	52	--	1
1,1,1-Trichloroethane	ND		ug/kg	26	--	1
Bromodichloromethane	ND		ug/kg	26	--	1
trans-1,3-Dichloropropene	ND		ug/kg	52	--	1
cis-1,3-Dichloropropene	ND		ug/kg	26	--	1
1,3-Dichloropropene, Total	ND		ug/kg	26	--	1
1,1-Dichloropropene	ND		ug/kg	26	--	1
Bromoform	ND		ug/kg	210	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	26	--	1
Benzene	ND		ug/kg	26	--	1
Toluene	ND		ug/kg	52	--	1
Ethylbenzene	ND		ug/kg	52	--	1
Chloromethane	ND		ug/kg	210	--	1
Bromomethane	ND		ug/kg	100	--	1
Vinyl chloride	ND		ug/kg	52	--	1
Chloroethane	ND		ug/kg	100	--	1
1,1-Dichloroethene	ND		ug/kg	52	--	1
trans-1,2-Dichloroethene	ND		ug/kg	78	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-12 Date Collected: 09/04/19 08:40

Client ID: SB-4 (2-3) Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	26	--	1
1,2-Dichlorobenzene	ND		ug/kg	100	--	1
1,3-Dichlorobenzene	ND		ug/kg	100	--	1
1,4-Dichlorobenzene	ND		ug/kg	100	--	1
Methyl tert butyl ether	ND		ug/kg	100	--	1
p/m-Xylene	ND		ug/kg	100	--	1
o-Xylene	ND		ug/kg	52	--	1
Xylenes, Total	ND		ug/kg	52	--	1
cis-1,2-Dichloroethene	ND		ug/kg	52	--	1
1,2-Dichloroethene, Total	ND		ug/kg	52	--	1
Dibromomethane	ND		ug/kg	100	--	1
1,2,3-Trichloropropane	ND		ug/kg	100	--	1
Styrene	ND		ug/kg	52	--	1
Dichlorodifluoromethane	ND		ug/kg	520	--	1
Acetone	ND		ug/kg	520	--	1
Carbon disulfide	ND		ug/kg	520	--	1
Methyl ethyl ketone	ND		ug/kg	520	--	1
Methyl isobutyl ketone	ND		ug/kg	520	--	1
2-Hexanone	ND		ug/kg	520	--	1
Bromochloromethane	ND		ug/kg	100	--	1
Tetrahydrofuran	ND		ug/kg	210	--	1
2,2-Dichloropropane	ND		ug/kg	100	--	1
1,2-Dibromoethane	ND		ug/kg	52	--	1
1,3-Dichloropropane	ND		ug/kg	100	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	26	--	1
Bromobenzene	ND		ug/kg	100	--	1
n-Butylbenzene	ND		ug/kg	52	--	1
sec-Butylbenzene	ND		ug/kg	52	--	1
tert-Butylbenzene	ND		ug/kg	100	--	1
o-Chlorotoluene	ND		ug/kg	100	--	1
p-Chlorotoluene	ND		ug/kg	100	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	160	--	1
Hexachlorobutadiene	ND		ug/kg	210	--	1
Isopropylbenzene	ND		ug/kg	52	--	1
p-Isopropyltoluene	ND		ug/kg	52	--	1
Naphthalene	ND		ug/kg	210	--	1
n-Propylbenzene	ND		ug/kg	52	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-12 Date Collected: 09/04/19 08:40

Client ID: SB-4 (2-3) Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	100	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	100	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	100	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	100	--	1
Diethyl ether	ND		ug/kg	100	--	1
Diisopropyl Ether	ND		ug/kg	100	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	100	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	100	--	1
1,4-Dioxane	ND		ug/kg	4100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	92		70-130

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-15
Client ID: SB-4 (5-7)-2
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 09:10
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/14/19 13:27
Analyst: KJD
Percent Solids: 75%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	6.2	--	1
1,1-Dichloroethane	ND		ug/kg	1.2	--	1
Chloroform	ND		ug/kg	1.9	--	1
Carbon tetrachloride	ND		ug/kg	1.2	--	1
1,2-Dichloropropane	ND		ug/kg	1.2	--	1
Dibromochloromethane	ND		ug/kg	1.2	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.2	--	1
Tetrachloroethene	ND		ug/kg	0.62	--	1
Chlorobenzene	ND		ug/kg	0.62	--	1
Trichlorofluoromethane	ND		ug/kg	5.0	--	1
1,2-Dichloroethane	ND		ug/kg	1.2	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.62	--	1
Bromodichloromethane	ND		ug/kg	0.62	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.2	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.62	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.62	--	1
1,1-Dichloropropene	ND		ug/kg	0.62	--	1
Bromoform	ND		ug/kg	5.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.62	--	1
Benzene	ND		ug/kg	0.62	--	1
Toluene	ND		ug/kg	1.2	--	1
Ethylbenzene	ND		ug/kg	1.2	--	1
Chloromethane	ND		ug/kg	5.0	--	1
Bromomethane	ND		ug/kg	2.5	--	1
Vinyl chloride	ND		ug/kg	1.2	--	1
Chloroethane	ND		ug/kg	2.5	--	1
1,1-Dichloroethene	ND		ug/kg	1.2	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.9	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-15 Date Collected: 09/04/19 09:10

Client ID: SB-4 (5-7)-2 Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	0.62	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.5	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.5	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.5	--	1
Methyl tert butyl ether	ND		ug/kg	2.5	--	1
p/m-Xylene	ND		ug/kg	2.5	--	1
o-Xylene	ND		ug/kg	1.2	--	1
Xylenes, Total	ND		ug/kg	1.2	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.2	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.2	--	1
Dibromomethane	ND		ug/kg	2.5	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.5	--	1
Styrene	ND		ug/kg	1.2	--	1
Dichlorodifluoromethane	ND		ug/kg	12	--	1
Acetone	480	E	ug/kg	12	--	1
Carbon disulfide	ND		ug/kg	12	--	1
Methyl ethyl ketone	ND		ug/kg	12	--	1
Methyl isobutyl ketone	ND		ug/kg	12	--	1
2-Hexanone	ND		ug/kg	12	--	1
Bromochloromethane	ND		ug/kg	2.5	--	1
Tetrahydrofuran	ND		ug/kg	5.0	--	1
2,2-Dichloropropane	ND		ug/kg	2.5	--	1
1,2-Dibromoethane	ND		ug/kg	1.2	--	1
1,3-Dichloropropane	ND		ug/kg	2.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.62	--	1
Bromobenzene	ND		ug/kg	2.5	--	1
n-Butylbenzene	ND		ug/kg	1.2	--	1
sec-Butylbenzene	ND		ug/kg	1.2	--	1
tert-Butylbenzene	ND		ug/kg	2.5	--	1
o-Chlorotoluene	ND		ug/kg	2.5	--	1
p-Chlorotoluene	ND		ug/kg	2.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.7	--	1
Hexachlorobutadiene	ND		ug/kg	5.0	--	1
Isopropylbenzene	ND		ug/kg	1.2	--	1
p-Isopropyltoluene	ND		ug/kg	1.2	--	1
Naphthalene	ND		ug/kg	5.0	--	1
n-Propylbenzene	ND		ug/kg	1.2	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-15 Date Collected: 09/04/19 09:10

Client ID: SB-4 (5-7)-2 Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	2.5	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.5	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.5	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.5	--	1
Diethyl ether	ND		ug/kg	2.5	--	1
Diisopropyl Ether	ND		ug/kg	2.5	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.5	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.5	--	1
1,4-Dioxane	ND		ug/kg	99	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	128		70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	91		70-130
Dibromofluoromethane	109		70-130

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-15
Client ID: SB-4 (5-7)-2
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 09:10
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/15/19 17:18
Analyst: NLK
Percent Solids: 75%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	610	--	1
1,1-Dichloroethane	ND		ug/kg	120	--	1
Chloroform	ND		ug/kg	180	--	1
Carbon tetrachloride	ND		ug/kg	120	--	1
1,2-Dichloropropane	ND		ug/kg	120	--	1
Dibromochloromethane	ND		ug/kg	120	--	1
1,1,2-Trichloroethane	ND		ug/kg	120	--	1
Tetrachloroethene	61		ug/kg	61	--	1
Chlorobenzene	ND		ug/kg	61	--	1
Trichlorofluoromethane	ND		ug/kg	490	--	1
1,2-Dichloroethane	ND		ug/kg	120	--	1
1,1,1-Trichloroethane	ND		ug/kg	61	--	1
Bromodichloromethane	ND		ug/kg	61	--	1
trans-1,3-Dichloropropene	ND		ug/kg	120	--	1
cis-1,3-Dichloropropene	ND		ug/kg	61	--	1
1,3-Dichloropropene, Total	ND		ug/kg	61	--	1
1,1-Dichloropropene	ND		ug/kg	61	--	1
Bromoform	ND		ug/kg	490	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	61	--	1
Benzene	ND		ug/kg	61	--	1
Toluene	ND		ug/kg	120	--	1
Ethylbenzene	ND		ug/kg	120	--	1
Chloromethane	ND		ug/kg	490	--	1
Bromomethane	ND		ug/kg	240	--	1
Vinyl chloride	ND		ug/kg	120	--	1
Chloroethane	ND		ug/kg	240	--	1
1,1-Dichloroethene	ND		ug/kg	120	--	1
trans-1,2-Dichloroethene	ND		ug/kg	180	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-15 Date Collected: 09/04/19 09:10

Client ID: SB-4 (5-7)-2 Date Received: 09/06/19

Sample Location: LAWRENCE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Trichloroethene	ND		ug/kg	61	--	1
1,2-Dichlorobenzene	ND		ug/kg	240	--	1
1,3-Dichlorobenzene	ND		ug/kg	240	--	1
1,4-Dichlorobenzene	ND		ug/kg	240	--	1
Methyl tert butyl ether	ND		ug/kg	240	--	1
p/m-Xylene	ND		ug/kg	240	--	1
o-Xylene	ND		ug/kg	120	--	1
Xylenes, Total	ND		ug/kg	120	--	1
cis-1,2-Dichloroethene	ND		ug/kg	120	--	1
1,2-Dichloroethene, Total	ND		ug/kg	120	--	1
Dibromomethane	ND		ug/kg	240	--	1
1,2,3-Trichloropropane	ND		ug/kg	240	--	1
Styrene	ND		ug/kg	120	--	1
Dichlorodifluoromethane	ND		ug/kg	1200	--	1
Acetone	ND		ug/kg	1200	--	1
Carbon disulfide	ND		ug/kg	1200	--	1
Methyl ethyl ketone	ND		ug/kg	1200	--	1
Methyl isobutyl ketone	ND		ug/kg	1200	--	1
2-Hexanone	ND		ug/kg	1200	--	1
Bromochloromethane	ND		ug/kg	240	--	1
Tetrahydrofuran	ND		ug/kg	490	--	1
2,2-Dichloropropane	ND		ug/kg	240	--	1
1,2-Dibromoethane	ND		ug/kg	120	--	1
1,3-Dichloropropane	ND		ug/kg	240	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	61	--	1
Bromobenzene	ND		ug/kg	240	--	1
n-Butylbenzene	ND		ug/kg	120	--	1
sec-Butylbenzene	ND		ug/kg	120	--	1
tert-Butylbenzene	ND		ug/kg	240	--	1
o-Chlorotoluene	ND		ug/kg	240	--	1
p-Chlorotoluene	ND		ug/kg	240	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	360	--	1
Hexachlorobutadiene	ND		ug/kg	490	--	1
Isopropylbenzene	ND		ug/kg	120	--	1
p-Isopropyltoluene	ND		ug/kg	120	--	1
Naphthalene	ND		ug/kg	490	--	1
n-Propylbenzene	ND		ug/kg	120	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-15 Date Collected: 09/04/19 09:10

Client ID: SB-4 (5-7)-2 Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	240	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	240	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	240	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	240	--	1
Diethyl ether	ND		ug/kg	240	--	1
Diisopropyl Ether	ND		ug/kg	240	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	240	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	240	--	1
1,4-Dioxane	ND		ug/kg	9700	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	128		70-130
Toluene-d8	89		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	106		70-130

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-17
Client ID: SB-3 (1-2)
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 09:25
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/14/19 13:53
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	3.7	--	1
1,1-Dichloroethane	ND		ug/kg	0.74	--	1
Chloroform	ND		ug/kg	1.1	--	1
Carbon tetrachloride	ND		ug/kg	0.74	--	1
1,2-Dichloropropane	ND		ug/kg	0.74	--	1
Dibromochloromethane	ND		ug/kg	0.74	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.74	--	1
Tetrachloroethene	14		ug/kg	0.37	--	1
Chlorobenzene	ND		ug/kg	0.37	--	1
Trichlorofluoromethane	ND		ug/kg	2.9	--	1
1,2-Dichloroethane	ND		ug/kg	0.74	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.37	--	1
Bromodichloromethane	ND		ug/kg	0.37	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.74	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.37	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.37	--	1
1,1-Dichloropropene	ND		ug/kg	0.37	--	1
Bromoform	ND		ug/kg	2.9	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.37	--	1
Benzene	ND		ug/kg	0.37	--	1
Toluene	ND		ug/kg	0.74	--	1
Ethylbenzene	ND		ug/kg	0.74	--	1
Chloromethane	ND		ug/kg	2.9	--	1
Bromomethane	ND		ug/kg	1.5	--	1
Vinyl chloride	ND		ug/kg	0.74	--	1
Chloroethane	ND		ug/kg	1.5	--	1
1,1-Dichloroethene	ND		ug/kg	0.74	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.1	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-17 Date Collected: 09/04/19 09:25

Client ID: SB-3 (1-2) Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	0.37	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.5	--	1
Methyl tert butyl ether	ND		ug/kg	1.5	--	1
p/m-Xylene	ND		ug/kg	1.5	--	1
o-Xylene	ND		ug/kg	0.74	--	1
Xylenes, Total	ND		ug/kg	0.74	--	1
cis-1,2-Dichloroethene	1.4		ug/kg	0.74	--	1
1,2-Dichloroethene, Total	1.4		ug/kg	0.74	--	1
Dibromomethane	ND		ug/kg	1.5	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.5	--	1
Styrene	ND		ug/kg	0.74	--	1
Dichlorodifluoromethane	ND		ug/kg	7.4	--	1
Acetone	140		ug/kg	7.4	--	1
Carbon disulfide	ND		ug/kg	7.4	--	1
Methyl ethyl ketone	ND		ug/kg	7.4	--	1
Methyl isobutyl ketone	ND		ug/kg	7.4	--	1
2-Hexanone	ND		ug/kg	7.4	--	1
Bromochloromethane	ND		ug/kg	1.5	--	1
Tetrahydrofuran	ND		ug/kg	2.9	--	1
2,2-Dichloropropane	ND		ug/kg	1.5	--	1
1,2-Dibromoethane	ND		ug/kg	0.74	--	1
1,3-Dichloropropane	ND		ug/kg	1.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.37	--	1
Bromobenzene	ND		ug/kg	1.5	--	1
n-Butylbenzene	ND		ug/kg	0.74	--	1
sec-Butylbenzene	ND		ug/kg	0.74	--	1
tert-Butylbenzene	ND		ug/kg	1.5	--	1
o-Chlorotoluene	ND		ug/kg	1.5	--	1
p-Chlorotoluene	ND		ug/kg	1.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.2	--	1
Hexachlorobutadiene	ND		ug/kg	2.9	--	1
Isopropylbenzene	ND		ug/kg	0.74	--	1
p-Isopropyltoluene	ND		ug/kg	0.74	--	1
Naphthalene	ND		ug/kg	2.9	--	1
n-Propylbenzene	ND		ug/kg	0.74	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-17 Date Collected: 09/04/19 09:25

Client ID: SB-3 (1-2) Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	1.5	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.5	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.5	--	1
Diethyl ether	ND		ug/kg	1.5	--	1
Diisopropyl Ether	ND		ug/kg	1.5	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.5	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.5	--	1
1,4-Dioxane	ND		ug/kg	59	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	130		70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	110		70-130

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-18
Client ID: SB-3 (2-3)
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 09:30
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/16/19 09:45
Analyst: JC
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.6	--	1
1,1-Dichloroethane	ND		ug/kg	0.72	--	1
Chloroform	ND		ug/kg	1.1	--	1
Carbon tetrachloride	ND		ug/kg	0.72	--	1
1,2-Dichloropropane	ND		ug/kg	0.72	--	1
Dibromochloromethane	ND		ug/kg	0.72	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.72	--	1
Tetrachloroethene	5.8		ug/kg	0.36	--	1
Chlorobenzene	ND		ug/kg	0.36	--	1
Trichlorofluoromethane	ND		ug/kg	2.9	--	1
1,2-Dichloroethane	ND		ug/kg	0.72	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.36	--	1
Bromodichloromethane	ND		ug/kg	0.36	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.72	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.36	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.36	--	1
1,1-Dichloropropene	ND		ug/kg	0.36	--	1
Bromoform	ND		ug/kg	2.9	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.36	--	1
Benzene	ND		ug/kg	0.36	--	1
Toluene	ND		ug/kg	0.72	--	1
Ethylbenzene	ND		ug/kg	0.72	--	1
Chloromethane	ND		ug/kg	2.9	--	1
Bromomethane	ND		ug/kg	1.4	--	1
Vinyl chloride	ND		ug/kg	0.72	--	1
Chloroethane	ND		ug/kg	1.4	--	1
1,1-Dichloroethene	ND		ug/kg	0.72	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.1	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-18 Date Collected: 09/04/19 09:30

Client ID: SB-3 (2-3) Date Received: 09/06/19

Sample Location: LAWRENCE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	0.79		ug/kg	0.36	--	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	0.72	--	1
Xylenes, Total	ND		ug/kg	0.72	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.72	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.72	--	1
Dibromomethane	ND		ug/kg	1.4	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.4	--	1
Styrene	ND		ug/kg	0.72	--	1
Dichlorodifluoromethane	ND		ug/kg	7.2	--	1
Acetone	100		ug/kg	7.2	--	1
Carbon disulfide	ND		ug/kg	7.2	--	1
Methyl ethyl ketone	ND		ug/kg	7.2	--	1
Methyl isobutyl ketone	ND		ug/kg	7.2	--	1
2-Hexanone	ND		ug/kg	7.2	--	1
Bromochloromethane	ND		ug/kg	1.4	--	1
Tetrahydrofuran	ND		ug/kg	2.9	--	1
2,2-Dichloropropane	ND		ug/kg	1.4	--	1
1,2-Dibromoethane	ND		ug/kg	0.72	--	1
1,3-Dichloropropane	ND		ug/kg	1.4	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.36	--	1
Bromobenzene	ND		ug/kg	1.4	--	1
n-Butylbenzene	ND		ug/kg	0.72	--	1
sec-Butylbenzene	ND		ug/kg	0.72	--	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	2.2	--	1
Hexachlorobutadiene	ND		ug/kg	2.9	--	1
Isopropylbenzene	ND		ug/kg	0.72	--	1
p-Isopropyltoluene	ND		ug/kg	0.72	--	1
Naphthalene	ND		ug/kg	2.9	--	1
n-Propylbenzene	ND		ug/kg	0.72	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-18 Date Collected: 09/04/19 09:30

Client ID: SB-3 (2-3) Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	58	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	97		70-130

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-21
Client ID: SB-3 (5-7)-2
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 09:40
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/15/19 15:33
Analyst: NLK
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.8	--	1
1,1-Dichloroethane	ND		ug/kg	0.95	--	1
Chloroform	ND		ug/kg	1.4	--	1
Carbon tetrachloride	ND		ug/kg	0.95	--	1
1,2-Dichloropropane	ND		ug/kg	0.95	--	1
Dibromochloromethane	ND		ug/kg	0.95	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.95	--	1
Tetrachloroethene	11		ug/kg	0.48	--	1
Chlorobenzene	ND		ug/kg	0.48	--	1
Trichlorofluoromethane	ND		ug/kg	3.8	--	1
1,2-Dichloroethane	ND		ug/kg	0.95	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.48	--	1
Bromodichloromethane	ND		ug/kg	0.48	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.95	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.48	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.48	--	1
1,1-Dichloropropene	ND		ug/kg	0.48	--	1
Bromoform	ND		ug/kg	3.8	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.48	--	1
Benzene	ND		ug/kg	0.48	--	1
Toluene	ND		ug/kg	0.95	--	1
Ethylbenzene	ND		ug/kg	0.95	--	1
Chloromethane	ND		ug/kg	3.8	--	1
Bromomethane	ND		ug/kg	1.9	--	1
Vinyl chloride	ND		ug/kg	0.95	--	1
Chloroethane	ND		ug/kg	1.9	--	1
1,1-Dichloroethene	ND		ug/kg	0.95	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.4	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-21 Date Collected: 09/04/19 09:40

Client ID: SB-3 (5-7)-2 Date Received: 09/06/19

Sample Location: LAWRENCE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	1.9		ug/kg	0.48	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.9	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.9	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.9	--	1
Methyl tert butyl ether	ND		ug/kg	1.9	--	1
p/m-Xylene	ND		ug/kg	1.9	--	1
o-Xylene	ND		ug/kg	0.95	--	1
Xylenes, Total	ND		ug/kg	0.95	--	1
cis-1,2-Dichloroethene	4.0		ug/kg	0.95	--	1
1,2-Dichloroethene, Total	4.0		ug/kg	0.95	--	1
Dibromomethane	ND		ug/kg	1.9	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.9	--	1
Styrene	ND		ug/kg	0.95	--	1
Dichlorodifluoromethane	ND		ug/kg	9.5	--	1
Acetone	260		ug/kg	9.5	--	1
Carbon disulfide	ND		ug/kg	9.5	--	1
Methyl ethyl ketone	12		ug/kg	9.5	--	1
Methyl isobutyl ketone	ND		ug/kg	9.5	--	1
2-Hexanone	ND		ug/kg	9.5	--	1
Bromochloromethane	ND		ug/kg	1.9	--	1
Tetrahydrofuran	ND		ug/kg	3.8	--	1
2,2-Dichloropropane	ND		ug/kg	1.9	--	1
1,2-Dibromoethane	ND		ug/kg	0.95	--	1
1,3-Dichloropropane	ND		ug/kg	1.9	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.48	--	1
Bromobenzene	ND		ug/kg	1.9	--	1
n-Butylbenzene	ND		ug/kg	0.95	--	1
sec-Butylbenzene	ND		ug/kg	0.95	--	1
tert-Butylbenzene	ND		ug/kg	1.9	--	1
o-Chlorotoluene	ND		ug/kg	1.9	--	1
p-Chlorotoluene	ND		ug/kg	1.9	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.8	--	1
Hexachlorobutadiene	ND		ug/kg	3.8	--	1
Isopropylbenzene	ND		ug/kg	0.95	--	1
p-Isopropyltoluene	ND		ug/kg	0.95	--	1
Naphthalene	ND		ug/kg	3.8	--	1
n-Propylbenzene	ND		ug/kg	0.95	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-21 Date Collected: 09/04/19 09:40

Client ID: SB-3 (5-7)-2 Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	1.9	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.9	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.9	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.9	--	1
Diethyl ether	ND		ug/kg	1.9	--	1
Diisopropyl Ether	ND		ug/kg	1.9	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.9	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.9	--	1
1,4-Dioxane	ND		ug/kg	76	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	129		70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	111		70-130

Project Name: TOMBARELLO SITE
Lab Number: L1940717
Project Number: 17001426
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-23
Client ID: SB-2 (1-2)
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 10:05
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/14/19 15:11
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	5.2	--	1
1,1-Dichloroethane	ND		ug/kg	1.0	--	1
Chloroform	ND		ug/kg	1.6	--	1
Carbon tetrachloride	ND		ug/kg	1.0	--	1
1,2-Dichloropropane	ND		ug/kg	1.0	--	1
Dibromochloromethane	ND		ug/kg	1.0	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.0	--	1
Tetrachloroethene	2.1		ug/kg	0.52	--	1
Chlorobenzene	ND		ug/kg	0.52	--	1
Trichlorofluoromethane	ND		ug/kg	4.2	--	1
1,2-Dichloroethane	ND		ug/kg	1.0	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.52	--	1
Bromodichloromethane	ND		ug/kg	0.52	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.52	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.52	--	1
1,1-Dichloropropene	ND		ug/kg	0.52	--	1
Bromoform	ND		ug/kg	4.2	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.52	--	1
Benzene	ND		ug/kg	0.52	--	1
Toluene	ND		ug/kg	1.0	--	1
Ethylbenzene	ND		ug/kg	1.0	--	1
Chloromethane	ND		ug/kg	4.2	--	1
Bromomethane	ND		ug/kg	2.1	--	1
Vinyl chloride	ND		ug/kg	1.0	--	1
Chloroethane	ND		ug/kg	2.1	--	1
1,1-Dichloroethene	ND		ug/kg	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.6	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-23 Date Collected: 09/04/19 10:05

Client ID: SB-2 (1-2) Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	0.52	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.1	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.1	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.1	--	1
Methyl tert butyl ether	ND		ug/kg	2.1	--	1
p/m-Xylene	ND		ug/kg	2.1	--	1
o-Xylene	ND		ug/kg	1.0	--	1
Xylenes, Total	ND		ug/kg	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--	1
Dibromomethane	ND		ug/kg	2.1	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.1	--	1
Styrene	ND		ug/kg	1.0	--	1
Dichlorodifluoromethane	ND		ug/kg	10	--	1
Acetone	ND		ug/kg	10	--	1
Carbon disulfide	ND		ug/kg	10	--	1
Methyl ethyl ketone	ND		ug/kg	10	--	1
Methyl isobutyl ketone	ND		ug/kg	10	--	1
2-Hexanone	ND		ug/kg	10	--	1
Bromochloromethane	ND		ug/kg	2.1	--	1
Tetrahydrofuran	ND		ug/kg	4.2	--	1
2,2-Dichloropropane	ND		ug/kg	2.1	--	1
1,2-Dibromoethane	ND		ug/kg	1.0	--	1
1,3-Dichloropropane	ND		ug/kg	2.1	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.52	--	1
Bromobenzene	ND		ug/kg	2.1	--	1
n-Butylbenzene	ND		ug/kg	1.0	--	1
sec-Butylbenzene	ND		ug/kg	1.0	--	1
tert-Butylbenzene	ND		ug/kg	2.1	--	1
o-Chlorotoluene	ND		ug/kg	2.1	--	1
p-Chlorotoluene	ND		ug/kg	2.1	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.1	--	1
Hexachlorobutadiene	ND		ug/kg	4.2	--	1
Isopropylbenzene	ND		ug/kg	1.0	--	1
p-Isopropyltoluene	ND		ug/kg	1.0	--	1
Naphthalene	ND		ug/kg	4.2	--	1
n-Propylbenzene	ND		ug/kg	1.0	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-23 Date Collected: 09/04/19 10:05

Client ID: SB-2 (1-2) Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	2.1	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.1	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.1	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.1	--	1
Diethyl ether	ND		ug/kg	2.1	--	1
Diisopropyl Ether	ND		ug/kg	2.1	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.1	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.1	--	1
1,4-Dioxane	ND		ug/kg	83	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	**141**	Q	70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	121		70-130
Dibromofluoromethane	114		70-130

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-23 R
Client ID: SB-2 (1-2)
Sample Location: LAWRENCE, MA

Date Collected: 09/04/19 10:05
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/15/19 15:59
Analyst: NLK
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	4.2	--	1
1,1-Dichloroethane	ND		ug/kg	0.85	--	1
Chloroform	ND		ug/kg	1.3	--	1
Carbon tetrachloride	ND		ug/kg	0.85	--	1
1,2-Dichloropropane	ND		ug/kg	0.85	--	1
Dibromochloromethane	ND		ug/kg	0.85	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.85	--	1
Tetrachloroethene	1.4		ug/kg	0.42	--	1
Chlorobenzene	ND		ug/kg	0.42	--	1
Trichlorofluoromethane	ND		ug/kg	3.4	--	1
1,2-Dichloroethane	ND		ug/kg	0.85	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.42	--	1
Bromodichloromethane	ND		ug/kg	0.42	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.85	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.42	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.42	--	1
1,1-Dichloropropene	ND		ug/kg	0.42	--	1
Bromoform	ND		ug/kg	3.4	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.42	--	1
Benzene	ND		ug/kg	0.42	--	1
Toluene	ND		ug/kg	0.85	--	1
Ethylbenzene	ND		ug/kg	0.85	--	1
Chloromethane	ND		ug/kg	3.4	--	1
Bromomethane	ND		ug/kg	1.7	--	1
Vinyl chloride	ND		ug/kg	0.85	--	1
Chloroethane	ND		ug/kg	1.7	--	1
1,1-Dichloroethene	ND		ug/kg	0.85	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.3	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-23 R Date Collected: 09/04/19 10:05
Client ID: SB-2 (1-2) Date Received: 09/06/19
Sample Location: LAWRENCE, MA 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	0.42	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.7	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.7	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.7	--	1
Methyl tert butyl ether	ND		ug/kg	1.7	--	1
p/m-Xylene	ND		ug/kg	1.7	--	1
o-Xylene	ND		ug/kg	0.85	--	1
Xylenes, Total	ND		ug/kg	0.85	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.85	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.85	--	1
Dibromomethane	ND		ug/kg	1.7	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.7	--	1
Styrene	ND		ug/kg	0.85	--	1
Dichlorodifluoromethane	ND		ug/kg	8.5	--	1
Acetone	19		ug/kg	8.5	--	1
Carbon disulfide	ND		ug/kg	8.5	--	1
Methyl ethyl ketone	ND		ug/kg	8.5	--	1
Methyl isobutyl ketone	ND		ug/kg	8.5	--	1
2-Hexanone	ND		ug/kg	8.5	--	1
Bromochloromethane	ND		ug/kg	1.7	--	1
Tetrahydrofuran	ND		ug/kg	3.4	--	1
2,2-Dichloropropane	ND		ug/kg	1.7	--	1
1,2-Dibromoethane	ND		ug/kg	0.85	--	1
1,3-Dichloropropane	ND		ug/kg	1.7	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.42	--	1
Bromobenzene	ND		ug/kg	1.7	--	1
n-Butylbenzene	ND		ug/kg	0.85	--	1
sec-Butylbenzene	ND		ug/kg	0.85	--	1
tert-Butylbenzene	ND		ug/kg	1.7	--	1
o-Chlorotoluene	ND		ug/kg	1.7	--	1
p-Chlorotoluene	ND		ug/kg	1.7	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.5	--	1
Hexachlorobutadiene	ND		ug/kg	3.4	--	1
Isopropylbenzene	ND		ug/kg	0.85	--	1
p-Isopropyltoluene	ND		ug/kg	0.85	--	1
Naphthalene	24		ug/kg	3.4	--	1
n-Propylbenzene	ND		ug/kg	0.85	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-23 R Date Collected: 09/04/19 10:05

Client ID: SB-2 (1-2) Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	1.7	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.7	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.7	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.7	--	1
Diethyl ether	ND		ug/kg	1.7	--	1
Diisopropyl Ether	ND		ug/kg	1.7	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.7	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.7	--	1
1,4-Dioxane	ND		ug/kg	68	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	129		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	116		70-130
Dibromofluoromethane	110		70-130

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-24
Client ID: SB-2 (2-3)
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 10:07
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/15/19 15:07
Analyst: NLK
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.8	--	1
1,1-Dichloroethane	ND		ug/kg	0.97	--	1
Chloroform	ND		ug/kg	1.4	--	1
Carbon tetrachloride	ND		ug/kg	0.97	--	1
1,2-Dichloropropane	ND		ug/kg	0.97	--	1
Dibromochloromethane	ND		ug/kg	0.97	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.97	--	1
Tetrachloroethene	0.61		ug/kg	0.48	--	1
Chlorobenzene	ND		ug/kg	0.48	--	1
Trichlorofluoromethane	ND		ug/kg	3.9	--	1
1,2-Dichloroethane	ND		ug/kg	0.97	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.48	--	1
Bromodichloromethane	ND		ug/kg	0.48	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.97	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.48	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.48	--	1
1,1-Dichloropropene	ND		ug/kg	0.48	--	1
Bromoform	ND		ug/kg	3.9	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.48	--	1
Benzene	ND		ug/kg	0.48	--	1
Toluene	ND		ug/kg	0.97	--	1
Ethylbenzene	ND		ug/kg	0.97	--	1
Chloromethane	ND		ug/kg	3.9	--	1
Bromomethane	ND		ug/kg	1.9	--	1
Vinyl chloride	ND		ug/kg	0.97	--	1
Chloroethane	ND		ug/kg	1.9	--	1
1,1-Dichloroethene	ND		ug/kg	0.97	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.4	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-24 Date Collected: 09/04/19 10:07

Client ID: SB-2 (2-3) Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	0.48	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.9	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.9	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.9	--	1
Methyl tert butyl ether	ND		ug/kg	1.9	--	1
p/m-Xylene	ND		ug/kg	1.9	--	1
o-Xylene	ND		ug/kg	0.97	--	1
Xylenes, Total	ND		ug/kg	0.97	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.97	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.97	--	1
Dibromomethane	ND		ug/kg	1.9	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.9	--	1
Styrene	ND		ug/kg	0.97	--	1
Dichlorodifluoromethane	ND		ug/kg	9.7	--	1
Acetone	120		ug/kg	9.7	--	1
Carbon disulfide	ND		ug/kg	9.7	--	1
Methyl ethyl ketone	ND		ug/kg	9.7	--	1
Methyl isobutyl ketone	ND		ug/kg	9.7	--	1
2-Hexanone	ND		ug/kg	9.7	--	1
Bromochloromethane	ND		ug/kg	1.9	--	1
Tetrahydrofuran	ND		ug/kg	3.9	--	1
2,2-Dichloropropane	ND		ug/kg	1.9	--	1
1,2-Dibromoethane	ND		ug/kg	0.97	--	1
1,3-Dichloropropane	ND		ug/kg	1.9	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.48	--	1
Bromobenzene	ND		ug/kg	1.9	--	1
n-Butylbenzene	ND		ug/kg	0.97	--	1
sec-Butylbenzene	ND		ug/kg	0.97	--	1
tert-Butylbenzene	ND		ug/kg	1.9	--	1
o-Chlorotoluene	ND		ug/kg	1.9	--	1
p-Chlorotoluene	ND		ug/kg	1.9	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.9	--	1
Hexachlorobutadiene	ND		ug/kg	3.9	--	1
Isopropylbenzene	ND		ug/kg	0.97	--	1
p-Isopropyltoluene	ND		ug/kg	0.97	--	1
Naphthalene	ND		ug/kg	3.9	--	1
n-Propylbenzene	ND		ug/kg	0.97	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-24 Date Collected: 09/04/19 10:07

Client ID: SB-2 (2-3) Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	1.9	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.9	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.9	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.9	--	1
Diethyl ether	ND		ug/kg	1.9	--	1
Diisopropyl Ether	ND		ug/kg	1.9	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.9	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.9	--	1
1,4-Dioxane	ND		ug/kg	77	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	126		70-130
Toluene-d8	91		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	109		70-130

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-27
Client ID: SB-2 (5-7)-2
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 10:20
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/14/19 16:15
Analyst: JC
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	6.6	--	1
1,1-Dichloroethane	ND		ug/kg	1.3	--	1
Chloroform	ND		ug/kg	2.0	--	1
Carbon tetrachloride	ND		ug/kg	1.3	--	1
1,2-Dichloropropane	ND		ug/kg	1.3	--	1
Dibromochloromethane	ND		ug/kg	1.3	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.3	--	1
Tetrachloroethene	17		ug/kg	0.66	--	1
Chlorobenzene	ND		ug/kg	0.66	--	1
Trichlorofluoromethane	ND		ug/kg	5.3	--	1
1,2-Dichloroethane	ND		ug/kg	1.3	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.66	--	1
Bromodichloromethane	ND		ug/kg	0.66	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.3	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.66	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.66	--	1
1,1-Dichloropropene	ND		ug/kg	0.66	--	1
Bromoform	ND		ug/kg	5.3	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.66	--	1
Benzene	ND		ug/kg	0.66	--	1
Toluene	ND		ug/kg	1.3	--	1
Ethylbenzene	ND		ug/kg	1.3	--	1
Chloromethane	ND		ug/kg	5.3	--	1
Bromomethane	ND		ug/kg	2.6	--	1
Vinyl chloride	ND		ug/kg	1.3	--	1
Chloroethane	ND		ug/kg	2.6	--	1
1,1-Dichloroethene	ND		ug/kg	1.3	--	1
trans-1,2-Dichloroethene	ND		ug/kg	2.0	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-27 Date Collected: 09/04/19 10:20

Client ID: SB-2 (5-7)-2 Date Received: 09/06/19

Sample Location: LAWRENCE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	7.0		ug/kg	0.66	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.6	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.6	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.6	--	1
Methyl tert butyl ether	ND		ug/kg	2.6	--	1
p/m-Xylene	ND		ug/kg	2.6	--	1
o-Xylene	ND		ug/kg	1.3	--	1
Xylenes, Total	ND		ug/kg	1.3	--	1
cis-1,2-Dichloroethene	4.8		ug/kg	1.3	--	1
1,2-Dichloroethene, Total	4.8		ug/kg	1.3	--	1
Dibromomethane	ND		ug/kg	2.6	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.6	--	1
Styrene	ND		ug/kg	1.3	--	1
Dichlorodifluoromethane	ND		ug/kg	13	--	1
Acetone	440	E	ug/kg	13	--	1
Carbon disulfide	ND		ug/kg	13	--	1
Methyl ethyl ketone	ND		ug/kg	13	--	1
Methyl isobutyl ketone	ND		ug/kg	13	--	1
2-Hexanone	ND		ug/kg	13	--	1
Bromochloromethane	ND		ug/kg	2.6	--	1
Tetrahydrofuran	ND		ug/kg	5.3	--	1
2,2-Dichloropropane	ND		ug/kg	2.6	--	1
1,2-Dibromoethane	ND		ug/kg	1.3	--	1
1,3-Dichloropropane	ND		ug/kg	2.6	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.66	--	1
Bromobenzene	ND		ug/kg	2.6	--	1
n-Butylbenzene	ND		ug/kg	1.3	--	1
sec-Butylbenzene	ND		ug/kg	1.3	--	1
tert-Butylbenzene	ND		ug/kg	2.6	--	1
o-Chlorotoluene	ND		ug/kg	2.6	--	1
p-Chlorotoluene	ND		ug/kg	2.6	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.9	--	1
Hexachlorobutadiene	ND		ug/kg	5.3	--	1
Isopropylbenzene	ND		ug/kg	1.3	--	1
p-Isopropyltoluene	ND		ug/kg	1.3	--	1
Naphthalene	ND		ug/kg	5.3	--	1
n-Propylbenzene	ND		ug/kg	1.3	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-27 Date Collected: 09/04/19 10:20

Client ID: SB-2 (5-7)-2 Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	2.6	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.6	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.6	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.6	--	1
Diethyl ether	ND		ug/kg	2.6	--	1
Diisopropyl Ether	ND		ug/kg	2.6	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.6	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.6	--	1
1,4-Dioxane	ND		ug/kg	100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	99		70-130

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-27
Client ID: SB-2 (5-7)-2
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 10:20
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/17/19 12:15
Analyst: NLK
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	520	--	1
1,1-Dichloroethane	ND		ug/kg	100	--	1
Chloroform	ND		ug/kg	150	--	1
Carbon tetrachloride	ND		ug/kg	100	--	1
1,2-Dichloropropane	ND		ug/kg	100	--	1
Dibromochloromethane	ND		ug/kg	100	--	1
1,1,2-Trichloroethane	ND		ug/kg	100	--	1
Tetrachloroethene	340		ug/kg	52	--	1
Chlorobenzene	ND		ug/kg	52	--	1
Trichlorofluoromethane	ND		ug/kg	410	--	1
1,2-Dichloroethane	ND		ug/kg	100	--	1
1,1,1-Trichloroethane	ND		ug/kg	52	--	1
Bromodichloromethane	ND		ug/kg	52	--	1
trans-1,3-Dichloropropene	ND		ug/kg	100	--	1
cis-1,3-Dichloropropene	ND		ug/kg	52	--	1
1,3-Dichloropropene, Total	ND		ug/kg	52	--	1
1,1-Dichloropropene	ND		ug/kg	52	--	1
Bromoform	ND		ug/kg	410	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	52	--	1
Benzene	ND		ug/kg	52	--	1
Toluene	ND		ug/kg	100	--	1
Ethylbenzene	ND		ug/kg	100	--	1
Chloromethane	ND		ug/kg	410	--	1
Bromomethane	ND		ug/kg	210	--	1
Vinyl chloride	ND		ug/kg	100	--	1
Chloroethane	ND		ug/kg	210	--	1
1,1-Dichloroethene	ND		ug/kg	100	--	1
trans-1,2-Dichloroethene	ND		ug/kg	150	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-27 Date Collected: 09/04/19 10:20

Client ID: SB-2 (5-7)-2 Date Received: 09/06/19

Sample Location: LAWRENCE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Trichloroethene	130		ug/kg	52	--	1
1,2-Dichlorobenzene	ND		ug/kg	210	--	1
1,3-Dichlorobenzene	ND		ug/kg	210	--	1
1,4-Dichlorobenzene	ND		ug/kg	210	--	1
Methyl tert butyl ether	ND		ug/kg	210	--	1
p/m-Xylene	ND		ug/kg	210	--	1
o-Xylene	ND		ug/kg	100	--	1
Xylenes, Total	ND		ug/kg	100	--	1
cis-1,2-Dichloroethene	130		ug/kg	100	--	1
1,2-Dichloroethene, Total	130		ug/kg	100	--	1
Dibromomethane	ND		ug/kg	210	--	1
1,2,3-Trichloropropane	ND		ug/kg	210	--	1
Styrene	ND		ug/kg	100	--	1
Dichlorodifluoromethane	ND		ug/kg	1000	--	1
Acetone	ND		ug/kg	1000	--	1
Carbon disulfide	ND		ug/kg	1000	--	1
Methyl ethyl ketone	ND		ug/kg	1000	--	1
Methyl isobutyl ketone	ND		ug/kg	1000	--	1
2-Hexanone	ND		ug/kg	1000	--	1
Bromochloromethane	ND		ug/kg	210	--	1
Tetrahydrofuran	ND		ug/kg	410	--	1
2,2-Dichloropropane	ND		ug/kg	210	--	1
1,2-Dibromoethane	ND		ug/kg	100	--	1
1,3-Dichloropropane	ND		ug/kg	210	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	52	--	1
Bromobenzene	ND		ug/kg	210	--	1
n-Butylbenzene	ND		ug/kg	100	--	1
sec-Butylbenzene	ND		ug/kg	100	--	1
tert-Butylbenzene	ND		ug/kg	210	--	1
o-Chlorotoluene	ND		ug/kg	210	--	1
p-Chlorotoluene	ND		ug/kg	210	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	310	--	1
Hexachlorobutadiene	ND		ug/kg	410	--	1
Isopropylbenzene	ND		ug/kg	100	--	1
p-Isopropyltoluene	ND		ug/kg	100	--	1
Naphthalene	ND		ug/kg	410	--	1
n-Propylbenzene	ND		ug/kg	100	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-27 Date Collected: 09/04/19 10:20

Client ID: SB-2 (5-7)-2 Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	210	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	210	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	210	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	210	--	1
Diethyl ether	ND		ug/kg	210	--	1
Diisopropyl Ether	ND		ug/kg	210	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	210	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	210	--	1
1,4-Dioxane	ND		ug/kg	8200	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	94		70-130

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-44
Client ID: D-07 (1-3)
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 12:16
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/14/19 16:39
Analyst: JC
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.4	--	1
1,1-Dichloroethane	ND		ug/kg	0.88	--	1
Chloroform	ND		ug/kg	1.3	--	1
Carbon tetrachloride	ND		ug/kg	0.88	--	1
1,2-Dichloropropane	ND		ug/kg	0.88	--	1
Dibromochloromethane	ND		ug/kg	0.88	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.88	--	1
Tetrachloroethene	1.1		ug/kg	0.44	--	1
Chlorobenzene	ND		ug/kg	0.44	--	1
Trichlorofluoromethane	ND		ug/kg	3.5	--	1
1,2-Dichloroethane	ND		ug/kg	0.88	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.44	--	1
Bromodichloromethane	ND		ug/kg	0.44	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.88	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.44	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.44	--	1
1,1-Dichloropropene	ND		ug/kg	0.44	--	1
Bromoform	ND		ug/kg	3.5	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.44	--	1
Benzene	ND		ug/kg	0.44	--	1
Toluene	ND		ug/kg	0.88	--	1
Ethylbenzene	ND		ug/kg	0.88	--	1
Chloromethane	ND		ug/kg	3.5	--	1
Bromomethane	ND		ug/kg	1.8	--	1
Vinyl chloride	ND		ug/kg	0.88	--	1
Chloroethane	ND		ug/kg	1.8	--	1
1,1-Dichloroethene	ND		ug/kg	0.88	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.3	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-44 Date Collected: 09/04/19 12:16

Client ID: D-07 (1-3) Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	0.44	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.8	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.8	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.8	--	1
Methyl tert butyl ether	ND		ug/kg	1.8	--	1
p/m-Xylene	ND		ug/kg	1.8	--	1
o-Xylene	ND		ug/kg	0.88	--	1
Xylenes, Total	ND		ug/kg	0.88	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.88	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.88	--	1
Dibromomethane	ND		ug/kg	1.8	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.8	--	1
Styrene	ND		ug/kg	0.88	--	1
Dichlorodifluoromethane	ND		ug/kg	8.8	--	1
Acetone	350	E	ug/kg	8.8	--	1
Carbon disulfide	ND		ug/kg	8.8	--	1
Methyl ethyl ketone	ND		ug/kg	8.8	--	1
Methyl isobutyl ketone	ND		ug/kg	8.8	--	1
2-Hexanone	ND		ug/kg	8.8	--	1
Bromochloromethane	ND		ug/kg	1.8	--	1
Tetrahydrofuran	ND		ug/kg	3.5	--	1
2,2-Dichloropropane	ND		ug/kg	1.8	--	1
1,2-Dibromoethane	ND		ug/kg	0.88	--	1
1,3-Dichloropropane	ND		ug/kg	1.8	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.44	--	1
Bromobenzene	ND		ug/kg	1.8	--	1
n-Butylbenzene	ND		ug/kg	0.88	--	1
sec-Butylbenzene	ND		ug/kg	0.88	--	1
tert-Butylbenzene	ND		ug/kg	1.8	--	1
o-Chlorotoluene	ND		ug/kg	1.8	--	1
p-Chlorotoluene	ND		ug/kg	1.8	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.6	--	1
Hexachlorobutadiene	ND		ug/kg	3.5	--	1
Isopropylbenzene	ND		ug/kg	0.88	--	1
p-Isopropyltoluene	ND		ug/kg	0.88	--	1
Naphthalene	13		ug/kg	3.5	--	1
n-Propylbenzene	ND		ug/kg	0.88	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-44 Date Collected: 09/04/19 12:16

Client ID: D-07 (1-3) Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	1.8	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.8	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.8	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.8	--	1
Diethyl ether	ND		ug/kg	1.8	--	1
Diisopropyl Ether	ND		ug/kg	1.8	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.8	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.8	--	1
1,4-Dioxane	ND		ug/kg	70	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	97		70-130

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-44
Client ID: D-07 (1-3)
Sample Location: LAWRENCE, MA

Date Collected: 09/04/19 12:16
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/16/19 09:21
Analyst: JC
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	270	--	1
1,1-Dichloroethane	ND		ug/kg	54	--	1
Chloroform	ND		ug/kg	81	--	1
Carbon tetrachloride	ND		ug/kg	54	--	1
1,2-Dichloropropane	ND		ug/kg	54	--	1
Dibromochloromethane	ND		ug/kg	54	--	1
1,1,2-Trichloroethane	ND		ug/kg	54	--	1
Tetrachloroethene	ND		ug/kg	27	--	1
Chlorobenzene	ND		ug/kg	27	--	1
Trichlorofluoromethane	ND		ug/kg	220	--	1
1,2-Dichloroethane	ND		ug/kg	54	--	1
1,1,1-Trichloroethane	ND		ug/kg	27	--	1
Bromodichloromethane	ND		ug/kg	27	--	1
trans-1,3-Dichloropropene	ND		ug/kg	54	--	1
cis-1,3-Dichloropropene	ND		ug/kg	27	--	1
1,3-Dichloropropene, Total	ND		ug/kg	27	--	1
1,1-Dichloropropene	ND		ug/kg	27	--	1
Bromoform	ND		ug/kg	220	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	27	--	1
Benzene	ND		ug/kg	27	--	1
Toluene	ND		ug/kg	54	--	1
Ethylbenzene	ND		ug/kg	54	--	1
Chloromethane	ND		ug/kg	220	--	1
Bromomethane	ND		ug/kg	110	--	1
Vinyl chloride	ND		ug/kg	54	--	1
Chloroethane	ND		ug/kg	110	--	1
1,1-Dichloroethene	ND		ug/kg	54	--	1
trans-1,2-Dichloroethene	ND		ug/kg	81	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-44 Date Collected: 09/04/19 12:16

Client ID: D-07 (1-3) Date Received: 09/06/19

Sample Location: LAWRENCE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Trichloroethene	ND		ug/kg	27	--	1
1,2-Dichlorobenzene	ND		ug/kg	110	--	1
1,3-Dichlorobenzene	ND		ug/kg	110	--	1
1,4-Dichlorobenzene	ND		ug/kg	110	--	1
Methyl tert butyl ether	ND		ug/kg	110	--	1
p/m-Xylene	ND		ug/kg	110	--	1
o-Xylene	ND		ug/kg	54	--	1
Xylenes, Total	ND		ug/kg	54	--	1
cis-1,2-Dichloroethene	ND		ug/kg	54	--	1
1,2-Dichloroethene, Total	ND		ug/kg	54	--	1
Dibromomethane	ND		ug/kg	110	--	1
1,2,3-Trichloropropane	ND		ug/kg	110	--	1
Styrene	ND		ug/kg	54	--	1
Dichlorodifluoromethane	ND		ug/kg	540	--	1
Acetone	ND		ug/kg	540	--	1
Carbon disulfide	ND		ug/kg	540	--	1
Methyl ethyl ketone	ND		ug/kg	540	--	1
Methyl isobutyl ketone	ND		ug/kg	540	--	1
2-Hexanone	ND		ug/kg	540	--	1
Bromochloromethane	ND		ug/kg	110	--	1
Tetrahydrofuran	ND		ug/kg	220	--	1
2,2-Dichloropropane	ND		ug/kg	110	--	1
1,2-Dibromoethane	ND		ug/kg	54	--	1
1,3-Dichloropropane	ND		ug/kg	110	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	27	--	1
Bromobenzene	ND		ug/kg	110	--	1
n-Butylbenzene	ND		ug/kg	54	--	1
sec-Butylbenzene	ND		ug/kg	54	--	1
tert-Butylbenzene	ND		ug/kg	110	--	1
o-Chlorotoluene	ND		ug/kg	110	--	1
p-Chlorotoluene	ND		ug/kg	110	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	160	--	1
Hexachlorobutadiene	ND		ug/kg	220	--	1
Isopropylbenzene	ND		ug/kg	54	--	1
p-Isopropyltoluene	ND		ug/kg	54	--	1
Naphthalene	4400		ug/kg	220	--	1
n-Propylbenzene	ND		ug/kg	54	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-44 Date Collected: 09/04/19 12:16

Client ID: D-07 (1-3) Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	110	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	110	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	110	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	110	--	1
Diethyl ether	ND		ug/kg	110	--	1
Diisopropyl Ether	ND		ug/kg	110	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	110	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	110	--	1
1,4-Dioxane	ND		ug/kg	4300	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	92		70-130

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-45
Client ID: D-07 (7-9)
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 12:30
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/14/19 17:03
Analyst: JC
Percent Solids: 78%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.2	--	1
1,1-Dichloroethane	ND		ug/kg	0.83	--	1
Chloroform	ND		ug/kg	1.2	--	1
Carbon tetrachloride	ND		ug/kg	0.83	--	1
1,2-Dichloropropane	ND		ug/kg	0.83	--	1
Dibromochloromethane	ND		ug/kg	0.83	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.83	--	1
Tetrachloroethene	ND		ug/kg	0.42	--	1
Chlorobenzene	ND		ug/kg	0.42	--	1
Trichlorofluoromethane	ND		ug/kg	3.3	--	1
1,2-Dichloroethane	ND		ug/kg	0.83	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.42	--	1
Bromodichloromethane	ND		ug/kg	0.42	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.83	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.42	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.42	--	1
1,1-Dichloropropene	ND		ug/kg	0.42	--	1
Bromoform	ND		ug/kg	3.3	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.42	--	1
Benzene	ND		ug/kg	0.42	--	1
Toluene	ND		ug/kg	0.83	--	1
Ethylbenzene	ND		ug/kg	0.83	--	1
Chloromethane	ND		ug/kg	3.3	--	1
Bromomethane	ND		ug/kg	1.7	--	1
Vinyl chloride	ND		ug/kg	0.83	--	1
Chloroethane	ND		ug/kg	1.7	--	1
1,1-Dichloroethene	ND		ug/kg	0.83	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.2	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-45 Date Collected: 09/04/19 12:30

Client ID: D-07 (7-9) Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	0.42	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.7	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.7	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.7	--	1
Methyl tert butyl ether	ND		ug/kg	1.7	--	1
p/m-Xylene	ND		ug/kg	1.7	--	1
o-Xylene	ND		ug/kg	0.83	--	1
Xylenes, Total	ND		ug/kg	0.83	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.83	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.83	--	1
Dibromomethane	ND		ug/kg	1.7	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.7	--	1
Styrene	ND		ug/kg	0.83	--	1
Dichlorodifluoromethane	ND		ug/kg	8.3	--	1
Acetone	49		ug/kg	8.3	--	1
Carbon disulfide	ND		ug/kg	8.3	--	1
Methyl ethyl ketone	ND		ug/kg	8.3	--	1
Methyl isobutyl ketone	ND		ug/kg	8.3	--	1
2-Hexanone	ND		ug/kg	8.3	--	1
Bromochloromethane	ND		ug/kg	1.7	--	1
Tetrahydrofuran	ND		ug/kg	3.3	--	1
2,2-Dichloropropane	ND		ug/kg	1.7	--	1
1,2-Dibromoethane	ND		ug/kg	0.83	--	1
1,3-Dichloropropane	ND		ug/kg	1.7	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.42	--	1
Bromobenzene	ND		ug/kg	1.7	--	1
n-Butylbenzene	ND		ug/kg	0.83	--	1
sec-Butylbenzene	ND		ug/kg	0.83	--	1
tert-Butylbenzene	ND		ug/kg	1.7	--	1
o-Chlorotoluene	ND		ug/kg	1.7	--	1
p-Chlorotoluene	ND		ug/kg	1.7	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.5	--	1
Hexachlorobutadiene	ND		ug/kg	3.3	--	1
Isopropylbenzene	ND		ug/kg	0.83	--	1
p-Isopropyltoluene	ND		ug/kg	0.83	--	1
Naphthalene	ND		ug/kg	3.3	--	1
n-Propylbenzene	ND		ug/kg	0.83	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-45 Date Collected: 09/04/19 12:30

Client ID: D-07 (7-9) Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	1.7	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.7	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.7	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.7	--	1
Diethyl ether	ND		ug/kg	1.7	--	1
Diisopropyl Ether	ND		ug/kg	1.7	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.7	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.7	--	1
1,4-Dioxane	ND		ug/kg	67	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	97		70-130

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-50
Client ID: SB-DUP-5
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 00:00
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/15/19 19:44
Analyst: NLK
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	240	--	1
1,1-Dichloroethane	ND		ug/kg	49	--	1
Chloroform	ND		ug/kg	73	--	1
Carbon tetrachloride	ND		ug/kg	49	--	1
1,2-Dichloropropane	ND		ug/kg	49	--	1
Dibromochloromethane	ND		ug/kg	49	--	1
1,1,2-Trichloroethane	ND		ug/kg	49	--	1
Tetrachloroethene	ND		ug/kg	24	--	1
Chlorobenzene	ND		ug/kg	24	--	1
Trichlorofluoromethane	ND		ug/kg	200	--	1
1,2-Dichloroethane	ND		ug/kg	49	--	1
1,1,1-Trichloroethane	ND		ug/kg	24	--	1
Bromodichloromethane	ND		ug/kg	24	--	1
trans-1,3-Dichloropropene	ND		ug/kg	49	--	1
cis-1,3-Dichloropropene	ND		ug/kg	24	--	1
1,3-Dichloropropene, Total	ND		ug/kg	24	--	1
1,1-Dichloropropene	ND		ug/kg	24	--	1
Bromoform	ND		ug/kg	200	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	24	--	1
Benzene	ND		ug/kg	24	--	1
Toluene	ND		ug/kg	49	--	1
Ethylbenzene	ND		ug/kg	49	--	1
Chloromethane	ND		ug/kg	200	--	1
Bromomethane	ND		ug/kg	98	--	1
Vinyl chloride	ND		ug/kg	49	--	1
Chloroethane	ND		ug/kg	98	--	1
1,1-Dichloroethene	ND		ug/kg	49	--	1
trans-1,2-Dichloroethene	ND		ug/kg	73	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-50 Date Collected: 09/04/19 00:00

Client ID: SB-DUP-5 Date Received: 09/06/19

Sample Location: LAWRENCE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Trichloroethene	ND		ug/kg	24	--	1
1,2-Dichlorobenzene	ND		ug/kg	98	--	1
1,3-Dichlorobenzene	ND		ug/kg	98	--	1
1,4-Dichlorobenzene	ND		ug/kg	98	--	1
Methyl tert butyl ether	ND		ug/kg	98	--	1
p/m-Xylene	ND		ug/kg	98	--	1
o-Xylene	ND		ug/kg	49	--	1
Xylenes, Total	ND		ug/kg	49	--	1
cis-1,2-Dichloroethene	ND		ug/kg	49	--	1
1,2-Dichloroethene, Total	ND		ug/kg	49	--	1
Dibromomethane	ND		ug/kg	98	--	1
1,2,3-Trichloropropane	ND		ug/kg	98	--	1
Styrene	ND		ug/kg	49	--	1
Dichlorodifluoromethane	ND		ug/kg	490	--	1
Acetone	ND		ug/kg	490	--	1
Carbon disulfide	ND		ug/kg	490	--	1
Methyl ethyl ketone	ND		ug/kg	490	--	1
Methyl isobutyl ketone	ND		ug/kg	490	--	1
2-Hexanone	ND		ug/kg	490	--	1
Bromochloromethane	ND		ug/kg	98	--	1
Tetrahydrofuran	ND		ug/kg	200	--	1
2,2-Dichloropropane	ND		ug/kg	98	--	1
1,2-Dibromoethane	ND		ug/kg	49	--	1
1,3-Dichloropropane	ND		ug/kg	98	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	24	--	1
Bromobenzene	ND		ug/kg	98	--	1
n-Butylbenzene	ND		ug/kg	49	--	1
sec-Butylbenzene	ND		ug/kg	49	--	1
tert-Butylbenzene	ND		ug/kg	98	--	1
o-Chlorotoluene	ND		ug/kg	98	--	1
p-Chlorotoluene	ND		ug/kg	98	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	150	--	1
Hexachlorobutadiene	ND		ug/kg	200	--	1
Isopropylbenzene	ND		ug/kg	49	--	1
p-Isopropyltoluene	ND		ug/kg	49	--	1
Naphthalene	2500		ug/kg	200	--	1
n-Propylbenzene	ND		ug/kg	49	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-50 Date Collected: 09/04/19 00:00

Client ID: SB-DUP-5 Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	98	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	98	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	98	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	98	--	1
Diethyl ether	ND		ug/kg	98	--	1
Diisopropyl Ether	ND		ug/kg	98	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	98	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	98	--	1
1,4-Dioxane	ND		ug/kg	3900	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	92		70-130

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-55
Client ID: E-06 (1-3)
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 13:24
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/15/19 21:45
Analyst: NLK
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	4.8	--	1
1,1-Dichloroethane	ND		ug/kg	0.95	--	1
Chloroform	ND		ug/kg	1.4	--	1
Carbon tetrachloride	ND		ug/kg	0.95	--	1
1,2-Dichloropropane	ND		ug/kg	0.95	--	1
Dibromochloromethane	ND		ug/kg	0.95	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.95	--	1
Tetrachloroethene	2.9		ug/kg	0.48	--	1
Chlorobenzene	ND		ug/kg	0.48	--	1
Trichlorofluoromethane	ND		ug/kg	3.8	--	1
1,2-Dichloroethane	ND		ug/kg	0.95	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.48	--	1
Bromodichloromethane	ND		ug/kg	0.48	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.95	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.48	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.48	--	1
1,1-Dichloropropene	ND		ug/kg	0.48	--	1
Bromoform	ND		ug/kg	3.8	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.48	--	1
Benzene	ND		ug/kg	0.48	--	1
Toluene	ND		ug/kg	0.95	--	1
Ethylbenzene	ND		ug/kg	0.95	--	1
Chloromethane	ND		ug/kg	3.8	--	1
Bromomethane	ND		ug/kg	1.9	--	1
Vinyl chloride	ND		ug/kg	0.95	--	1
Chloroethane	ND		ug/kg	1.9	--	1
1,1-Dichloroethene	ND		ug/kg	0.95	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.4	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-55 Date Collected: 09/04/19 13:24

Client ID: E-06 (1-3) Date Received: 09/06/19

Sample Location: LAWRENCE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	1.8		ug/kg	0.48	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.9	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.9	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.9	--	1
Methyl tert butyl ether	ND		ug/kg	1.9	--	1
p/m-Xylene	ND		ug/kg	1.9	--	1
o-Xylene	ND		ug/kg	0.95	--	1
Xylenes, Total	ND		ug/kg	0.95	--	1
cis-1,2-Dichloroethene	1.2		ug/kg	0.95	--	1
1,2-Dichloroethene, Total	1.2		ug/kg	0.95	--	1
Dibromomethane	ND		ug/kg	1.9	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.9	--	1
Styrene	ND		ug/kg	0.95	--	1
Dichlorodifluoromethane	ND		ug/kg	9.5	--	1
Acetone	270		ug/kg	9.5	--	1
Carbon disulfide	ND		ug/kg	9.5	--	1
Methyl ethyl ketone	ND		ug/kg	9.5	--	1
Methyl isobutyl ketone	ND		ug/kg	9.5	--	1
2-Hexanone	ND		ug/kg	9.5	--	1
Bromochloromethane	ND		ug/kg	1.9	--	1
Tetrahydrofuran	ND		ug/kg	3.8	--	1
2,2-Dichloropropane	ND		ug/kg	1.9	--	1
1,2-Dibromoethane	ND		ug/kg	0.95	--	1
1,3-Dichloropropane	ND		ug/kg	1.9	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.48	--	1
Bromobenzene	ND		ug/kg	1.9	--	1
n-Butylbenzene	ND		ug/kg	0.95	--	1
sec-Butylbenzene	ND		ug/kg	0.95	--	1
tert-Butylbenzene	ND		ug/kg	1.9	--	1
o-Chlorotoluene	ND		ug/kg	1.9	--	1
p-Chlorotoluene	ND		ug/kg	1.9	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.8	--	1
Hexachlorobutadiene	ND		ug/kg	3.8	--	1
Isopropylbenzene	ND		ug/kg	0.95	--	1
p-Isopropyltoluene	ND		ug/kg	0.95	--	1
Naphthalene	ND		ug/kg	3.8	--	1
n-Propylbenzene	ND		ug/kg	0.95	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-55 Date Collected: 09/04/19 13:24

Client ID: E-06 (1-3) Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	1.9	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.9	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.9	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.9	--	1
Diethyl ether	ND		ug/kg	1.9	--	1
Diisopropyl Ether	ND		ug/kg	1.9	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.9	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.9	--	1
1,4-Dioxane	ND		ug/kg	76	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	99		70-130

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-56
Client ID: E-06 (5-7)-2
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 13:35
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/15/19 22:09
Analyst: NLK
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.8	--	1
1,1-Dichloroethane	ND		ug/kg	0.97	--	1
Chloroform	ND		ug/kg	1.4	--	1
Carbon tetrachloride	ND		ug/kg	0.97	--	1
1,2-Dichloropropane	ND		ug/kg	0.97	--	1
Dibromochloromethane	ND		ug/kg	0.97	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.97	--	1
Tetrachloroethene	ND		ug/kg	0.48	--	1
Chlorobenzene	ND		ug/kg	0.48	--	1
Trichlorofluoromethane	ND		ug/kg	3.9	--	1
1,2-Dichloroethane	ND		ug/kg	0.97	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.48	--	1
Bromodichloromethane	ND		ug/kg	0.48	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.97	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.48	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.48	--	1
1,1-Dichloropropene	ND		ug/kg	0.48	--	1
Bromoform	ND		ug/kg	3.9	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.48	--	1
Benzene	ND		ug/kg	0.48	--	1
Toluene	ND		ug/kg	0.97	--	1
Ethylbenzene	ND		ug/kg	0.97	--	1
Chloromethane	ND		ug/kg	3.9	--	1
Bromomethane	ND		ug/kg	1.9	--	1
Vinyl chloride	ND		ug/kg	0.97	--	1
Chloroethane	ND		ug/kg	1.9	--	1
1,1-Dichloroethene	ND		ug/kg	0.97	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.4	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-56 Date Collected: 09/04/19 13:35

Client ID: E-06 (5-7)-2 Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	0.48	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.9	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.9	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.9	--	1
Methyl tert butyl ether	ND		ug/kg	1.9	--	1
p/m-Xylene	ND		ug/kg	1.9	--	1
o-Xylene	ND		ug/kg	0.97	--	1
Xylenes, Total	ND		ug/kg	0.97	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.97	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.97	--	1
Dibromomethane	ND		ug/kg	1.9	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.9	--	1
Styrene	ND		ug/kg	0.97	--	1
Dichlorodifluoromethane	ND		ug/kg	9.7	--	1
Acetone	250		ug/kg	9.7	--	1
Carbon disulfide	ND		ug/kg	9.7	--	1
Methyl ethyl ketone	ND		ug/kg	9.7	--	1
Methyl isobutyl ketone	ND		ug/kg	9.7	--	1
2-Hexanone	ND		ug/kg	9.7	--	1
Bromochloromethane	ND		ug/kg	1.9	--	1
Tetrahydrofuran	ND		ug/kg	3.9	--	1
2,2-Dichloropropane	ND		ug/kg	1.9	--	1
1,2-Dibromoethane	ND		ug/kg	0.97	--	1
1,3-Dichloropropane	ND		ug/kg	1.9	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.48	--	1
Bromobenzene	ND		ug/kg	1.9	--	1
n-Butylbenzene	ND		ug/kg	0.97	--	1
sec-Butylbenzene	ND		ug/kg	0.97	--	1
tert-Butylbenzene	ND		ug/kg	1.9	--	1
o-Chlorotoluene	ND		ug/kg	1.9	--	1
p-Chlorotoluene	ND		ug/kg	1.9	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.9	--	1
Hexachlorobutadiene	ND		ug/kg	3.9	--	1
Isopropylbenzene	ND		ug/kg	0.97	--	1
p-Isopropyltoluene	ND		ug/kg	0.97	--	1
Naphthalene	13		ug/kg	3.9	--	1
n-Propylbenzene	ND		ug/kg	0.97	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-56 Date Collected: 09/04/19 13:35

Client ID: E-06 (5-7)-2 Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	1.9	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.9	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.9	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.9	--	1
Diethyl ether	ND		ug/kg	1.9	--	1
Diisopropyl Ether	ND		ug/kg	1.9	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.9	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.9	--	1
1,4-Dioxane	ND		ug/kg	77	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	97		70-130

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-101
Client ID: B-09 (1-3)
Sample Location: LAWRENCE, MA

Date Collected: 09/05/19 09:54
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/16/19 01:46
Analyst: NLK
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.6	--	1
1,1-Dichloroethane	ND		ug/kg	0.73	--	1
Chloroform	ND		ug/kg	1.1	--	1
Carbon tetrachloride	ND		ug/kg	0.73	--	1
1,2-Dichloropropane	ND		ug/kg	0.73	--	1
Dibromochloromethane	ND		ug/kg	0.73	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.73	--	1
Tetrachloroethene	ND		ug/kg	0.36	--	1
Chlorobenzene	ND		ug/kg	0.36	--	1
Trichlorofluoromethane	ND		ug/kg	2.9	--	1
1,2-Dichloroethane	ND		ug/kg	0.73	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.36	--	1
Bromodichloromethane	ND		ug/kg	0.36	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.73	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.36	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.36	--	1
1,1-Dichloropropene	ND		ug/kg	0.36	--	1
Bromoform	ND		ug/kg	2.9	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.36	--	1
Benzene	ND		ug/kg	0.36	--	1
Toluene	ND		ug/kg	0.73	--	1
Ethylbenzene	ND		ug/kg	0.73	--	1
Chloromethane	ND		ug/kg	2.9	--	1
Bromomethane	ND		ug/kg	1.4	--	1
Vinyl chloride	ND		ug/kg	0.73	--	1
Chloroethane	ND		ug/kg	1.4	--	1
1,1-Dichloroethene	ND		ug/kg	0.73	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.1	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-101 Date Collected: 09/05/19 09:54

Client ID: B-09 (1-3) Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	0.36	--	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	0.73	--	1
Xylenes, Total	ND		ug/kg	0.73	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.73	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.73	--	1
Dibromomethane	ND		ug/kg	1.4	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.4	--	1
Styrene	ND		ug/kg	0.73	--	1
Dichlorodifluoromethane	ND		ug/kg	7.3	--	1
Acetone	18		ug/kg	7.3	--	1
Carbon disulfide	ND		ug/kg	7.3	--	1
Methyl ethyl ketone	ND		ug/kg	7.3	--	1
Methyl isobutyl ketone	ND		ug/kg	7.3	--	1
2-Hexanone	ND		ug/kg	7.3	--	1
Bromochloromethane	ND		ug/kg	1.4	--	1
Tetrahydrofuran	ND		ug/kg	2.9	--	1
2,2-Dichloropropane	ND		ug/kg	1.4	--	1
1,2-Dibromoethane	ND		ug/kg	0.73	--	1
1,3-Dichloropropane	ND		ug/kg	1.4	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.36	--	1
Bromobenzene	ND		ug/kg	1.4	--	1
n-Butylbenzene	ND		ug/kg	0.73	--	1
sec-Butylbenzene	ND		ug/kg	0.73	--	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	2.2	--	1
Hexachlorobutadiene	ND		ug/kg	2.9	--	1
Isopropylbenzene	ND		ug/kg	0.73	--	1
p-Isopropyltoluene	ND		ug/kg	0.73	--	1
Naphthalene	6.1		ug/kg	2.9	--	1
n-Propylbenzene	ND		ug/kg	0.73	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-101 Date Collected: 09/05/19 09:54

Client ID: B-09 (1-3) Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	58	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	100		70-130

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-105
Client ID: B-09 (5-7)-2
Sample Location: LAWRENCE, MA
Date Collected: 09/05/19 10:02
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/16/19 10:09
Analyst: JC
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.3	--	1
1,1-Dichloroethane	ND		ug/kg	1.1	--	1
Chloroform	ND		ug/kg	1.6	--	1
Carbon tetrachloride	ND		ug/kg	1.1	--	1
1,2-Dichloropropane	ND		ug/kg	1.1	--	1
Dibromochloromethane	ND		ug/kg	1.1	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.1	--	1
Tetrachloroethene	ND		ug/kg	0.53	--	1
Chlorobenzene	ND		ug/kg	0.53	--	1
Trichlorofluoromethane	ND		ug/kg	4.3	--	1
1,2-Dichloroethane	ND		ug/kg	1.1	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.53	--	1
Bromodichloromethane	ND		ug/kg	0.53	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.1	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.53	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.53	--	1
1,1-Dichloropropene	ND		ug/kg	0.53	--	1
Bromoform	ND		ug/kg	4.3	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.53	--	1
Benzene	ND		ug/kg	0.53	--	1
Toluene	ND		ug/kg	1.1	--	1
Ethylbenzene	ND		ug/kg	1.1	--	1
Chloromethane	ND		ug/kg	4.3	--	1
Bromomethane	ND		ug/kg	2.1	--	1
Vinyl chloride	ND		ug/kg	1.1	--	1
Chloroethane	ND		ug/kg	2.1	--	1
1,1-Dichloroethene	ND		ug/kg	1.1	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.6	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-105 Date Collected: 09/05/19 10:02

Client ID: B-09 (5-7)-2 Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	0.53	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.1	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.1	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.1	--	1
Methyl tert butyl ether	ND		ug/kg	2.1	--	1
p/m-Xylene	ND		ug/kg	2.1	--	1
o-Xylene	ND		ug/kg	1.1	--	1
Xylenes, Total	ND		ug/kg	1.1	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.1	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.1	--	1
Dibromomethane	ND		ug/kg	2.1	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.1	--	1
Styrene	ND		ug/kg	1.1	--	1
Dichlorodifluoromethane	ND		ug/kg	11	--	1
Acetone	210		ug/kg	11	--	1
Carbon disulfide	ND		ug/kg	11	--	1
Methyl ethyl ketone	ND		ug/kg	11	--	1
Methyl isobutyl ketone	ND		ug/kg	11	--	1
2-Hexanone	ND		ug/kg	11	--	1
Bromochloromethane	ND		ug/kg	2.1	--	1
Tetrahydrofuran	ND		ug/kg	4.3	--	1
2,2-Dichloropropane	ND		ug/kg	2.1	--	1
1,2-Dibromoethane	ND		ug/kg	1.1	--	1
1,3-Dichloropropane	ND		ug/kg	2.1	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.53	--	1
Bromobenzene	ND		ug/kg	2.1	--	1
n-Butylbenzene	ND		ug/kg	1.1	--	1
sec-Butylbenzene	ND		ug/kg	1.1	--	1
tert-Butylbenzene	ND		ug/kg	2.1	--	1
o-Chlorotoluene	ND		ug/kg	2.1	--	1
p-Chlorotoluene	ND		ug/kg	2.1	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.2	--	1
Hexachlorobutadiene	ND		ug/kg	4.3	--	1
Isopropylbenzene	ND		ug/kg	1.1	--	1
p-Isopropyltoluene	ND		ug/kg	1.1	--	1
Naphthalene	ND		ug/kg	4.3	--	1
n-Propylbenzene	ND		ug/kg	1.1	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-105 Date Collected: 09/05/19 10:02

Client ID: B-09 (5-7)-2 Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	2.1	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.1	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.1	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.1	--	1
Diethyl ether	ND		ug/kg	2.1	--	1
Diisopropyl Ether	ND		ug/kg	2.1	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.1	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.1	--	1
1,4-Dioxane	ND		ug/kg	86	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	114		70-130
Dibromofluoromethane	100		70-130

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-113
Client ID: B-05 (1-3)
Sample Location: LAWRENCE, MA
Date Collected: 09/05/19 10:54
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/15/19 18:32
Analyst: NLK
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	340	--	1
1,1-Dichloroethane	ND		ug/kg	68	--	1
Chloroform	ND		ug/kg	100	--	1
Carbon tetrachloride	ND		ug/kg	68	--	1
1,2-Dichloropropane	ND		ug/kg	68	--	1
Dibromochloromethane	ND		ug/kg	68	--	1
1,1,2-Trichloroethane	ND		ug/kg	68	--	1
Tetrachloroethene	3800		ug/kg	34	--	1
Chlorobenzene	ND		ug/kg	34	--	1
Trichlorofluoromethane	ND		ug/kg	270	--	1
1,2-Dichloroethane	ND		ug/kg	68	--	1
1,1,1-Trichloroethane	ND		ug/kg	34	--	1
Bromodichloromethane	ND		ug/kg	34	--	1
trans-1,3-Dichloropropene	ND		ug/kg	68	--	1
cis-1,3-Dichloropropene	ND		ug/kg	34	--	1
1,3-Dichloropropene, Total	ND		ug/kg	34	--	1
1,1-Dichloropropene	ND		ug/kg	34	--	1
Bromoform	ND		ug/kg	270	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	34	--	1
Benzene	ND		ug/kg	34	--	1
Toluene	ND		ug/kg	68	--	1
Ethylbenzene	ND		ug/kg	68	--	1
Chloromethane	ND		ug/kg	270	--	1
Bromomethane	ND		ug/kg	140	--	1
Vinyl chloride	ND		ug/kg	68	--	1
Chloroethane	ND		ug/kg	140	--	1
1,1-Dichloroethene	ND		ug/kg	68	--	1
trans-1,2-Dichloroethene	ND		ug/kg	100	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-113 Date Collected: 09/05/19 10:54

Client ID: B-05 (1-3) Date Received: 09/06/19

Sample Location: LAWRENCE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Trichloroethene	490		ug/kg	34	--	1
1,2-Dichlorobenzene	ND		ug/kg	140	--	1
1,3-Dichlorobenzene	ND		ug/kg	140	--	1
1,4-Dichlorobenzene	ND		ug/kg	140	--	1
Methyl tert butyl ether	ND		ug/kg	140	--	1
p/m-Xylene	ND		ug/kg	140	--	1
o-Xylene	ND		ug/kg	68	--	1
Xylenes, Total	ND		ug/kg	68	--	1
cis-1,2-Dichloroethene	ND		ug/kg	68	--	1
1,2-Dichloroethene, Total	ND		ug/kg	68	--	1
Dibromomethane	ND		ug/kg	140	--	1
1,2,3-Trichloropropane	ND		ug/kg	140	--	1
Styrene	ND		ug/kg	68	--	1
Dichlorodifluoromethane	ND		ug/kg	680	--	1
Acetone	ND		ug/kg	680	--	1
Carbon disulfide	ND		ug/kg	680	--	1
Methyl ethyl ketone	ND		ug/kg	680	--	1
Methyl isobutyl ketone	ND		ug/kg	680	--	1
2-Hexanone	ND		ug/kg	680	--	1
Bromochloromethane	ND		ug/kg	140	--	1
Tetrahydrofuran	ND		ug/kg	270	--	1
2,2-Dichloropropane	ND		ug/kg	140	--	1
1,2-Dibromoethane	ND		ug/kg	68	--	1
1,3-Dichloropropane	ND		ug/kg	140	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	34	--	1
Bromobenzene	ND		ug/kg	140	--	1
n-Butylbenzene	ND		ug/kg	68	--	1
sec-Butylbenzene	ND		ug/kg	68	--	1
tert-Butylbenzene	ND		ug/kg	140	--	1
o-Chlorotoluene	ND		ug/kg	140	--	1
p-Chlorotoluene	ND		ug/kg	140	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	200	--	1
Hexachlorobutadiene	ND		ug/kg	270	--	1
Isopropylbenzene	ND		ug/kg	68	--	1
p-Isopropyltoluene	ND		ug/kg	68	--	1
Naphthalene	1000		ug/kg	270	--	1
n-Propylbenzene	ND		ug/kg	68	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-113 Date Collected: 09/05/19 10:54

Client ID: B-05 (1-3) Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	140	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	140	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	140	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	140	--	1
Diethyl ether	ND		ug/kg	140	--	1
Diisopropyl Ether	ND		ug/kg	140	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	140	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	140	--	1
1,4-Dioxane	ND		ug/kg	5400	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	91		70-130

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-115
Client ID: B-05 (3-5)-2
Sample Location: LAWRENCE, MA
Date Collected: 09/05/19 10:57
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/15/19 22:57
Analyst: NLK
Percent Solids: 69%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.1	--	1
1,1-Dichloroethane	ND		ug/kg	1.0	--	1
Chloroform	ND		ug/kg	1.5	--	1
Carbon tetrachloride	ND		ug/kg	1.0	--	1
1,2-Dichloropropane	ND		ug/kg	1.0	--	1
Dibromochloromethane	ND		ug/kg	1.0	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.0	--	1
Tetrachloroethene	8.2		ug/kg	0.51	--	1
Chlorobenzene	ND		ug/kg	0.51	--	1
Trichlorofluoromethane	ND		ug/kg	4.1	--	1
1,2-Dichloroethane	ND		ug/kg	1.0	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.51	--	1
Bromodichloromethane	ND		ug/kg	0.51	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.51	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.51	--	1
1,1-Dichloropropene	ND		ug/kg	0.51	--	1
Bromoform	ND		ug/kg	4.1	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.51	--	1
Benzene	ND		ug/kg	0.51	--	1
Toluene	ND		ug/kg	1.0	--	1
Ethylbenzene	ND		ug/kg	1.0	--	1
Chloromethane	ND		ug/kg	4.1	--	1
Bromomethane	ND		ug/kg	2.0	--	1
Vinyl chloride	ND		ug/kg	1.0	--	1
Chloroethane	ND		ug/kg	2.0	--	1
1,1-Dichloroethene	ND		ug/kg	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-115 Date Collected: 09/05/19 10:57

Client ID: B-05 (3-5)-2 Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	0.51	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.0	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.0	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.0	--	1
Methyl tert butyl ether	ND		ug/kg	2.0	--	1
p/m-Xylene	ND		ug/kg	2.0	--	1
o-Xylene	ND		ug/kg	1.0	--	1
Xylenes, Total	ND		ug/kg	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--	1
Dibromomethane	ND		ug/kg	2.0	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.0	--	1
Styrene	ND		ug/kg	1.0	--	1
Dichlorodifluoromethane	ND		ug/kg	10	--	1
Acetone	120		ug/kg	10	--	1
Carbon disulfide	ND		ug/kg	10	--	1
Methyl ethyl ketone	ND		ug/kg	10	--	1
Methyl isobutyl ketone	ND		ug/kg	10	--	1
2-Hexanone	ND		ug/kg	10	--	1
Bromochloromethane	ND		ug/kg	2.0	--	1
Tetrahydrofuran	ND		ug/kg	4.1	--	1
2,2-Dichloropropane	ND		ug/kg	2.0	--	1
1,2-Dibromoethane	ND		ug/kg	1.0	--	1
1,3-Dichloropropane	ND		ug/kg	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.51	--	1
Bromobenzene	ND		ug/kg	2.0	--	1
n-Butylbenzene	ND		ug/kg	1.0	--	1
sec-Butylbenzene	ND		ug/kg	1.0	--	1
tert-Butylbenzene	ND		ug/kg	2.0	--	1
o-Chlorotoluene	ND		ug/kg	2.0	--	1
p-Chlorotoluene	ND		ug/kg	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.1	--	1
Hexachlorobutadiene	ND		ug/kg	4.1	--	1
Isopropylbenzene	ND		ug/kg	1.0	--	1
p-Isopropyltoluene	ND		ug/kg	1.0	--	1
Naphthalene	ND		ug/kg	4.1	--	1
n-Propylbenzene	ND		ug/kg	1.0	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-115 Date Collected: 09/05/19 10:57

Client ID: B-05 (3-5)-2 Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--	1
Diethyl ether	ND		ug/kg	2.0	--	1
Diisopropyl Ether	ND		ug/kg	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--	1
1,4-Dioxane	ND		ug/kg	82	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	99		70-130

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-138 Date Collected: 09/05/19 13:36
Client ID: SB-1 (1-2) Date Received: 09/06/19
Sample Location: LAWRENCE, MA Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/15/19 20:57
Analyst: NLK
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.6	--	1
1,1-Dichloroethane	ND		ug/kg	0.93	--	1
Chloroform	ND		ug/kg	1.4	--	1
Carbon tetrachloride	ND		ug/kg	0.93	--	1
1,2-Dichloropropane	ND		ug/kg	0.93	--	1
Dibromochloromethane	ND		ug/kg	0.93	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.93	--	1
Tetrachloroethene	0.91		ug/kg	0.46	--	1
Chlorobenzene	ND		ug/kg	0.46	--	1
Trichlorofluoromethane	ND		ug/kg	3.7	--	1
1,2-Dichloroethane	ND		ug/kg	0.93	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.46	--	1
Bromodichloromethane	ND		ug/kg	0.46	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.93	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.46	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.46	--	1
1,1-Dichloropropene	ND		ug/kg	0.46	--	1
Bromoform	ND		ug/kg	3.7	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.46	--	1
Benzene	ND		ug/kg	0.46	--	1
Toluene	ND		ug/kg	0.93	--	1
Ethylbenzene	ND		ug/kg	0.93	--	1
Chloromethane	ND		ug/kg	3.7	--	1
Bromomethane	ND		ug/kg	1.9	--	1
Vinyl chloride	ND		ug/kg	0.93	--	1
Chloroethane	ND		ug/kg	1.9	--	1
1,1-Dichloroethene	ND		ug/kg	0.93	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.4	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-138 Date Collected: 09/05/19 13:36

Client ID: SB-1 (1-2) Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	0.46	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.9	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.9	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.9	--	1
Methyl tert butyl ether	ND		ug/kg	1.9	--	1
p/m-Xylene	ND		ug/kg	1.9	--	1
o-Xylene	ND		ug/kg	0.93	--	1
Xylenes, Total	ND		ug/kg	0.93	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.93	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.93	--	1
Dibromomethane	ND		ug/kg	1.9	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.9	--	1
Styrene	ND		ug/kg	0.93	--	1
Dichlorodifluoromethane	ND		ug/kg	9.3	--	1
Acetone	280	E	ug/kg	9.3	--	1
Carbon disulfide	ND		ug/kg	9.3	--	1
Methyl ethyl ketone	ND		ug/kg	9.3	--	1
Methyl isobutyl ketone	ND		ug/kg	9.3	--	1
2-Hexanone	ND		ug/kg	9.3	--	1
Bromochloromethane	ND		ug/kg	1.9	--	1
Tetrahydrofuran	ND		ug/kg	3.7	--	1
2,2-Dichloropropane	ND		ug/kg	1.9	--	1
1,2-Dibromoethane	ND		ug/kg	0.93	--	1
1,3-Dichloropropane	ND		ug/kg	1.9	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.46	--	1
Bromobenzene	ND		ug/kg	1.9	--	1
n-Butylbenzene	ND		ug/kg	0.93	--	1
sec-Butylbenzene	ND		ug/kg	0.93	--	1
tert-Butylbenzene	ND		ug/kg	1.9	--	1
o-Chlorotoluene	ND		ug/kg	1.9	--	1
p-Chlorotoluene	ND		ug/kg	1.9	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.8	--	1
Hexachlorobutadiene	ND		ug/kg	3.7	--	1
Isopropylbenzene	ND		ug/kg	0.93	--	1
p-Isopropyltoluene	ND		ug/kg	0.93	--	1
Naphthalene	ND		ug/kg	3.7	--	1
n-Propylbenzene	ND		ug/kg	0.93	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-138 Date Collected: 09/05/19 13:36

Client ID: SB-1 (1-2) Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	1.9	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.9	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.9	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.9	--	1
Diethyl ether	ND		ug/kg	1.9	--	1
Diisopropyl Ether	ND		ug/kg	1.9	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.9	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.9	--	1
1,4-Dioxane	ND		ug/kg	74	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	118		70-130
Dibromofluoromethane	100		70-130

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-138
Client ID: SB-1 (1-2)
Sample Location: LAWRENCE, MA

Date Collected: 09/05/19 13:36
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/16/19 20:46
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	270	--	1
1,1-Dichloroethane	ND		ug/kg	54	--	1
Chloroform	ND		ug/kg	81	--	1
Carbon tetrachloride	ND		ug/kg	54	--	1
1,2-Dichloropropane	ND		ug/kg	54	--	1
Dibromochloromethane	ND		ug/kg	54	--	1
1,1,2-Trichloroethane	ND		ug/kg	54	--	1
Tetrachloroethene	45		ug/kg	27	--	1
Chlorobenzene	ND		ug/kg	27	--	1
Trichlorofluoromethane	ND		ug/kg	220	--	1
1,2-Dichloroethane	ND		ug/kg	54	--	1
1,1,1-Trichloroethane	ND		ug/kg	27	--	1
Bromodichloromethane	ND		ug/kg	27	--	1
trans-1,3-Dichloropropene	ND		ug/kg	54	--	1
cis-1,3-Dichloropropene	ND		ug/kg	27	--	1
1,3-Dichloropropene, Total	ND		ug/kg	27	--	1
1,1-Dichloropropene	ND		ug/kg	27	--	1
Bromoform	ND		ug/kg	220	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	27	--	1
Benzene	ND		ug/kg	27	--	1
Toluene	ND		ug/kg	54	--	1
Ethylbenzene	ND		ug/kg	54	--	1
Chloromethane	ND		ug/kg	220	--	1
Bromomethane	ND		ug/kg	110	--	1
Vinyl chloride	ND		ug/kg	54	--	1
Chloroethane	ND		ug/kg	110	--	1
1,1-Dichloroethene	ND		ug/kg	54	--	1
trans-1,2-Dichloroethene	ND		ug/kg	81	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-138 Date Collected: 09/05/19 13:36

Client ID: SB-1 (1-2) Date Received: 09/06/19

Sample Location: LAWRENCE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Trichloroethene	ND		ug/kg	27	--	1
1,2-Dichlorobenzene	ND		ug/kg	110	--	1
1,3-Dichlorobenzene	ND		ug/kg	110	--	1
1,4-Dichlorobenzene	ND		ug/kg	110	--	1
Methyl tert butyl ether	ND		ug/kg	110	--	1
p/m-Xylene	ND		ug/kg	110	--	1
o-Xylene	ND		ug/kg	54	--	1
Xylenes, Total	ND		ug/kg	54	--	1
cis-1,2-Dichloroethene	ND		ug/kg	54	--	1
1,2-Dichloroethene, Total	ND		ug/kg	54	--	1
Dibromomethane	ND		ug/kg	110	--	1
1,2,3-Trichloropropane	ND		ug/kg	110	--	1
Styrene	ND		ug/kg	54	--	1
Dichlorodifluoromethane	ND		ug/kg	540	--	1
Acetone	ND		ug/kg	540	--	1
Carbon disulfide	ND		ug/kg	540	--	1
Methyl ethyl ketone	ND		ug/kg	540	--	1
Methyl isobutyl ketone	ND		ug/kg	540	--	1
2-Hexanone	ND		ug/kg	540	--	1
Bromochloromethane	ND		ug/kg	110	--	1
Tetrahydrofuran	ND		ug/kg	220	--	1
2,2-Dichloropropane	ND		ug/kg	110	--	1
1,2-Dibromoethane	ND		ug/kg	54	--	1
1,3-Dichloropropane	ND		ug/kg	110	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	27	--	1
Bromobenzene	ND		ug/kg	110	--	1
n-Butylbenzene	ND		ug/kg	54	--	1
sec-Butylbenzene	ND		ug/kg	54	--	1
tert-Butylbenzene	ND		ug/kg	110	--	1
o-Chlorotoluene	ND		ug/kg	110	--	1
p-Chlorotoluene	ND		ug/kg	110	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	160	--	1
Hexachlorobutadiene	ND		ug/kg	220	--	1
Isopropylbenzene	ND		ug/kg	54	--	1
p-Isopropyltoluene	ND		ug/kg	54	--	1
Naphthalene	ND		ug/kg	220	--	1
n-Propylbenzene	ND		ug/kg	54	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-138 Date Collected: 09/05/19 13:36

Client ID: SB-1 (1-2) Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	110	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	110	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	110	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	110	--	1
Diethyl ether	ND		ug/kg	110	--	1
Diisopropyl Ether	ND		ug/kg	110	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	110	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	110	--	1
1,4-Dioxane	ND		ug/kg	4300	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	92		70-130

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-139
Client ID: SB-1 (2-3)
Sample Location: LAWRENCE, MA
Date Collected: 09/05/19 13:39
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/15/19 21:21
Analyst: NLK
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	0.61		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: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-139 Date Collected: 09/05/19 13:39

Client ID: SB-1 (2-3) Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	0.40	--	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	ND		ug/kg	0.79	--	1
1,2-Dichloroethene, Total	ND		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	130		ug/kg	7.9	--	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: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-139 Date Collected: 09/05/19 13:39

Client ID: SB-1 (2-3) Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	105		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	97		70-130

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-140
Client ID: SB-DUP-1
Sample Location: LAWRENCE, MA
Date Collected: 09/05/19 00:00
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/16/19 10:33
Analyst: JC
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.6	--	1
1,1-Dichloroethane	ND		ug/kg	0.72	--	1
Chloroform	ND		ug/kg	1.1	--	1
Carbon tetrachloride	ND		ug/kg	0.72	--	1
1,2-Dichloropropane	ND		ug/kg	0.72	--	1
Dibromochloromethane	ND		ug/kg	0.72	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.72	--	1
Tetrachloroethene	0.66		ug/kg	0.36	--	1
Chlorobenzene	ND		ug/kg	0.36	--	1
Trichlorofluoromethane	ND		ug/kg	2.9	--	1
1,2-Dichloroethane	ND		ug/kg	0.72	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.36	--	1
Bromodichloromethane	ND		ug/kg	0.36	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.72	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.36	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.36	--	1
1,1-Dichloropropene	ND		ug/kg	0.36	--	1
Bromoform	ND		ug/kg	2.9	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.36	--	1
Benzene	ND		ug/kg	0.36	--	1
Toluene	ND		ug/kg	0.72	--	1
Ethylbenzene	ND		ug/kg	0.72	--	1
Chloromethane	ND		ug/kg	2.9	--	1
Bromomethane	ND		ug/kg	1.4	--	1
Vinyl chloride	ND		ug/kg	0.72	--	1
Chloroethane	ND		ug/kg	1.4	--	1
1,1-Dichloroethene	ND		ug/kg	0.72	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.1	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-140 Date Collected: 09/05/19 00:00

Client ID: SB-DUP-1 Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	0.36	--	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	0.72	--	1
Xylenes, Total	ND		ug/kg	0.72	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.72	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.72	--	1
Dibromomethane	ND		ug/kg	1.4	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.4	--	1
Styrene	ND		ug/kg	0.72	--	1
Dichlorodifluoromethane	ND		ug/kg	7.2	--	1
Acetone	ND		ug/kg	7.2	--	1
Carbon disulfide	ND		ug/kg	7.2	--	1
Methyl ethyl ketone	ND		ug/kg	7.2	--	1
Methyl isobutyl ketone	ND		ug/kg	7.2	--	1
2-Hexanone	ND		ug/kg	7.2	--	1
Bromochloromethane	ND		ug/kg	1.4	--	1
Tetrahydrofuran	ND		ug/kg	2.9	--	1
2,2-Dichloropropane	ND		ug/kg	1.4	--	1
1,2-Dibromoethane	ND		ug/kg	0.72	--	1
1,3-Dichloropropane	ND		ug/kg	1.4	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.36	--	1
Bromobenzene	ND		ug/kg	1.4	--	1
n-Butylbenzene	ND		ug/kg	0.72	--	1
sec-Butylbenzene	ND		ug/kg	0.72	--	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	2.2	--	1
Hexachlorobutadiene	ND		ug/kg	2.9	--	1
Isopropylbenzene	ND		ug/kg	0.72	--	1
p-Isopropyltoluene	ND		ug/kg	0.72	--	1
Naphthalene	ND		ug/kg	2.9	--	1
n-Propylbenzene	ND		ug/kg	0.72	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-140 Date Collected: 09/05/19 00:00

Client ID: SB-DUP-1 Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	57	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	115		70-130
Dibromofluoromethane	97		70-130

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-143
Client ID: SB-1 (5-7)-2
Sample Location: LAWRENCE, MA
Date Collected: 09/05/19 13:48
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/15/19 22:33
Analyst: NLK
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	8.1	--	1
1,1-Dichloroethane	ND		ug/kg	1.6	--	1
Chloroform	ND		ug/kg	2.4	--	1
Carbon tetrachloride	ND		ug/kg	1.6	--	1
1,2-Dichloropropane	ND		ug/kg	1.6	--	1
Dibromochloromethane	ND		ug/kg	1.6	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.6	--	1
Tetrachloroethene	1.4		ug/kg	0.81	--	1
Chlorobenzene	ND		ug/kg	0.81	--	1
Trichlorofluoromethane	ND		ug/kg	6.5	--	1
1,2-Dichloroethane	ND		ug/kg	1.6	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.81	--	1
Bromodichloromethane	ND		ug/kg	0.81	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.6	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.81	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.81	--	1
1,1-Dichloropropene	ND		ug/kg	0.81	--	1
Bromoform	ND		ug/kg	6.5	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.81	--	1
Benzene	ND		ug/kg	0.81	--	1
Toluene	ND		ug/kg	1.6	--	1
Ethylbenzene	ND		ug/kg	1.6	--	1
Chloromethane	ND		ug/kg	6.5	--	1
Bromomethane	ND		ug/kg	3.2	--	1
Vinyl chloride	ND		ug/kg	1.6	--	1
Chloroethane	ND		ug/kg	3.2	--	1
1,1-Dichloroethene	ND		ug/kg	1.6	--	1
trans-1,2-Dichloroethene	ND		ug/kg	2.4	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-143 Date Collected: 09/05/19 13:48

Client ID: SB-1 (5-7)-2 Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	0.81	--	1
1,2-Dichlorobenzene	ND		ug/kg	3.2	--	1
1,3-Dichlorobenzene	ND		ug/kg	3.2	--	1
1,4-Dichlorobenzene	ND		ug/kg	3.2	--	1
Methyl tert butyl ether	ND		ug/kg	3.2	--	1
p/m-Xylene	ND		ug/kg	3.2	--	1
o-Xylene	ND		ug/kg	1.6	--	1
Xylenes, Total	ND		ug/kg	1.6	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.6	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.6	--	1
Dibromomethane	ND		ug/kg	3.2	--	1
1,2,3-Trichloropropane	ND		ug/kg	3.2	--	1
Styrene	ND		ug/kg	1.6	--	1
Dichlorodifluoromethane	ND		ug/kg	16	--	1
Acetone	560	E	ug/kg	16	--	1
Carbon disulfide	ND		ug/kg	16	--	1
Methyl ethyl ketone	ND		ug/kg	16	--	1
Methyl isobutyl ketone	ND		ug/kg	16	--	1
2-Hexanone	ND		ug/kg	16	--	1
Bromochloromethane	ND		ug/kg	3.2	--	1
Tetrahydrofuran	ND		ug/kg	6.5	--	1
2,2-Dichloropropane	ND		ug/kg	3.2	--	1
1,2-Dibromoethane	ND		ug/kg	1.6	--	1
1,3-Dichloropropane	ND		ug/kg	3.2	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.81	--	1
Bromobenzene	ND		ug/kg	3.2	--	1
n-Butylbenzene	ND		ug/kg	1.6	--	1
sec-Butylbenzene	ND		ug/kg	1.6	--	1
tert-Butylbenzene	ND		ug/kg	3.2	--	1
o-Chlorotoluene	ND		ug/kg	3.2	--	1
p-Chlorotoluene	ND		ug/kg	3.2	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	4.9	--	1
Hexachlorobutadiene	ND		ug/kg	6.5	--	1
Isopropylbenzene	ND		ug/kg	1.6	--	1
p-Isopropyltoluene	ND		ug/kg	1.6	--	1
Naphthalene	ND		ug/kg	6.5	--	1
n-Propylbenzene	ND		ug/kg	1.6	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-143 Date Collected: 09/05/19 13:48

Client ID: SB-1 (5-7)-2 Date Received: 09/06/19

Sample Location: LAWRENCE, MA 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	3.2	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	3.2	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	3.2	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	3.2	--	1
Diethyl ether	ND		ug/kg	3.2	--	1
Diisopropyl Ether	ND		ug/kg	3.2	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	3.2	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	3.2	--	1
1,4-Dioxane	ND		ug/kg	130	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	98		70-130

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-143
Client ID: SB-1 (5-7)-2
Sample Location: LAWRENCE, MA
Date Collected: 09/05/19 13:48
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/16/19 21:10
Analyst: MV
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	590	--	1
1,1-Dichloroethane	ND		ug/kg	120	--	1
Chloroform	ND		ug/kg	180	--	1
Carbon tetrachloride	ND		ug/kg	120	--	1
1,2-Dichloropropane	ND		ug/kg	120	--	1
Dibromochloromethane	ND		ug/kg	120	--	1
1,1,2-Trichloroethane	ND		ug/kg	120	--	1
Tetrachloroethene	91		ug/kg	59	--	1
Chlorobenzene	ND		ug/kg	59	--	1
Trichlorofluoromethane	ND		ug/kg	470	--	1
1,2-Dichloroethane	ND		ug/kg	120	--	1
1,1,1-Trichloroethane	ND		ug/kg	59	--	1
Bromodichloromethane	ND		ug/kg	59	--	1
trans-1,3-Dichloropropene	ND		ug/kg	120	--	1
cis-1,3-Dichloropropene	ND		ug/kg	59	--	1
1,3-Dichloropropene, Total	ND		ug/kg	59	--	1
1,1-Dichloropropene	ND		ug/kg	59	--	1
Bromoform	ND		ug/kg	470	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	59	--	1
Benzene	ND		ug/kg	59	--	1
Toluene	ND		ug/kg	120	--	1
Ethylbenzene	ND		ug/kg	120	--	1
Chloromethane	ND		ug/kg	470	--	1
Bromomethane	ND		ug/kg	240	--	1
Vinyl chloride	ND		ug/kg	120	--	1
Chloroethane	ND		ug/kg	240	--	1
1,1-Dichloroethene	ND		ug/kg	120	--	1
trans-1,2-Dichloroethene	ND		ug/kg	180	--	1

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-143 Date Collected: 09/05/19 13:48

Client ID: SB-1 (5-7)-2 Date Received: 09/06/19

Sample Location: LAWRENCE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Trichloroethene	ND		ug/kg	59	--	1
1,2-Dichlorobenzene	ND		ug/kg	240	--	1
1,3-Dichlorobenzene	ND		ug/kg	240	--	1
1,4-Dichlorobenzene	ND		ug/kg	240	--	1
Methyl tert butyl ether	ND		ug/kg	240	--	1
p/m-Xylene	ND		ug/kg	240	--	1
o-Xylene	ND		ug/kg	120	--	1
Xylenes, Total	ND		ug/kg	120	--	1
cis-1,2-Dichloroethene	ND		ug/kg	120	--	1
1,2-Dichloroethene, Total	ND		ug/kg	120	--	1
Dibromomethane	ND		ug/kg	240	--	1
1,2,3-Trichloropropane	ND		ug/kg	240	--	1
Styrene	ND		ug/kg	120	--	1
Dichlorodifluoromethane	ND		ug/kg	1200	--	1
Acetone	ND		ug/kg	1200	--	1
Carbon disulfide	ND		ug/kg	1200	--	1
Methyl ethyl ketone	ND		ug/kg	1200	--	1
Methyl isobutyl ketone	ND		ug/kg	1200	--	1
2-Hexanone	ND		ug/kg	1200	--	1
Bromochloromethane	ND		ug/kg	240	--	1
Tetrahydrofuran	ND		ug/kg	470	--	1
2,2-Dichloropropane	ND		ug/kg	240	--	1
1,2-Dibromoethane	ND		ug/kg	120	--	1
1,3-Dichloropropane	ND		ug/kg	240	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	59	--	1
Bromobenzene	ND		ug/kg	240	--	1
n-Butylbenzene	ND		ug/kg	120	--	1
sec-Butylbenzene	ND		ug/kg	120	--	1
tert-Butylbenzene	ND		ug/kg	240	--	1
o-Chlorotoluene	ND		ug/kg	240	--	1
p-Chlorotoluene	ND		ug/kg	240	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	360	--	1
Hexachlorobutadiene	ND		ug/kg	470	--	1
Isopropylbenzene	ND		ug/kg	120	--	1
p-Isopropyltoluene	ND		ug/kg	120	--	1
Naphthalene	ND		ug/kg	470	--	1
n-Propylbenzene	ND		ug/kg	120	--	1

Project Name: TOMBARELLO SITE
Lab Number: L1940717
Project Number: 17001426
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-143
Client ID: SB-1 (5-7)-2
Sample Location: LAWRENCE, MA
Date Collected: 09/05/19 13:48
Date Received: 09/06/19
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	240	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	240	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	240	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	240	--	1
Diethyl ether	ND		ug/kg	240	--	1
Diisopropyl Ether	ND		ug/kg	240	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	240	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	240	--	1
1,4-Dioxane	ND		ug/kg	9500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	92		70-130

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/14/19 09:06
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 15,17,23 Batch: WG1284397-5					
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: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/14/19 09:06
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 15,17,23 Batch: WG1284397-5					
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	10	--
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: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/14/19 09:06
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 15,17,23 Batch: WG1284397-5					
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	124		70-130
Toluene-d8	90		70-130
4-Bromofluorobenzene	86		70-130
Dibromofluoromethane	104		70-130

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/15/19 14:14
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 21,23-24 Batch: WG1284519-5					
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: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/15/19 14:14
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 21,23-24 Batch: WG1284519-5					
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	10	--
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: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/15/19 14:14
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 21,23-24 Batch: WG1284519-5					
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	113		70-130
Toluene-d8	90		70-130
4-Bromofluorobenzene	87		70-130
Dibromofluoromethane	100		70-130

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/15/19 14:14
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 15 Batch: WG1284521-5					
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: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/15/19 14:14
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 15 Batch: WG1284521-5					
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: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/15/19 14:14
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 15 Batch: WG1284521-5					
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	113		70-130
Toluene-d8	90		70-130
4-Bromofluorobenzene	87		70-130
Dibromofluoromethane	100		70-130

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/14/19 09:00
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 27,44-45 Batch: WG1284565-5					
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: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/14/19 09:00
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 27,44-45 Batch: WG1284565-5					
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	10	--
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: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/14/19 09:00
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 27,44-45 Batch: WG1284565-5					
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	101		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	91		70-130

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/15/19 17:36
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 12,50,113 Batch: WG1284596-5					
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: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/15/19 17:36
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 12,50,113 Batch: WG1284596-5					
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: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/15/19 17:36
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 12,50,113 Batch: WG1284596-5					
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	102		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	92		70-130

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/15/19 17:36
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 11,55-56,101,115,138-139,143 Batch: WG1284598-5					
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: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/15/19 17:36
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 11,55-56,101,115,138-139,143 Batch: WG1284598-5					
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	10	--
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: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/15/19 17:36
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 11,55-56,101,115,138-139,143 Batch: WG1284598-5					
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	102		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	92		70-130

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/16/19 08:09
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 44 Batch: WG1284780-5					
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: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/16/19 08:09
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 44 Batch: WG1284780-5					
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: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/16/19 08:09
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 44 Batch: WG1284780-5					
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	103		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	93		70-130

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/16/19 08:09
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 18,105,140 Batch: WG1284781-5					
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: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/16/19 08:09
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 18,105,140 Batch: WG1284781-5					
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	10	--
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: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/16/19 08:09
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 18,105,140 Batch: WG1284781-5					
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	103		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	93		70-130

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/16/19 20:21
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 138,143 Batch: WG1284929-5					
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: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/16/19 20:21
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 138,143 Batch: WG1284929-5					
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: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/16/19 20:21
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 138,143 Batch: WG1284929-5					
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	102		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	91		70-130

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/17/19 09:02
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 27 Batch: WG1285102-5					
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: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/17/19 09:02
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 27 Batch: WG1285102-5					
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: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/17/19 09:02
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 27 Batch: WG1285102-5					
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	100		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	92		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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): 15,17,23		Batch: WG1284397-3 WG1284397-4					
Methylene chloride	92		92		70-130	0		20
1,1-Dichloroethane	109		109		70-130	0		20
Chloroform	116		114		70-130	2		20
Carbon tetrachloride	127		123		70-130	3		20
1,2-Dichloropropane	108		107		70-130	1		20
Dibromochloromethane	106		105		70-130	1		20
1,1,2-Trichloroethane	98		96		70-130	2		20
Tetrachloroethene	101		100		70-130	1		20
Chlorobenzene	97		95		70-130	2		20
Trichlorofluoromethane	**132**	Q	127		70-130	4		20
1,2-Dichloroethane	**135**	Q	**132**	Q	70-130	2		20
1,1,1-Trichloroethane	121		118		70-130	3		20
Bromodichloromethane	113		114		70-130	1		20
trans-1,3-Dichloropropene	102		102		70-130	0		20
cis-1,3-Dichloropropene	106		106		70-130	0		20
1,1-Dichloropropene	105		105		70-130	0		20
Bromoform	101		103		70-130	2		20
1,1,2,2-Tetrachloroethane	89		87		70-130	2		20
Benzene	98		97		70-130	1		20
Toluene	96		94		70-130	2		20
Ethylbenzene	102		100		70-130	2		20
Chloromethane	**133**	Q	**131**	Q	70-130	2		20
Bromomethane	79		80		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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): 15,17,23		Batch: WG1284397-3 WG1284397-4					
Vinyl chloride	95		94		70-130	1		20
Chloroethane	83		82		70-130	1		20
1,1-Dichloroethene	87		86		70-130	1		20
trans-1,2-Dichloroethene	95		94		70-130	1		20
Trichloroethene	105		104		70-130	1		20
1,2-Dichlorobenzene	96		96		70-130	0		20
1,3-Dichlorobenzene	97		97		70-130	0		20
1,4-Dichlorobenzene	97		97		70-130	0		20
Methyl tert butyl ether	103		103		70-130	0		20
p/m-Xylene	100		98		70-130	2		20
o-Xylene	98		97		70-130	1		20
cis-1,2-Dichloroethene	102		99		70-130	3		20
Dibromomethane	114		115		70-130	1		20
1,2,3-Trichloropropane	97		96		70-130	1		20
Styrene	98		97		70-130	1		20
Dichlorodifluoromethane	**152**	Q	**148**	Q	70-130	3		20
Acetone	112		123		70-130	9		20
Carbon disulfide	85		85		70-130	0		20
Methyl ethyl ketone	113		127		70-130	12		20
Methyl isobutyl ketone	98		93		70-130	5		20
2-Hexanone	88		91		70-130	3		20
Bromochloromethane	105		106		70-130	1		20
Tetrahydrofuran	114		121		70-130	6		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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): 15,17,23 Batch: WG1284397-3 WG1284397-4								
2,2-Dichloropropane	116		114		70-130	2		20
1,2-Dibromoethane	99		100		70-130	1		20
1,3-Dichloropropane	99		98		70-130	1		20
1,1,1,2-Tetrachloroethane	104		104		70-130	0		20
Bromobenzene	92		91		70-130	1		20
n-Butylbenzene	96		94		70-130	2		20
sec-Butylbenzene	91		90		70-130	1		20
tert-Butylbenzene	90		89		70-130	1		20
o-Chlorotoluene	92		90		70-130	2		20
p-Chlorotoluene	90		90		70-130	0		20
1,2-Dibromo-3-chloropropane	97		102		70-130	5		20
Hexachlorobutadiene	96		98		70-130	2		20
Isopropylbenzene	87		86		70-130	1		20
p-Isopropyltoluene	92		91		70-130	1		20
Naphthalene	87		91		70-130	4		20
n-Propylbenzene	90		90		70-130	0		20
1,2,3-Trichlorobenzene	98		100		70-130	2		20
1,2,4-Trichlorobenzene	98		98		70-130	0		20
1,3,5-Trimethylbenzene	91		91		70-130	0		20
1,2,4-Trimethylbenzene	92		92		70-130	0		20
Diethyl ether	77		76		70-130	1		20
Diisopropyl Ether	104		104		70-130	0		20
Ethyl-Tert-Butyl-Ether	103		102		70-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOMBARELLO SITE

Project Number: 17001426

Lab Number: L1940717

Report Date: 09/20/19

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): 15,17,23 Batch: WG1284397-3 WG1284397-4								
Tertiary-Amyl Methyl Ether	94		94		70-130	0		20
1,4-Dioxane	87		91		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	123		123		70-130
Toluene-d8	91		91		70-130
4-Bromofluorobenzene	84		85		70-130
Dibromofluoromethane	104		105		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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): 21,23-24 Batch: WG1284519-3 WG1284519-4								
Methylene chloride	96		94		70-130	2		20
1,1-Dichloroethane	106		103		70-130	3		20
Chloroform	104		104		70-130	0		20
Carbon tetrachloride	109		107		70-130	2		20
1,2-Dichloropropane	109		105		70-130	4		20
Dibromochloromethane	100		98		70-130	2		20
1,1,2-Trichloroethane	99		99		70-130	0		20
Tetrachloroethene	99		95		70-130	4		20
Chlorobenzene	94		92		70-130	2		20
Trichlorofluoromethane	128		122		70-130	5		20
1,2-Dichloroethane	113		111		70-130	2		20
1,1,1-Trichloroethane	107		102		70-130	5		20
Bromodichloromethane	104		101		70-130	3		20
trans-1,3-Dichloropropene	98		96		70-130	2		20
cis-1,3-Dichloropropene	102		99		70-130	3		20
1,1-Dichloropropene	103		99		70-130	4		20
Bromoform	100		96		70-130	4		20
1,1,2,2-Tetrachloroethane	94		89		70-130	5		20
Benzene	98		95		70-130	3		20
Toluene	96		93		70-130	3		20
Ethylbenzene	98		95		70-130	3		20
Chloromethane	129		121		70-130	6		20
Bromomethane	89		87		70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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): 21,23-24 Batch: WG1284519-3 WG1284519-4								
Vinyl chloride	103		99		70-130	4		20
Chloroethane	95		91		70-130	4		20
1,1-Dichloroethene	94		87		70-130	8		20
trans-1,2-Dichloroethene	95		93		70-130	2		20
Trichloroethene	102		98		70-130	4		20
1,2-Dichlorobenzene	96		91		70-130	5		20
1,3-Dichlorobenzene	96		91		70-130	5		20
1,4-Dichlorobenzene	96		92		70-130	4		20
Methyl tert butyl ether	98		95		70-130	3		20
p/m-Xylene	96		94		70-130	2		20
o-Xylene	94		92		70-130	2		20
cis-1,2-Dichloroethene	99		96		70-130	3		20
Dibromomethane	108		104		70-130	4		20
1,2,3-Trichloropropane	99		93		70-130	6		20
Styrene	95		91		70-130	4		20
Dichlorodifluoromethane	**141**	Q	**137**	Q	70-130	3		20
Acetone	111		108		70-130	3		20
Carbon disulfide	90		85		70-130	6		20
Methyl ethyl ketone	111		109		70-130	2		20
Methyl isobutyl ketone	99		96		70-130	3		20
2-Hexanone	86		83		70-130	4		20
Bromochloromethane	103		101		70-130	2		20
Tetrahydrofuran	118		113		70-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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): 21,23-24 Batch: WG1284519-3 WG1284519-4								
2,2-Dichloropropane	103		100		70-130	3		20
1,2-Dibromoethane	100		97		70-130	3		20
1,3-Dichloropropane	101		97		70-130	4		20
1,1,1,2-Tetrachloroethane	98		94		70-130	4		20
Bromobenzene	94		90		70-130	4		20
n-Butylbenzene	97		91		70-130	6		20
sec-Butylbenzene	93		89		70-130	4		20
tert-Butylbenzene	92		86		70-130	7		20
o-Chlorotoluene	94		89		70-130	5		20
p-Chlorotoluene	92		88		70-130	4		20
1,2-Dibromo-3-chloropropane	96		92		70-130	4		20
Hexachlorobutadiene	95		90		70-130	5		20
Isopropylbenzene	90		85		70-130	6		20
p-Isopropyltoluene	93		88		70-130	6		20
Naphthalene	90		87		70-130	3		20
n-Propylbenzene	94		88		70-130	7		20
1,2,3-Trichlorobenzene	98		93		70-130	5		20
1,2,4-Trichlorobenzene	99		93		70-130	6		20
1,3,5-Trimethylbenzene	92		88		70-130	4		20
1,2,4-Trimethylbenzene	92		88		70-130	4		20
Diethyl ether	80		79		70-130	1		20
Diisopropyl Ether	100		98		70-130	2		20
Ethyl-Tert-Butyl-Ether	98		94		70-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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): 21,23-24 Batch: WG1284519-3 WG1284519-4								
Tertiary-Amyl Methyl Ether	91		89		70-130	2		20
1,4-Dioxane	88		88		70-130	0		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	101		103		70-130
Toluene-d8	91		92		70-130
4-Bromofluorobenzene	89		85		70-130
Dibromofluoromethane	100		99		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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): 15 Batch: WG1284521-3 WG1284521-4								
Methylene chloride	96		94		70-130	2		20
1,1-Dichloroethane	106		103		70-130	3		20
Chloroform	104		104		70-130	0		20
Carbon tetrachloride	109		107		70-130	2		20
1,2-Dichloropropane	109		105		70-130	4		20
Dibromochloromethane	100		98		70-130	2		20
1,1,2-Trichloroethane	99		99		70-130	0		20
Tetrachloroethene	99		95		70-130	4		20
Chlorobenzene	94		92		70-130	2		20
Trichlorofluoromethane	128		122		70-130	5		20
1,2-Dichloroethane	113		111		70-130	2		20
1,1,1-Trichloroethane	107		102		70-130	5		20
Bromodichloromethane	104		101		70-130	3		20
trans-1,3-Dichloropropene	98		96		70-130	2		20
cis-1,3-Dichloropropene	102		99		70-130	3		20
1,1-Dichloropropene	103		99		70-130	4		20
Bromoform	100		96		70-130	4		20
1,1,2,2-Tetrachloroethane	94		89		70-130	5		20
Benzene	98		95		70-130	3		20
Toluene	96		93		70-130	3		20
Ethylbenzene	98		95		70-130	3		20
Chloromethane	129		121		70-130	6		20
Bromomethane	89		87		70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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): 15 Batch: WG1284521-3 WG1284521-4								
Vinyl chloride	103		99		70-130	4		20
Chloroethane	95		91		70-130	4		20
1,1-Dichloroethene	94		87		70-130	8		20
trans-1,2-Dichloroethene	95		93		70-130	2		20
Trichloroethene	102		98		70-130	4		20
1,2-Dichlorobenzene	96		91		70-130	5		20
1,3-Dichlorobenzene	96		91		70-130	5		20
1,4-Dichlorobenzene	96		92		70-130	4		20
Methyl tert butyl ether	98		95		70-130	3		20
p/m-Xylene	96		94		70-130	2		20
o-Xylene	94		92		70-130	2		20
cis-1,2-Dichloroethene	99		96		70-130	3		20
Dibromomethane	108		104		70-130	4		20
1,2,3-Trichloropropane	99		93		70-130	6		20
Styrene	95		91		70-130	4		20
Dichlorodifluoromethane	**141**	Q	**137**	Q	70-130	3		20
Acetone	111		108		70-130	3		20
Carbon disulfide	90		85		70-130	6		20
Methyl ethyl ketone	111		109		70-130	2		20
Methyl isobutyl ketone	99		96		70-130	3		20
2-Hexanone	86		83		70-130	4		20
Bromochloromethane	103		101		70-130	2		20
Tetrahydrofuran	118		113		70-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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): 15 Batch: WG1284521-3 WG1284521-4								
2,2-Dichloropropane	103		100		70-130	3		20
1,2-Dibromoethane	100		97		70-130	3		20
1,3-Dichloropropane	101		97		70-130	4		20
1,1,1,2-Tetrachloroethane	98		94		70-130	4		20
Bromobenzene	94		90		70-130	4		20
n-Butylbenzene	97		91		70-130	6		20
sec-Butylbenzene	93		89		70-130	4		20
tert-Butylbenzene	92		86		70-130	7		20
o-Chlorotoluene	94		89		70-130	5		20
p-Chlorotoluene	92		88		70-130	4		20
1,2-Dibromo-3-chloropropane	96		92		70-130	4		20
Hexachlorobutadiene	95		90		70-130	5		20
Isopropylbenzene	90		85		70-130	6		20
p-Isopropyltoluene	93		88		70-130	6		20
Naphthalene	90		87		70-130	3		20
n-Propylbenzene	94		88		70-130	7		20
1,2,3-Trichlorobenzene	98		93		70-130	5		20
1,2,4-Trichlorobenzene	99		93		70-130	6		20
1,3,5-Trimethylbenzene	92		88		70-130	4		20
1,2,4-Trimethylbenzene	92		88		70-130	4		20
Diethyl ether	80		79		70-130	1		20
Diisopropyl Ether	100		98		70-130	2		20
Ethyl-Tert-Butyl-Ether	98		94		70-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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): 15 Batch: WG1284521-3 WG1284521-4								
Tertiary-Amyl Methyl Ether	91		89		70-130	2		20
1,4-Dioxane	88		88		70-130	0		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	101		103		70-130
Toluene-d8	91		92		70-130
4-Bromofluorobenzene	89		86		70-130
Dibromofluoromethane	100		99		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

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): 27,44-45 Batch: WG1284565-3 WG1284565-4								
Methylene chloride	80		78		70-130	3		20
1,1-Dichloroethane	94		91		70-130	3		20
Chloroform	92		89		70-130	3		20
Carbon tetrachloride	94		91		70-130	3		20
1,2-Dichloropropane	89		88		70-130	1		20
Dibromochloromethane	91		90		70-130	1		20
1,1,2-Trichloroethane	86		83		70-130	4		20
Tetrachloroethene	94		90		70-130	4		20
Chlorobenzene	92		90		70-130	2		20
Trichlorofluoromethane	95		91		70-130	4		20
1,2-Dichloroethane	90		88		70-130	2		20
1,1,1-Trichloroethane	96		93		70-130	3		20
Bromodichloromethane	91		90		70-130	1		20
trans-1,3-Dichloropropene	90		88		70-130	2		20
cis-1,3-Dichloropropene	88		86		70-130	2		20
1,1-Dichloropropene	92		89		70-130	3		20
Bromoform	80		78		70-130	3		20
1,1,2,2-Tetrachloroethane	84		85		70-130	1		20
Benzene	89		87		70-130	2		20
Toluene	92		88		70-130	4		20
Ethylbenzene	93		91		70-130	2		20
Chloromethane	112		109		70-130	3		20
Bromomethane	99		86		70-130	14		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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): 27,44-45 Batch: WG1284565-3 WG1284565-4								
Vinyl chloride	95		90		70-130	5		20
Chloroethane	87		83		70-130	5		20
1,1-Dichloroethene	91		87		70-130	4		20
trans-1,2-Dichloroethene	92		87		70-130	6		20
Trichloroethene	91		88		70-130	3		20
1,2-Dichlorobenzene	89		88		70-130	1		20
1,3-Dichlorobenzene	93		90		70-130	3		20
1,4-Dichlorobenzene	92		90		70-130	2		20
Methyl tert butyl ether	79		78		70-130	1		20
p/m-Xylene	95		92		70-130	3		20
o-Xylene	92		89		70-130	3		20
cis-1,2-Dichloroethene	88		85		70-130	3		20
Dibromomethane	86		84		70-130	2		20
1,2,3-Trichloropropane	82		83		70-130	1		20
Styrene	93		90		70-130	3		20
Dichlorodifluoromethane	100		97		70-130	3		20
Acetone	101		105		70-130	4		20
Carbon disulfide	88		84		70-130	5		20
Methyl ethyl ketone	88		94		70-130	7		20
Methyl isobutyl ketone	79		83		70-130	5		20
2-Hexanone	90		92		70-130	2		20
Bromochloromethane	89		86		70-130	3		20
Tetrahydrofuran	94		95		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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): 27,44-45 Batch: WG1284565-3 WG1284565-4								
2,2-Dichloropropane	91		88		70-130	3		20
1,2-Dibromoethane	87		86		70-130	1		20
1,3-Dichloropropane	85		84		70-130	1		20
1,1,1,2-Tetrachloroethane	95		91		70-130	4		20
Bromobenzene	86		85		70-130	1		20
n-Butylbenzene	98		96		70-130	2		20
sec-Butylbenzene	95		92		70-130	3		20
tert-Butylbenzene	92		90		70-130	2		20
o-Chlorotoluene	94		90		70-130	4		20
p-Chlorotoluene	94		93		70-130	1		20
1,2-Dibromo-3-chloropropane	74		78		70-130	5		20
Hexachlorobutadiene	86		85		70-130	1		20
Isopropylbenzene	94		90		70-130	4		20
p-Isopropyltoluene	95		92		70-130	3		20
Naphthalene	82		83		70-130	1		20
n-Propylbenzene	95		93		70-130	2		20
1,2,3-Trichlorobenzene	87		86		70-130	1		20
1,2,4-Trichlorobenzene	92		90		70-130	2		20
1,3,5-Trimethylbenzene	94		92		70-130	2		20
1,2,4-Trimethylbenzene	94		92		70-130	2		20
Diethyl ether	80		80		70-130	0		20
Diisopropyl Ether	102		101		70-130	1		20
Ethyl-Tert-Butyl-Ether	86		85		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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): 27,44-45 Batch: WG1284565-3 WG1284565-4								
Tertiary-Amyl Methyl Ether	77		76		70-130	1		20
1,4-Dioxane	96		98		70-130	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		100		70-130
Toluene-d8	102		99		70-130
4-Bromofluorobenzene	97		96		70-130
Dibromofluoromethane	95		97		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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): 12,50,113 Batch: WG1284596-3 WG1284596-4								
Methylene chloride	89		91		70-130	2		20
1,1-Dichloroethane	104		105		70-130	1		20
Chloroform	101		103		70-130	2		20
Carbon tetrachloride	102		102		70-130	0		20
1,2-Dichloropropane	100		102		70-130	2		20
Dibromochloromethane	98		102		70-130	4		20
1,1,2-Trichloroethane	93		96		70-130	3		20
Tetrachloroethene	98		99		70-130	1		20
Chlorobenzene	99		101		70-130	2		20
Trichlorofluoromethane	103		103		70-130	0		20
1,2-Dichloroethane	100		104		70-130	4		20
1,1,1-Trichloroethane	105		106		70-130	1		20
Bromodichloromethane	101		103		70-130	2		20
trans-1,3-Dichloropropene	99		101		70-130	2		20
cis-1,3-Dichloropropene	98		100		70-130	2		20
1,1-Dichloropropene	101		101		70-130	0		20
Bromoform	87		90		70-130	3		20
1,1,2,2-Tetrachloroethane	96		99		70-130	3		20
Benzene	98		100		70-130	2		20
Toluene	99		98		70-130	1		20
Ethylbenzene	100		102		70-130	2		20
Chloromethane	128		127		70-130	1		20
Bromomethane	96		94		70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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): 12,50,113 Batch: WG1284596-3 WG1284596-4								
Vinyl chloride	104		107		70-130	3		20
Chloroethane	96		95		70-130	1		20
1,1-Dichloroethene	98		98		70-130	0		20
trans-1,2-Dichloroethene	98		99		70-130	1		20
Trichloroethene	100		102		70-130	2		20
1,2-Dichlorobenzene	97		100		70-130	3		20
1,3-Dichlorobenzene	99		102		70-130	3		20
1,4-Dichlorobenzene	100		102		70-130	2		20
Methyl tert butyl ether	90		91		70-130	1		20
p/m-Xylene	101		103		70-130	2		20
o-Xylene	98		101		70-130	3		20
cis-1,2-Dichloroethene	97		97		70-130	0		20
Dibromomethane	94		97		70-130	3		20
1,2,3-Trichloropropane	93		98		70-130	5		20
Styrene	100		102		70-130	2		20
Dichlorodifluoromethane	110		109		70-130	1		20
Acetone	121		118		70-130	3		20
Carbon disulfide	96		95		70-130	1		20
Methyl ethyl ketone	104		114		70-130	9		20
Methyl isobutyl ketone	96		99		70-130	3		20
2-Hexanone	107		110		70-130	3		20
Bromochloromethane	97		96		70-130	1		20
Tetrahydrofuran	110		116		70-130	5		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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): 12,50,113 Batch: WG1284596-3 WG1284596-4								
2,2-Dichloropropane	100		101		70-130	1		20
1,2-Dibromoethane	95		99		70-130	4		20
1,3-Dichloropropane	94		98		70-130	4		20
1,1,1,2-Tetrachloroethane	101		102		70-130	1		20
Bromobenzene	92		95		70-130	3		20
n-Butylbenzene	108		111		70-130	3		20
sec-Butylbenzene	102		105		70-130	3		20
tert-Butylbenzene	100		102		70-130	2		20
o-Chlorotoluene	102		105		70-130	3		20
p-Chlorotoluene	103		106		70-130	3		20
1,2-Dibromo-3-chloropropane	84		91		70-130	8		20
Hexachlorobutadiene	91		93		70-130	2		20
Isopropylbenzene	101		103		70-130	2		20
p-Isopropyltoluene	104		106		70-130	2		20
Naphthalene	91		97		70-130	6		20
n-Propylbenzene	104		106		70-130	2		20
1,2,3-Trichlorobenzene	96		97		70-130	1		20
1,2,4-Trichlorobenzene	98		100		70-130	2		20
1,3,5-Trimethylbenzene	102		104		70-130	2		20
1,2,4-Trimethylbenzene	103		105		70-130	2		20
Diethyl ether	89		92		70-130	3		20
Diisopropyl Ether	118		120		70-130	2		20
Ethyl-Tert-Butyl-Ether	97		100		70-130	3		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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): 12,50,113		Batch: WG1284596-3 WG1284596-4					
Tertiary-Amyl Methyl Ether	86		88		70-130	2		20
1,4-Dioxane	88		95		70-130	8		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	102		103		70-130
Toluene-d8	100		99		70-130
4-Bromofluorobenzene	97		97		70-130
Dibromofluoromethane	97		98		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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): 11,55-56,101,115,138-139,143		Batch: WG1284598-3 WG1284598-4					
Methylene chloride	89		91		70-130	2		20
1,1-Dichloroethane	104		105		70-130	1		20
Chloroform	101		103		70-130	2		20
Carbon tetrachloride	102		102		70-130	0		20
1,2-Dichloropropane	100		102		70-130	2		20
Dibromochloromethane	98		102		70-130	4		20
1,1,2-Trichloroethane	93		96		70-130	3		20
Tetrachloroethene	98		99		70-130	1		20
Chlorobenzene	99		101		70-130	2		20
Trichlorofluoromethane	103		103		70-130	0		20
1,2-Dichloroethane	100		104		70-130	4		20
1,1,1-Trichloroethane	105		106		70-130	1		20
Bromodichloromethane	101		103		70-130	2		20
trans-1,3-Dichloropropene	99		101		70-130	2		20
cis-1,3-Dichloropropene	98		100		70-130	2		20
1,1-Dichloropropene	101		101		70-130	0		20
Bromoform	87		90		70-130	3		20
1,1,2,2-Tetrachloroethane	96		99		70-130	3		20
Benzene	98		100		70-130	2		20
Toluene	99		98		70-130	1		20
Ethylbenzene	100		102		70-130	2		20
Chloromethane	128		127		70-130	1		20
Bromomethane	96		94		70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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): 11,55-56,101,115,138-139,143		Batch: WG1284598-3 WG1284598-4					
Vinyl chloride	104		107		70-130	3		20
Chloroethane	96		95		70-130	1		20
1,1-Dichloroethene	98		98		70-130	0		20
trans-1,2-Dichloroethene	98		99		70-130	1		20
Trichloroethene	100		102		70-130	2		20
1,2-Dichlorobenzene	97		100		70-130	3		20
1,3-Dichlorobenzene	99		102		70-130	3		20
1,4-Dichlorobenzene	100		102		70-130	2		20
Methyl tert butyl ether	90		91		70-130	1		20
p/m-Xylene	101		103		70-130	2		20
o-Xylene	98		101		70-130	3		20
cis-1,2-Dichloroethene	97		97		70-130	0		20
Dibromomethane	94		97		70-130	3		20
1,2,3-Trichloropropane	93		98		70-130	5		20
Styrene	100		102		70-130	2		20
Dichlorodifluoromethane	110		109		70-130	1		20
Acetone	121		118		70-130	3		20
Carbon disulfide	96		95		70-130	1		20
Methyl ethyl ketone	104		114		70-130	9		20
Methyl isobutyl ketone	96		99		70-130	3		20
2-Hexanone	107		110		70-130	3		20
Bromochloromethane	97		96		70-130	1		20
Tetrahydrofuran	110		116		70-130	5		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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): 11,55-56,101,115,138-139,143		Batch: WG1284598-3 WG1284598-4					
2,2-Dichloropropane	100		101		70-130	1		20
1,2-Dibromoethane	95		99		70-130	4		20
1,3-Dichloropropane	94		98		70-130	4		20
1,1,1,2-Tetrachloroethane	101		102		70-130	1		20
Bromobenzene	92		95		70-130	3		20
n-Butylbenzene	108		111		70-130	3		20
sec-Butylbenzene	102		105		70-130	3		20
tert-Butylbenzene	100		102		70-130	2		20
o-Chlorotoluene	102		105		70-130	3		20
p-Chlorotoluene	103		106		70-130	3		20
1,2-Dibromo-3-chloropropane	84		91		70-130	8		20
Hexachlorobutadiene	91		93		70-130	2		20
Isopropylbenzene	101		103		70-130	2		20
p-Isopropyltoluene	104		106		70-130	2		20
Naphthalene	91		97		70-130	6		20
n-Propylbenzene	104		106		70-130	2		20
1,2,3-Trichlorobenzene	96		97		70-130	1		20
1,2,4-Trichlorobenzene	98		100		70-130	2		20
1,3,5-Trimethylbenzene	102		104		70-130	2		20
1,2,4-Trimethylbenzene	103		105		70-130	2		20
Diethyl ether	89		92		70-130	3		20
Diisopropyl Ether	118		120		70-130	2		20
Ethyl-Tert-Butyl-Ether	97		100		70-130	3		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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): 11,55-56,101,115,138-139,143				Batch: WG1284598-3 WG1284598-4			
Tertiary-Amyl Methyl Ether	86		88		70-130	2		20
1,4-Dioxane	88		95		70-130	8		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	102		103		70-130
Toluene-d8	100		99		70-130
4-Bromofluorobenzene	97		96		70-130
Dibromofluoromethane	97		98		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

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): 44 Batch: WG1284780-3 WG1284780-4								
Methylene chloride	90		93		70-130	3		20
1,1-Dichloroethane	107		108		70-130	1		20
Chloroform	105		107		70-130	2		20
Carbon tetrachloride	107		109		70-130	2		20
1,2-Dichloropropane	104		106		70-130	2		20
Dibromochloromethane	104		106		70-130	2		20
1,1,2-Trichloroethane	98		100		70-130	2		20
Tetrachloroethene	102		103		70-130	1		20
Chlorobenzene	103		104		70-130	1		20
Trichlorofluoromethane	106		106		70-130	0		20
1,2-Dichloroethane	105		108		70-130	3		20
1,1,1-Trichloroethane	109		111		70-130	2		20
Bromodichloromethane	106		110		70-130	4		20
trans-1,3-Dichloropropene	103		105		70-130	2		20
cis-1,3-Dichloropropene	102		104		70-130	2		20
1,1-Dichloropropene	104		108		70-130	4		20
Bromoform	91		95		70-130	4		20
1,1,2,2-Tetrachloroethane	100		104		70-130	4		20
Benzene	101		103		70-130	2		20
Toluene	101		103		70-130	2		20
Ethylbenzene	105		107		70-130	2		20
Chloromethane	113		113		70-130	0		20
Bromomethane	93		89		70-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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): 44 Batch: WG1284780-3 WG1284780-4								
Vinyl chloride	96		100		70-130	4		20
Chloroethane	94		94		70-130	0		20
1,1-Dichloroethene	100		101		70-130	1		20
trans-1,2-Dichloroethene	101		102		70-130	1		20
Trichloroethene	104		105		70-130	1		20
1,2-Dichlorobenzene	100		102		70-130	2		20
1,3-Dichlorobenzene	102		105		70-130	3		20
1,4-Dichlorobenzene	102		104		70-130	2		20
Methyl tert butyl ether	92		94		70-130	2		20
p/m-Xylene	106		107		70-130	1		20
o-Xylene	102		104		70-130	2		20
cis-1,2-Dichloroethene	98		100		70-130	2		20
Dibromomethane	98		102		70-130	4		20
1,2,3-Trichloropropane	97		102		70-130	5		20
Styrene	104		106		70-130	2		20
Dichlorodifluoromethane	84		83		70-130	1		20
Acetone	121		**134**	Q	70-130	10		20
Carbon disulfide	94		96		70-130	2		20
Methyl ethyl ketone	112		112		70-130	0		20
Methyl isobutyl ketone	97		102		70-130	5		20
2-Hexanone	110		114		70-130	4		20
Bromochloromethane	100		102		70-130	2		20
Tetrahydrofuran	116		120		70-130	3		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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): 44 Batch: WG1284780-3 WG1284780-4								
2,2-Dichloropropane	103		105		70-130	2		20
1,2-Dibromoethane	100		102		70-130	2		20
1,3-Dichloropropane	99		101		70-130	2		20
1,1,1,2-Tetrachloroethane	106		108		70-130	2		20
Bromobenzene	95		98		70-130	3		20
n-Butylbenzene	109		112		70-130	3		20
sec-Butylbenzene	105		108		70-130	3		20
tert-Butylbenzene	102		105		70-130	3		20
o-Chlorotoluene	104		107		70-130	3		20
p-Chlorotoluene	106		109		70-130	3		20
1,2-Dibromo-3-chloropropane	88		93		70-130	6		20
Hexachlorobutadiene	88		90		70-130	2		20
Isopropylbenzene	104		107		70-130	3		20
p-Isopropyltoluene	105		108		70-130	3		20
Naphthalene	96		99		70-130	3		20
n-Propylbenzene	107		109		70-130	2		20
1,2,3-Trichlorobenzene	97		98		70-130	1		20
1,2,4-Trichlorobenzene	100		100		70-130	0		20
1,3,5-Trimethylbenzene	104		107		70-130	3		20
1,2,4-Trimethylbenzene	105		108		70-130	3		20
Diethyl ether	92		93		70-130	1		20
Diisopropyl Ether	122		124		70-130	2		20
Ethyl-Tert-Butyl-Ether	100		103		70-130	3		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOMBARELLO SITE

Project Number: 17001426

Lab Number: L1940717

Report Date: 09/20/19

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): 44 Batch: WG1284780-3 WG1284780-4								
Tertiary-Amyl Methyl Ether	90		94		70-130	4		20
1,4-Dioxane	88		90		70-130	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	103		104		70-130
Toluene-d8	100		99		70-130
4-Bromofluorobenzene	97		96		70-130
Dibromofluoromethane	97		98		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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): 18,105,140 Batch: WG1284781-3 WG1284781-4								
Methylene chloride	90		93		70-130	3		20
1,1-Dichloroethane	107		108		70-130	1		20
Chloroform	105		107		70-130	2		20
Carbon tetrachloride	107		109		70-130	2		20
1,2-Dichloropropane	104		106		70-130	2		20
Dibromochloromethane	104		106		70-130	2		20
1,1,2-Trichloroethane	98		100		70-130	2		20
Tetrachloroethene	102		103		70-130	1		20
Chlorobenzene	103		104		70-130	1		20
Trichlorofluoromethane	106		106		70-130	0		20
1,2-Dichloroethane	105		108		70-130	3		20
1,1,1-Trichloroethane	109		111		70-130	2		20
Bromodichloromethane	106		110		70-130	4		20
trans-1,3-Dichloropropene	103		105		70-130	2		20
cis-1,3-Dichloropropene	102		104		70-130	2		20
1,1-Dichloropropene	104		108		70-130	4		20
Bromoform	91		95		70-130	4		20
1,1,2,2-Tetrachloroethane	100		104		70-130	4		20
Benzene	101		103		70-130	2		20
Toluene	101		103		70-130	2		20
Ethylbenzene	105		107		70-130	2		20
Chloromethane	113		113		70-130	0		20
Bromomethane	93		89		70-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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): 18,105,140 Batch: WG1284781-3 WG1284781-4								
Vinyl chloride	96		100		70-130	4		20
Chloroethane	94		94		70-130	0		20
1,1-Dichloroethene	100		101		70-130	1		20
trans-1,2-Dichloroethene	101		102		70-130	1		20
Trichloroethene	104		105		70-130	1		20
1,2-Dichlorobenzene	100		102		70-130	2		20
1,3-Dichlorobenzene	102		105		70-130	3		20
1,4-Dichlorobenzene	102		104		70-130	2		20
Methyl tert butyl ether	92		94		70-130	2		20
p/m-Xylene	106		107		70-130	1		20
o-Xylene	102		104		70-130	2		20
cis-1,2-Dichloroethene	98		100		70-130	2		20
Dibromomethane	98		102		70-130	4		20
1,2,3-Trichloropropane	97		102		70-130	5		20
Styrene	104		106		70-130	2		20
Dichlorodifluoromethane	84		83		70-130	1		20
Acetone	121		**134**	Q	70-130	10		20
Carbon disulfide	94		96		70-130	2		20
Methyl ethyl ketone	112		112		70-130	0		20
Methyl isobutyl ketone	97		102		70-130	5		20
2-Hexanone	110		114		70-130	4		20
Bromochloromethane	100		102		70-130	2		20
Tetrahydrofuran	116		120		70-130	3		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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): 18,105,140 Batch: WG1284781-3 WG1284781-4								
2,2-Dichloropropane	103		105		70-130	2		20
1,2-Dibromoethane	100		102		70-130	2		20
1,3-Dichloropropane	99		101		70-130	2		20
1,1,1,2-Tetrachloroethane	106		108		70-130	2		20
Bromobenzene	95		98		70-130	3		20
n-Butylbenzene	109		112		70-130	3		20
sec-Butylbenzene	105		108		70-130	3		20
tert-Butylbenzene	102		105		70-130	3		20
o-Chlorotoluene	104		107		70-130	3		20
p-Chlorotoluene	106		109		70-130	3		20
1,2-Dibromo-3-chloropropane	88		93		70-130	6		20
Hexachlorobutadiene	88		90		70-130	2		20
Isopropylbenzene	104		107		70-130	3		20
p-Isopropyltoluene	105		108		70-130	3		20
Naphthalene	96		99		70-130	3		20
n-Propylbenzene	107		109		70-130	2		20
1,2,3-Trichlorobenzene	97		98		70-130	1		20
1,2,4-Trichlorobenzene	100		100		70-130	0		20
1,3,5-Trimethylbenzene	104		107		70-130	3		20
1,2,4-Trimethylbenzene	105		108		70-130	3		20
Diethyl ether	92		93		70-130	1		20
Diisopropyl Ether	122		124		70-130	2		20
Ethyl-Tert-Butyl-Ether	100		103		70-130	3		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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): 18,105,140		Batch: WG1284781-3 WG1284781-4					
Tertiary-Amyl Methyl Ether	90		94		70-130	4		20
1,4-Dioxane	88		90		70-130	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	103		104		70-130
Toluene-d8	100		99		70-130
4-Bromofluorobenzene	97		96		70-130
Dibromofluoromethane	97		98		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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): 138,143 Batch: WG1284929-3 WG1284929-4								
Methylene chloride	92		92		70-130	0		20
1,1-Dichloroethane	110		109		70-130	1		20
Chloroform	107		106		70-130	1		20
Carbon tetrachloride	108		109		70-130	1		20
1,2-Dichloropropane	101		104		70-130	3		20
Dibromochloromethane	100		100		70-130	0		20
1,1,2-Trichloroethane	96		97		70-130	1		20
Tetrachloroethene	103		103		70-130	0		20
Chlorobenzene	103		103		70-130	0		20
Trichlorofluoromethane	112		110		70-130	2		20
1,2-Dichloroethane	103		104		70-130	1		20
1,1,1-Trichloroethane	111		110		70-130	1		20
Bromodichloromethane	105		105		70-130	0		20
trans-1,3-Dichloropropene	99		101		70-130	2		20
cis-1,3-Dichloropropene	99		101		70-130	2		20
1,1-Dichloropropene	109		108		70-130	1		20
Bromoform	85		86		70-130	1		20
1,1,2,2-Tetrachloroethane	97		99		70-130	2		20
Benzene	104		103		70-130	1		20
Toluene	103		104		70-130	1		20
Ethylbenzene	107		106		70-130	1		20
Chloromethane	**137**	Q	**138**	Q	70-130	1		20
Bromomethane	104		98		70-130	6		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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): 138,143		Batch: WG1284929-3 WG1284929-4					
Vinyl chloride	116		113		70-130	3		20
Chloroethane	103		102		70-130	1		20
1,1-Dichloroethene	106		106		70-130	0		20
trans-1,2-Dichloroethene	106		104		70-130	2		20
Trichloroethene	106		106		70-130	0		20
1,2-Dichlorobenzene	100		100		70-130	0		20
1,3-Dichlorobenzene	103		103		70-130	0		20
1,4-Dichlorobenzene	102		102		70-130	0		20
Methyl tert butyl ether	88		89		70-130	1		20
p/m-Xylene	106		107		70-130	1		20
o-Xylene	103		103		70-130	0		20
cis-1,2-Dichloroethene	101		102		70-130	1		20
Dibromomethane	95		96		70-130	1		20
1,2,3-Trichloropropane	95		98		70-130	3		20
Styrene	103		103		70-130	0		20
Dichlorodifluoromethane	119		118		70-130	1		20
Acetone	**133**	Q	**137**	Q	70-130	3		20
Carbon disulfide	103		102		70-130	1		20
Methyl ethyl ketone	113		116		70-130	3		20
Methyl isobutyl ketone	95		97		70-130	2		20
2-Hexanone	107		112		70-130	5		20
Bromochloromethane	97		96		70-130	1		20
Tetrahydrofuran	113		118		70-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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): 138,143 Batch: WG1284929-3 WG1284929-4								
2,2-Dichloropropane	106		105		70-130	1		20
1,2-Dibromoethane	95		96		70-130	1		20
1,3-Dichloropropane	95		96		70-130	1		20
1,1,1,2-Tetrachloroethane	103		103		70-130	0		20
Bromobenzene	96		97		70-130	1		20
n-Butylbenzene	115		116		70-130	1		20
sec-Butylbenzene	111		111		70-130	0		20
tert-Butylbenzene	105		106		70-130	1		20
o-Chlorotoluene	107		108		70-130	1		20
p-Chlorotoluene	107		109		70-130	2		20
1,2-Dibromo-3-chloropropane	85		91		70-130	7		20
Hexachlorobutadiene	97		100		70-130	3		20
Isopropylbenzene	107		107		70-130	0		20
p-Isopropyltoluene	109		110		70-130	1		20
Naphthalene	91		94		70-130	3		20
n-Propylbenzene	110		110		70-130	0		20
1,2,3-Trichlorobenzene	94		94		70-130	0		20
1,2,4-Trichlorobenzene	97		98		70-130	1		20
1,3,5-Trimethylbenzene	108		108		70-130	0		20
1,2,4-Trimethylbenzene	107		108		70-130	1		20
Diethyl ether	90		91		70-130	1		20
Diisopropyl Ether	120		120		70-130	0		20
Ethyl-Tert-Butyl-Ether	97		98		70-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOMBARELLO SITE

Project Number: 17001426

Lab Number: L1940717

Report Date: 09/20/19

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): 138,143 Batch: WG1284929-3 WG1284929-4								
Tertiary-Amyl Methyl Ether	85		86		70-130	1		20
1,4-Dioxane	94		97		70-130	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	99		102		70-130
Toluene-d8	101		100		70-130
4-Bromofluorobenzene	98		97		70-130
Dibromofluoromethane	97		95		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

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): 27 Batch: WG1285102-3 WG1285102-4								
Methylene chloride	93		94		70-130	1		20
1,1-Dichloroethane	99		99		70-130	0		20
Chloroform	97		98		70-130	1		20
Carbon tetrachloride	98		99		70-130	1		20
1,2-Dichloropropane	95		96		70-130	1		20
Dibromochloromethane	94		96		70-130	2		20
1,1,2-Trichloroethane	88		91		70-130	3		20
Tetrachloroethene	97		95		70-130	2		20
Chlorobenzene	94		96		70-130	2		20
Trichlorofluoromethane	99		98		70-130	1		20
1,2-Dichloroethane	97		98		70-130	1		20
1,1,1-Trichloroethane	102		102		70-130	0		20
Bromodichloromethane	97		99		70-130	2		20
trans-1,3-Dichloropropene	93		95		70-130	2		20
cis-1,3-Dichloropropene	94		96		70-130	2		20
1,1-Dichloropropene	98		98		70-130	0		20
Bromoform	84		85		70-130	1		20
1,1,2,2-Tetrachloroethane	89		91		70-130	2		20
Benzene	94		95		70-130	1		20
Toluene	92		94		70-130	2		20
Ethylbenzene	96		96		70-130	0		20
Chloromethane	118		118		70-130	0		20
Bromomethane	90		89		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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): 27 Batch: WG1285102-3 WG1285102-4								
Vinyl chloride	99		98		70-130	1		20
Chloroethane	92		89		70-130	3		20
1,1-Dichloroethene	96		96		70-130	0		20
trans-1,2-Dichloroethene	96		96		70-130	0		20
Trichloroethene	96		97		70-130	1		20
1,2-Dichlorobenzene	92		93		70-130	1		20
1,3-Dichlorobenzene	94		95		70-130	1		20
1,4-Dichlorobenzene	94		94		70-130	0		20
Methyl tert butyl ether	86		88		70-130	2		20
p/m-Xylene	97		98		70-130	1		20
o-Xylene	94		95		70-130	1		20
cis-1,2-Dichloroethene	93		94		70-130	1		20
Dibromomethane	93		92		70-130	1		20
1,2,3-Trichloropropane	88		89		70-130	1		20
Styrene	94		96		70-130	2		20
Dichlorodifluoromethane	102		100		70-130	2		20
Acetone	112		115		70-130	3		20
Carbon disulfide	93		93		70-130	0		20
Methyl ethyl ketone	99		104		70-130	5		20
Methyl isobutyl ketone	89		92		70-130	3		20
2-Hexanone	100		102		70-130	2		20
Bromochloromethane	95		95		70-130	0		20
Tetrahydrofuran	104		109		70-130	5		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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): 27 Batch: WG1285102-3 WG1285102-4								
2,2-Dichloropropane	97		97		70-130	0		20
1,2-Dibromoethane	92		94		70-130	2		20
1,3-Dichloropropane	89		91		70-130	2		20
1,1,1,2-Tetrachloroethane	97		98		70-130	1		20
Bromobenzene	88		89		70-130	1		20
n-Butylbenzene	97		97		70-130	0		20
sec-Butylbenzene	94		95		70-130	1		20
tert-Butylbenzene	93		93		70-130	0		20
o-Chlorotoluene	94		95		70-130	1		20
p-Chlorotoluene	96		96		70-130	0		20
1,2-Dibromo-3-chloropropane	84		85		70-130	1		20
Hexachlorobutadiene	83		83		70-130	0		20
Isopropylbenzene	95		94		70-130	1		20
p-Isopropyltoluene	94		95		70-130	1		20
Naphthalene	88		89		70-130	1		20
n-Propylbenzene	96		97		70-130	1		20
1,2,3-Trichlorobenzene	88		90		70-130	2		20
1,2,4-Trichlorobenzene	92		92		70-130	0		20
1,3,5-Trimethylbenzene	95		95		70-130	0		20
1,2,4-Trimethylbenzene	95		96		70-130	1		20
Diethyl ether	88		88		70-130	0		20
Diisopropyl Ether	110		111		70-130	1		20
Ethyl-Tert-Butyl-Ether	93		95		70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

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): 27 Batch: WG1285102-3 WG1285102-4								
Tertiary-Amyl Methyl Ether	83		85		70-130	2		20
1,4-Dioxane	95		102		70-130	7		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	98		101		70-130
Toluene-d8	99		98		70-130
4-Bromofluorobenzene	96		96		70-130
Dibromofluoromethane	96		98		70-130

PETROLEUM HYDROCARBONS

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID:	L1940717-101	Date Collected:	09/05/19 09:54
Client ID:	B-09 (1-3)	Date Received:	09/06/19
Sample Location:	LAWRENCE, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/11/19 00:54
Analytical Date:	09/14/19 08:56	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/11/19
Percent Solids:	93%		

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
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	14.1	--	2
C19-C36 Aliphatics	115		mg/kg	14.1	--	2
C11-C22 Aromatics	371		mg/kg	14.1	--	2
C11-C22 Aromatics, Adjusted	245		mg/kg	14.1	--	2
Naphthalene	ND		mg/kg	0.706	--	2
2-Methylnaphthalene	ND		mg/kg	0.706	--	2
Acenaphthylene	ND		mg/kg	0.706	--	2
Acenaphthene	1.02		mg/kg	0.706	--	2
Fluorene	1.14		mg/kg	0.706	--	2
Phenanthrene	13.2		mg/kg	0.706	--	2
Anthracene	3.58		mg/kg	0.706	--	2
Fluoranthene	22.8		mg/kg	0.706	--	2
Pyrene	19.1		mg/kg	0.706	--	2
Benzo(a)anthracene	10.3		mg/kg	0.706	--	2
Chrysene	10.8		mg/kg	0.706	--	2
Benzo(b)fluoranthene	9.48		mg/kg	0.706	--	2
Benzo(k)fluoranthene	9.16		mg/kg	0.706	--	2
Benzo(a)pyrene	10.0		mg/kg	0.706	--	2
Indeno(1,2,3-cd)Pyrene	6.97		mg/kg	0.706	--	2
Dibenzo(a,h)anthracene	1.90		mg/kg	0.706	--	2
Benzo(ghi)perylene	6.04		mg/kg	0.706	--	2

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-101
Client ID: B-09 (1-3)
Sample Location: LAWRENCE, MA
Date Collected: 09/05/19 09:54
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	51		40-140
o-Terphenyl	69		40-140
2-Fluorobiphenyl	88		40-140
2-Bromonaphthalene	87		40-140

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID:	L1940717-105 D	Date Collected:	09/05/19 10:02
Client ID:	B-09 (5-7)-2	Date Received:	09/06/19
Sample Location:	LAWRENCE, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/11/19 00:54
Analytical Date:	09/16/19 16:38	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/11/19
Percent Solids:	92%		

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
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	27.5	--	4
C19-C36 Aliphatics	136		mg/kg	27.5	--	4
C11-C22 Aromatics	503		mg/kg	27.5	--	4
C11-C22 Aromatics, Adjusted	315		mg/kg	27.5	--	4
Naphthalene	ND		mg/kg	1.37	--	4
2-Methylnaphthalene	ND		mg/kg	1.37	--	4
Acenaphthylene	ND		mg/kg	1.37	--	4
Acenaphthene	2.13		mg/kg	1.37	--	4
Fluorene	2.42		mg/kg	1.37	--	4
Phenanthrene	21.7		mg/kg	1.37	--	4
Anthracene	6.27		mg/kg	1.37	--	4
Fluoranthene	34.7		mg/kg	1.37	--	4
Pyrene	28.9		mg/kg	1.37	--	4
Benzo(a)anthracene	15.5		mg/kg	1.37	--	4
Chrysene	15.9		mg/kg	1.37	--	4
Benzo(b)fluoranthene	13.7		mg/kg	1.37	--	4
Benzo(k)fluoranthene	13.1		mg/kg	1.37	--	4
Benzo(a)pyrene	13.8		mg/kg	1.37	--	4
Indeno(1,2,3-cd)Pyrene	9.12		mg/kg	1.37	--	4
Dibenzo(a,h)anthracene	2.60		mg/kg	1.37	--	4
Benzo(ghi)perylene	7.64		mg/kg	1.37	--	4

Project Name: TOMBARELLO SITE
Lab Number: L1940717
Project Number: 17001426
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-105 D
Client ID: B-09 (5-7)-2
Sample Location: LAWRENCE, MA
Date Collected: 09/05/19 10:02
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	54		40-140
o-Terphenyl	64		40-140
2-Fluorobiphenyl	77		40-140
2-Bromonaphthalene	76		40-140

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID:	L1940717-11	Date Collected:	09/04/19 08:50
Client ID:	SB-4 (1-2)	Date Received:	09/06/19
Sample Location:	LAWRENCE, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/11/19 00:54
Analytical Date:	09/14/19 03:15	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/11/19
Percent Solids:	95%		

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
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	6.74	--	1
C19-C36 Aliphatics	ND		mg/kg	6.74	--	1
C11-C22 Aromatics	12.6		mg/kg	6.74	--	1
C11-C22 Aromatics, Adjusted	11.7		mg/kg	6.74	--	1
Naphthalene	ND		mg/kg	0.337	--	1
2-Methylnaphthalene	ND		mg/kg	0.337	--	1
Acenaphthylene	ND		mg/kg	0.337	--	1
Acenaphthene	ND		mg/kg	0.337	--	1
Fluorene	ND		mg/kg	0.337	--	1
Phenanthrene	ND		mg/kg	0.337	--	1
Anthracene	ND		mg/kg	0.337	--	1
Fluoranthene	0.418		mg/kg	0.337	--	1
Pyrene	0.395		mg/kg	0.337	--	1
Benzo(a)anthracene	ND		mg/kg	0.337	--	1
Chrysene	ND		mg/kg	0.337	--	1
Benzo(b)fluoranthene	ND		mg/kg	0.337	--	1
Benzo(k)fluoranthene	ND		mg/kg	0.337	--	1
Benzo(a)pyrene	ND		mg/kg	0.337	--	1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.337	--	1
Dibenzo(a,h)anthracene	ND		mg/kg	0.337	--	1
Benzo(ghi)perylene	ND		mg/kg	0.337	--	1

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-11
Client ID: SB-4 (1-2)
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 08:50
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	56		40-140
o-Terphenyl	58		40-140
2-Fluorobiphenyl	74		40-140
2-Bromonaphthalene	73		40-140

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID:	L1940717-113 D	Date Collected:	09/05/19 10:54
Client ID:	B-05 (1-3)	Date Received:	09/06/19
Sample Location:	LAWRENCE, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/11/19 00:55
Analytical Date:	09/16/19 15:20	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/11/19
Percent Solids:	87%		

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
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	36.4	--	5
C19-C36 Aliphatics	57.2		mg/kg	36.4	--	5
C11-C22 Aromatics	408		mg/kg	36.4	--	5
C11-C22 Aromatics, Adjusted	252		mg/kg	36.4	--	5
Naphthalene	ND		mg/kg	1.82	--	5
2-Methylnaphthalene	ND		mg/kg	1.82	--	5
Acenaphthylene	ND		mg/kg	1.82	--	5
Acenaphthene	2.25		mg/kg	1.82	--	5
Fluorene	2.56		mg/kg	1.82	--	5
Phenanthrene	26.6		mg/kg	1.82	--	5
Anthracene	7.11		mg/kg	1.82	--	5
Fluoranthene	29.9		mg/kg	1.82	--	5
Pyrene	24.4		mg/kg	1.82	--	5
Benzo(a)anthracene	12.7		mg/kg	1.82	--	5
Chrysene	12.5		mg/kg	1.82	--	5
Benzo(b)fluoranthene	8.56		mg/kg	1.82	--	5
Benzo(k)fluoranthene	8.82		mg/kg	1.82	--	5
Benzo(a)pyrene	9.76		mg/kg	1.82	--	5
Indeno(1,2,3-cd)Pyrene	5.97		mg/kg	1.82	--	5
Dibenzo(a,h)anthracene	ND		mg/kg	1.82	--	5
Benzo(ghi)perylene	5.06		mg/kg	1.82	--	5

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-113 D
Client ID: B-05 (1-3)
Sample Location: LAWRENCE, MA

Date Collected: 09/05/19 10:54
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	57		40-140
o-Terphenyl	74		40-140
2-Fluorobiphenyl	83		40-140
2-Bromonaphthalene	82		40-140

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID:	L1940717-115	Date Collected:	09/05/19 10:57
Client ID:	B-05 (3-5)-2	Date Received:	09/06/19
Sample Location:	LAWRENCE, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/11/19 00:55
Analytical Date:	09/14/19 05:08	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/11/19
Percent Solids:	69%		

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
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	9.33	--	1
C19-C36 Aliphatics	ND		mg/kg	9.33	--	1
C11-C22 Aromatics	64.4		mg/kg	9.33	--	1
C11-C22 Aromatics, Adjusted	48.8		mg/kg	9.33	--	1
Naphthalene	ND		mg/kg	0.466	--	1
2-Methylnaphthalene	ND		mg/kg	0.466	--	1
Acenaphthylene	ND		mg/kg	0.466	--	1
Acenaphthene	0.500		mg/kg	0.466	--	1
Fluorene	ND		mg/kg	0.466	--	1
Phenanthrene	2.60		mg/kg	0.466	--	1
Anthracene	0.490		mg/kg	0.466	--	1
Fluoranthene	2.74		mg/kg	0.466	--	1
Pyrene	2.34		mg/kg	0.466	--	1
Benzo(a)anthracene	1.14		mg/kg	0.466	--	1
Chrysene	1.33		mg/kg	0.466	--	1
Benzo(b)fluoranthene	1.04		mg/kg	0.466	--	1
Benzo(k)fluoranthene	1.07		mg/kg	0.466	--	1
Benzo(a)pyrene	1.07		mg/kg	0.466	--	1
Indeno(1,2,3-cd)Pyrene	0.719		mg/kg	0.466	--	1
Dibenzo(a,h)anthracene	ND		mg/kg	0.466	--	1
Benzo(ghi)perylene	0.580		mg/kg	0.466	--	1

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-115
Client ID: B-05 (3-5)-2
Sample Location: LAWRENCE, MA
Date Collected: 09/05/19 10:57
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	62		40-140
o-Terphenyl	61		40-140
2-Fluorobiphenyl	70		40-140
2-Bromonaphthalene	69		40-140

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID:	L1940717-12	Date Collected:	09/04/19 08:40
Client ID:	SB-4 (2-3)	Date Received:	09/06/19
Sample Location:	LAWRENCE, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/11/19 00:54
Analytical Date:	09/14/19 03:52	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/11/19
Percent Solids:	93%		

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
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	6.80	--	1
C19-C36 Aliphatics	16.6		mg/kg	6.80	--	1
C11-C22 Aromatics	48.6		mg/kg	6.80	--	1
C11-C22 Aromatics, Adjusted	35.0		mg/kg	6.80	--	1
Naphthalene	ND		mg/kg	0.340	--	1
2-Methylnaphthalene	ND		mg/kg	0.340	--	1
Acenaphthylene	ND		mg/kg	0.340	--	1
Acenaphthene	ND		mg/kg	0.340	--	1
Fluorene	ND		mg/kg	0.340	--	1
Phenanthrene	0.759		mg/kg	0.340	--	1
Anthracene	ND		mg/kg	0.340	--	1
Fluoranthene	1.98		mg/kg	0.340	--	1
Pyrene	1.82		mg/kg	0.340	--	1
Benzo(a)anthracene	1.38		mg/kg	0.340	--	1
Chrysene	1.38		mg/kg	0.340	--	1
Benzo(b)fluoranthene	1.29		mg/kg	0.340	--	1
Benzo(k)fluoranthene	1.34		mg/kg	0.340	--	1
Benzo(a)pyrene	1.52		mg/kg	0.340	--	1
Indeno(1,2,3-cd)Pyrene	1.06		mg/kg	0.340	--	1
Dibenzo(a,h)anthracene	ND		mg/kg	0.340	--	1
Benzo(ghi)perylene	0.982		mg/kg	0.340	--	1

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-12
Client ID: SB-4 (2-3)
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 08:40
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	59		40-140
o-Terphenyl	57		40-140
2-Fluorobiphenyl	68		40-140
2-Bromonaphthalene	67		40-140

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID:	L1940717-138	Date Collected:	09/05/19 13:36
Client ID:	SB-1 (1-2)	Date Received:	09/06/19
Sample Location:	LAWRENCE, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/11/19 00:55
Analytical Date:	09/14/19 09:34	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/11/19
Percent Solids:	92%		

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
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	13.8	--	2
C19-C36 Aliphatics	113		mg/kg	13.8	--	2
C11-C22 Aromatics	284		mg/kg	13.8	--	2
C11-C22 Aromatics, Adjusted	203		mg/kg	13.8	--	2
Naphthalene	ND		mg/kg	0.690	--	2
2-Methylnaphthalene	ND		mg/kg	0.690	--	2
Acenaphthylene	ND		mg/kg	0.690	--	2
Acenaphthene	1.31		mg/kg	0.690	--	2
Fluorene	1.10		mg/kg	0.690	--	2
Phenanthrene	12.3		mg/kg	0.690	--	2
Anthracene	2.75		mg/kg	0.690	--	2
Fluoranthene	14.6		mg/kg	0.690	--	2
Pyrene	12.6		mg/kg	0.690	--	2
Benzo(a)anthracene	6.30		mg/kg	0.690	--	2
Chrysene	6.78		mg/kg	0.690	--	2
Benzo(b)fluoranthene	4.96		mg/kg	0.690	--	2
Benzo(k)fluoranthene	5.25		mg/kg	0.690	--	2
Benzo(a)pyrene	5.73		mg/kg	0.690	--	2
Indeno(1,2,3-cd)Pyrene	3.58		mg/kg	0.690	--	2
Dibenzo(a,h)anthracene	1.11		mg/kg	0.690	--	2
Benzo(ghi)perylene	3.06		mg/kg	0.690	--	2

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-138
Client ID: SB-1 (1-2)
Sample Location: LAWRENCE, MA
Date Collected: 09/05/19 13:36
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	58		40-140
o-Terphenyl	59		40-140
2-Fluorobiphenyl	75		40-140
2-Bromonaphthalene	74		40-140

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID:	L1940717-139 D	Date Collected:	09/05/19 13:39
Client ID:	SB-1 (2-3)	Date Received:	09/06/19
Sample Location:	LAWRENCE, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/11/19 00:55
Analytical Date:	09/16/19 15:59	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/11/19
Percent Solids:	90%		

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
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	71.7	--	10
C19-C36 Aliphatics	ND		mg/kg	71.7	--	10
C11-C22 Aromatics	460		mg/kg	71.7	--	10
C11-C22 Aromatics, Adjusted	271		mg/kg	71.7	--	10
Naphthalene	ND		mg/kg	3.58	--	10
2-Methylnaphthalene	ND		mg/kg	3.58	--	10
Acenaphthylene	ND		mg/kg	3.58	--	10
Acenaphthene	ND		mg/kg	3.58	--	10
Fluorene	ND		mg/kg	3.58	--	10
Phenanthrene	40.9		mg/kg	3.58	--	10
Anthracene	7.37		mg/kg	3.58	--	10
Fluoranthene	37.2		mg/kg	3.58	--	10
Pyrene	28.6		mg/kg	3.58	--	10
Benzo(a)anthracene	14.2		mg/kg	3.58	--	10
Chrysene	13.8		mg/kg	3.58	--	10
Benzo(b)fluoranthene	10.5		mg/kg	3.58	--	10
Benzo(k)fluoranthene	11.5		mg/kg	3.58	--	10
Benzo(a)pyrene	11.9		mg/kg	3.58	--	10
Indeno(1,2,3-cd)Pyrene	7.27		mg/kg	3.58	--	10
Dibenzo(a,h)anthracene	ND		mg/kg	3.58	--	10
Benzo(ghi)perylene	6.20		mg/kg	3.58	--	10

Project Name: TOMBARELLO SITE
Lab Number: L1940717
Project Number: 17001426
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-139 D
Client ID: SB-1 (2-3)
Sample Location: LAWRENCE, MA

Date Collected: 09/05/19 13:39
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	68		40-140
o-Terphenyl	74		40-140
2-Fluorobiphenyl	68		40-140
2-Bromonaphthalene	67		40-140

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID:	L1940717-140	Date Collected:	09/05/19 00:00
Client ID:	SB-DUP-1	Date Received:	09/06/19
Sample Location:	LAWRENCE, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/11/19 00:55
Analytical Date:	09/14/19 12:46	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/11/19
Percent Solids:	95%		

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
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	13.9	--	2
C19-C36 Aliphatics	199		mg/kg	13.9	--	2
C11-C22 Aromatics	457		mg/kg	13.9	--	2
C11-C22 Aromatics, Adjusted	315		mg/kg	13.9	--	2
Naphthalene	0.919		mg/kg	0.696	--	2
2-Methylnaphthalene	ND		mg/kg	0.696	--	2
Acenaphthylene	ND		mg/kg	0.696	--	2
Acenaphthene	1.97		mg/kg	0.696	--	2
Fluorene	1.76		mg/kg	0.696	--	2
Phenanthrene	21.4		mg/kg	0.696	--	2
Anthracene	4.66		mg/kg	0.696	--	2
Fluoranthene	25.9		mg/kg	0.696	--	2
Pyrene	21.8		mg/kg	0.696	--	2
Benzo(a)anthracene	10.2		mg/kg	0.696	--	2
Chrysene	11.8		mg/kg	0.696	--	2
Benzo(b)fluoranthene	8.91		mg/kg	0.696	--	2
Benzo(k)fluoranthene	8.80		mg/kg	0.696	--	2
Benzo(a)pyrene	9.72		mg/kg	0.696	--	2
Indeno(1,2,3-cd)Pyrene	6.32		mg/kg	0.696	--	2
Dibenzo(a,h)anthracene	1.84		mg/kg	0.696	--	2
Benzo(ghi)perylene	5.53		mg/kg	0.696	--	2

Project Name: TOMBARELLO SITE
Lab Number: L1940717
Project Number: 17001426
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-140
Client ID: SB-DUP-1
Sample Location: LAWRENCE, MA
Date Collected: 09/05/19 00:00
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	63		40-140
o-Terphenyl	84		40-140
2-Fluorobiphenyl	91		40-140
2-Bromonaphthalene	90		40-140

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID:	L1940717-143	Date Collected:	09/05/19 13:48
Client ID:	SB-1 (5-7)-2	Date Received:	09/06/19
Sample Location:	LAWRENCE, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/12/19 22:36
Analytical Date:	09/14/19 20:54	Cleanup Method1:	EPH-04-1
Analyst:	SR	Cleanup Date1:	09/13/19
Percent Solids:	79%		

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
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	8.22	--	1
C19-C36 Aliphatics	98.5		mg/kg	8.22	--	1
C11-C22 Aromatics	79.3		mg/kg	8.22	--	1
C11-C22 Aromatics, Adjusted	59.3		mg/kg	8.22	--	1
Naphthalene	ND		mg/kg	0.411	--	1
2-Methylnaphthalene	ND		mg/kg	0.411	--	1
Acenaphthylene	ND		mg/kg	0.411	--	1
Acenaphthene	ND		mg/kg	0.411	--	1
Fluorene	ND		mg/kg	0.411	--	1
Phenanthrene	2.98		mg/kg	0.411	--	1
Anthracene	0.720		mg/kg	0.411	--	1
Fluoranthene	3.67		mg/kg	0.411	--	1
Pyrene	2.97		mg/kg	0.411	--	1
Benzo(a)anthracene	1.68		mg/kg	0.411	--	1
Chrysene	1.80		mg/kg	0.411	--	1
Benzo(b)fluoranthene	1.40		mg/kg	0.411	--	1
Benzo(k)fluoranthene	1.40		mg/kg	0.411	--	1
Benzo(a)pyrene	1.47		mg/kg	0.411	--	1
Indeno(1,2,3-cd)Pyrene	1.06		mg/kg	0.411	--	1
Dibenzo(a,h)anthracene	ND		mg/kg	0.411	--	1
Benzo(ghi)perylene	0.901		mg/kg	0.411	--	1

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-143
Client ID: SB-1 (5-7)-2
Sample Location: LAWRENCE, MA
Date Collected: 09/05/19 13:48
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	40		40-140
o-Terphenyl	57		40-140
2-Fluorobiphenyl	76		40-140
2-Bromonaphthalene	76		40-140

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID:	L1940717-15	Date Collected:	09/04/19 09:10
Client ID:	SB-4 (5-7)-2	Date Received:	09/06/19
Sample Location:	LAWRENCE, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/11/19 00:54
Analytical Date:	09/14/19 05:46	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/11/19
Percent Solids:	75%		

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
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	8.54	--	1
C19-C36 Aliphatics	18.1		mg/kg	8.54	--	1
C11-C22 Aromatics	21.9		mg/kg	8.54	--	1
C11-C22 Aromatics, Adjusted	21.9		mg/kg	8.54	--	1
Naphthalene	ND		mg/kg	0.427	--	1
2-Methylnaphthalene	ND		mg/kg	0.427	--	1
Acenaphthylene	ND		mg/kg	0.427	--	1
Acenaphthene	ND		mg/kg	0.427	--	1
Fluorene	ND		mg/kg	0.427	--	1
Phenanthrene	ND		mg/kg	0.427	--	1
Anthracene	ND		mg/kg	0.427	--	1
Fluoranthene	ND		mg/kg	0.427	--	1
Pyrene	ND		mg/kg	0.427	--	1
Benzo(a)anthracene	ND		mg/kg	0.427	--	1
Chrysene	ND		mg/kg	0.427	--	1
Benzo(b)fluoranthene	ND		mg/kg	0.427	--	1
Benzo(k)fluoranthene	ND		mg/kg	0.427	--	1
Benzo(a)pyrene	ND		mg/kg	0.427	--	1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.427	--	1
Dibenzo(a,h)anthracene	ND		mg/kg	0.427	--	1
Benzo(ghi)perylene	ND		mg/kg	0.427	--	1

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-15
Client ID: SB-4 (5-7)-2
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 09:10
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	65		40-140
o-Terphenyl	61		40-140
2-Fluorobiphenyl	75		40-140
2-Bromonaphthalene	74		40-140

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID:	L1940717-17	Date Collected:	09/04/19 09:25
Client ID:	SB-3 (1-2)	Date Received:	09/06/19
Sample Location:	LAWRENCE, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/11/19 00:54
Analytical Date:	09/14/19 11:29	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/11/19
Percent Solids:	94%		

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
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	13.8	--	2
C19-C36 Aliphatics	90.0		mg/kg	13.8	--	2
C11-C22 Aromatics	149		mg/kg	13.8	--	2
C11-C22 Aromatics, Adjusted	130		mg/kg	13.8	--	2
Naphthalene	ND		mg/kg	0.689	--	2
2-Methylnaphthalene	ND		mg/kg	0.689	--	2
Acenaphthylene	ND		mg/kg	0.689	--	2
Acenaphthene	ND		mg/kg	0.689	--	2
Fluorene	ND		mg/kg	0.689	--	2
Phenanthrene	1.97		mg/kg	0.689	--	2
Anthracene	ND		mg/kg	0.689	--	2
Fluoranthene	3.15		mg/kg	0.689	--	2
Pyrene	2.77		mg/kg	0.689	--	2
Benzo(a)anthracene	1.54		mg/kg	0.689	--	2
Chrysene	1.80		mg/kg	0.689	--	2
Benzo(b)fluoranthene	1.54		mg/kg	0.689	--	2
Benzo(k)fluoranthene	1.62		mg/kg	0.689	--	2
Benzo(a)pyrene	1.65		mg/kg	0.689	--	2
Indeno(1,2,3-cd)Pyrene	1.17		mg/kg	0.689	--	2
Dibenzo(a,h)anthracene	ND		mg/kg	0.689	--	2
Benzo(ghi)perylene	1.01		mg/kg	0.689	--	2

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-17
Client ID: SB-3 (1-2)
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 09:25
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	56		40-140
o-Terphenyl	66		40-140
2-Fluorobiphenyl	75		40-140
2-Bromonaphthalene	74		40-140

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID:	L1940717-18	Date Collected:	09/04/19 09:30
Client ID:	SB-3 (2-3)	Date Received:	09/06/19
Sample Location:	LAWRENCE, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/11/19 00:54
Analytical Date:	09/14/19 08:18	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/11/19
Percent Solids:	95%		

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
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	14.0	--	2
C19-C36 Aliphatics	50.9		mg/kg	14.0	--	2
C11-C22 Aromatics	195		mg/kg	14.0	--	2
C11-C22 Aromatics, Adjusted	137		mg/kg	14.0	--	2
Naphthalene	ND		mg/kg	0.699	--	2
2-Methylnaphthalene	ND		mg/kg	0.699	--	2
Acenaphthylene	ND		mg/kg	0.699	--	2
Acenaphthene	0.973		mg/kg	0.699	--	2
Fluorene	0.752		mg/kg	0.699	--	2
Phenanthrene	7.18		mg/kg	0.699	--	2
Anthracene	1.77		mg/kg	0.699	--	2
Fluoranthene	10.3		mg/kg	0.699	--	2
Pyrene	8.53		mg/kg	0.699	--	2
Benzo(a)anthracene	4.62		mg/kg	0.699	--	2
Chrysene	4.72		mg/kg	0.699	--	2
Benzo(b)fluoranthene	4.07		mg/kg	0.699	--	2
Benzo(k)fluoranthene	3.89		mg/kg	0.699	--	2
Benzo(a)pyrene	4.45		mg/kg	0.699	--	2
Indeno(1,2,3-cd)Pyrene	3.14		mg/kg	0.699	--	2
Dibenzo(a,h)anthracene	0.818		mg/kg	0.699	--	2
Benzo(ghi)perylene	2.82		mg/kg	0.699	--	2

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-18
Client ID: SB-3 (2-3)
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 09:30
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	62		40-140
o-Terphenyl	65		40-140
2-Fluorobiphenyl	71		40-140
2-Bromonaphthalene	71		40-140

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID:	L1940717-21	Date Collected:	09/04/19 09:40
Client ID:	SB-3 (5-7)-2	Date Received:	09/06/19
Sample Location:	LAWRENCE, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/11/19 00:54
Analytical Date:	09/14/19 10:12	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/11/19
Percent Solids:	83%		

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
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	15.8	--	2
C19-C36 Aliphatics	215		mg/kg	15.8	--	2
C11-C22 Aromatics	164		mg/kg	15.8	--	2
C11-C22 Aromatics, Adjusted	147		mg/kg	15.8	--	2
Naphthalene	ND		mg/kg	0.788	--	2
2-Methylnaphthalene	ND		mg/kg	0.788	--	2
Acenaphthylene	ND		mg/kg	0.788	--	2
Acenaphthene	ND		mg/kg	0.788	--	2
Fluorene	ND		mg/kg	0.788	--	2
Phenanthrene	2.01		mg/kg	0.788	--	2
Anthracene	ND		mg/kg	0.788	--	2
Fluoranthene	2.78		mg/kg	0.788	--	2
Pyrene	2.46		mg/kg	0.788	--	2
Benzo(a)anthracene	1.33		mg/kg	0.788	--	2
Chrysene	1.55		mg/kg	0.788	--	2
Benzo(b)fluoranthene	1.30		mg/kg	0.788	--	2
Benzo(k)fluoranthene	1.44		mg/kg	0.788	--	2
Benzo(a)pyrene	1.39		mg/kg	0.788	--	2
Indeno(1,2,3-cd)Pyrene	1.05		mg/kg	0.788	--	2
Dibenzo(a,h)anthracene	ND		mg/kg	0.788	--	2
Benzo(ghi)perylene	0.935		mg/kg	0.788	--	2

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-21
Client ID: SB-3 (5-7)-2
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 09:40
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	62		40-140
o-Terphenyl	61		40-140
2-Fluorobiphenyl	69		40-140
2-Bromonaphthalene	68		40-140

Project Name: TOMBARELLO SITE
Lab Number: L1940717
Project Number: 17001426
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID:	L1940717-23	Date Collected:	09/04/19 10:05
Client ID:	SB-2 (1-2)	Date Received:	09/06/19
Sample Location:	LAWRENCE, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/11/19 00:54
Analytical Date:	09/14/19 13:25	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/11/19
Percent Solids:	90%		

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
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	14.6	--	2
C19-C36 Aliphatics	418		mg/kg	14.6	--	2
C11-C22 Aromatics	305		mg/kg	14.6	--	2
C11-C22 Aromatics, Adjusted	265		mg/kg	14.6	--	2
Naphthalene	ND		mg/kg	0.728	--	2
2-Methylnaphthalene	ND		mg/kg	0.728	--	2
Acenaphthylene	ND		mg/kg	0.728	--	2
Acenaphthene	ND		mg/kg	0.728	--	2
Fluorene	ND		mg/kg	0.728	--	2
Phenanthrene	5.13		mg/kg	0.728	--	2
Anthracene	1.24		mg/kg	0.728	--	2
Fluoranthene	7.38		mg/kg	0.728	--	2
Pyrene	6.52		mg/kg	0.728	--	2
Benzo(a)anthracene	3.49		mg/kg	0.728	--	2
Chrysene	3.46		mg/kg	0.728	--	2
Benzo(b)fluoranthene	2.96		mg/kg	0.728	--	2
Benzo(k)fluoranthene	2.89		mg/kg	0.728	--	2
Benzo(a)pyrene	3.21		mg/kg	0.728	--	2
Indeno(1,2,3-cd)Pyrene	2.11		mg/kg	0.728	--	2
Dibenzo(a,h)anthracene	ND		mg/kg	0.728	--	2
Benzo(ghi)perylene	1.83		mg/kg	0.728	--	2

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-23
Client ID: SB-2 (1-2)
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 10:05
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	57		40-140
o-Terphenyl	62		40-140
2-Fluorobiphenyl	69		40-140
2-Bromonaphthalene	67		40-140

Project Name: TOMBARELLO SITE
Lab Number: L1940717
Project Number: 17001426
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID:	L1940717-24	Date Collected:	09/04/19 10:07
Client ID:	SB-2 (2-3)	Date Received:	09/06/19
Sample Location:	LAWRENCE, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/11/19 00:54
Analytical Date:	09/14/19 04:30	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/11/19
Percent Solids:	89%		

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
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	7.07	--	1
C19-C36 Aliphatics	17.0		mg/kg	7.07	--	1
C11-C22 Aromatics	162		mg/kg	7.07	--	1
C11-C22 Aromatics, Adjusted	102		mg/kg	7.07	--	1
Naphthalene	ND		mg/kg	0.353	--	1
2-Methylnaphthalene	ND		mg/kg	0.353	--	1
Acenaphthylene	ND		mg/kg	0.353	--	1
Acenaphthene	0.930		mg/kg	0.353	--	1
Fluorene	0.689		mg/kg	0.353	--	1
Phenanthrene	7.08		mg/kg	0.353	--	1
Anthracene	1.44		mg/kg	0.353	--	1
Fluoranthene	10.3		mg/kg	0.353	--	1
Pyrene	8.71		mg/kg	0.353	--	1
Benzo(a)anthracene	5.54		mg/kg	0.353	--	1
Chrysene	5.61		mg/kg	0.353	--	1
Benzo(b)fluoranthene	4.36		mg/kg	0.353	--	1
Benzo(k)fluoranthene	4.34		mg/kg	0.353	--	1
Benzo(a)pyrene	4.63		mg/kg	0.353	--	1
Indeno(1,2,3-cd)Pyrene	2.77		mg/kg	0.353	--	1
Dibenzo(a,h)anthracene	0.775		mg/kg	0.353	--	1
Benzo(ghi)perylene	2.30		mg/kg	0.353	--	1

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-24
Client ID: SB-2 (2-3)
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 10:07
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	49		40-140
o-Terphenyl	46		40-140
2-Fluorobiphenyl	66		40-140
2-Bromonaphthalene	66		40-140

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID:	L1940717-27	D	Date Collected:	09/04/19 10:20
Client ID:	SB-2 (5-7)-2		Date Received:	09/06/19
Sample Location:	LAWRENCE, MA		Field Prep:	Not Specified
Sample Depth:				
Matrix:	Soil		Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1		Extraction Date:	09/11/19 00:54
Analytical Date:	09/17/19 03:19		Cleanup Method1:	EPH-04-1
Analyst:	MEO		Cleanup Date1:	09/11/19
Percent Solids:	81%			

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
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	319	--	40
C19-C36 Aliphatics	56800		mg/kg	319	--	40
C11-C22 Aromatics	1200		mg/kg	319	--	40
C11-C22 Aromatics, Adjusted	1120		mg/kg	319	--	40
Naphthalene	ND		mg/kg	15.9	--	40
2-Methylnaphthalene	ND		mg/kg	15.9	--	40
Acenaphthylene	ND		mg/kg	15.9	--	40
Acenaphthene	ND		mg/kg	15.9	--	40
Fluorene	ND		mg/kg	15.9	--	40
Phenanthrene	24.0		mg/kg	15.9	--	40
Anthracene	ND		mg/kg	15.9	--	40
Fluoranthene	25.2		mg/kg	15.9	--	40
Pyrene	22.3		mg/kg	15.9	--	40
Benzo(a)anthracene	ND		mg/kg	15.9	--	40
Chrysene	ND		mg/kg	15.9	--	40
Benzo(b)fluoranthene	ND		mg/kg	15.9	--	40
Benzo(k)fluoranthene	ND		mg/kg	15.9	--	40
Benzo(a)pyrene	ND		mg/kg	15.9	--	40
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	15.9	--	40
Dibenzo(a,h)anthracene	ND		mg/kg	15.9	--	40
Benzo(ghi)perylene	ND		mg/kg	15.9	--	40

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID:	L1940717-27	D	Date Collected:	09/04/19 10:20
Client ID:	SB-2 (5-7)-2		Date Received:	09/06/19
Sample Location:	LAWRENCE, MA		Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	**0**	Q	40-140
o-Terphenyl	**0**	Q	40-140
2-Fluorobiphenyl	86		40-140
2-Bromonaphthalene	85		40-140

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID:	L1940717-44	D	Date Collected:	09/04/19 12:16
Client ID:	D-07 (1-3)		Date Received:	09/06/19
Sample Location:	LAWRENCE, MA		Field Prep:	Not Specified
Sample Depth:				
Matrix:	Soil		Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1		Extraction Date:	09/11/19 00:54
Analytical Date:	09/17/19 03:51		Cleanup Method1:	EPH-04-1
Analyst:	MEO		Cleanup Date1:	09/11/19
Percent Solids:	91%			

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
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	141	--	20
C19-C36 Aliphatics	240		mg/kg	141	--	20
C11-C22 Aromatics	2140		mg/kg	141	--	20
C11-C22 Aromatics, Adjusted	1330		mg/kg	141	--	20
Naphthalene	ND		mg/kg	7.07	--	20
2-Methylnaphthalene	ND		mg/kg	7.07	--	20
Acenaphthylene	ND		mg/kg	7.07	--	20
Acenaphthene	10.2		mg/kg	7.07	--	20
Fluorene	12.2		mg/kg	7.07	--	20
Phenanthrene	110		mg/kg	7.07	--	20
Anthracene	29.5		mg/kg	7.07	--	20
Fluoranthene	130		mg/kg	7.07	--	20
Pyrene	107		mg/kg	7.07	--	20
Benzo(a)anthracene	64.9		mg/kg	7.07	--	20
Chrysene	71.8		mg/kg	7.07	--	20
Benzo(b)fluoranthene	58.0		mg/kg	7.07	--	20
Benzo(k)fluoranthene	48.8		mg/kg	7.07	--	20
Benzo(a)pyrene	64.4		mg/kg	7.07	--	20
Indeno(1,2,3-cd)Pyrene	49.3		mg/kg	7.07	--	20
Dibenzo(a,h)anthracene	12.9		mg/kg	7.07	--	20
Benzo(ghi)perylene	44.4		mg/kg	7.07	--	20

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-44 D
Client ID: D-07 (1-3)
Sample Location: LAWRENCE, MA

Date Collected: 09/04/19 12:16
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	**0**	Q	40-140
o-Terphenyl	**0**	Q	40-140
2-Fluorobiphenyl	86		40-140
2-Bromonaphthalene	86		40-140

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID:	L1940717-45	Date Collected:	09/04/19 12:30
Client ID:	D-07 (7-9)	Date Received:	09/06/19
Sample Location:	LAWRENCE, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/12/19 22:36
Analytical Date:	09/14/19 18:13	Cleanup Method1:	EPH-04-1
Analyst:	SR	Cleanup Date1:	09/13/19
Percent Solids:	78%		

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
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	8.58	--	1
C19-C36 Aliphatics	18.5		mg/kg	8.58	--	1
C11-C22 Aromatics	73.4		mg/kg	8.58	--	1
C11-C22 Aromatics, Adjusted	51.7		mg/kg	8.58	--	1
Naphthalene	ND		mg/kg	0.429	--	1
2-Methylnaphthalene	ND		mg/kg	0.429	--	1
Acenaphthylene	ND		mg/kg	0.429	--	1
Acenaphthene	1.66		mg/kg	0.429	--	1
Fluorene	ND		mg/kg	0.429	--	1
Phenanthrene	2.46		mg/kg	0.429	--	1
Anthracene	0.843		mg/kg	0.429	--	1
Fluoranthene	3.73		mg/kg	0.429	--	1
Pyrene	3.03		mg/kg	0.429	--	1
Benzo(a)anthracene	1.60		mg/kg	0.429	--	1
Chrysene	1.87		mg/kg	0.429	--	1
Benzo(b)fluoranthene	1.34		mg/kg	0.429	--	1
Benzo(k)fluoranthene	1.40		mg/kg	0.429	--	1
Benzo(a)pyrene	1.60		mg/kg	0.429	--	1
Indeno(1,2,3-cd)Pyrene	1.10		mg/kg	0.429	--	1
Dibenzo(a,h)anthracene	ND		mg/kg	0.429	--	1
Benzo(ghi)perylene	1.04		mg/kg	0.429	--	1

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-45
Client ID: D-07 (7-9)
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 12:30
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	58		40-140
o-Terphenyl	76		40-140
2-Fluorobiphenyl	80		40-140
2-Bromonaphthalene	81		40-140

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID:	L1940717-50	D	Date Collected:	09/04/19 00:00
Client ID:	SB-DUP-5		Date Received:	09/06/19
Sample Location:	LAWRENCE, MA		Field Prep:	Not Specified
Sample Depth:				
Matrix:	Soil		Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1		Extraction Date:	09/12/19 22:36
Analytical Date:	09/17/19 01:10		Cleanup Method1:	EPH-04-1
Analyst:	MEO		Cleanup Date1:	09/13/19
Percent Solids:	91%			

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
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	43.6	--	6
C19-C36 Aliphatics	223		mg/kg	43.6	--	6
C11-C22 Aromatics	1160		mg/kg	43.6	--	6
C11-C22 Aromatics, Adjusted	713		mg/kg	43.6	--	6
Naphthalene	2.63		mg/kg	2.18	--	6
2-Methylnaphthalene	ND		mg/kg	2.18	--	6
Acenaphthylene	ND		mg/kg	2.18	--	6
Acenaphthene	5.69		mg/kg	2.18	--	6
Fluorene	6.74		mg/kg	2.18	--	6
Phenanthrene	61.8		mg/kg	2.18	--	6
Anthracene	15.7		mg/kg	2.18	--	6
Fluoranthene	79.0		mg/kg	2.18	--	6
Pyrene	66.4		mg/kg	2.18	--	6
Benzo(a)anthracene	37.2		mg/kg	2.18	--	6
Chrysene	38.3		mg/kg	2.18	--	6
Benzo(b)fluoranthene	30.8		mg/kg	2.18	--	6
Benzo(k)fluoranthene	27.4		mg/kg	2.18	--	6
Benzo(a)pyrene	31.6		mg/kg	2.18	--	6
Indeno(1,2,3-cd)Pyrene	21.3		mg/kg	2.18	--	6
Dibenzo(a,h)anthracene	6.06		mg/kg	2.18	--	6
Benzo(ghi)perylene	17.6		mg/kg	2.18	--	6

Project Name: TOMBARELLO SITE
Lab Number: L1940717
Project Number: 17001426
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-50 D
Client ID: SB-DUP-5
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 00:00
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	74		40-140
o-Terphenyl	**250**	Q	40-140
2-Fluorobiphenyl	81		40-140
2-Bromonaphthalene	81		40-140

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID:	L1940717-55	D	Date Collected:	09/04/19 13:24
Client ID:	E-06 (1-3)		Date Received:	09/06/19
Sample Location:	LAWRENCE, MA		Field Prep:	Not Specified
Sample Depth:				
Matrix:	Soil		Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1		Extraction Date:	09/12/19 22:36
Analytical Date:	09/17/19 01:42		Cleanup Method1:	EPH-04-1
Analyst:	MEO		Cleanup Date1:	09/13/19
Percent Solids:	94%			

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
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	35.0	--	5
C19-C36 Aliphatics	236		mg/kg	35.0	--	5
C11-C22 Aromatics	385		mg/kg	35.0	--	5
C11-C22 Aromatics, Adjusted	273		mg/kg	35.0	--	5
Naphthalene	ND		mg/kg	1.75	--	5
2-Methylnaphthalene	ND		mg/kg	1.75	--	5
Acenaphthylene	ND		mg/kg	1.75	--	5
Acenaphthene	ND		mg/kg	1.75	--	5
Fluorene	ND		mg/kg	1.75	--	5
Phenanthrene	12.0		mg/kg	1.75	--	5
Anthracene	3.43		mg/kg	1.75	--	5
Fluoranthene	19.5		mg/kg	1.75	--	5
Pyrene	17.1		mg/kg	1.75	--	5
Benzo(a)anthracene	9.22		mg/kg	1.75	--	5
Chrysene	10.4		mg/kg	1.75	--	5
Benzo(b)fluoranthene	8.87		mg/kg	1.75	--	5
Benzo(k)fluoranthene	7.56		mg/kg	1.75	--	5
Benzo(a)pyrene	9.54		mg/kg	1.75	--	5
Indeno(1,2,3-cd)Pyrene	7.12		mg/kg	1.75	--	5
Dibenzo(a,h)anthracene	1.88		mg/kg	1.75	--	5
Benzo(ghi)perylene	5.94		mg/kg	1.75	--	5

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-55 D
Client ID: E-06 (1-3)
Sample Location: LAWRENCE, MA

Date Collected: 09/04/19 13:24
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	47		40-140
o-Terphenyl	111		40-140
2-Fluorobiphenyl	79		40-140
2-Bromonaphthalene	80		40-140

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID:	L1940717-56	D	Date Collected:	09/04/19 13:35
Client ID:	E-06 (5-7)-2		Date Received:	09/06/19
Sample Location:	LAWRENCE, MA		Field Prep:	Not Specified
Sample Depth:				
Matrix:	Soil		Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1		Extraction Date:	09/12/19 22:36
Analytical Date:	09/17/19 02:14		Cleanup Method1:	EPH-04-1
Analyst:	MEO		Cleanup Date1:	09/13/19
Percent Solids:	79%			

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
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	161	--	20
C19-C36 Aliphatics	303		mg/kg	161	--	20
C11-C22 Aromatics	1500		mg/kg	161	--	20
C11-C22 Aromatics, Adjusted	853		mg/kg	161	--	20
Naphthalene	11.9		mg/kg	8.06	--	20
2-Methylnaphthalene	ND		mg/kg	8.06	--	20
Acenaphthylene	ND		mg/kg	8.06	--	20
Acenaphthene	13.7		mg/kg	8.06	--	20
Fluorene	24.1		mg/kg	8.06	--	20
Phenanthrene	145		mg/kg	8.06	--	20
Anthracene	40.6		mg/kg	8.06	--	20
Fluoranthene	125		mg/kg	8.06	--	20
Pyrene	94.0		mg/kg	8.06	--	20
Benzo(a)anthracene	46.4		mg/kg	8.06	--	20
Chrysene	42.9		mg/kg	8.06	--	20
Benzo(b)fluoranthene	25.0		mg/kg	8.06	--	20
Benzo(k)fluoranthene	28.2		mg/kg	8.06	--	20
Benzo(a)pyrene	28.4		mg/kg	8.06	--	20
Indeno(1,2,3-cd)Pyrene	13.8		mg/kg	8.06	--	20
Dibenzo(a,h)anthracene	ND		mg/kg	8.06	--	20
Benzo(ghi)perylene	10.2		mg/kg	8.06	--	20

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-56 D
Client ID: E-06 (5-7)-2
Sample Location: LAWRENCE, MA

Date Collected: 09/04/19 13:35
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	**0**	Q	40-140
o-Terphenyl	**0**	Q	40-140
2-Fluorobiphenyl	73		40-140
2-Bromonaphthalene	74		40-140

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 09/14/19 02:37
Analyst: MEO

Extraction Method: EPA 3546
Extraction Date: 09/11/19 00:54
Cleanup Method: EPH-04-1
Cleanup Date: 09/11/19

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 11-12,15,17-18,21,23-24,27,44,101,105,113,115,138-140 Batch: WG1282535-1					
C9-C18 Aliphatics	ND		mg/kg	6.50	--
C19-C36 Aliphatics	ND		mg/kg	6.50	--
C11-C22 Aromatics	ND		mg/kg	6.50	--
C11-C22 Aromatics, Adjusted	ND		mg/kg	6.50	--
Naphthalene	ND		mg/kg	0.325	--
2-Methylnaphthalene	ND		mg/kg	0.325	--
Acenaphthylene	ND		mg/kg	0.325	--
Acenaphthene	ND		mg/kg	0.325	--
Fluorene	ND		mg/kg	0.325	--
Phenanthrene	ND		mg/kg	0.325	--
Anthracene	ND		mg/kg	0.325	--
Fluoranthene	ND		mg/kg	0.325	--
Pyrene	ND		mg/kg	0.325	--
Benzo(a)anthracene	ND		mg/kg	0.325	--
Chrysene	ND		mg/kg	0.325	--
Benzo(b)fluoranthene	ND		mg/kg	0.325	--
Benzo(k)fluoranthene	ND		mg/kg	0.325	--
Benzo(a)pyrene	ND		mg/kg	0.325	--
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.325	--
Dibenzo(a,h)anthracene	ND		mg/kg	0.325	--
Benzo(ghi)perylene	ND		mg/kg	0.325	--

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 09/14/19 02:37
Analyst: MEO

Extraction Method: EPA 3546
Extraction Date: 09/11/19 00:54
Cleanup Method: EPH-04-1
Cleanup Date: 09/11/19

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 11-12,15,17-18,21,23-24,27,44,101,105,113,115,138-140 Batch: WG1282535-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	69		40-140
o-Terphenyl	64		40-140
2-Fluorobiphenyl	75		40-140
2-Bromonaphthalene	74		40-140

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 09/14/19 13:22
Analyst: SR

Extraction Method: EPA 3546
Extraction Date: 09/12/19 22:36
Cleanup Method: EPH-04-1
Cleanup Date: 09/13/19

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 45,50,55-56,143 Batch: WG1283558-1					
C9-C18 Aliphatics	ND		mg/kg	6.43	--
C19-C36 Aliphatics	ND		mg/kg	6.43	--
C11-C22 Aromatics	ND		mg/kg	6.43	--
C11-C22 Aromatics, Adjusted	ND		mg/kg	6.43	--
Naphthalene	ND		mg/kg	0.322	--
2-Methylnaphthalene	ND		mg/kg	0.322	--
Acenaphthylene	ND		mg/kg	0.322	--
Acenaphthene	ND		mg/kg	0.322	--
Fluorene	ND		mg/kg	0.322	--
Phenanthrene	ND		mg/kg	0.322	--
Anthracene	ND		mg/kg	0.322	--
Fluoranthene	ND		mg/kg	0.322	--
Pyrene	ND		mg/kg	0.322	--
Benzo(a)anthracene	ND		mg/kg	0.322	--
Chrysene	ND		mg/kg	0.322	--
Benzo(b)fluoranthene	ND		mg/kg	0.322	--
Benzo(k)fluoranthene	ND		mg/kg	0.322	--
Benzo(a)pyrene	ND		mg/kg	0.322	--
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.322	--
Dibenzo(a,h)anthracene	ND		mg/kg	0.322	--
Benzo(ghi)perylene	ND		mg/kg	0.322	--

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 09/14/19 13:22
Analyst: SR

Extraction Method: EPA 3546
Extraction Date: 09/12/19 22:36
Cleanup Method: EPH-04-1
Cleanup Date: 09/13/19

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 45,50,55-56,143 Batch: WG1283558-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	63		40-140
o-Terphenyl	79		40-140
2-Fluorobiphenyl	83		40-140
2-Bromonaphthalene	83		40-140

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 11-12,15,17-18,21,23-24,27,44,101,105,113,115,138-140 Batch: WG1282535-2 WG1282535-3								
C9-C18 Aliphatics	56		68		40-140	19		25
C19-C36 Aliphatics	64		79		40-140	21		25
C11-C22 Aromatics	54		58		40-140	7		25
Naphthalene	45		48		40-140	6		25
2-Methylnaphthalene	44		47		40-140	7		25
Acenaphthylene	47		51		40-140	8		25
Acenaphthene	51		56		40-140	9		25
Fluorene	49		55		40-140	12		25
Phenanthrene	54		60		40-140	11		25
Anthracene	54		59		40-140	9		25
Fluoranthene	54		58		40-140	7		25
Pyrene	56		60		40-140	7		25
Benzo(a)anthracene	54		58		40-140	7		25
Chrysene	55		58		40-140	5		25
Benzo(b)fluoranthene	53		57		40-140	7		25
Benzo(k)fluoranthene	53		56		40-140	6		25
Benzo(a)pyrene	52		55		40-140	6		25
Indeno(1,2,3-cd)Pyrene	50		52		40-140	4		25
Dibenzo(a,h)anthracene	51		52		40-140	2		25
Benzo(ghi)perylene	47		48		40-140	2		25
Nonane (C9)	44		54		30-140	20		25
Decane (C10)	49		59		40-140	19		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 11-12,15,17-18,21,23-24,27,44,101,105,113,115,138-140 Batch: WG1282535-2 WG1282535-3								
Dodecane (C12)	50		60		40-140	18		25
Tetradecane (C14)	50		62		40-140	21		25
Hexadecane (C16)	53		68		40-140	25		25
Octadecane (C18)	57		71		40-140	22		25
Nonadecane (C19)	57		71		40-140	22		25
Eicosane (C20)	59		72		40-140	20		25
Docosane (C22)	60		73		40-140	20		25
Tetracosane (C24)	61		74		40-140	19		25
Hexacosane (C26)	62		77		40-140	22		25
Octacosane (C28)	64		78		40-140	20		25
Triacontane (C30)	65		80		40-140	21		25
Hexatriacontane (C36)	66		79		40-140	18		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	57		68		40-140
o-Terphenyl	52		57		40-140
2-Fluorobiphenyl	73		66		40-140
2-Bromonaphthalene	72		66		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 45,50,55-56,143 Batch: WG1283558-2 WG1283558-3								
C9-C18 Aliphatics	57		75		40-140	**27**	Q	25
C19-C36 Aliphatics	70		79		40-140	12		25
C11-C22 Aromatics	77		91		40-140	17		25
Naphthalene	54		72		40-140	**29**	Q	25
2-Methylnaphthalene	55		73		40-140	**28**	Q	25
Acenaphthylene	62		81		40-140	**27**	Q	25
Acenaphthene	63		83		40-140	**27**	Q	25
Fluorene	69		86		40-140	22		25
Phenanthrene	76		89		40-140	16		25
Anthracene	79		92		40-140	15		25
Fluoranthene	80		92		40-140	14		25
Pyrene	82		94		40-140	14		25
Benzo(a)anthracene	81		92		40-140	13		25
Chrysene	83		91		40-140	9		25
Benzo(b)fluoranthene	82		94		40-140	14		25
Benzo(k)fluoranthene	82		91		40-140	10		25
Benzo(a)pyrene	80		90		40-140	12		25
Indeno(1,2,3-cd)Pyrene	80		92		40-140	14		25
Dibenzo(a,h)anthracene	83		91		40-140	9		25
Benzo(ghi)perylene	76		85		40-140	11		25
Nonane (C9)	45		63		30-140	**33**	Q	25
Decane (C10)	50		68		40-140	**31**	Q	25
Dodecane (C12)	49		67		40-140	**31**	Q	25

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 45,50,55-56,143 Batch: WG1283558-2 WG1283558-3								
Tetradecane (C14)	51		69		40-140	**30**	Q	25
Hexadecane (C16)	58		73		40-140	23		25
Octadecane (C18)	66		77		40-140	15		25
Nonadecane (C19)	65		75		40-140	14		25
Eicosane (C20)	67		77		40-140	14		25
Docosane (C22)	68		78		40-140	14		25
Tetracosane (C24)	67		77		40-140	14		25
Hexacosane (C26)	68		77		40-140	12		25
Octacosane (C28)	68		77		40-140	12		25
Triacontane (C30)	69		77		40-140	11		25
Hexatriacontane (C36)	72		81		40-140	12		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	59		67		40-140
o-Terphenyl	72		83		40-140
2-Fluorobiphenyl	74		81		40-140
2-Bromonaphthalene	74		82		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

PCBS

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-01
Client ID: AS-5
Sample Location: LAWRENCE, MA

Date Collected: 09/03/19 11:05
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Solid
Analytical Method: 97,8082A
Analytical Date: 09/16/19 15:20
Analyst: AWS
Percent Solids: 100%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 10:25
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/09/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	54.8	--	1	A
Aroclor 1221	ND		ug/kg	54.8	--	1	A
Aroclor 1232	ND		ug/kg	54.8	--	1	A
Aroclor 1242	ND		ug/kg	54.8	--	1	A
Aroclor 1248	ND		ug/kg	36.6	--	1	A
Aroclor 1254	ND		ug/kg	54.8	--	1	A
Aroclor 1260	38.4		ug/kg	36.6	--	1	B
Aroclor 1262	ND		ug/kg	18.3	--	1	A
Aroclor 1268	ND		ug/kg	18.3	--	1	A
PCBs, Total	38.4		ug/kg	18.3	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	74		30-150	B
Decachlorobiphenyl	60		30-150	B
2,4,5,6-Tetrachloro-m-xylene	73		30-150	A
Decachlorobiphenyl	54		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-02 D
Client ID: AS-6
Sample Location: LAWRENCE, MA

Date Collected: 09/03/19 11:15
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Solid
Analytical Method: 97,8082A
Analytical Date: 09/14/19 00:29
Analyst: AWS
Percent Solids: 100%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 10:25
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/09/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	590	--	10	A
Aroclor 1221	ND		ug/kg	590	--	10	A
Aroclor 1232	ND		ug/kg	590	--	10	A
Aroclor 1242	ND		ug/kg	590	--	10	A
Aroclor 1248	ND		ug/kg	394	--	10	A
Aroclor 1254	ND		ug/kg	590	--	10	A
Aroclor 1260	7100		ug/kg	394	--	10	B
Aroclor 1262	ND		ug/kg	197	--	10	A
Aroclor 1268	ND		ug/kg	197	--	10	A
PCBs, Total	7100		ug/kg	197	--	10	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150	B
Decachlorobiphenyl	**0**	Q	30-150	B
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150	A
Decachlorobiphenyl	**0**	Q	30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-03
Client ID: AS-7
Sample Location: LAWRENCE, MA

Date Collected: 09/03/19 11:20
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Solid
Analytical Method: 97,8082A
Analytical Date: 09/16/19 15:32
Analyst: AWS
Percent Solids: 99%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 10:25
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/09/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	54.7	--	1	A
Aroclor 1221	ND		ug/kg	54.7	--	1	A
Aroclor 1232	ND		ug/kg	54.7	--	1	A
Aroclor 1242	ND		ug/kg	54.7	--	1	A
Aroclor 1248	ND		ug/kg	36.5	--	1	B
Aroclor 1254	ND		ug/kg	54.7	--	1	A
Aroclor 1260	ND		ug/kg	36.5	--	1	B
Aroclor 1262	ND		ug/kg	18.2	--	1	A
Aroclor 1268	ND		ug/kg	18.2	--	1	A
PCBs, Total	ND		ug/kg	18.2	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	78		30-150	B
Decachlorobiphenyl	60		30-150	B
2,4,5,6-Tetrachloro-m-xylene	83		30-150	A
Decachlorobiphenyl	59		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-04
Client ID: AS-8
Sample Location: LAWRENCE, MA

Date Collected: 09/03/19 11:25
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Solid
Analytical Method: 97,8082A
Analytical Date: 09/16/19 15:43
Analyst: AWS
Percent Solids: 100%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 10:25
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/09/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	55.6	--	1	A
Aroclor 1221	ND		ug/kg	55.6	--	1	A
Aroclor 1232	ND		ug/kg	55.6	--	1	A
Aroclor 1242	ND		ug/kg	55.6	--	1	A
Aroclor 1248	ND		ug/kg	37.0	--	1	A
Aroclor 1254	ND		ug/kg	55.6	--	1	A
Aroclor 1260	ND		ug/kg	37.0	--	1	B
Aroclor 1262	ND		ug/kg	18.5	--	1	A
Aroclor 1268	ND		ug/kg	18.5	--	1	A
PCBs, Total	ND		ug/kg	18.5	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	73		30-150	B
Decachlorobiphenyl	55		30-150	B
2,4,5,6-Tetrachloro-m-xylene	78		30-150	A
Decachlorobiphenyl	51		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-05
Client ID: AS-1
Sample Location: LAWRENCE, MA

Date Collected: 09/03/19 11:45
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Solid
Analytical Method: 97,8082A
Analytical Date: 09/16/19 15:55
Analyst: AWS
Percent Solids: 99%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 10:25
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/09/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	56.0	--	1	A
Aroclor 1221	ND		ug/kg	56.0	--	1	A
Aroclor 1232	ND		ug/kg	56.0	--	1	A
Aroclor 1242	ND		ug/kg	56.0	--	1	A
Aroclor 1248	ND		ug/kg	37.3	--	1	A
Aroclor 1254	ND		ug/kg	56.0	--	1	A
Aroclor 1260	986		ug/kg	37.3	--	1	B
Aroclor 1262	ND		ug/kg	18.7	--	1	A
Aroclor 1268	ND		ug/kg	18.7	--	1	A
PCBs, Total	986		ug/kg	18.7	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	80		30-150	B
Decachlorobiphenyl	60		30-150	B
2,4,5,6-Tetrachloro-m-xylene	85		30-150	A
Decachlorobiphenyl	60		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-06
Client ID: AS-2
Sample Location: LAWRENCE, MA

Date Collected: 09/03/19 11:50
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Solid
Analytical Method: 97,8082A
Analytical Date: 09/16/19 16:07
Analyst: AWS
Percent Solids: 100%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 10:25
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/09/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	51.5	--	1	A
Aroclor 1221	ND		ug/kg	51.5	--	1	A
Aroclor 1232	ND		ug/kg	51.5	--	1	A
Aroclor 1242	ND		ug/kg	51.5	--	1	A
Aroclor 1248	ND		ug/kg	34.3	--	1	A
Aroclor 1254	ND		ug/kg	51.5	--	1	A
Aroclor 1260	508		ug/kg	34.3	--	1	B
Aroclor 1262	ND		ug/kg	17.2	--	1	A
Aroclor 1268	ND		ug/kg	17.2	--	1	A
PCBs, Total	508		ug/kg	17.2	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	72		30-150	B
Decachlorobiphenyl	51		30-150	B
2,4,5,6-Tetrachloro-m-xylene	80		30-150	A
Decachlorobiphenyl	48		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-07
Client ID: AS-3
Sample Location: LAWRENCE, MA

Date Collected: 09/03/19 11:55
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Solid
Analytical Method: 97,8082A
Analytical Date: 09/16/19 16:19
Analyst: AWS
Percent Solids: 100%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 10:25
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/09/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	57.2	--	1	A
Aroclor 1221	ND		ug/kg	57.2	--	1	A
Aroclor 1232	ND		ug/kg	57.2	--	1	A
Aroclor 1242	ND		ug/kg	57.2	--	1	A
Aroclor 1248	ND		ug/kg	38.1	--	1	A
Aroclor 1254	ND		ug/kg	57.2	--	1	A
Aroclor 1260	184		ug/kg	38.1	--	1	B
Aroclor 1262	ND		ug/kg	19.0	--	1	A
Aroclor 1268	ND		ug/kg	19.0	--	1	A
PCBs, Total	184		ug/kg	19.0	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	70		30-150	B
Decachlorobiphenyl	47		30-150	B
2,4,5,6-Tetrachloro-m-xylene	70		30-150	A
Decachlorobiphenyl	43		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-08
Client ID: AS-4
Sample Location: LAWRENCE, MA

Date Collected: 09/03/19 12:05
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Solid
Analytical Method: 97,8082A
Analytical Date: 09/16/19 16:31
Analyst: AWS
Percent Solids: 100%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 10:25
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/09/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	51.4	--	1	A
Aroclor 1221	ND		ug/kg	51.4	--	1	A
Aroclor 1232	ND		ug/kg	51.4	--	1	A
Aroclor 1242	ND		ug/kg	51.4	--	1	A
Aroclor 1248	ND		ug/kg	34.3	--	1	A
Aroclor 1254	ND		ug/kg	51.4	--	1	A
Aroclor 1260	354		ug/kg	34.3	--	1	B
Aroclor 1262	ND		ug/kg	17.2	--	1	A
Aroclor 1268	ND		ug/kg	17.2	--	1	A
PCBs, Total	354		ug/kg	17.2	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	79		30-150	B
Decachlorobiphenyl	61		30-150	B
2,4,5,6-Tetrachloro-m-xylene	87		30-150	A
Decachlorobiphenyl	56		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-09
Client ID: AS-DUP-1
Sample Location: LAWRENCE, MA

Date Collected: 09/03/19 00:00
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Solid
Analytical Method: 97,8082A
Analytical Date: 09/12/19 02:38
Analyst: WR
Percent Solids: 100%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 10:25
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/09/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	57.0	--	1	A
Aroclor 1221	ND		ug/kg	57.0	--	1	A
Aroclor 1232	ND		ug/kg	57.0	--	1	A
Aroclor 1242	ND		ug/kg	57.0	--	1	A
Aroclor 1248	ND		ug/kg	38.0	--	1	A
Aroclor 1254	ND		ug/kg	57.0	--	1	A
Aroclor 1260	1610		ug/kg	38.0	--	1	B
Aroclor 1262	ND		ug/kg	19.0	--	1	A
Aroclor 1268	ND		ug/kg	19.0	--	1	A
PCBs, Total	1610		ug/kg	19.0	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	69		30-150	B
Decachlorobiphenyl	101		30-150	B
2,4,5,6-Tetrachloro-m-xylene	63		30-150	A
Decachlorobiphenyl	82		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-10
Client ID: SB-4 (0-0.5)
Sample Location: LAWRENCE, MA

Date Collected: 09/04/19 08:30
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/11/19 05:07
Analyst: KB
Percent Solids: 96%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 11:55
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/09/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	34.1	--	1	A
Aroclor 1221	ND		ug/kg	34.1	--	1	A
Aroclor 1232	ND		ug/kg	34.1	--	1	A
Aroclor 1242	ND		ug/kg	34.1	--	1	A
Aroclor 1248	ND		ug/kg	34.1	--	1	A
Aroclor 1254	ND		ug/kg	34.1	--	1	A
Aroclor 1260	53.3		ug/kg	34.1	--	1	B
Aroclor 1262	ND		ug/kg	34.1	--	1	A
Aroclor 1268	ND		ug/kg	34.1	--	1	A
PCBs, Total	53.3		ug/kg	34.1	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	73		30-150	B
Decachlorobiphenyl	98		30-150	B
2,4,5,6-Tetrachloro-m-xylene	72		30-150	A
Decachlorobiphenyl	85		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-11
Client ID: SB-4 (1-2)
Sample Location: LAWRENCE, MA

Date Collected: 09/04/19 08:50
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/11/19 05:18
Analyst: KB
Percent Solids: 95%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 11:55
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/09/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	33.8	--	1	A
Aroclor 1221	ND		ug/kg	33.8	--	1	A
Aroclor 1232	ND		ug/kg	33.8	--	1	A
Aroclor 1242	ND		ug/kg	33.8	--	1	A
Aroclor 1248	ND		ug/kg	33.8	--	1	A
Aroclor 1254	ND		ug/kg	33.8	--	1	A
Aroclor 1260	ND		ug/kg	33.8	--	1	B
Aroclor 1262	ND		ug/kg	33.8	--	1	A
Aroclor 1268	ND		ug/kg	33.8	--	1	A
PCBs, Total	ND		ug/kg	33.8	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	79		30-150	B
Decachlorobiphenyl	95		30-150	B
2,4,5,6-Tetrachloro-m-xylene	82		30-150	A
Decachlorobiphenyl	87		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-12
Client ID: SB-4 (2-3)
Sample Location: LAWRENCE, MA

Date Collected: 09/04/19 08:40
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/11/19 05:30
Analyst: KB
Percent Solids: 93%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 11:55
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/09/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	34.1	--	1	A
Aroclor 1221	ND		ug/kg	34.1	--	1	A
Aroclor 1232	ND		ug/kg	34.1	--	1	A
Aroclor 1242	ND		ug/kg	34.1	--	1	A
Aroclor 1248	ND		ug/kg	34.1	--	1	A
Aroclor 1254	ND		ug/kg	34.1	--	1	A
Aroclor 1260	ND		ug/kg	34.1	--	1	A
Aroclor 1262	ND		ug/kg	34.1	--	1	A
Aroclor 1268	ND		ug/kg	34.1	--	1	A
PCBs, Total	ND		ug/kg	34.1	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	76		30-150	B
Decachlorobiphenyl	87		30-150	B
2,4,5,6-Tetrachloro-m-xylene	71		30-150	A
Decachlorobiphenyl	77		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-13
Client ID: SB-4 (3-5)
Sample Location: LAWRENCE, MA

Date Collected: 09/04/19 09:05
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/11/19 05:42
Analyst: KB
Percent Solids: 87%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 11:55
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/09/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	37.5	--	1	A
Aroclor 1221	ND		ug/kg	37.5	--	1	A
Aroclor 1232	ND		ug/kg	37.5	--	1	A
Aroclor 1242	ND		ug/kg	37.5	--	1	A
Aroclor 1248	ND		ug/kg	37.5	--	1	A
Aroclor 1254	ND		ug/kg	37.5	--	1	A
Aroclor 1260	ND		ug/kg	37.5	--	1	A
Aroclor 1262	ND		ug/kg	37.5	--	1	A
Aroclor 1268	ND		ug/kg	37.5	--	1	A
PCBs, Total	ND		ug/kg	37.5	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	72		30-150	B
Decachlorobiphenyl	90		30-150	B
2,4,5,6-Tetrachloro-m-xylene	74		30-150	A
Decachlorobiphenyl	78		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-15
Client ID: SB-4 (5-7)-2
Sample Location: LAWRENCE, MA

Date Collected: 09/04/19 09:10
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/12/19 00:58
Analyst: AWS
Percent Solids: 75%

Extraction Method: EPA 3540C
Extraction Date: 09/08/19 17:20
Cleanup Method: EPA 3665A
Cleanup Date: 09/10/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/10/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	104	--	1	A
Aroclor 1221	ND		ug/kg	104	--	1	A
Aroclor 1232	ND		ug/kg	104	--	1	A
Aroclor 1242	ND		ug/kg	104	--	1	A
Aroclor 1248	ND		ug/kg	104	--	1	A
Aroclor 1254	ND		ug/kg	104	--	1	A
Aroclor 1260	ND		ug/kg	104	--	1	A
Aroclor 1262	ND		ug/kg	104	--	1	A
Aroclor 1268	ND		ug/kg	104	--	1	A
PCBs, Total	ND		ug/kg	104	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	60		30-150	B
Decachlorobiphenyl	50		30-150	B
2,4,5,6-Tetrachloro-m-xylene	62		30-150	A
Decachlorobiphenyl	**27**	Q	30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-16 D
Client ID: SB-3 (0-0.5)
Sample Location: LAWRENCE, MA

Date Collected: 09/04/19 09:20
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/15/19 15:13
Analyst: AWS
Percent Solids: 95%

Extraction Method: EPA 3540C
Extraction Date: 09/08/19 17:20
Cleanup Method: EPA 3665A
Cleanup Date: 09/10/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/10/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	170	--	5	A
Aroclor 1221	ND		ug/kg	170	--	5	A
Aroclor 1232	ND		ug/kg	170	--	5	A
Aroclor 1242	ND		ug/kg	170	--	5	A
Aroclor 1248	ND		ug/kg	170	--	5	A
Aroclor 1254	444		ug/kg	170	--	5	A
Aroclor 1260	ND		ug/kg	170	--	5	A
Aroclor 1262	ND		ug/kg	170	--	5	A
Aroclor 1268	ND		ug/kg	170	--	5	A
PCBs, Total	444		ug/kg	170	--	5	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	49		30-150	B
Decachlorobiphenyl	66		30-150	B
2,4,5,6-Tetrachloro-m-xylene	50		30-150	A
Decachlorobiphenyl	55		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-17
Client ID: SB-3 (1-2)
Sample Location: LAWRENCE, MA

Date Collected: 09/04/19 09:25
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/11/19 23:31
Analyst: AWS
Percent Solids: 94%

Extraction Method: EPA 3540C
Extraction Date: 09/08/19 17:20
Cleanup Method: EPA 3665A
Cleanup Date: 09/10/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/10/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	35.0	--	1	A
Aroclor 1221	ND		ug/kg	35.0	--	1	A
Aroclor 1232	ND		ug/kg	35.0	--	1	A
Aroclor 1242	ND		ug/kg	35.0	--	1	A
Aroclor 1248	ND		ug/kg	35.0	--	1	A
Aroclor 1254	72.0		ug/kg	35.0	--	1	B
Aroclor 1260	38.3	IP	ug/kg	35.0	--	1	B
Aroclor 1262	ND		ug/kg	35.0	--	1	A
Aroclor 1268	ND		ug/kg	35.0	--	1	A
PCBs, Total	110		ug/kg	35.0	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	62		30-150	B
Decachlorobiphenyl	62		30-150	B
2,4,5,6-Tetrachloro-m-xylene	66		30-150	A
Decachlorobiphenyl	41		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-18
Client ID: SB-3 (2-3)
Sample Location: LAWRENCE, MA

Date Collected: 09/04/19 09:30
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/11/19 23:44
Analyst: AWS
Percent Solids: 95%

Extraction Method: EPA 3540C
Extraction Date: 09/08/19 17:20
Cleanup Method: EPA 3665A
Cleanup Date: 09/10/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/10/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	34.4	--	1	A
Aroclor 1221	ND		ug/kg	34.4	--	1	A
Aroclor 1232	ND		ug/kg	34.4	--	1	A
Aroclor 1242	ND		ug/kg	34.4	--	1	A
Aroclor 1248	ND		ug/kg	34.4	--	1	A
Aroclor 1254	ND		ug/kg	34.4	--	1	A
Aroclor 1260	ND		ug/kg	34.4	--	1	B
Aroclor 1262	ND		ug/kg	34.4	--	1	A
Aroclor 1268	ND		ug/kg	34.4	--	1	A
PCBs, Total	ND		ug/kg	34.4	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	59		30-150	B
Decachlorobiphenyl	59		30-150	B
2,4,5,6-Tetrachloro-m-xylene	64		30-150	A
Decachlorobiphenyl	39		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-19
Client ID: SB-3 (3-5)
Sample Location: LAWRENCE, MA

Date Collected: 09/04/19 09:35
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/11/19 05:54
Analyst: KB
Percent Solids: 85%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 11:55
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/09/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	38.6	--	1	A
Aroclor 1221	ND		ug/kg	38.6	--	1	A
Aroclor 1232	ND		ug/kg	38.6	--	1	A
Aroclor 1242	ND		ug/kg	38.6	--	1	A
Aroclor 1248	ND		ug/kg	38.6	--	1	A
Aroclor 1254	ND		ug/kg	38.6	--	1	A
Aroclor 1260	89.6		ug/kg	38.6	--	1	B
Aroclor 1262	ND		ug/kg	38.6	--	1	A
Aroclor 1268	ND		ug/kg	38.6	--	1	A
PCBs, Total	89.6		ug/kg	38.6	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	80		30-150	B
Decachlorobiphenyl	109		30-150	B
2,4,5,6-Tetrachloro-m-xylene	79		30-150	A
Decachlorobiphenyl	90		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-22
Client ID: SB-2 (0-0.5)
Sample Location: LAWRENCE, MA

Date Collected: 09/04/19 10:00
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/11/19 23:56
Analyst: AWS
Percent Solids: 97%

Extraction Method: EPA 3540C
Extraction Date: 09/08/19 17:20
Cleanup Method: EPA 3665A
Cleanup Date: 09/10/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/10/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	33.9	--	1	A
Aroclor 1221	ND		ug/kg	33.9	--	1	A
Aroclor 1232	ND		ug/kg	33.9	--	1	A
Aroclor 1242	ND		ug/kg	33.9	--	1	A
Aroclor 1248	ND		ug/kg	33.9	--	1	A
Aroclor 1254	40.3		ug/kg	33.9	--	1	A
Aroclor 1260	ND		ug/kg	33.9	--	1	B
Aroclor 1262	ND		ug/kg	33.9	--	1	A
Aroclor 1268	ND		ug/kg	33.9	--	1	A
PCBs, Total	40.3		ug/kg	33.9	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	60		30-150	B
Decachlorobiphenyl	56		30-150	B
2,4,5,6-Tetrachloro-m-xylene	65		30-150	A
Decachlorobiphenyl	35		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-23
Client ID: SB-2 (1-2)
Sample Location: LAWRENCE, MA

Date Collected: 09/04/19 10:05
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/12/19 00:09
Analyst: AWS
Percent Solids: 90%

Extraction Method: EPA 3540C
Extraction Date: 09/08/19 17:20
Cleanup Method: EPA 3665A
Cleanup Date: 09/10/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/10/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	35.0	--	1	A
Aroclor 1221	ND		ug/kg	35.0	--	1	A
Aroclor 1232	ND		ug/kg	35.0	--	1	A
Aroclor 1242	ND		ug/kg	35.0	--	1	A
Aroclor 1248	ND		ug/kg	35.0	--	1	A
Aroclor 1254	ND		ug/kg	35.0	--	1	A
Aroclor 1260	83.0		ug/kg	35.0	--	1	B
Aroclor 1262	ND		ug/kg	35.0	--	1	A
Aroclor 1268	ND		ug/kg	35.0	--	1	A
PCBs, Total	83.0		ug/kg	35.0	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	53		30-150	B
Decachlorobiphenyl	54		30-150	B
2,4,5,6-Tetrachloro-m-xylene	59		30-150	A
Decachlorobiphenyl	36		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-24
Client ID: SB-2 (2-3)
Sample Location: LAWRENCE, MA

Date Collected: 09/04/19 10:07
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/12/19 00:21
Analyst: AWS
Percent Solids: 89%

Extraction Method: EPA 3540C
Extraction Date: 09/08/19 17:20
Cleanup Method: EPA 3665A
Cleanup Date: 09/10/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/10/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	36.3	--	1	A
Aroclor 1221	ND		ug/kg	36.3	--	1	A
Aroclor 1232	ND		ug/kg	36.3	--	1	A
Aroclor 1242	ND		ug/kg	36.3	--	1	A
Aroclor 1248	ND		ug/kg	36.3	--	1	A
Aroclor 1254	ND		ug/kg	36.3	--	1	A
Aroclor 1260	ND		ug/kg	36.3	--	1	B
Aroclor 1262	ND		ug/kg	36.3	--	1	A
Aroclor 1268	ND		ug/kg	36.3	--	1	A
PCBs, Total	ND		ug/kg	36.3	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	50		30-150	B
Decachlorobiphenyl	57		30-150	B
2,4,5,6-Tetrachloro-m-xylene	57		30-150	A
Decachlorobiphenyl	31		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-25
Client ID: SB-2 (3-5)
Sample Location: LAWRENCE, MA

Date Collected: 09/04/19 10:15
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/12/19 00:46
Analyst: AWS
Percent Solids: 86%

Extraction Method: EPA 3540C
Extraction Date: 09/08/19 17:20
Cleanup Method: EPA 3665A
Cleanup Date: 09/10/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/10/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	38.0	--	1	A
Aroclor 1221	ND		ug/kg	38.0	--	1	A
Aroclor 1232	ND		ug/kg	38.0	--	1	A
Aroclor 1242	ND		ug/kg	38.0	--	1	A
Aroclor 1248	ND		ug/kg	38.0	--	1	A
Aroclor 1254	ND		ug/kg	38.0	--	1	A
Aroclor 1260	ND		ug/kg	38.0	--	1	A
Aroclor 1262	ND		ug/kg	38.0	--	1	A
Aroclor 1268	ND		ug/kg	38.0	--	1	A
PCBs, Total	ND		ug/kg	38.0	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	57		30-150	B
Decachlorobiphenyl	51		30-150	B
2,4,5,6-Tetrachloro-m-xylene	60		30-150	A
Decachlorobiphenyl	33		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-32 D
Client ID: E-08 (1-2)
Sample Location: LAWRENCE, MA

Date Collected: 09/04/19 11:25
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/15/19 15:01
Analyst: AWS
Percent Solids: 87%

Extraction Method: EPA 3540C
Extraction Date: 09/08/19 17:20
Cleanup Method: EPA 3665A
Cleanup Date: 09/10/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/10/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	748	--	20	A
Aroclor 1221	ND		ug/kg	748	--	20	A
Aroclor 1232	ND		ug/kg	748	--	20	A
Aroclor 1242	ND		ug/kg	748	--	20	A
Aroclor 1248	782		ug/kg	748	--	20	B
Aroclor 1254	ND		ug/kg	748	--	20	A
Aroclor 1260	6920		ug/kg	748	--	20	B
Aroclor 1262	ND		ug/kg	748	--	20	A
Aroclor 1268	ND		ug/kg	748	--	20	A
PCBs, Total	7700		ug/kg	748	--	20	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150	B
Decachlorobiphenyl	**0**	Q	30-150	B
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150	A
Decachlorobiphenyl	**0**	Q	30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-33
Client ID: E-08 (2-3)
Sample Location: LAWRENCE, MA

Date Collected: 09/04/19 11:30
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/11/19 06:06
Analyst: KB
Percent Solids: 93%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 11:55
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/09/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	35.6	--	1	A
Aroclor 1221	ND		ug/kg	35.6	--	1	A
Aroclor 1232	ND		ug/kg	35.6	--	1	A
Aroclor 1242	ND		ug/kg	35.6	--	1	A
Aroclor 1248	ND		ug/kg	35.6	--	1	A
Aroclor 1254	ND		ug/kg	35.6	--	1	A
Aroclor 1260	ND		ug/kg	35.6	--	1	A
Aroclor 1262	ND		ug/kg	35.6	--	1	A
Aroclor 1268	ND		ug/kg	35.6	--	1	A
PCBs, Total	ND		ug/kg	35.6	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	86		30-150	B
Decachlorobiphenyl	92		30-150	B
2,4,5,6-Tetrachloro-m-xylene	88		30-150	A
Decachlorobiphenyl	113		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-40 D
Client ID: D-07 (1-2)
Sample Location: LAWRENCE, MA

Date Collected: 09/04/19 12:12
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/11/19 16:50
Analyst: WR
Percent Solids: 93%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 11:55
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/09/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	3460	--	100	A
Aroclor 1221	ND		ug/kg	3460	--	100	A
Aroclor 1232	ND		ug/kg	3460	--	100	A
Aroclor 1242	ND		ug/kg	3460	--	100	A
Aroclor 1248	11100		ug/kg	3460	--	100	B
Aroclor 1254	6220		ug/kg	3460	--	100	A
Aroclor 1260	ND		ug/kg	3460	--	100	B
Aroclor 1262	ND		ug/kg	3460	--	100	A
Aroclor 1268	ND		ug/kg	3460	--	100	A
PCBs, Total	17300		ug/kg	3460	--	100	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150	B
Decachlorobiphenyl	**0**	Q	30-150	B
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150	A
Decachlorobiphenyl	**0**	Q	30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-41
Client ID: D-07 (2-3)
Sample Location: LAWRENCE, MA

Date Collected: 09/04/19 12:14
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/11/19 06:29
Analyst: KB
Percent Solids: 92%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 11:55
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/09/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	35.7	--	1	A
Aroclor 1221	ND		ug/kg	35.7	--	1	A
Aroclor 1232	ND		ug/kg	35.7	--	1	A
Aroclor 1242	ND		ug/kg	35.7	--	1	A
Aroclor 1248	ND		ug/kg	35.7	--	1	A
Aroclor 1254	102		ug/kg	35.7	--	1	B
Aroclor 1260	57.7		ug/kg	35.7	--	1	B
Aroclor 1262	ND		ug/kg	35.7	--	1	A
Aroclor 1268	ND		ug/kg	35.7	--	1	A
PCBs, Total	160		ug/kg	35.7	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	56		30-150	B
Decachlorobiphenyl	120		30-150	B
2,4,5,6-Tetrachloro-m-xylene	58		30-150	A
Decachlorobiphenyl	76		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-45
Client ID: D-07 (7-9)
Sample Location: LAWRENCE, MA

Date Collected: 09/04/19 12:30
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/11/19 06:41
Analyst: KB
Percent Solids: 78%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 11:55
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/09/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	42.4	--	1	A
Aroclor 1221	ND		ug/kg	42.4	--	1	A
Aroclor 1232	ND		ug/kg	42.4	--	1	A
Aroclor 1242	ND		ug/kg	42.4	--	1	A
Aroclor 1248	ND		ug/kg	42.4	--	1	A
Aroclor 1254	ND		ug/kg	42.4	--	1	A
Aroclor 1260	ND		ug/kg	42.4	--	1	A
Aroclor 1262	ND		ug/kg	42.4	--	1	A
Aroclor 1268	ND		ug/kg	42.4	--	1	A
PCBs, Total	ND		ug/kg	42.4	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	75		30-150	B
Decachlorobiphenyl	111		30-150	B
2,4,5,6-Tetrachloro-m-xylene	76		30-150	A
Decachlorobiphenyl	86		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-51 D
Client ID: E-06 (1-2)
Sample Location: LAWRENCE, MA

Date Collected: 09/04/19 13:22
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/11/19 16:38
Analyst: WR
Percent Solids: 96%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 11:55
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/09/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	337	--	10	A
Aroclor 1221	ND		ug/kg	337	--	10	A
Aroclor 1232	ND		ug/kg	337	--	10	A
Aroclor 1242	ND		ug/kg	337	--	10	A
Aroclor 1248	2950		ug/kg	337	--	10	B
Aroclor 1254	1160		ug/kg	337	--	10	B
Aroclor 1260	475		ug/kg	337	--	10	B
Aroclor 1262	ND		ug/kg	337	--	10	A
Aroclor 1268	ND		ug/kg	337	--	10	A
PCBs, Total	4590		ug/kg	337	--	10	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150	B
Decachlorobiphenyl	**0**	Q	30-150	B
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150	A
Decachlorobiphenyl	**0**	Q	30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-52
Client ID: E-06 (2-3)
Sample Location: LAWRENCE, MA

Date Collected: 09/04/19 13:26
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/11/19 07:05
Analyst: KB
Percent Solids: 90%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 11:55
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/09/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	36.2	--	1	A
Aroclor 1221	ND		ug/kg	36.2	--	1	A
Aroclor 1232	ND		ug/kg	36.2	--	1	A
Aroclor 1242	ND		ug/kg	36.2	--	1	A
Aroclor 1248	192		ug/kg	36.2	--	1	B
Aroclor 1254	ND		ug/kg	36.2	--	1	A
Aroclor 1260	54.4		ug/kg	36.2	--	1	B
Aroclor 1262	ND		ug/kg	36.2	--	1	A
Aroclor 1268	ND		ug/kg	36.2	--	1	A
PCBs, Total	246		ug/kg	36.2	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	89		30-150	B
Decachlorobiphenyl	**163**	Q	30-150	B
2,4,5,6-Tetrachloro-m-xylene	92		30-150	A
Decachlorobiphenyl	118		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-56
Client ID: E-06 (5-7)-2
Sample Location: LAWRENCE, MA

Date Collected: 09/04/19 13:35
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/12/19 02:50
Analyst: WR
Percent Solids: 79%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:15
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/09/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	41.1	--	1	A
Aroclor 1221	ND		ug/kg	41.1	--	1	A
Aroclor 1232	ND		ug/kg	41.1	--	1	A
Aroclor 1242	ND		ug/kg	41.1	--	1	A
Aroclor 1248	ND		ug/kg	41.1	--	1	B
Aroclor 1254	ND		ug/kg	41.1	--	1	A
Aroclor 1260	ND		ug/kg	41.1	--	1	A
Aroclor 1262	ND		ug/kg	41.1	--	1	A
Aroclor 1268	ND		ug/kg	41.1	--	1	A
PCBs, Total	ND		ug/kg	41.1	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	68		30-150	B
Decachlorobiphenyl	105		30-150	B
2,4,5,6-Tetrachloro-m-xylene	68		30-150	A
Decachlorobiphenyl	103		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-57 D
Client ID: E-05 (1-2)
Sample Location: LAWRENCE, MA

Date Collected: 09/04/19 14:10
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/13/19 21:52
Analyst: AWS
Percent Solids: 91%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:15
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/09/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	712	--	20	A
Aroclor 1221	ND		ug/kg	712	--	20	A
Aroclor 1232	ND		ug/kg	712	--	20	A
Aroclor 1242	ND		ug/kg	712	--	20	A
Aroclor 1248	7870		ug/kg	712	--	20	A
Aroclor 1254	ND		ug/kg	712	--	20	A
Aroclor 1260	1400		ug/kg	712	--	20	B
Aroclor 1262	ND		ug/kg	712	--	20	A
Aroclor 1268	ND		ug/kg	712	--	20	A
PCBs, Total	9270		ug/kg	712	--	20	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150	B
Decachlorobiphenyl	**0**	Q	30-150	B
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150	A
Decachlorobiphenyl	**0**	Q	30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-58
Client ID: E-05 (2-3)
Sample Location: LAWRENCE, MA

Date Collected: 09/04/19 14:12
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/12/19 03:15
Analyst: WR
Percent Solids: 87%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:15
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/09/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	37.7	--	1	A
Aroclor 1221	ND		ug/kg	37.7	--	1	A
Aroclor 1232	ND		ug/kg	37.7	--	1	A
Aroclor 1242	ND		ug/kg	37.7	--	1	A
Aroclor 1248	ND		ug/kg	37.7	--	1	B
Aroclor 1254	ND		ug/kg	37.7	--	1	A
Aroclor 1260	ND		ug/kg	37.7	--	1	A
Aroclor 1262	ND		ug/kg	37.7	--	1	A
Aroclor 1268	ND		ug/kg	37.7	--	1	A
PCBs, Total	ND		ug/kg	37.7	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	57		30-150	B
Decachlorobiphenyl	90		30-150	B
2,4,5,6-Tetrachloro-m-xylene	56		30-150	A
Decachlorobiphenyl	82		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-61 D
Client ID: SB-DUP-6
Sample Location: LAWRENCE, MA

Date Collected: 09/04/19 00:00
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/13/19 22:04
Analyst: AWS
Percent Solids: 91%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:15
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/09/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	702	--	20	A
Aroclor 1221	ND		ug/kg	702	--	20	A
Aroclor 1232	ND		ug/kg	702	--	20	A
Aroclor 1242	ND		ug/kg	702	--	20	A
Aroclor 1248	4930		ug/kg	702	--	20	B
Aroclor 1254	ND		ug/kg	702	--	20	A
Aroclor 1260	1070		ug/kg	702	--	20	B
Aroclor 1262	ND		ug/kg	702	--	20	A
Aroclor 1268	ND		ug/kg	702	--	20	A
PCBs, Total	6000		ug/kg	702	--	20	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150	B
Decachlorobiphenyl	**0**	Q	30-150	B
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150	A
Decachlorobiphenyl	**0**	Q	30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-66 D
Client ID: D-09 (1-2)
Sample Location: LAWRENCE, MA

Date Collected: 09/04/19 14:50
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/13/19 22:16
Analyst: AWS
Percent Solids: 88%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:15
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/09/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	745	--	20	A
Aroclor 1221	ND		ug/kg	745	--	20	A
Aroclor 1232	ND		ug/kg	745	--	20	A
Aroclor 1242	ND		ug/kg	745	--	20	A
Aroclor 1248	ND		ug/kg	745	--	20	A
Aroclor 1254	ND		ug/kg	745	--	20	A
Aroclor 1260	5650		ug/kg	745	--	20	B
Aroclor 1262	ND		ug/kg	745	--	20	A
Aroclor 1268	ND		ug/kg	745	--	20	A
PCBs, Total	5650		ug/kg	745	--	20	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150	B
Decachlorobiphenyl	**0**	Q	30-150	B
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150	A
Decachlorobiphenyl	**0**	Q	30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-67 D
Client ID: D-09 (2-3)
Sample Location: LAWRENCE, MA

Date Collected: 09/04/19 14:53
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/17/19 16:22
Analyst: AWS
Percent Solids: 75%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:15
Cleanup Method: EPA 3665A
Cleanup Date: 09/10/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/10/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	441	--	10	A
Aroclor 1221	ND		ug/kg	441	--	10	A
Aroclor 1232	ND		ug/kg	441	--	10	A
Aroclor 1242	ND		ug/kg	441	--	10	A
Aroclor 1248	ND		ug/kg	441	--	10	A
Aroclor 1254	ND		ug/kg	441	--	10	A
Aroclor 1260	ND		ug/kg	441	--	10	A
Aroclor 1262	ND		ug/kg	441	--	10	A
Aroclor 1268	1850		ug/kg	441	--	10	B
PCBs, Total	1850		ug/kg	441	--	10	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150	B
Decachlorobiphenyl	**0**	Q	30-150	B
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150	A
Decachlorobiphenyl	**0**	Q	30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-74
Client ID: B-07 (1-2)
Sample Location: LAWRENCE, MA

Date Collected: 09/04/19 15:27
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/12/19 04:04
Analyst: WR
Percent Solids: 91%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:15
Cleanup Method: EPA 3665A
Cleanup Date: 09/10/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/10/19

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	45.5		ug/kg	36.0	--	1	B
Aroclor 1254	208		ug/kg	36.0	--	1	B
Aroclor 1260	128		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	382		ug/kg	36.0	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	62		30-150	B
Decachlorobiphenyl	92		30-150	B
2,4,5,6-Tetrachloro-m-xylene	60		30-150	A
Decachlorobiphenyl	81		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-75
Client ID: B-07 (2-3)
Sample Location: LAWRENCE, MA

Date Collected: 09/04/19 15:29
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/12/19 04:16
Analyst: WR
Percent Solids: 83%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:15
Cleanup Method: EPA 3665A
Cleanup Date: 09/10/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/10/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	38.2	--	1	A
Aroclor 1221	ND		ug/kg	38.2	--	1	A
Aroclor 1232	ND		ug/kg	38.2	--	1	A
Aroclor 1242	ND		ug/kg	38.2	--	1	A
Aroclor 1248	ND		ug/kg	38.2	--	1	A
Aroclor 1254	ND		ug/kg	38.2	--	1	A
Aroclor 1260	ND		ug/kg	38.2	--	1	A
Aroclor 1262	ND		ug/kg	38.2	--	1	A
Aroclor 1268	ND		ug/kg	38.2	--	1	B
PCBs, Total	ND		ug/kg	38.2	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	66		30-150	B
Decachlorobiphenyl	111		30-150	B
2,4,5,6-Tetrachloro-m-xylene	66		30-150	A
Decachlorobiphenyl	104		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-86 D
Client ID: C-08 (1-2)
Sample Location: LAWRENCE, MA

Date Collected: 09/05/19 09:08
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/13/19 22:40
Analyst: AWS
Percent Solids: 87%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:15
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/09/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	368	--	10	A
Aroclor 1221	ND		ug/kg	368	--	10	A
Aroclor 1232	ND		ug/kg	368	--	10	A
Aroclor 1242	ND		ug/kg	368	--	10	A
Aroclor 1248	ND		ug/kg	368	--	10	A
Aroclor 1254	ND		ug/kg	368	--	10	A
Aroclor 1260	3500		ug/kg	368	--	10	B
Aroclor 1262	ND		ug/kg	368	--	10	A
Aroclor 1268	ND		ug/kg	368	--	10	A
PCBs, Total	3500		ug/kg	368	--	10	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150	B
Decachlorobiphenyl	**0**	Q	30-150	B
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150	A
Decachlorobiphenyl	**0**	Q	30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-87
Client ID: C-08 (2-3)
Sample Location: LAWRENCE, MA

Date Collected: 09/05/19 09:11
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/12/19 04:53
Analyst: WR
Percent Solids: 78%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:15
Cleanup Method: EPA 3665A
Cleanup Date: 09/10/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/10/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	42.6	--	1	A
Aroclor 1221	ND		ug/kg	42.6	--	1	A
Aroclor 1232	ND		ug/kg	42.6	--	1	A
Aroclor 1242	ND		ug/kg	42.6	--	1	A
Aroclor 1248	ND		ug/kg	42.6	--	1	A
Aroclor 1254	ND		ug/kg	42.6	--	1	A
Aroclor 1260	55.7		ug/kg	42.6	--	1	B
Aroclor 1262	ND		ug/kg	42.6	--	1	A
Aroclor 1268	57.0		ug/kg	42.6	--	1	B
PCBs, Total	113		ug/kg	42.6	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	64		30-150	B
Decachlorobiphenyl	**153**	Q	30-150	B
2,4,5,6-Tetrachloro-m-xylene	64		30-150	A
Decachlorobiphenyl	138		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-90
Client ID: SB-DUP-4
Sample Location: LAWRENCE, MA

Date Collected: 09/05/19 00:00
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/12/19 05:06
Analyst: WR
Percent Solids: 77%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:15
Cleanup Method: EPA 3665A
Cleanup Date: 09/10/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/10/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	41.7	--	1	A
Aroclor 1221	ND		ug/kg	41.7	--	1	A
Aroclor 1232	ND		ug/kg	41.7	--	1	A
Aroclor 1242	ND		ug/kg	41.7	--	1	A
Aroclor 1248	ND		ug/kg	41.7	--	1	A
Aroclor 1254	ND		ug/kg	41.7	--	1	A
Aroclor 1260	47.3		ug/kg	41.7	--	1	B
Aroclor 1262	ND		ug/kg	41.7	--	1	A
Aroclor 1268	53.7		ug/kg	41.7	--	1	B
PCBs, Total	101		ug/kg	41.7	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	61		30-150	B
Decachlorobiphenyl	**158**	Q	30-150	B
2,4,5,6-Tetrachloro-m-xylene	62		30-150	A
Decachlorobiphenyl	142		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-99 D
Client ID: B-09 (1-2)
Sample Location: LAWRENCE, MA

Date Collected: 09/05/19 09:53
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/17/19 15:27
Analyst: AWS
Percent Solids: 96%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:15
Cleanup Method: EPA 3665A
Cleanup Date: 09/16/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/16/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	335	--	10	A
Aroclor 1221	ND		ug/kg	335	--	10	A
Aroclor 1232	ND		ug/kg	335	--	10	A
Aroclor 1242	ND		ug/kg	335	--	10	A
Aroclor 1248	2790		ug/kg	335	--	10	B
Aroclor 1254	4040		ug/kg	335	--	10	B
Aroclor 1260	3360		ug/kg	335	--	10	B
Aroclor 1262	ND		ug/kg	335	--	10	A
Aroclor 1268	ND		ug/kg	335	--	10	A
PCBs, Total	10200		ug/kg	335	--	10	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150	B
Decachlorobiphenyl	**0**	Q	30-150	B
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150	A
Decachlorobiphenyl	**0**	Q	30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-100 D
Client ID: SB-DUP-3
Sample Location: LAWRENCE, MA

Date Collected: 09/05/19 00:00
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/13/19 22:52
Analyst: AWS
Percent Solids: 96%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:15
Cleanup Method: EPA 3665A
Cleanup Date: 09/10/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/10/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	345	--	10	A
Aroclor 1221	ND		ug/kg	345	--	10	A
Aroclor 1232	ND		ug/kg	345	--	10	A
Aroclor 1242	ND		ug/kg	345	--	10	A
Aroclor 1248	2920		ug/kg	345	--	10	A
Aroclor 1254	4310		ug/kg	345	--	10	A
Aroclor 1260	3090		ug/kg	345	--	10	B
Aroclor 1262	ND		ug/kg	345	--	10	A
Aroclor 1268	ND		ug/kg	345	--	10	A
PCBs, Total	10300		ug/kg	345	--	10	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150	B
Decachlorobiphenyl	**0**	Q	30-150	B
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150	A
Decachlorobiphenyl	**0**	Q	30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-102 D
Client ID: B-09 (2-3)
Sample Location: LAWRENCE, MA

Date Collected: 09/05/19 09:55
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/13/19 23:04
Analyst: AWS
Percent Solids: 91%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:15
Cleanup Method: EPA 3665A
Cleanup Date: 09/10/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/10/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	180	--	5	A
Aroclor 1221	ND		ug/kg	180	--	5	A
Aroclor 1232	ND		ug/kg	180	--	5	A
Aroclor 1242	ND		ug/kg	180	--	5	A
Aroclor 1248	640		ug/kg	180	--	5	A
Aroclor 1254	841		ug/kg	180	--	5	A
Aroclor 1260	1190		ug/kg	180	--	5	B
Aroclor 1262	ND		ug/kg	180	--	5	A
Aroclor 1268	ND		ug/kg	180	--	5	A
PCBs, Total	2670		ug/kg	180	--	5	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	66		30-150	B
Decachlorobiphenyl	**181**	Q	30-150	B
2,4,5,6-Tetrachloro-m-xylene	69		30-150	A
Decachlorobiphenyl	115		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-105 D
Client ID: B-09 (5-7)-2
Sample Location: LAWRENCE, MA

Date Collected: 09/05/19 10:02
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/13/19 23:16
Analyst: AWS
Percent Solids: 92%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:15
Cleanup Method: EPA 3665A
Cleanup Date: 09/10/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/10/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	173	--	5	A
Aroclor 1221	ND		ug/kg	173	--	5	A
Aroclor 1232	ND		ug/kg	173	--	5	A
Aroclor 1242	ND		ug/kg	173	--	5	A
Aroclor 1248	930		ug/kg	173	--	5	A
Aroclor 1254	1880		ug/kg	173	--	5	A
Aroclor 1260	1610		ug/kg	173	--	5	B
Aroclor 1262	ND		ug/kg	173	--	5	A
Aroclor 1268	ND		ug/kg	173	--	5	A
PCBs, Total	4420		ug/kg	173	--	5	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	64		30-150	B
Decachlorobiphenyl	**167**	Q	30-150	B
2,4,5,6-Tetrachloro-m-xylene	70		30-150	A
Decachlorobiphenyl	109		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-106
Client ID: A-06 (1-2)
Sample Location: LAWRENCE, MA

Date Collected: 09/05/19 10:33
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/13/19 23:41
Analyst: AWS
Percent Solids: 97%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:15
Cleanup Method: EPA 3665A
Cleanup Date: 09/10/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/10/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	34.1	--	1	A
Aroclor 1221	ND		ug/kg	34.1	--	1	A
Aroclor 1232	ND		ug/kg	34.1	--	1	A
Aroclor 1242	ND		ug/kg	34.1	--	1	A
Aroclor 1248	ND		ug/kg	34.1	--	1	A
Aroclor 1254	ND		ug/kg	34.1	--	1	A
Aroclor 1260	ND		ug/kg	34.1	--	1	A
Aroclor 1262	ND		ug/kg	34.1	--	1	A
Aroclor 1268	ND		ug/kg	34.1	--	1	A
PCBs, Total	ND		ug/kg	34.1	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	74		30-150	B
Decachlorobiphenyl	87		30-150	B
2,4,5,6-Tetrachloro-m-xylene	83		30-150	A
Decachlorobiphenyl	70		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-107
Client ID: A-06 (2-3)
Sample Location: LAWRENCE, MA

Date Collected: 09/05/19 10:36
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/13/19 23:29
Analyst: AWS
Percent Solids: 97%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:15
Cleanup Method: EPA 3665A
Cleanup Date: 09/10/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/10/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	33.8	--	1	A
Aroclor 1221	ND		ug/kg	33.8	--	1	A
Aroclor 1232	ND		ug/kg	33.8	--	1	A
Aroclor 1242	ND		ug/kg	33.8	--	1	A
Aroclor 1248	ND		ug/kg	33.8	--	1	A
Aroclor 1254	ND		ug/kg	33.8	--	1	A
Aroclor 1260	ND		ug/kg	33.8	--	1	A
Aroclor 1262	ND		ug/kg	33.8	--	1	A
Aroclor 1268	ND		ug/kg	33.8	--	1	B
PCBs, Total	ND		ug/kg	33.8	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	59		30-150	B
Decachlorobiphenyl	90		30-150	B
2,4,5,6-Tetrachloro-m-xylene	67		30-150	A
Decachlorobiphenyl	68		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-110
Client ID: SB-DUP-2
Sample Location: LAWRENCE, MA

Date Collected: 09/05/19 00:00
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/13/19 23:53
Analyst: AWS
Percent Solids: 97%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:15
Cleanup Method: EPA 3665A
Cleanup Date: 09/10/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/10/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	32.3	--	1	A
Aroclor 1221	ND		ug/kg	32.3	--	1	A
Aroclor 1232	ND		ug/kg	32.3	--	1	A
Aroclor 1242	ND		ug/kg	32.3	--	1	A
Aroclor 1248	ND		ug/kg	32.3	--	1	A
Aroclor 1254	ND		ug/kg	32.3	--	1	A
Aroclor 1260	ND		ug/kg	32.3	--	1	A
Aroclor 1262	ND		ug/kg	32.3	--	1	A
Aroclor 1268	ND		ug/kg	32.3	--	1	A
PCBs, Total	ND		ug/kg	32.3	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	62		30-150	B
Decachlorobiphenyl	103		30-150	B
2,4,5,6-Tetrachloro-m-xylene	73		30-150	A
Decachlorobiphenyl	83		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-111 D
Client ID: B-05 (1-2)
Sample Location: LAWRENCE, MA

Date Collected: 09/05/19 10:48
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/14/19 00:05
Analyst: AWS
Percent Solids: 92%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:15
Cleanup Method: EPA 3665A
Cleanup Date: 09/10/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/10/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	172	--	5	A
Aroclor 1221	ND		ug/kg	172	--	5	A
Aroclor 1232	ND		ug/kg	172	--	5	A
Aroclor 1242	ND		ug/kg	172	--	5	A
Aroclor 1248	1450		ug/kg	172	--	5	A
Aroclor 1254	2160		ug/kg	172	--	5	A
Aroclor 1260	570		ug/kg	172	--	5	B
Aroclor 1262	ND		ug/kg	172	--	5	A
Aroclor 1268	ND		ug/kg	172	--	5	A
PCBs, Total	4180		ug/kg	172	--	5	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	68		30-150	B
Decachlorobiphenyl	106		30-150	B
2,4,5,6-Tetrachloro-m-xylene	72		30-150	A
Decachlorobiphenyl	79		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-112
Client ID: B-05 (2-3)
Sample Location: LAWRENCE, MA

Date Collected: 09/05/19 10:51
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/14/19 00:17
Analyst: AWS
Percent Solids: 86%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:15
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/09/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	37.9	--	1	A
Aroclor 1221	ND		ug/kg	37.9	--	1	A
Aroclor 1232	ND		ug/kg	37.9	--	1	A
Aroclor 1242	ND		ug/kg	37.9	--	1	A
Aroclor 1248	ND		ug/kg	37.9	--	1	A
Aroclor 1254	ND		ug/kg	37.9	--	1	B
Aroclor 1260	ND		ug/kg	37.9	--	1	B
Aroclor 1262	ND		ug/kg	37.9	--	1	A
Aroclor 1268	ND		ug/kg	37.9	--	1	A
PCBs, Total	ND		ug/kg	37.9	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	64		30-150	B
Decachlorobiphenyl	105		30-150	B
2,4,5,6-Tetrachloro-m-xylene	68		30-150	A
Decachlorobiphenyl	79		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-115
Client ID: B-05 (3-5)-2
Sample Location: LAWRENCE, MA

Date Collected: 09/05/19 10:57
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/16/19 14:58
Analyst: WR
Percent Solids: 69%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:45
Cleanup Method: EPA 3665A
Cleanup Date: 09/16/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/16/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	47.1	--	1	A
Aroclor 1221	ND		ug/kg	47.1	--	1	A
Aroclor 1232	ND		ug/kg	47.1	--	1	A
Aroclor 1242	ND		ug/kg	47.1	--	1	A
Aroclor 1248	ND		ug/kg	47.1	--	1	A
Aroclor 1254	ND		ug/kg	47.1	--	1	A
Aroclor 1260	ND		ug/kg	47.1	--	1	A
Aroclor 1262	ND		ug/kg	47.1	--	1	A
Aroclor 1268	ND		ug/kg	47.1	--	1	A
PCBs, Total	ND		ug/kg	47.1	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	60		30-150	B
Decachlorobiphenyl	94		30-150	B
2,4,5,6-Tetrachloro-m-xylene	59		30-150	A
Decachlorobiphenyl	81		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-117 D
Client ID: C-05 (1-2)
Sample Location: LAWRENCE, MA

Date Collected: 09/05/19 11:12
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/17/19 15:15
Analyst: AWS
Percent Solids: 87%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:45
Cleanup Method: EPA 3665A
Cleanup Date: 09/16/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/16/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	186	--	5	A
Aroclor 1221	ND		ug/kg	186	--	5	A
Aroclor 1232	ND		ug/kg	186	--	5	A
Aroclor 1242	ND		ug/kg	186	--	5	A
Aroclor 1248	ND		ug/kg	186	--	5	A
Aroclor 1254	ND		ug/kg	186	--	5	A
Aroclor 1260	2560		ug/kg	186	--	5	B
Aroclor 1262	ND		ug/kg	186	--	5	A
Aroclor 1268	ND		ug/kg	186	--	5	A
PCBs, Total	2560		ug/kg	186	--	5	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	75		30-150	B
Decachlorobiphenyl	145		30-150	B
2,4,5,6-Tetrachloro-m-xylene	67		30-150	A
Decachlorobiphenyl	120		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-118
Client ID: C-05 (2-3)
Sample Location: LAWRENCE, MA

Date Collected: 09/05/19 11:15
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/16/19 15:23
Analyst: WR
Percent Solids: 86%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:45
Cleanup Method: EPA 3665A
Cleanup Date: 09/16/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/16/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	38.0	--	1	A
Aroclor 1221	ND		ug/kg	38.0	--	1	A
Aroclor 1232	ND		ug/kg	38.0	--	1	A
Aroclor 1242	ND		ug/kg	38.0	--	1	A
Aroclor 1248	ND		ug/kg	38.0	--	1	A
Aroclor 1254	ND		ug/kg	38.0	--	1	A
Aroclor 1260	57.6		ug/kg	38.0	--	1	B
Aroclor 1262	ND		ug/kg	38.0	--	1	A
Aroclor 1268	ND		ug/kg	38.0	--	1	A
PCBs, Total	57.6		ug/kg	38.0	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	63		30-150	B
Decachlorobiphenyl	107		30-150	B
2,4,5,6-Tetrachloro-m-xylene	63		30-150	A
Decachlorobiphenyl	91		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-121
Client ID: C-06 (1-2)
Sample Location: LAWRENCE, MA

Date Collected: 09/05/19 11:32
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/16/19 15:35
Analyst: WR
Percent Solids: 95%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:45
Cleanup Method: EPA 3665A
Cleanup Date: 09/16/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/16/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	34.1	--	1	A
Aroclor 1221	ND		ug/kg	34.1	--	1	A
Aroclor 1232	ND		ug/kg	34.1	--	1	A
Aroclor 1242	ND		ug/kg	34.1	--	1	A
Aroclor 1248	ND		ug/kg	34.1	--	1	A
Aroclor 1254	ND		ug/kg	34.1	--	1	A
Aroclor 1260	ND		ug/kg	34.1	--	1	B
Aroclor 1262	ND		ug/kg	34.1	--	1	A
Aroclor 1268	ND		ug/kg	34.1	--	1	A
PCBs, Total	ND		ug/kg	34.1	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	60		30-150	B
Decachlorobiphenyl	118		30-150	B
2,4,5,6-Tetrachloro-m-xylene	60		30-150	A
Decachlorobiphenyl	88		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-122
Client ID: C-06 (2-3)
Sample Location: LAWRENCE, MA

Date Collected: 09/05/19 11:34
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/16/19 15:48
Analyst: WR
Percent Solids: 91%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:45
Cleanup Method: EPA 3665A
Cleanup Date: 09/16/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/16/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	34.7	--	1	A
Aroclor 1221	ND		ug/kg	34.7	--	1	A
Aroclor 1232	ND		ug/kg	34.7	--	1	A
Aroclor 1242	ND		ug/kg	34.7	--	1	A
Aroclor 1248	ND		ug/kg	34.7	--	1	A
Aroclor 1254	ND		ug/kg	34.7	--	1	A
Aroclor 1260	ND		ug/kg	34.7	--	1	A
Aroclor 1262	ND		ug/kg	34.7	--	1	A
Aroclor 1268	ND		ug/kg	34.7	--	1	A
PCBs, Total	ND		ug/kg	34.7	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	59		30-150	B
Decachlorobiphenyl	101		30-150	B
2,4,5,6-Tetrachloro-m-xylene	59		30-150	A
Decachlorobiphenyl	89		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-125
Client ID: A-05 (1-2)
Sample Location: LAWRENCE, MA

Date Collected: 09/05/19 12:12
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/16/19 16:00
Analyst: WR
Percent Solids: 93%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:45
Cleanup Method: EPA 3665A
Cleanup Date: 09/16/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/16/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	35.2	--	1	A
Aroclor 1221	ND		ug/kg	35.2	--	1	A
Aroclor 1232	ND		ug/kg	35.2	--	1	A
Aroclor 1242	ND		ug/kg	35.2	--	1	A
Aroclor 1248	ND		ug/kg	35.2	--	1	A
Aroclor 1254	ND		ug/kg	35.2	--	1	A
Aroclor 1260	ND		ug/kg	35.2	--	1	A
Aroclor 1262	ND		ug/kg	35.2	--	1	A
Aroclor 1268	ND		ug/kg	35.2	--	1	A
PCBs, Total	ND		ug/kg	35.2	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	65		30-150	B
Decachlorobiphenyl	113		30-150	B
2,4,5,6-Tetrachloro-m-xylene	65		30-150	A
Decachlorobiphenyl	104		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-126
Client ID: A-05 (2-3)
Sample Location: LAWRENCE, MA

Date Collected: 09/05/19 12:14
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/16/19 16:12
Analyst: WR
Percent Solids: 94%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:45
Cleanup Method: EPA 3665A
Cleanup Date: 09/16/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/16/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	33.9	--	1	A
Aroclor 1221	ND		ug/kg	33.9	--	1	A
Aroclor 1232	ND		ug/kg	33.9	--	1	A
Aroclor 1242	ND		ug/kg	33.9	--	1	A
Aroclor 1248	ND		ug/kg	33.9	--	1	A
Aroclor 1254	ND		ug/kg	33.9	--	1	A
Aroclor 1260	ND		ug/kg	33.9	--	1	A
Aroclor 1262	ND		ug/kg	33.9	--	1	A
Aroclor 1268	ND		ug/kg	33.9	--	1	A
PCBs, Total	ND		ug/kg	33.9	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	67		30-150	B
Decachlorobiphenyl	**158**	Q	30-150	B
2,4,5,6-Tetrachloro-m-xylene	66		30-150	A
Decachlorobiphenyl	137		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-129
Client ID: E-02 (1-2)
Sample Location: LAWRENCE, MA

Date Collected: 09/05/19 13:05
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/16/19 16:24
Analyst: WR
Percent Solids: 94%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:45
Cleanup Method: EPA 3665A
Cleanup Date: 09/16/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/16/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	33.8	--	1	A
Aroclor 1221	ND		ug/kg	33.8	--	1	A
Aroclor 1232	ND		ug/kg	33.8	--	1	A
Aroclor 1242	ND		ug/kg	33.8	--	1	A
Aroclor 1248	ND		ug/kg	33.8	--	1	A
Aroclor 1254	ND		ug/kg	33.8	--	1	A
Aroclor 1260	127		ug/kg	33.8	--	1	B
Aroclor 1262	ND		ug/kg	33.8	--	1	A
Aroclor 1268	ND		ug/kg	33.8	--	1	A
PCBs, Total	127		ug/kg	33.8	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	56		30-150	B
Decachlorobiphenyl	117		30-150	B
2,4,5,6-Tetrachloro-m-xylene	56		30-150	A
Decachlorobiphenyl	80		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-130
Client ID: E-02 (2-3)
Sample Location: LAWRENCE, MA

Date Collected: 09/05/19 13:08
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/16/19 16:37
Analyst: WR
Percent Solids: 95%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:45
Cleanup Method: EPA 3665A
Cleanup Date: 09/16/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/16/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	33.6	--	1	A
Aroclor 1221	ND		ug/kg	33.6	--	1	A
Aroclor 1232	ND		ug/kg	33.6	--	1	A
Aroclor 1242	ND		ug/kg	33.6	--	1	A
Aroclor 1248	ND		ug/kg	33.6	--	1	A
Aroclor 1254	ND		ug/kg	33.6	--	1	A
Aroclor 1260	ND		ug/kg	33.6	--	1	A
Aroclor 1262	ND		ug/kg	33.6	--	1	A
Aroclor 1268	ND		ug/kg	33.6	--	1	A
PCBs, Total	ND		ug/kg	33.6	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	59		30-150	B
Decachlorobiphenyl	105		30-150	B
2,4,5,6-Tetrachloro-m-xylene	60		30-150	A
Decachlorobiphenyl	89		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-137
Client ID: SB-1 (0-0.5)
Sample Location: LAWRENCE, MA

Date Collected: 09/05/19 13:33
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/16/19 16:49
Analyst: WR
Percent Solids: 95%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:45
Cleanup Method: EPA 3665A
Cleanup Date: 09/16/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/16/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	34.2	--	1	A
Aroclor 1221	ND		ug/kg	34.2	--	1	A
Aroclor 1232	ND		ug/kg	34.2	--	1	A
Aroclor 1242	ND		ug/kg	34.2	--	1	A
Aroclor 1248	ND		ug/kg	34.2	--	1	A
Aroclor 1254	ND		ug/kg	34.2	--	1	A
Aroclor 1260	ND		ug/kg	34.2	--	1	B
Aroclor 1262	ND		ug/kg	34.2	--	1	A
Aroclor 1268	ND		ug/kg	34.2	--	1	A
PCBs, Total	ND		ug/kg	34.2	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	61		30-150	B
Decachlorobiphenyl	88		30-150	B
2,4,5,6-Tetrachloro-m-xylene	60		30-150	A
Decachlorobiphenyl	78		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-138
Client ID: SB-1 (1-2)
Sample Location: LAWRENCE, MA

Date Collected: 09/05/19 13:36
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/16/19 18:09
Analyst: WR
Percent Solids: 92%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:45
Cleanup Method: EPA 3665A
Cleanup Date: 09/16/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/16/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	36.2	--	1	A
Aroclor 1221	ND		ug/kg	36.2	--	1	A
Aroclor 1232	ND		ug/kg	36.2	--	1	A
Aroclor 1242	ND		ug/kg	36.2	--	1	A
Aroclor 1248	ND		ug/kg	36.2	--	1	A
Aroclor 1254	ND		ug/kg	36.2	--	1	A
Aroclor 1260	83.8		ug/kg	36.2	--	1	B
Aroclor 1262	ND		ug/kg	36.2	--	1	A
Aroclor 1268	ND		ug/kg	36.2	--	1	A
PCBs, Total	83.8		ug/kg	36.2	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	62		30-150	B
Decachlorobiphenyl	104		30-150	B
2,4,5,6-Tetrachloro-m-xylene	61		30-150	A
Decachlorobiphenyl	94		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-139
Client ID: SB-1 (2-3)
Sample Location: LAWRENCE, MA

Date Collected: 09/05/19 13:39
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/16/19 18:21
Analyst: WR
Percent Solids: 90%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:45
Cleanup Method: EPA 3665A
Cleanup Date: 09/16/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/16/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	36.8	--	1	A
Aroclor 1221	ND		ug/kg	36.8	--	1	A
Aroclor 1232	ND		ug/kg	36.8	--	1	A
Aroclor 1242	ND		ug/kg	36.8	--	1	A
Aroclor 1248	ND		ug/kg	36.8	--	1	A
Aroclor 1254	ND		ug/kg	36.8	--	1	A
Aroclor 1260	51.4		ug/kg	36.8	--	1	B
Aroclor 1262	ND		ug/kg	36.8	--	1	A
Aroclor 1268	ND		ug/kg	36.8	--	1	A
PCBs, Total	51.4		ug/kg	36.8	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	61		30-150	B
Decachlorobiphenyl	113		30-150	B
2,4,5,6-Tetrachloro-m-xylene	61		30-150	A
Decachlorobiphenyl	99		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-140
Client ID: SB-DUP-1
Sample Location: LAWRENCE, MA

Date Collected: 09/05/19 00:00
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/16/19 18:33
Analyst: WR
Percent Solids: 95%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:45
Cleanup Method: EPA 3665A
Cleanup Date: 09/16/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/16/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	33.1	--	1	A
Aroclor 1221	ND		ug/kg	33.1	--	1	A
Aroclor 1232	ND		ug/kg	33.1	--	1	A
Aroclor 1242	ND		ug/kg	33.1	--	1	A
Aroclor 1248	ND		ug/kg	33.1	--	1	A
Aroclor 1254	ND		ug/kg	33.1	--	1	A
Aroclor 1260	88.0		ug/kg	33.1	--	1	B
Aroclor 1262	ND		ug/kg	33.1	--	1	A
Aroclor 1268	ND		ug/kg	33.1	--	1	A
PCBs, Total	88.0		ug/kg	33.1	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	65		30-150	B
Decachlorobiphenyl	108		30-150	B
2,4,5,6-Tetrachloro-m-xylene	63		30-150	A
Decachlorobiphenyl	93		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-141
Client ID: SB-1 (3-5)
Sample Location: LAWRENCE, MA

Date Collected: 09/05/19 13:42
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/16/19 18:53
Analyst: WR
Percent Solids: 78%

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:45
Cleanup Method: EPA 3665A
Cleanup Date: 09/16/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/16/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	41.0	--	1	A
Aroclor 1221	ND		ug/kg	41.0	--	1	A
Aroclor 1232	ND		ug/kg	41.0	--	1	A
Aroclor 1242	ND		ug/kg	41.0	--	1	A
Aroclor 1248	ND		ug/kg	41.0	--	1	A
Aroclor 1254	ND		ug/kg	41.0	--	1	A
Aroclor 1260	ND		ug/kg	41.0	--	1	A
Aroclor 1262	ND		ug/kg	41.0	--	1	A
Aroclor 1268	ND		ug/kg	41.0	--	1	A
PCBs, Total	ND		ug/kg	41.0	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	57		30-150	B
Decachlorobiphenyl	90		30-150	B
2,4,5,6-Tetrachloro-m-xylene	55		30-150	A
Decachlorobiphenyl	74		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 09/11/19 22:26
Analyst: WR

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 10:25
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/09/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01-09 Batch: WG1281465-1						
Aroclor 1016	ND		ug/kg	56.3	--	B
Aroclor 1221	ND		ug/kg	56.3	--	B
Aroclor 1232	ND		ug/kg	56.3	--	B
Aroclor 1242	ND		ug/kg	56.3	--	B
Aroclor 1248	ND		ug/kg	37.5	--	B
Aroclor 1254	ND		ug/kg	56.3	--	B
Aroclor 1260	ND		ug/kg	37.5	--	B
Aroclor 1262	ND		ug/kg	18.8	--	B
Aroclor 1268	ND		ug/kg	18.8	--	B
PCBs, Total	ND		ug/kg	18.8	--	B

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	77		30-150	B
Decachlorobiphenyl	85		30-150	B
2,4,5,6-Tetrachloro-m-xylene	69		30-150	A
Decachlorobiphenyl	71		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 09/11/19 07:16
Analyst: KB

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 11:55
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/09/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 10-13,19,33,40-41,45,51-52 Batch: WG1281488-1						
Aroclor 1016	ND		ug/kg	32.8	--	A
Aroclor 1221	ND		ug/kg	32.8	--	A
Aroclor 1232	ND		ug/kg	32.8	--	A
Aroclor 1242	ND		ug/kg	32.8	--	A
Aroclor 1248	ND		ug/kg	32.8	--	A
Aroclor 1254	ND		ug/kg	32.8	--	A
Aroclor 1260	ND		ug/kg	32.8	--	A
Aroclor 1262	ND		ug/kg	32.8	--	A
Aroclor 1268	ND		ug/kg	32.8	--	A
PCBs, Total	ND		ug/kg	32.8	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	85		30-150	B
Decachlorobiphenyl	96		30-150	B
2,4,5,6-Tetrachloro-m-xylene	85		30-150	A
Decachlorobiphenyl	86		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 09/12/19 05:18
Analyst: WR

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:15
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/09/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 56-58,61,66-67,74-75,86-87,90,99-100,102,105-107,110-112 Batch: WG1281518-1						
Aroclor 1016	ND		ug/kg	32.2	--	A
Aroclor 1221	ND		ug/kg	32.2	--	A
Aroclor 1232	ND		ug/kg	32.2	--	A
Aroclor 1242	ND		ug/kg	32.2	--	A
Aroclor 1248	ND		ug/kg	32.2	--	A
Aroclor 1254	ND		ug/kg	32.2	--	A
Aroclor 1260	ND		ug/kg	32.2	--	A
Aroclor 1262	ND		ug/kg	32.2	--	A
Aroclor 1268	ND		ug/kg	32.2	--	A
PCBs, Total	ND		ug/kg	32.2	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	78		30-150	B
Decachlorobiphenyl	93		30-150	B
2,4,5,6-Tetrachloro-m-xylene	74		30-150	A
Decachlorobiphenyl	81		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 09/16/19 17:01
Analyst: WR

Extraction Method: EPA 3540C
Extraction Date: 09/07/19 14:45
Cleanup Method: EPA 3665A
Cleanup Date: 09/16/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/16/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 115,117-118,121-122,125-126,129-130,137-141 Batch: WG1281533-1						
Aroclor 1016	ND		ug/kg	32.5	--	A
Aroclor 1221	ND		ug/kg	32.5	--	A
Aroclor 1232	ND		ug/kg	32.5	--	A
Aroclor 1242	ND		ug/kg	32.5	--	A
Aroclor 1248	ND		ug/kg	32.5	--	A
Aroclor 1254	ND		ug/kg	32.5	--	A
Aroclor 1260	ND		ug/kg	32.5	--	A
Aroclor 1262	ND		ug/kg	32.5	--	A
Aroclor 1268	ND		ug/kg	32.5	--	A
PCBs, Total	ND		ug/kg	32.5	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	63		30-150	B
Decachlorobiphenyl	88		30-150	B
2,4,5,6-Tetrachloro-m-xylene	61		30-150	A
Decachlorobiphenyl	74		30-150	A

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 09/10/19 14:23
Analyst: WR

Extraction Method: EPA 3540C
Extraction Date: 09/08/19 17:20
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/09/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 15-18,22-25,32 Batch: WG1281633-1						
Aroclor 1016	ND		ug/kg	32.7	--	A
Aroclor 1221	ND		ug/kg	32.7	--	A
Aroclor 1232	ND		ug/kg	32.7	--	A
Aroclor 1242	ND		ug/kg	32.7	--	A
Aroclor 1248	ND		ug/kg	32.7	--	A
Aroclor 1254	ND		ug/kg	32.7	--	A
Aroclor 1260	ND		ug/kg	32.7	--	A
Aroclor 1262	ND		ug/kg	32.7	--	A
Aroclor 1268	ND		ug/kg	32.7	--	A
PCBs, Total	ND		ug/kg	32.7	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	68		30-150	B
Decachlorobiphenyl	82		30-150	B
2,4,5,6-Tetrachloro-m-xylene	67		30-150	A
Decachlorobiphenyl	62		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOMBARELLO SITE

Project Number: 17001426

Lab Number: L1940717

Report Date: 09/20/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01-09 Batch: WG1281465-2 WG1281465-3									
Aroclor 1016	73		82		40-140	12		30	B
Aroclor 1260	67		75		40-140	11		30	B

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	67		74		30-150	B
Decachlorobiphenyl	76		83		30-150	B
2,4,5,6-Tetrachloro-m-xylene	63		69		30-150	A
Decachlorobiphenyl	63		69		30-150	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab	Associated sample(s):		10-13,19,33,40-41,45,51-52		Batch:	WG1281488-2	WG1281488-3		
Aroclor 1016	75		76		40-140	1		30	A
Aroclor 1260	63		63		40-140	0		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	82		84		30-150	B
Decachlorobiphenyl	87		82		30-150	B
2,4,5,6-Tetrachloro-m-xylene	81		83		30-150	A
Decachlorobiphenyl	80		74		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOMBARELLO SITE

Project Number: 17001426

Lab Number: L1940717

Report Date: 09/20/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 56-58,61,66-67,74-75,86-87,90,99-100,102,105-107,110-112 Batch: WG1281518-2 WG1281518-3									
Aroclor 1016	78		80		40-140	3		30	A
Aroclor 1260	71		72		40-140	1		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	76		77		30-150	B
Decachlorobiphenyl	88		88		30-150	B
2,4,5,6-Tetrachloro-m-xylene	74		76		30-150	A
Decachlorobiphenyl	76		77		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOMBARELLO SITE

Project Number: 17001426

Lab Number: L1940717

Report Date: 09/20/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab	Associated sample(s):	115,117-118,121-122,125-126,129-130,137-141			Batch:	WG1281533-2		WG1281533-3	
Aroclor 1016	72		73		40-140	1		30	A
Aroclor 1260	72		75		40-140	4		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	70		69		30-150	B
Decachlorobiphenyl	95		90		30-150	B
2,4,5,6-Tetrachloro-m-xylene	68		67		30-150	A
Decachlorobiphenyl	77		78		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOMBARELLO SITE

Project Number: 17001426

Lab Number: L1940717

Report Date: 09/20/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 15-18,22-25,32 Batch: WG1281633-2 WG1281633-3									
Aroclor 1016	84		89		40-140	6		30	A
Aroclor 1260	60		55		40-140	9		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	66		69		30-150	B
Decachlorobiphenyl	68		64		30-150	B
2,4,5,6-Tetrachloro-m-xylene	69		71		30-150	A
Decachlorobiphenyl	40		39		30-150	A

METALS

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-11
Client ID: SB-4 (1-2)
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 08:50
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Arsenic, Total	3.39		mg/kg	0.410	--	1	09/15/19 17:40	09/16/19 22:26	EPA 3050B	97,6010D	MC
Barium, Total	62.6		mg/kg	0.410	--	1	09/15/19 17:40	09/16/19 22:26	EPA 3050B	97,6010D	MC
Cadmium, Total	0.672		mg/kg	0.410	--	1	09/15/19 17:40	09/16/19 22:26	EPA 3050B	97,6010D	MC
Chromium, Total	47.3		mg/kg	0.410	--	1	09/15/19 17:40	09/16/19 22:26	EPA 3050B	97,6010D	MC
Lead, Total	12.6		mg/kg	2.05	--	1	09/15/19 17:40	09/16/19 22:26	EPA 3050B	97,6010D	MC
Mercury, Total	ND		mg/kg	0.080	--	1	09/16/19 06:00	09/16/19 17:10	EPA 7471B	97,7471B	GD
Selenium, Total	ND		mg/kg	2.05	--	1	09/15/19 17:40	09/16/19 22:26	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.410	--	1	09/15/19 17:40	09/16/19 22:26	EPA 3050B	97,6010D	MC
Zinc, Total	30.1		mg/kg	2.05	--	1	09/15/19 17:40	09/16/19 22:26	EPA 3050B	97,6010D	MC

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-12
Client ID: SB-4 (2-3)
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 08:40
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Arsenic, Total	4.72		mg/kg	0.429	--	1	09/15/19 17:40	09/16/19 22:48	EPA 3050B	97,6010D	MC
Barium, Total	34.3		mg/kg	0.429	--	1	09/15/19 17:40	09/16/19 22:48	EPA 3050B	97,6010D	MC
Cadmium, Total	0.939		mg/kg	0.429	--	1	09/15/19 17:40	09/16/19 22:48	EPA 3050B	97,6010D	MC
Chromium, Total	11.3		mg/kg	0.429	--	1	09/15/19 17:40	09/16/19 22:48	EPA 3050B	97,6010D	MC
Lead, Total	99.1		mg/kg	2.14	--	1	09/15/19 17:40	09/16/19 22:48	EPA 3050B	97,6010D	MC
Mercury, Total	ND		mg/kg	0.081	--	1	09/16/19 06:00	09/16/19 17:14	EPA 7471B	97,7471B	GD
Selenium, Total	ND		mg/kg	2.14	--	1	09/15/19 17:40	09/16/19 22:48	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.429	--	1	09/15/19 17:40	09/16/19 22:48	EPA 3050B	97,6010D	MC
Zinc, Total	41.7		mg/kg	2.14	--	1	09/15/19 17:40	09/16/19 22:48	EPA 3050B	97,6010D	MC

Project Name: TOMBARELLO SITE
Lab Number: L1940717
Project Number: 17001426
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-15
Client ID: SB-4 (5-7)-2
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 09:10
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 75%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Arsenic, Total	9.82		mg/kg	0.527	--	1	09/15/19 17:40	09/16/19 23:01	EPA 3050B	97,6010D	MC
Barium, Total	170		mg/kg	0.527	--	1	09/15/19 17:40	09/16/19 23:01	EPA 3050B	97,6010D	MC
Cadmium, Total	0.733		mg/kg	0.527	--	1	09/15/19 17:40	09/16/19 23:01	EPA 3050B	97,6010D	MC
Chromium, Total	11.9		mg/kg	0.527	--	1	09/15/19 17:40	09/16/19 23:01	EPA 3050B	97,6010D	MC
Lead, Total	96.0		mg/kg	2.64	--	1	09/15/19 17:40	09/16/19 23:01	EPA 3050B	97,6010D	MC
Mercury, Total	ND		mg/kg	0.097	--	1	09/16/19 06:00	09/16/19 17:25	EPA 7471B	97,7471B	GD
Selenium, Total	ND		mg/kg	2.64	--	1	09/15/19 17:40	09/16/19 23:01	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.527	--	1	09/15/19 17:40	09/16/19 23:01	EPA 3050B	97,6010D	MC
Zinc, Total	109		mg/kg	2.64	--	1	09/15/19 17:40	09/16/19 23:01	EPA 3050B	97,6010D	MC

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-17
Client ID: SB-3 (1-2)
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 09:25
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Arsenic, Total	4.74		mg/kg	0.412	--	1	09/15/19 17:40	09/16/19 23:05	EPA 3050B	97,6010D	MC
Barium, Total	26.4		mg/kg	0.412	--	1	09/15/19 17:40	09/16/19 23:05	EPA 3050B	97,6010D	MC
Cadmium, Total	0.461		mg/kg	0.412	--	1	09/15/19 17:40	09/16/19 23:05	EPA 3050B	97,6010D	MC
Chromium, Total	17.8		mg/kg	0.412	--	1	09/15/19 17:40	09/16/19 23:05	EPA 3050B	97,6010D	MC
Lead, Total	48.7		mg/kg	2.06	--	1	09/15/19 17:40	09/16/19 23:05	EPA 3050B	97,6010D	MC
Mercury, Total	ND		mg/kg	0.078	--	1	09/16/19 06:00	09/16/19 17:27	EPA 7471B	97,7471B	GD
Selenium, Total	ND		mg/kg	2.06	--	1	09/15/19 17:40	09/16/19 23:05	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.412	--	1	09/15/19 17:40	09/16/19 23:05	EPA 3050B	97,6010D	MC
Zinc, Total	51.4		mg/kg	2.06	--	1	09/15/19 17:40	09/16/19 23:05	EPA 3050B	97,6010D	MC

Project Name: TOMBARELLO SITE
Lab Number: L1940717
Project Number: 17001426
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-18
Client ID: SB-3 (2-3)
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 09:30
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Arsenic, Total	4.35		mg/kg	0.404	--	1	09/15/19 17:40	09/16/19 23:09	EPA 3050B	97,6010D	MC
Barium, Total	27.5		mg/kg	0.404	--	1	09/15/19 17:40	09/16/19 23:09	EPA 3050B	97,6010D	MC
Cadmium, Total	0.565		mg/kg	0.404	--	1	09/15/19 17:40	09/16/19 23:09	EPA 3050B	97,6010D	MC
Chromium, Total	9.98		mg/kg	0.404	--	1	09/15/19 17:40	09/16/19 23:09	EPA 3050B	97,6010D	MC
Lead, Total	108		mg/kg	2.02	--	1	09/15/19 17:40	09/16/19 23:09	EPA 3050B	97,6010D	MC
Mercury, Total	ND		mg/kg	0.079	--	1	09/16/19 06:00	09/16/19 17:29	EPA 7471B	97,7471B	GD
Selenium, Total	ND		mg/kg	2.02	--	1	09/15/19 17:40	09/16/19 23:09	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.404	--	1	09/15/19 17:40	09/16/19 23:09	EPA 3050B	97,6010D	MC
Zinc, Total	46.6		mg/kg	2.02	--	1	09/15/19 17:40	09/16/19 23:09	EPA 3050B	97,6010D	MC

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-21
Client ID: SB-3 (5-7)-2
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 09:40
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Arsenic, Total	6.04		mg/kg	0.459	--	1	09/15/19 17:40	09/16/19 23:13	EPA 3050B	97,6010D	MC
Barium, Total	51.3		mg/kg	0.459	--	1	09/15/19 17:40	09/16/19 23:13	EPA 3050B	97,6010D	MC
Cadmium, Total	0.826		mg/kg	0.459	--	1	09/15/19 17:40	09/16/19 23:13	EPA 3050B	97,6010D	MC
Chromium, Total	25.0		mg/kg	0.459	--	1	09/15/19 17:40	09/16/19 23:13	EPA 3050B	97,6010D	MC
Lead, Total	153		mg/kg	2.29	--	1	09/15/19 17:40	09/16/19 23:13	EPA 3050B	97,6010D	MC
Mercury, Total	0.160		mg/kg	0.090	--	1	09/16/19 06:00	09/16/19 17:31	EPA 7471B	97,7471B	GD
Selenium, Total	ND		mg/kg	2.29	--	1	09/15/19 17:40	09/16/19 23:13	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.459	--	1	09/15/19 17:40	09/16/19 23:13	EPA 3050B	97,6010D	MC
Zinc, Total	74.4		mg/kg	2.29	--	1	09/15/19 17:40	09/16/19 23:13	EPA 3050B	97,6010D	MC

Project Name: TOMBARELLO SITE
Lab Number: L1940717
Project Number: 17001426
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-23
Client ID: SB-2 (1-2)
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 10:05
Date Received: 09/06/19
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											
Arsenic, Total	9.19		mg/kg	0.436	--	1	09/15/19 17:40	09/16/19 21:11	EPA 3050B	97,6010D	MC
Barium, Total	132		mg/kg	0.436	--	1	09/15/19 17:40	09/16/19 21:11	EPA 3050B	97,6010D	MC
Cadmium, Total	0.851		mg/kg	0.436	--	1	09/15/19 17:40	09/16/19 21:11	EPA 3050B	97,6010D	MC
Chromium, Total	67.9		mg/kg	0.436	--	1	09/15/19 17:40	09/16/19 21:11	EPA 3050B	97,6010D	MC
Lead, Total	215		mg/kg	2.18	--	1	09/15/19 17:40	09/16/19 21:11	EPA 3050B	97,6010D	MC
Mercury, Total	0.330		mg/kg	0.080	--	1	09/16/19 06:00	09/16/19 16:53	EPA 7471B	97,7471B	GD
Selenium, Total	ND		mg/kg	2.18	--	1	09/15/19 17:40	09/16/19 21:11	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.436	--	1	09/15/19 17:40	09/16/19 21:11	EPA 3050B	97,6010D	MC
Zinc, Total	123		mg/kg	2.18	--	1	09/15/19 17:40	09/16/19 21:11	EPA 3050B	97,6010D	MC

Project Name: TOMBARELLO SITE
Lab Number: L1940717
Project Number: 17001426
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-24
Client ID: SB-2 (2-3)
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 10:07
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Arsenic, Total	8.41		mg/kg	0.425	--	1	09/15/19 17:40	09/16/19 23:17	EPA 3050B	97,6010D	MC
Barium, Total	98.5		mg/kg	0.425	--	1	09/15/19 17:40	09/16/19 23:17	EPA 3050B	97,6010D	MC
Cadmium, Total	0.875		mg/kg	0.425	--	1	09/15/19 17:40	09/16/19 23:17	EPA 3050B	97,6010D	MC
Chromium, Total	47.7		mg/kg	0.425	--	1	09/15/19 17:40	09/16/19 23:17	EPA 3050B	97,6010D	MC
Lead, Total	149		mg/kg	2.12	--	1	09/15/19 17:40	09/16/19 23:17	EPA 3050B	97,6010D	MC
Mercury, Total	2.03		mg/kg	0.088	--	1	09/16/19 06:00	09/16/19 17:33	EPA 7471B	97,7471B	GD
Selenium, Total	ND		mg/kg	2.12	--	1	09/15/19 17:40	09/16/19 23:17	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.425	--	1	09/15/19 17:40	09/16/19 23:17	EPA 3050B	97,6010D	MC
Zinc, Total	116		mg/kg	2.12	--	1	09/15/19 17:40	09/16/19 23:17	EPA 3050B	97,6010D	MC

Project Name: TOMBARELLO SITE
Lab Number: L1940717
Project Number: 17001426
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-27
Client ID: SB-2 (5-7)-2
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 10:20
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Arsenic, Total	7.93		mg/kg	0.493	--	1	09/15/19 17:40	09/16/19 23:22	EPA 3050B	97,6010D	MC
Barium, Total	126		mg/kg	0.493	--	1	09/15/19 17:40	09/16/19 23:22	EPA 3050B	97,6010D	MC
Cadmium, Total	1.33		mg/kg	0.493	--	1	09/15/19 17:40	09/16/19 23:22	EPA 3050B	97,6010D	MC
Chromium, Total	41.3		mg/kg	0.493	--	1	09/15/19 17:40	09/16/19 23:22	EPA 3050B	97,6010D	MC
Lead, Total	698		mg/kg	2.46	--	1	09/15/19 17:40	09/16/19 23:22	EPA 3050B	97,6010D	MC
Mercury, Total	0.393		mg/kg	0.092	--	1	09/16/19 06:00	09/16/19 17:35	EPA 7471B	97,7471B	GD
Selenium, Total	ND		mg/kg	2.46	--	1	09/15/19 17:40	09/16/19 23:22	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.493	--	1	09/15/19 17:40	09/16/19 23:22	EPA 3050B	97,6010D	MC
Zinc, Total	512		mg/kg	2.46	--	1	09/15/19 17:40	09/16/19 23:22	EPA 3050B	97,6010D	MC

Project Name: TOMBARELLO SITE
Lab Number: L1940717
Project Number: 17001426
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-44
Client ID: D-07 (1-3)
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 12:16
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Arsenic, Total	8.68		mg/kg	0.424	--	1	09/15/19 17:40	09/16/19 23:52	EPA 3050B	97,6010D	MC
Barium, Total	297		mg/kg	0.424	--	1	09/15/19 17:40	09/16/19 23:52	EPA 3050B	97,6010D	MC
Cadmium, Total	3.02		mg/kg	0.424	--	1	09/15/19 17:40	09/16/19 23:52	EPA 3050B	97,6010D	MC
Chromium, Total	26.2		mg/kg	0.424	--	1	09/15/19 17:40	09/16/19 23:52	EPA 3050B	97,6010D	MC
Lead, Total	2650		mg/kg	2.12	--	1	09/15/19 17:40	09/16/19 23:52	EPA 3050B	97,6010D	MC
Mercury, Total	0.326		mg/kg	0.081	--	1	09/16/19 06:00	09/16/19 17:37	EPA 7471B	97,7471B	GD
Selenium, Total	ND		mg/kg	2.12	--	1	09/15/19 17:40	09/16/19 23:52	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.424	--	1	09/15/19 17:40	09/16/19 23:52	EPA 3050B	97,6010D	MC
Zinc, Total	722		mg/kg	2.12	--	1	09/15/19 17:40	09/16/19 23:52	EPA 3050B	97,6010D	MC

Project Name: TOMBARELLO SITE
Lab Number: L1940717
Project Number: 17001426
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-45
Client ID: D-07 (7-9)
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 12:30
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 78%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Arsenic, Total	3.80		mg/kg	0.499	--	1	09/15/19 17:40	09/16/19 23:57	EPA 3050B	97,6010D	MC
Barium, Total	17.2		mg/kg	0.499	--	1	09/15/19 17:40	09/16/19 23:57	EPA 3050B	97,6010D	MC
Cadmium, Total	ND		mg/kg	0.499	--	1	09/15/19 17:40	09/16/19 23:57	EPA 3050B	97,6010D	MC
Chromium, Total	15.2		mg/kg	0.499	--	1	09/15/19 17:40	09/16/19 23:57	EPA 3050B	97,6010D	MC
Lead, Total	10.5		mg/kg	2.49	--	1	09/15/19 17:40	09/16/19 23:57	EPA 3050B	97,6010D	MC
Mercury, Total	ND		mg/kg	0.095	--	1	09/16/19 06:00	09/16/19 17:39	EPA 7471B	97,7471B	GD
Selenium, Total	ND		mg/kg	2.49	--	1	09/15/19 17:40	09/16/19 23:57	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.499	--	1	09/15/19 17:40	09/16/19 23:57	EPA 3050B	97,6010D	MC
Zinc, Total	25.3		mg/kg	2.49	--	1	09/15/19 17:40	09/16/19 23:57	EPA 3050B	97,6010D	MC

Project Name: TOMBARELLO SITE
Lab Number: L1940717
Project Number: 17001426
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-50
Client ID: SB-DUP-5
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 00:00
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Arsenic, Total	8.93		mg/kg	0.424	--	1	09/15/19 17:40	09/17/19 00:01	EPA 3050B	97,6010D	MC
Barium, Total	168		mg/kg	0.424	--	1	09/15/19 17:40	09/17/19 00:01	EPA 3050B	97,6010D	MC
Cadmium, Total	2.78		mg/kg	0.424	--	1	09/15/19 17:40	09/17/19 00:01	EPA 3050B	97,6010D	MC
Chromium, Total	30.8		mg/kg	0.424	--	1	09/15/19 17:40	09/17/19 00:01	EPA 3050B	97,6010D	MC
Lead, Total	1220		mg/kg	2.12	--	1	09/15/19 17:40	09/17/19 00:01	EPA 3050B	97,6010D	MC
Mercury, Total	0.462		mg/kg	0.083	--	1	09/16/19 06:00	09/16/19 17:41	EPA 7471B	97,7471B	GD
Selenium, Total	ND		mg/kg	2.12	--	1	09/15/19 17:40	09/17/19 00:01	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.424	--	1	09/15/19 17:40	09/17/19 00:01	EPA 3050B	97,6010D	MC
Zinc, Total	534		mg/kg	2.12	--	1	09/15/19 17:40	09/17/19 00:01	EPA 3050B	97,6010D	MC

Project Name: TOMBARELLO SITE
Lab Number: L1940717
Project Number: 17001426
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-55
Client ID: E-06 (1-3)
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 13:24
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Arsenic, Total	6.53		mg/kg	0.425	--	1	09/15/19 17:40	09/17/19 00:05	EPA 3050B	97,6010D	MC
Barium, Total	269		mg/kg	0.425	--	1	09/15/19 17:40	09/17/19 00:05	EPA 3050B	97,6010D	MC
Cadmium, Total	1.82		mg/kg	0.425	--	1	09/15/19 17:40	09/17/19 00:05	EPA 3050B	97,6010D	MC
Chromium, Total	48.6		mg/kg	0.425	--	1	09/15/19 17:40	09/17/19 00:05	EPA 3050B	97,6010D	MC
Lead, Total	241		mg/kg	2.12	--	1	09/15/19 17:40	09/17/19 00:05	EPA 3050B	97,6010D	MC
Mercury, Total	2.59		mg/kg	0.079	--	1	09/16/19 06:00	09/16/19 17:43	EPA 7471B	97,7471B	GD
Selenium, Total	ND		mg/kg	2.12	--	1	09/15/19 17:40	09/17/19 00:05	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.425	--	1	09/15/19 17:40	09/17/19 00:05	EPA 3050B	97,6010D	MC
Zinc, Total	415		mg/kg	2.12	--	1	09/15/19 17:40	09/17/19 00:05	EPA 3050B	97,6010D	MC

Project Name: TOMBARELLO SITE
Lab Number: L1940717
Project Number: 17001426
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-56
Client ID: E-06 (5-7)-2
Sample Location: LAWRENCE, MA
Date Collected: 09/04/19 13:35
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Arsenic, Total	6.74		mg/kg	0.489	--	1	09/15/19 17:40	09/17/19 00:10	EPA 3050B	97,6010D	MC
Barium, Total	75.0		mg/kg	0.489	--	1	09/15/19 17:40	09/17/19 00:10	EPA 3050B	97,6010D	MC
Cadmium, Total	1.74		mg/kg	0.489	--	1	09/15/19 17:40	09/17/19 00:10	EPA 3050B	97,6010D	MC
Chromium, Total	24.6		mg/kg	0.489	--	1	09/15/19 17:40	09/17/19 00:10	EPA 3050B	97,6010D	MC
Lead, Total	50.8		mg/kg	2.45	--	1	09/15/19 17:40	09/17/19 00:10	EPA 3050B	97,6010D	MC
Mercury, Total	0.362		mg/kg	0.095	--	1	09/16/19 06:00	09/16/19 17:49	EPA 7471B	97,7471B	GD
Selenium, Total	ND		mg/kg	2.45	--	1	09/15/19 17:40	09/17/19 00:10	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.489	--	1	09/15/19 17:40	09/17/19 00:10	EPA 3050B	97,6010D	MC
Zinc, Total	52.3		mg/kg	2.45	--	1	09/15/19 17:40	09/17/19 00:10	EPA 3050B	97,6010D	MC

Project Name: TOMBARELLO SITE
Lab Number: L1940717
Project Number: 17001426
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-101
Client ID: B-09 (1-3)
Sample Location: LAWRENCE, MA
Date Collected: 09/05/19 09:54
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Arsenic, Total	17.0		mg/kg	0.408	--	1	09/15/19 17:40	09/16/19 22:17	EPA 3050B	97,6010D	MC
Barium, Total	328		mg/kg	0.408	--	1	09/15/19 17:40	09/16/19 22:17	EPA 3050B	97,6010D	MC
Cadmium, Total	6.38		mg/kg	0.408	--	1	09/15/19 17:40	09/16/19 22:17	EPA 3050B	97,6010D	MC
Chromium, Total	37.8		mg/kg	0.408	--	1	09/15/19 17:40	09/16/19 22:17	EPA 3050B	97,6010D	MC
Lead, Total	717		mg/kg	2.04	--	1	09/15/19 17:40	09/16/19 22:17	EPA 3050B	97,6010D	MC
Mercury, Total	0.789		mg/kg	0.083	--	1	09/16/19 06:00	09/16/19 17:07	EPA 7471B	97,7471B	GD
Selenium, Total	ND		mg/kg	2.04	--	1	09/15/19 17:40	09/16/19 22:17	EPA 3050B	97,6010D	MC
Silver, Total	0.481		mg/kg	0.408	--	1	09/15/19 17:40	09/16/19 22:17	EPA 3050B	97,6010D	MC
Zinc, Total	774		mg/kg	2.04	--	1	09/15/19 17:40	09/16/19 22:17	EPA 3050B	97,6010D	MC

Project Name: TOMBARELLO SITE
Lab Number: L1940717
Project Number: 17001426
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-105
Client ID: B-09 (5-7)-2
Sample Location: LAWRENCE, MA
Date Collected: 09/05/19 10:02
Date Received: 09/06/19
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											
Arsenic, Total	10.6		mg/kg	0.423	--	1	09/15/19 17:40	09/16/19 22:21	EPA 3050B	97,6010D	MC
Barium, Total	410		mg/kg	0.423	--	1	09/15/19 17:40	09/16/19 22:21	EPA 3050B	97,6010D	MC
Cadmium, Total	6.16		mg/kg	0.423	--	1	09/15/19 17:40	09/16/19 22:21	EPA 3050B	97,6010D	MC
Chromium, Total	40.0		mg/kg	0.423	--	1	09/15/19 17:40	09/16/19 22:21	EPA 3050B	97,6010D	MC
Lead, Total	1150		mg/kg	2.12	--	1	09/15/19 17:40	09/16/19 22:21	EPA 3050B	97,6010D	MC
Mercury, Total	0.887		mg/kg	0.083	--	1	09/16/19 06:00	09/16/19 17:08	EPA 7471B	97,7471B	GD
Selenium, Total	ND		mg/kg	2.12	--	1	09/15/19 17:40	09/16/19 22:21	EPA 3050B	97,6010D	MC
Silver, Total	2.11		mg/kg	0.423	--	1	09/15/19 17:40	09/16/19 22:21	EPA 3050B	97,6010D	MC
Zinc, Total	914		mg/kg	2.12	--	1	09/15/19 17:40	09/16/19 22:21	EPA 3050B	97,6010D	MC

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-113
Client ID: B-05 (1-3)
Sample Location: LAWRENCE, MA
Date Collected: 09/05/19 10:54
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Arsenic, Total	49.0		mg/kg	0.436	--	1	09/15/19 17:40	09/16/19 21:37	EPA 3050B	97,6010D	MC
Barium, Total	59.0		mg/kg	0.436	--	1	09/15/19 17:40	09/16/19 21:37	EPA 3050B	97,6010D	MC
Cadmium, Total	2.66		mg/kg	0.436	--	1	09/15/19 17:40	09/16/19 21:37	EPA 3050B	97,6010D	MC
Chromium, Total	19.4		mg/kg	0.436	--	1	09/15/19 17:40	09/16/19 21:37	EPA 3050B	97,6010D	MC
Lead, Total	242		mg/kg	2.18	--	1	09/15/19 17:40	09/16/19 21:37	EPA 3050B	97,6010D	MC
Mercury, Total	0.612		mg/kg	0.087	--	1	09/16/19 07:00	09/16/19 17:56	EPA 7471B	97,7471B	GD
Selenium, Total	ND		mg/kg	2.18	--	1	09/15/19 17:40	09/16/19 21:37	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.436	--	1	09/15/19 17:40	09/16/19 21:37	EPA 3050B	97,6010D	MC
Zinc, Total	245		mg/kg	2.18	--	1	09/15/19 17:40	09/16/19 21:37	EPA 3050B	97,6010D	MC

Project Name: TOMBARELLO SITE
Lab Number: L1940717
Project Number: 17001426
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-115
Client ID: B-05 (3-5)-2
Sample Location: LAWRENCE, MA
Date Collected: 09/05/19 10:57
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 69%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Arsenic, Total	13.4		mg/kg	0.562	--	1	09/15/19 17:40	09/16/19 22:31	EPA 3050B	97,6010D	MC
Barium, Total	26.0		mg/kg	0.562	--	1	09/15/19 17:40	09/16/19 22:31	EPA 3050B	97,6010D	MC
Cadmium, Total	0.601		mg/kg	0.562	--	1	09/15/19 17:40	09/16/19 22:31	EPA 3050B	97,6010D	MC
Chromium, Total	15.8		mg/kg	0.562	--	1	09/15/19 17:40	09/16/19 22:31	EPA 3050B	97,6010D	MC
Lead, Total	33.4		mg/kg	2.81	--	1	09/15/19 17:40	09/16/19 22:31	EPA 3050B	97,6010D	MC
Mercury, Total	0.107		mg/kg	0.107	--	1	09/16/19 06:00	09/16/19 17:12	EPA 7471B	97,7471B	GD
Selenium, Total	ND		mg/kg	2.81	--	1	09/15/19 17:40	09/16/19 22:31	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.562	--	1	09/15/19 17:40	09/16/19 22:31	EPA 3050B	97,6010D	MC
Zinc, Total	31.7		mg/kg	2.81	--	1	09/15/19 17:40	09/16/19 22:31	EPA 3050B	97,6010D	MC

Project Name: TOMBARELLO SITE
Lab Number: L1940717
Project Number: 17001426
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-138
Client ID: SB-1 (1-2)
Sample Location: LAWRENCE, MA
Date Collected: 09/05/19 13:36
Date Received: 09/06/19
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											
Arsenic, Total	5.94		mg/kg	0.425	--	1	09/15/19 17:40	09/16/19 22:52	EPA 3050B	97,6010D	MC
Barium, Total	74.6		mg/kg	0.425	--	1	09/15/19 17:40	09/16/19 22:52	EPA 3050B	97,6010D	MC
Cadmium, Total	1.11		mg/kg	0.425	--	1	09/15/19 17:40	09/16/19 22:52	EPA 3050B	97,6010D	MC
Chromium, Total	25.6		mg/kg	0.425	--	1	09/15/19 17:40	09/16/19 22:52	EPA 3050B	97,6010D	MC
Lead, Total	342		mg/kg	2.13	--	1	09/15/19 17:40	09/16/19 22:52	EPA 3050B	97,6010D	MC
Mercury, Total	0.121		mg/kg	0.081	--	1	09/16/19 06:00	09/16/19 17:16	EPA 7471B	97,7471B	GD
Selenium, Total	ND		mg/kg	2.13	--	1	09/15/19 17:40	09/16/19 22:52	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.425	--	1	09/15/19 17:40	09/16/19 22:52	EPA 3050B	97,6010D	MC
Zinc, Total	135		mg/kg	2.13	--	1	09/15/19 17:40	09/16/19 22:52	EPA 3050B	97,6010D	MC

Project Name: TOMBARELLO SITE
Lab Number: L1940717
Project Number: 17001426
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-139
Client ID: SB-1 (2-3)
Sample Location: LAWRENCE, MA
Date Collected: 09/05/19 13:39
Date Received: 09/06/19
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											
Arsenic, Total	6.12		mg/kg	0.417	--	1	09/16/19 14:06	09/17/19 00:14	EPA 3050B	97,6010D	MC
Barium, Total	58.3		mg/kg	0.417	--	1	09/16/19 14:06	09/17/19 00:14	EPA 3050B	97,6010D	MC
Cadmium, Total	0.921		mg/kg	0.417	--	1	09/16/19 14:06	09/17/19 00:14	EPA 3050B	97,6010D	MC
Chromium, Total	13.9		mg/kg	0.417	--	1	09/16/19 14:06	09/17/19 00:14	EPA 3050B	97,6010D	MC
Lead, Total	236		mg/kg	2.08	--	1	09/16/19 14:06	09/17/19 00:14	EPA 3050B	97,6010D	MC
Mercury, Total	0.306		mg/kg	0.084	--	1	09/16/19 08:20	09/16/19 16:15	EPA 7471B	97,7471B	GD
Selenium, Total	ND		mg/kg	2.08	--	1	09/16/19 14:06	09/17/19 00:14	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.417	--	1	09/16/19 14:06	09/17/19 00:14	EPA 3050B	97,6010D	MC
Zinc, Total	121		mg/kg	2.08	--	1	09/16/19 14:06	09/17/19 00:14	EPA 3050B	97,6010D	MC

Project Name: TOMBARELLO SITE
Lab Number: L1940717
Project Number: 17001426
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-140
Client ID: SB-DUP-1
Sample Location: LAWRENCE, MA
Date Collected: 09/05/19 00:00
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Arsenic, Total	6.44		mg/kg	0.408	--	1	09/15/19 17:40	09/16/19 22:56	EPA 3050B	97,6010D	MC
Barium, Total	99.9		mg/kg	0.408	--	1	09/15/19 17:40	09/16/19 22:56	EPA 3050B	97,6010D	MC
Cadmium, Total	1.04		mg/kg	0.408	--	1	09/15/19 17:40	09/16/19 22:56	EPA 3050B	97,6010D	MC
Chromium, Total	30.6		mg/kg	0.408	--	1	09/15/19 17:40	09/16/19 22:56	EPA 3050B	97,6010D	MC
Lead, Total	371		mg/kg	2.04	--	1	09/15/19 17:40	09/16/19 22:56	EPA 3050B	97,6010D	MC
Mercury, Total	0.139		mg/kg	0.078	--	1	09/16/19 06:00	09/16/19 17:18	EPA 7471B	97,7471B	GD
Selenium, Total	ND		mg/kg	2.04	--	1	09/15/19 17:40	09/16/19 22:56	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.408	--	1	09/15/19 17:40	09/16/19 22:56	EPA 3050B	97,6010D	MC
Zinc, Total	151		mg/kg	2.04	--	1	09/15/19 17:40	09/16/19 22:56	EPA 3050B	97,6010D	MC

Project Name: TOMBARELLO SITE
Lab Number: L1940717
Project Number: 17001426
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-143
Client ID: SB-1 (5-7)-2
Sample Location: LAWRENCE, MA
Date Collected: 09/05/19 13:48
Date Received: 09/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Arsenic, Total	8.94		mg/kg	0.496	--	1	09/16/19 14:06	09/17/19 00:53	EPA 3050B	97,6010D	MC
Barium, Total	100		mg/kg	0.496	--	1	09/16/19 14:06	09/17/19 00:53	EPA 3050B	97,6010D	MC
Cadmium, Total	1.60		mg/kg	0.496	--	1	09/16/19 14:06	09/17/19 00:53	EPA 3050B	97,6010D	MC
Chromium, Total	16.9		mg/kg	0.496	--	1	09/16/19 14:06	09/17/19 00:53	EPA 3050B	97,6010D	MC
Lead, Total	272		mg/kg	2.48	--	1	09/16/19 14:06	09/17/19 00:53	EPA 3050B	97,6010D	MC
Mercury, Total	0.329		mg/kg	0.095	--	1	09/16/19 06:00	09/16/19 17:20	EPA 7471B	97,7471B	GD
Selenium, Total	ND		mg/kg	2.48	--	1	09/16/19 14:06	09/17/19 00:53	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.496	--	1	09/16/19 14:06	09/17/19 00:53	EPA 3050B	97,6010D	MC
Zinc, Total	129		mg/kg	2.48	--	1	09/16/19 14:06	09/17/19 00:53	EPA 3050B	97,6010D	MC

Project Name: TOMBARELLO SITE **Lab Number:** L1940717

Project Number: 17001426 **Report Date:** 09/20/19

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): 11-12,15,17-18,21,23-24,27,44-45,50,55-56,101,105,113,115,138,140 Batch: WG1284380-1										
Arsenic, Total	ND		mg/kg	0.400	--	1	09/15/19 17:40	09/16/19 20:12	97,6010D	MC
Barium, Total	ND		mg/kg	0.400	--	1	09/15/19 17:40	09/16/19 20:12	97,6010D	MC
Cadmium, Total	ND		mg/kg	0.400	--	1	09/15/19 17:40	09/16/19 20:12	97,6010D	MC
Chromium, Total	ND		mg/kg	0.400	--	1	09/15/19 17:40	09/16/19 20:12	97,6010D	MC
Lead, Total	ND		mg/kg	2.00	--	1	09/15/19 17:40	09/16/19 20:12	97,6010D	MC
Selenium, Total	ND		mg/kg	2.00	--	1	09/15/19 17:40	09/16/19 20:12	97,6010D	MC
Silver, Total	ND		mg/kg	0.400	--	1	09/15/19 17:40	09/16/19 20:12	97,6010D	MC
Zinc, Total	ND		mg/kg	2.00	--	1	09/15/19 17:40	09/16/19 20:12	97,6010D	MC

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 11-12,15,17-18,21,23-24,27,44-45,50,55-56,101,105,115,138,140,143 Batch: WG1284435-1										
Mercury, Total	ND		mg/kg	0.083	--	1	09/16/19 06:00	09/16/19 16:47	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): 113 Batch: WG1284436-1										
Mercury, Total	ND		mg/kg	0.083	--	1	09/16/19 07:00	09/16/19 17:50	97,7471B	GD

Prep Information

Digestion Method: EPA 7471B

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

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): 139 Batch: WG1284469-1										
Mercury, Total	ND		mg/kg	0.083	--	1	09/16/19 08:20	09/16/19 16:05	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): 139,143 Batch: WG1284649-1										
Arsenic, Total	ND		mg/kg	0.400	--	1	09/16/19 14:06	09/16/19 23:39	97,6010D	MC
Barium, Total	ND		mg/kg	0.400	--	1	09/16/19 14:06	09/16/19 23:39	97,6010D	MC
Cadmium, Total	ND		mg/kg	0.400	--	1	09/16/19 14:06	09/16/19 23:39	97,6010D	MC
Chromium, Total	ND		mg/kg	0.400	--	1	09/16/19 14:06	09/16/19 23:39	97,6010D	MC
Lead, Total	ND		mg/kg	2.00	--	1	09/16/19 14:06	09/16/19 23:39	97,6010D	MC
Selenium, Total	ND		mg/kg	2.00	--	1	09/16/19 14:06	09/16/19 23:39	97,6010D	MC
Silver, Total	ND		mg/kg	0.400	--	1	09/16/19 14:06	09/16/19 23:39	97,6010D	MC
Zinc, Total	ND		mg/kg	2.00	--	1	09/16/19 14:06	09/16/19 23:39	97,6010D	MC

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOMBARELLO SITE

Project Number: 17001426

Lab Number: L1940717

Report Date: 09/20/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 11-12,15,17-18,21,23-24,27,44-45,50,55-56,101,105,113,115,138,140 Batch: WG1284380-2 WG1284380-3 SRM Lot Number: D105-540								
Arsenic, Total	92		93		70-130	1		30
Barium, Total	80		87		75-125	8		30
Cadmium, Total	96		94		75-125	2		30
Chromium, Total	80		83		70-130	4		30
Lead, Total	83		84		71-128	1		30
Selenium, Total	91		92		63-137	1		30
Silver, Total	83		85		69-131	2		30
Zinc, Total	85		86		70-130	1		30
MCP Total Metals - Mansfield Lab Associated sample(s): 11-12,15,17-18,21,23-24,27,44-45,50,55-56,101,105,115,138,140,143 Batch: WG1284435-2 WG1284435-3 SRM Lot Number: D105-540								
Mercury, Total	94		96		60-141	2		30
MCP Total Metals - Mansfield Lab Associated sample(s): 113 Batch: WG1284436-2 WG1284436-3 SRM Lot Number: D105-540								
Mercury, Total	90		94		60-141	4		30
MCP Total Metals - Mansfield Lab Associated sample(s): 139 Batch: WG1284469-2 WG1284469-3 SRM Lot Number: D105-540								
Mercury, Total	91		96		60-141	5		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOMBARELLO SITE

Project Number: 17001426

Lab Number: L1940717

Report Date: 09/20/19

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 139,143 Batch: WG1284649-2 WG1284649-3 SRM Lot Number: D105-540					
Arsenic, Total	94	92	70-130	2	30
Barium, Total	86	89	75-125	3	30
Cadmium, Total	89	94	75-125	5	30
Chromium, Total	81	82	70-130	1	30
Lead, Total	84	81	71-128	4	30
Selenium, Total	92	90	63-137	2	30
Silver, Total	86	85	69-131	1	30
Zinc, Total	85	86	70-130	1	30

Matrix Spike Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 11-12,15,17-18,21,23-24,27,44-45,50,55-56,101,105,113,115,138,140 QC Batch ID: WG1284380-4 WG1284380-5 QC Sample: L1940717-23 Client ID: SB-2 (1-2)												
Arsenic, Total	9.19	10.2	18.9	95		17.7	82		75-125	7		35
Barium, Total	132	170	242	**65**	Q	238	**61**	Q	75-125	2		35
Cadmium, Total	0.851	4.33	4.58	86		4.80	90		75-125	5		35
Chromium, Total	67.9	17	82.3	85		53.8	**0**	Q	75-125	**42**	Q	35
Lead, Total	215	43.3	207	**0**	Q	200	**0**	Q	75-125	3		35
Selenium, Total	ND	10.2	9.20	90		9.60	93		75-125	4		35
Silver, Total	ND	25.4	22.2	87		22.9	88		75-125	3		35
Zinc, Total	123	42.4	155	75		185	**144**	Q	75-125	18		35
MCP Total Metals - Mansfield Lab Associated sample(s): 11-12,15,17-18,21,23-24,27,44-45,50,55-56,101,105,113,115,138,140 QC Batch ID: WG1284380-7 WG1284380-8 QC Sample: L1940717-113 Client ID: B-05 (1-3)												
Arsenic, Total	49.0	10.8	57.3	77		58.6	92		75-125	2		35
Barium, Total	59.0	180	226	93		215	90		75-125	5		35
Cadmium, Total	2.66	4.59	6.43	82		6.26	81		75-125	3		35
Chromium, Total	19.4	18	32.1	**70**	Q	32.8	77		75-125	2		35
Lead, Total	242	45.9	263	**46**	Q	304	**140**	Q	75-125	14		35
Selenium, Total	ND	10.8	11.1	103		10.7	103		75-125	4		35
Silver, Total	ND	27	24.3	90		23.3	89		75-125	4		35
Zinc, Total	245	45	613	**818**	Q	273	**64**	Q	75-125	**77**	Q	35
MCP Total Metals - Mansfield Lab Associated sample(s): 11-12,15,17-18,21,23-24,27,44-45,50,55-56,101,105,115,138,140,143 QC Batch ID: WG1284435-4 WG1284435-5 QC Sample: L1940717-23 Client ID: SB-2 (1-2)												
Mercury, Total	0.330	0.167	0.504	104		0.523	120		75-125	4		35

Matrix Spike Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery		Recovery Limits	RPD	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 113 QC Batch ID: WG1284436-4 WG1284436-5 QC Sample: L1940717-113 Client ID: B-05 (1-3)											
Mercury, Total	0.612	0.17	0.793	107		0.743	76		75-125	7	35
MCP Total Metals - Mansfield Lab Associated sample(s): 139 QC Batch ID: WG1284469-4 WG1284469-5 QC Sample: L1940717-139 Client ID: SB-1 (2-3)											
Mercury, Total	0.306	0.164	0.503	120		0.544	**141**	Q	75-125	8	35
MCP Total Metals - Mansfield Lab Associated sample(s): 139,143 QC Batch ID: WG1284649-4 WG1284649-5 QC Sample: L1940717-139 Client ID: SB-1 (2-3)											
Arsenic, Total	6.12	10.6	22.0	**149**	Q	22.1	**149**	Q	75-125	0	35
Barium, Total	58.3	177	224	93		224	93		75-125	0	35
Cadmium, Total	0.921	4.52	6.46	122		6.23	116		75-125	4	35
Chromium, Total	13.9	17.7	34.9	118		35.3	120		75-125	1	35
Lead, Total	236	45.2	271	77		293	125		75-125	8	35
Selenium, Total	ND	10.6	9.54	90		9.84	92		75-125	3	35
Silver, Total	ND	26.6	24.0	90		24.6	92		75-125	2	35
Zinc, Total	121	44.3	162	92		164	96		75-125	1	35

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Serial Dilution Analysis
Batch Quality Control

Lab Number: L1940717
Report Date: 09/20/19

Parameter	Native Sample	Serial Dilution	Units	% D	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 11-12,15,17-18,21,23-24,27,44-45,50,55-56,101,105,113,115,138,140 QC Batch ID: WG1284380-6 QC Sample: L1940717-23 Client ID: SB-2 (1-2)						
Barium, Total	132	103	mg/kg	**22**	Q	20
Chromium, Total	67.9	70.8	mg/kg	4		20
Lead, Total	215	279	mg/kg	**30**	Q	20
Zinc, Total	123	158	mg/kg	**28**	Q	20
MCP Total Metals - Mansfield Lab Associated sample(s): 11-12,15,17-18,21,23-24,27,44-45,50,55-56,101,105,113,115,138,140 QC Batch ID: WG1284380-9 QC Sample: L1940717-113 Client ID: B-05 (1-3)						
Arsenic, Total	49.0	57.0	mg/kg	16		20
Barium, Total	59.0	49.4	mg/kg	16		20
Lead, Total	242	306	mg/kg	**26**	Q	20
Zinc, Total	245	313	mg/kg	**28**	Q	20

INORGANICS
&
MISCELLANEOUS

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-01
Client ID: AS-5
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Solid

Date Collected: 09/03/19 11:05
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	100		%	0.100	NA	1	-	09/07/19 09:07	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-02
Client ID: AS-6
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Solid

Date Collected: 09/03/19 11:15
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	100		%	0.100	NA	1	-	09/07/19 09:07	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-03
Client ID: AS-7
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Solid

Date Collected: 09/03/19 11:20
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.0		%	0.100	NA	1	-	09/07/19 09:07	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-04
Client ID: AS-8
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Solid

Date Collected: 09/03/19 11:25
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	100		%	0.100	NA	1	-	09/07/19 09:07	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-05
Client ID: AS-1
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Solid

Date Collected: 09/03/19 11:45
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.0		%	0.100	NA	1	-	09/07/19 09:07	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-06
Client ID: AS-2
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Solid

Date Collected: 09/03/19 11:50
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.8		%	0.100	NA	1	-	09/07/19 09:07	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-07
Client ID: AS-3
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Solid

Date Collected: 09/03/19 11:55
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	99.6		%	0.100	NA	1	-	09/07/19 09:07	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-08
Client ID: AS-4
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Solid

Date Collected: 09/03/19 12:05
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	100		%	0.100	NA	1	-	09/07/19 09:07	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-09
Client ID: AS-DUP-1
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Solid

Date Collected: 09/03/19 00:00
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	100		%	0.100	NA	1	-	09/07/19 09:07	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-10
Client ID: SB-4 (0-0.5)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/04/19 08:30
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.9		%	0.100	NA	1	-	09/07/19 09:07	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-11
Client ID: SB-4 (1-2)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/04/19 08:50
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Chromium, Hexavalent	ND		mg/kg	0.846	--	1	09/13/19 19:00	09/15/19 18:00	97,7196A	CW
General Chemistry - Westborough Lab										
Solids, Total	94.5		%	0.100	NA	1	-	09/07/19 09:07	121,2540G	RI
pH (H)	5.7		SU	-	NA	1	-	09/09/19 18:34	1,9045D	AS
Oxidation/Reduction Potential	140		mv	-	NA	1	-	09/09/19 22:02	68,1498	AS

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-12
Client ID: SB-4 (2-3)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/04/19 08:40
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Chromium, Hexavalent	ND		mg/kg	0.857	--	1	09/13/19 19:00	09/15/19 18:00	97,7196A	CW
General Chemistry - Westborough Lab										
Solids, Total	93.3		%	0.100	NA	1	-	09/07/19 09:07	121,2540G	RI
pH (H)	6.3		SU	-	NA	1	-	09/09/19 18:34	1,9045D	AS
Oxidation/Reduction Potential	190		mv	-	NA	1	-	09/09/19 22:02	68,1498	AS

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-13
Client ID: SB-4 (3-5)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/04/19 09:05
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.8		%	0.100	NA	1	-	09/07/19 09:07	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-15
Client ID: SB-4 (5-7)-2
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/04/19 09:10
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Chromium, Hexavalent	ND		mg/kg	1.06	--	1	09/13/19 19:00	09/15/19 18:00	97,7196A	CW
General Chemistry - Westborough Lab										
Solids, Total	75.3		%	0.100	NA	1	-	09/07/19 09:07	121,2540G	RI
pH (H)	7.5		SU	-	NA	1	-	09/07/19 12:34	1,9045D	JA
Oxidation/Reduction Potential	140		mv	-	NA	1	-	09/07/19 11:42	68,1498	JA

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-16
Client ID: SB-3 (0-0.5)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/04/19 09:20
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.0		%	0.100	NA	1	-	09/07/19 09:07	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-17
Client ID: SB-3 (1-2)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/04/19 09:25
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Chromium, Hexavalent	ND		mg/kg	0.853	--	1	09/13/19 19:00	09/15/19 18:00	97,7196A	CW
General Chemistry - Westborough Lab										
Solids, Total	93.8		%	0.100	NA	1	-	09/07/19 09:07	121,2540G	RI
pH (H)	6.5		SU	-	NA	1	-	09/09/19 18:34	1,9045D	AS
Oxidation/Reduction Potential	150		mv	-	NA	1	-	09/09/19 22:02	68,1498	AS

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-18
Client ID: SB-3 (2-3)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/04/19 09:30
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Chromium, Hexavalent	ND		mg/kg	0.846	--	1	09/13/19 19:00	09/15/19 18:00	97,7196A	CW
General Chemistry - Westborough Lab										
Solids, Total	94.5		%	0.100	NA	1	-	09/07/19 09:07	121,2540G	RI
pH (H)	7.6		SU	-	NA	1	-	09/07/19 12:34	1,9045D	JA
Oxidation/Reduction Potential	130		mv	-	NA	1	-	09/07/19 11:42	68,1498	JA

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-19
Client ID: SB-3 (3-5)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/04/19 09:35
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.2		%	0.100	NA	1	-	09/07/19 09:07	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-21
Client ID: SB-3 (5-7)-2
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/04/19 09:40
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Chromium, Hexavalent	ND		mg/kg	0.966	--	1	09/13/19 19:00	09/15/19 18:00	97,7196A	CW
General Chemistry - Westborough Lab										
Solids, Total	82.8		%	0.100	NA	1	-	09/07/19 09:07	121,2540G	RI
pH (H)	6.2		SU	-	NA	1	-	09/09/19 18:34	1,9045D	AS
Oxidation/Reduction Potential	150		mv	-	NA	1	-	09/09/19 22:02	68,1498	AS

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-22
Client ID: SB-2 (0-0.5)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/04/19 10:00
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.8		%	0.100	NA	1	-	09/07/19 09:07	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-23
Client ID: SB-2 (1-2)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/04/19 10:05
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Chromium, Hexavalent	ND		mg/kg	0.885	--	1	09/13/19 22:25	09/15/19 18:00	97,7196A	CW
General Chemistry - Westborough Lab										
Solids, Total	90.4		%	0.100	NA	1	-	09/07/19 09:22	121,2540G	RI
pH (H)	7.9		SU	-	NA	1	-	09/07/19 12:34	1,9045D	JA
Oxidation/Reduction Potential	140		mv	-	NA	1	-	09/07/19 11:42	68,1498	JA

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-24
Client ID: SB-2 (2-3)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/04/19 10:07
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Chromium, Hexavalent	1.13		mg/kg	0.897	--	1	09/13/19 19:00	09/15/19 18:00	97,7196A	CW
General Chemistry - Westborough Lab										
Solids, Total	89.2		%	0.100	NA	1	-	09/07/19 09:22	121,2540G	RI
pH (H)	7.8		SU	-	NA	1	-	09/09/19 18:34	1,9045D	AS
Oxidation/Reduction Potential	160		mv	-	NA	1	-	09/09/19 22:02	68,1498	AS

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-25
Client ID: SB-2 (3-5)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/04/19 10:15
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.0		%	0.100	NA	1	-	09/07/19 09:22	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-27
Client ID: SB-2 (5-7)-2
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil
Date Collected: 09/04/19 10:20
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Chromium, Hexavalent	ND		mg/kg	0.985	--	1	09/13/19 19:00	09/15/19 18:00	97,7196A	CW
General Chemistry - Westborough Lab										
Solids, Total	81.2		%	0.100	NA	1	-	09/07/19 09:22	121,2540G	RI
pH (H)	7.6		SU	-	NA	1	-	09/07/19 12:34	1,9045D	JA
Oxidation/Reduction Potential	150		mv	-	NA	1	-	09/07/19 11:42	68,1498	JA

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-32
Client ID: E-08 (1-2)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/04/19 11:25
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.0		%	0.100	NA	1	-	09/07/19 09:22	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-33
Client ID: E-08 (2-3)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/04/19 11:30
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.9		%	0.100	NA	1	-	09/07/19 09:22	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-40
Client ID: D-07 (1-2)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/04/19 12:12
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.3		%	0.100	NA	1	-	09/07/19 09:22	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-41
Client ID: D-07 (2-3)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/04/19 12:14
Date Received: 09/06/19
Field Prep: Not Specified

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	-	09/07/19 09:22	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-44
Client ID: D-07 (1-3)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/04/19 12:16
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Chromium, Hexavalent	ND		mg/kg	0.881	--	1	09/13/19 22:25	09/15/19 18:00	97,7196A	CW
General Chemistry - Westborough Lab										
Solids, Total	90.8		%	0.100	NA	1	-	09/07/19 09:22	121,2540G	RI
pH (H)	7.8		SU	-	NA	1	-	09/07/19 12:34	1,9045D	JA
Oxidation/Reduction Potential	140		mv	-	NA	1	-	09/07/19 11:42	68,1498	JA

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-45
Client ID: D-07 (7-9)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/04/19 12:30
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Chromium, Hexavalent	ND		mg/kg	1.03	--	1	09/13/19 22:25	09/15/19 18:00	97,7196A	CW
General Chemistry - Westborough Lab										
Solids, Total	77.6		%	0.100	NA	1	-	09/07/19 09:22	121,2540G	RI
pH (H)	6.4		SU	-	NA	1	-	09/09/19 18:34	1,9045D	AS
Oxidation/Reduction Potential	140		mv	-	NA	1	-	09/09/19 22:02	68,1498	AS

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-50
Client ID: SB-DUP-5
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/04/19 00:00
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Chromium, Hexavalent	ND		mg/kg	0.881	--	1	09/13/19 22:25	09/15/19 18:00	97,7196A	CW
General Chemistry - Westborough Lab										
Solids, Total	90.8		%	0.100	NA	1	-	09/07/19 09:22	121,2540G	RI
pH (H)	7.5		SU	-	NA	1	-	09/07/19 12:34	1,9045D	JA
Oxidation/Reduction Potential	150		mv	-	NA	1	-	09/07/19 11:42	68,1498	JA

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-51
Client ID: E-06 (1-2)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/04/19 13:22
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.3		%	0.100	NA	1	-	09/07/19 09:22	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-52
Client ID: E-06 (2-3)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/04/19 13:26
Date Received: 09/06/19
Field Prep: Not Specified

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	-	09/07/19 09:22	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-55
Client ID: E-06 (1-3)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/04/19 13:24
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Chromium, Hexavalent	ND		mg/kg	0.856	--	1	09/13/19 22:25	09/15/19 18:00	97,7196A	CW
General Chemistry - Westborough Lab										
Solids, Total	93.5		%	0.100	NA	1	-	09/07/19 09:22	121,2540G	RI
pH (H)	7.4		SU	-	NA	1	-	09/07/19 12:34	1,9045D	JA
Oxidation/Reduction Potential	140		mv	-	NA	1	-	09/07/19 11:42	68,1498	JA

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-56
Client ID: E-06 (5-7)-2
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/04/19 13:35
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Chromium, Hexavalent	ND		mg/kg	1.02	--	1	09/13/19 22:25	09/15/19 18:00	97,7196A	CW
General Chemistry - Westborough Lab										
Solids, Total	78.8		%	0.100	NA	1	-	09/07/19 09:22	121,2540G	RI
pH (H)	7.6		SU	-	NA	1	-	09/09/19 18:34	1,9045D	AS
Oxidation/Reduction Potential	150		mv	-	NA	1	-	09/09/19 22:02	68,1498	AS

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-57
Client ID: E-05 (1-2)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/04/19 14:10
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.0		%	0.100	NA	1	-	09/07/19 09:22	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-58
Client ID: E-05 (2-3)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/04/19 14:12
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.4		%	0.100	NA	1	-	09/07/19 09:22	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-61
Client ID: SB-DUP-6
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/04/19 00:00
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.3		%	0.100	NA	1	-	09/07/19 09:22	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-66
Client ID: D-09 (1-2)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/04/19 14:50
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.8		%	0.100	NA	1	-	09/07/19 09:22	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-67
Client ID: D-09 (2-3)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/04/19 14:53
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	75.3		%	0.100	NA	1	-	09/07/19 09:22	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-74
Client ID: B-07 (1-2)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/04/19 15:27
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.2		%	0.100	NA	1	-	09/07/19 09:47	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-75
Client ID: B-07 (2-3)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/04/19 15:29
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.4		%	0.100	NA	1	-	09/07/19 09:47	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-86
Client ID: C-08 (1-2)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/05/19 09:08
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.3		%	0.100	NA	1	-	09/07/19 09:47	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-87
Client ID: C-08 (2-3)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/05/19 09:11
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	77.9		%	0.100	NA	1	-	09/07/19 09:47	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-90
Client ID: SB-DUP-4
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil
Date Collected: 09/05/19 00:00
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	76.8		%	0.100	NA	1	-	09/07/19 09:47	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-99
Client ID: B-09 (1-2)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/05/19 09:53
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.5		%	0.100	NA	1	-	09/07/19 09:47	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-100
Client ID: SB-DUP-3
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/05/19 00:00
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.4		%	0.100	NA	1	-	09/07/19 09:47	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-101
Client ID: B-09 (1-3)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/05/19 09:54
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Chromium, Hexavalent	ND		mg/kg	0.857	--	1	09/13/19 19:00	09/15/19 18:00	97,7196A	CW
General Chemistry - Westborough Lab										
Solids, Total	93.3		%	0.100	NA	1	-	09/07/19 09:47	121,2540G	RI
pH (H)	7.0		SU	-	NA	1	-	09/09/19 18:34	1,9045D	AS
Oxidation/Reduction Potential	160		mv	-	NA	1	-	09/09/19 22:02	68,1498	AS

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-102
Client ID: B-09 (2-3)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/05/19 09:55
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.0		%	0.100	NA	1	-	09/07/19 09:47	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-105
Client ID: B-09 (5-7)-2
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/05/19 10:02
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Chromium, Hexavalent	ND		mg/kg	0.872	--	1	09/13/19 19:00	09/15/19 18:00	97,7196A	CW
General Chemistry - Westborough Lab										
Solids, Total	91.7		%	0.100	NA	1	-	09/07/19 09:47	121,2540G	RI
pH (H)	6.8		SU	-	NA	1	-	09/09/19 18:34	1,9045D	AS
Oxidation/Reduction Potential	160		mv	-	NA	1	-	09/09/19 22:02	68,1498	AS

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-106
Client ID: A-06 (1-2)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/05/19 10:33
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.7		%	0.100	NA	1	-	09/07/19 09:47	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-107
Client ID: A-06 (2-3)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/05/19 10:36
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	97.1		%	0.100	NA	1	-	09/07/19 09:47	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-110
Client ID: SB-DUP-2
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil
Date Collected: 09/05/19 00:00
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	97.2		%	0.100	NA	1	-	09/07/19 09:47	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-111
Client ID: B-05 (1-2)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/05/19 10:48
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.9		%	0.100	NA	1	-	09/07/19 09:47	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-112
Client ID: B-05 (2-3)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/05/19 10:51
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.4		%	0.100	NA	1	-	09/07/19 09:47	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-113
Client ID: B-05 (1-3)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/05/19 10:54
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Chromium, Hexavalent	ND		mg/kg	0.918	--	1	09/13/19 19:00	09/15/19 18:00	97,7196A	CW
General Chemistry - Westborough Lab										
Solids, Total	87.1		%	0.100	NA	1	-	09/07/19 09:47	121,2540G	RI
pH (H)	7.8		SU	-	NA	1	-	09/07/19 12:34	1,9045D	JA
Oxidation/Reduction Potential	140		mv	-	NA	1	-	09/07/19 11:42	68,1498	JA

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-115
Client ID: B-05 (3-5)-2
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/05/19 10:57
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Chromium, Hexavalent	ND		mg/kg	1.15	--	1	09/13/19 19:00	09/15/19 18:00	97,7196A	CW
General Chemistry - Westborough Lab										
Solids, Total	69.3		%	0.100	NA	1	-	09/07/19 09:47	121,2540G	RI
pH (H)	7.5		SU	-	NA	1	-	09/09/19 18:34	1,9045D	AS
Oxidation/Reduction Potential	160		mv	-	NA	1	-	09/09/19 22:02	68,1498	AS

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-117
Client ID: C-05 (1-2)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/05/19 11:12
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.1		%	0.100	NA	1	-	09/07/19 09:47	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-118
Client ID: C-05 (2-3)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/05/19 11:15
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.5		%	0.100	NA	1	-	09/07/19 09:47	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-121
Client ID: C-06 (1-2)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/05/19 11:32
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.2		%	0.100	NA	1	-	09/07/19 09:58	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-122
Client ID: C-06 (2-3)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/05/19 11:34
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.0		%	0.100	NA	1	-	09/07/19 09:58	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-125
Client ID: A-05 (1-2)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/05/19 12:12
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.0		%	0.100	NA	1	-	09/07/19 09:58	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-126
Client ID: A-05 (2-3)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/05/19 12:14
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.3		%	0.100	NA	1	-	09/07/19 09:58	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-129
Client ID: E-02 (1-2)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/05/19 13:05
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.0		%	0.100	NA	1	-	09/07/19 09:58	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-130
Client ID: E-02 (2-3)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/05/19 13:08
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.5		%	0.100	NA	1	-	09/07/19 09:58	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-137
Client ID: SB-1 (0-0.5)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/05/19 13:33
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.0		%	0.100	NA	1	-	09/07/19 09:58	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-138
Client ID: SB-1 (1-2)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/05/19 13:36
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Chromium, Hexavalent	ND		mg/kg	0.870	--	1	09/13/19 19:00	09/15/19 18:00	97,7196A	CW
General Chemistry - Westborough Lab										
Solids, Total	92.0		%	0.100	NA	1	-	09/07/19 09:58	121,2540G	RI
pH (H)	7.8		SU	-	NA	1	-	09/09/19 18:34	1,9045D	AS
Oxidation/Reduction Potential	160		mv	-	NA	1	-	09/09/19 22:02	68,1498	AS

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-139
Client ID: SB-1 (2-3)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/05/19 13:39
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Chromium, Hexavalent	ND		mg/kg	0.894	--	1	09/13/19 19:00	09/15/19 18:00	97,7196A	CW
General Chemistry - Westborough Lab										
Solids, Total	89.5		%	0.100	NA	1	-	09/07/19 09:58	121,2540G	RI
pH (H)	7.7		SU	-	NA	1	-	09/07/19 12:34	1,9045D	JA
Oxidation/Reduction Potential	130		mv	-	NA	1	-	09/07/19 11:42	68,1498	JA

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-140
Client ID: SB-DUP-1
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/05/19 00:00
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Chromium, Hexavalent	ND		mg/kg	0.840	--	1	09/13/19 19:00	09/15/19 18:00	97,7196A	CW
General Chemistry - Westborough Lab										
Solids, Total	95.2		%	0.100	NA	1	-	09/07/19 09:58	121,2540G	RI
pH (H)	8.2		SU	-	NA	1	-	09/07/19 12:34	1,9045D	JA
Oxidation/Reduction Potential	130		mv	-	NA	1	-	09/07/19 11:42	68,1498	JA

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-141
Client ID: SB-1 (3-5)
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil

Date Collected: 09/05/19 13:42
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	78.4		%	0.100	NA	1	-	09/07/19 09:58	121,2540G	RI

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1940717-143
Client ID: SB-1 (5-7)-2
Sample Location: LAWRENCE, MA
Sample Depth:
Matrix: Soil
Date Collected: 09/05/19 13:48
Date Received: 09/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Chromium, Hexavalent	ND		mg/kg	1.01	--	1	09/13/19 19:00	09/15/19 18:00	97,7196A	CW
General Chemistry - Westborough Lab										
Solids, Total	79.3		%	0.100	NA	1	-	09/07/19 09:58	121,2540G	RI
pH (H)	7.5		SU	-	NA	1	-	09/09/19 18:34	1,9045D	AS
Oxidation/Reduction Potential	160		mv	-	NA	1	-	09/09/19 22:02	68,1498	AS

Project Name: TOMBARELLO SITE
Project Number: 17001426
Lab Number: L1940717
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab for sample(s): 11-12,101,105,113,115,138 Batch: WG1283971-1										
Chromium, Hexavalent	ND		mg/kg	0.800	--	1	09/13/19 19:00	09/15/19 18:00	97,7196A	CW
MCP General Chemistry - Westborough Lab for sample(s): 15,17-18,21,24,27,139-140,143 Batch: WG1283979-1										
Chromium, Hexavalent	ND		mg/kg	0.800	--	1	09/13/19 19:00	09/15/19 18:00	97,7196A	CW
MCP General Chemistry - Westborough Lab for sample(s): 23,44-45,50,55-56 Batch: WG1283980-1										
Chromium, Hexavalent	ND		mg/kg	0.800	--	1	09/13/19 22:25	09/15/19 18:00	97,7196A	CW

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOMBARELLO SITE

Project Number: 17001426

Lab Number: L1940717

Report Date: 09/20/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 15,18,23,27,44,50,55,113,139-140 Batch: WG1281496-1								
Oxidation/Reduction Potential	101		-		90-110	-		20
General Chemistry - Westborough Lab Associated sample(s): 15,18,23,27,44,50,55,113,139-140 Batch: WG1281505-1								
pH	101		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 11-12,17,21,24,45,56,101,105,115,138,143 Batch: WG1281961-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 11-12,17,21,24,45,56,101,105,115,138,143 Batch: WG1281998-1								
Oxidation/Reduction Potential	101		-		90-110	-		20
MCP General Chemistry - Westborough Lab Associated sample(s): 11-12,101,105,113,115,138 Batch: WG1283971-2 WG1283971-3								
Chromium, Hexavalent	97		103		70-129	6		20
MCP General Chemistry - Westborough Lab Associated sample(s): 15,17-18,21,24,27,139-140,143 Batch: WG1283979-2 WG1283979-3								
Chromium, Hexavalent	97		103		70-129	6		20
MCP General Chemistry - Westborough Lab Associated sample(s): 23,44-45,50,55-56 Batch: WG1283980-2 WG1283980-3								
Chromium, Hexavalent	86		85		70-129	1		20

Matrix Spike Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
MCP General Chemistry - Westborough Lab Associated sample(s): 11-12,101,105,113,115,138 QC Batch ID: WG1283971-4 WG1283971-5 QC Sample: L1940717-113 Client ID: B-05 (1-3)												
Chromium, Hexavalent	ND	772	726	94		840	106		75-125	15		35
MCP General Chemistry - Westborough Lab Associated sample(s): 15,17-18,21,24,27,139-140,143 QC Batch ID: WG1283979-4 WG1283979-5 QC Sample: L1940717-139 Client ID: SB-1 (2-3)												
Chromium, Hexavalent	ND	990	933	94		842	87		75-125	10		35
MCP General Chemistry - Westborough Lab Associated sample(s): 23,44-45,50,55-56 QC Batch ID: WG1283980-4 WG1283980-5 QC Sample: L1940717-23 Client ID: SB-2 (1-2)												
Chromium, Hexavalent	ND	762	793	104		804	102		75-125	1		35

Lab Duplicate Analysis
Batch Quality Control

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-13,15-19,21-22 QC Batch ID: WG1281442-1 QC Sample: L1940717-01 Client ID: AS-5						
Solids, Total	100	99.7	%	0		20
General Chemistry - Westborough Lab Associated sample(s): 23-25,27,32-33,40-41,44-45,50-52,55-58,61,66-67 QC Batch ID: WG1281445-1 QC Sample: L1940717-23 Client ID: SB-2 (1-2)						
Solids, Total	90.4	91.0	%	1		20
General Chemistry - Westborough Lab Associated sample(s): 74-75,86-87,90,99-102,105-107,110-113,115,117-118 QC Batch ID: WG1281446-1 QC Sample: L1940717-74 Client ID: B-07 (1-2)						
Solids, Total	91.2	92.3	%	1		20
General Chemistry - Westborough Lab Associated sample(s): 121-122,125-126,129-130,137-141,143 QC Batch ID: WG1281447-1 QC Sample: L1940717-121 Client ID: C-06 (1-2)						
Solids, Total	95.2	95.6	%	0		20
General Chemistry - Westborough Lab Associated sample(s): 15,18,23,27,44,50,55,113,139-140 QC Batch ID: WG1281496-2 QC Sample: L1940717-113 Client ID: B-05 (1-3)						
Oxidation/Reduction Potential	140	140	mv	0		20
General Chemistry - Westborough Lab Associated sample(s): 11-12,17,21,24,45,56,101,105,115,138,143 QC Batch ID: WG1281961-2 QC Sample: L1940717-11 Client ID: SB-4 (1-2)						
pH (H)	5.7	5.8	SU	2		5
General Chemistry - Westborough Lab Associated sample(s): 11-12,17,21,24,45,56,101,105,115,138,143 QC Batch ID: WG1281998-2 QC Sample: L1940717-11 Client ID: SB-4 (1-2)						
Oxidation/Reduction Potential	140	140	mv	0		20

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1940717-01A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082LL-CNCRT(365)
L1940717-02A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082LL-CNCRT(365)
L1940717-03A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082LL-CNCRT(365)
L1940717-04A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082LL-CNCRT(365)
L1940717-05A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082LL-CNCRT(365)
L1940717-06A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082LL-CNCRT(365)
L1940717-07A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082LL-CNCRT(365)
L1940717-08A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082LL-CNCRT(365)
L1940717-09A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082LL-CNCRT(365)
L1940717-100A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-101A	Vial MeOH preserved	B	NA		3.5	Y	Absent		MCP-8260HLW-10(14)
L1940717-101B	Vial water preserved	B	NA		3.5	Y	Absent	07-SEP-19 07:00	MCP-8260HLW-10(14)
L1940717-101C	Vial water preserved	B	NA		3.5	Y	Absent	07-SEP-19 07:00	MCP-8260HLW-10(14)
L1940717-101D	Plastic 2oz unpreserved for TS	B	NA		3.5	Y	Absent		TS(7)
L1940717-101E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1940717-101F	Glass 120ml/4oz unpreserved/No Headspace	B	NA		3.5	Y	Absent		MCP-HEXCR7196-10(30)
L1940717-101G	Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		ORP-9045(1),PH-9045(1),EPH-DELUX-10(14)
L1940717-102A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-103A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-104A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)

*Values in parentheses indicate holding time in days

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1940717-105A	Vial MeOH preserved	B	NA		3.5	Y	Absent		MCP-8260HLW-10(14)
L1940717-105B	Vial water preserved	B	NA		3.5	Y	Absent	07-SEP-19 07:00	MCP-8260HLW-10(14)
L1940717-105C	Vial water preserved	B	NA		3.5	Y	Absent	07-SEP-19 07:00	MCP-8260HLW-10(14)
L1940717-105E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1940717-105F	Glass 120ml/4oz unpreserved/No Headspace	B	NA		3.5	Y	Absent		MCP-HEXCR7196-10(30)
L1940717-105G	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		ORP-9045(1),TS(7),MCP-8082-10-3540C(365),PH-9045(1),EPH-DELUX-10(14)
L1940717-106A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-107A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-108A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-109A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-10A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-110A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-111A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-112A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-113A	Vial MeOH preserved	B	NA		3.5	Y	Absent		MCP-8260HLW-10(14)
L1940717-113B	Vial water preserved	B	NA		3.5	Y	Absent	07-SEP-19 07:00	MCP-8260HLW-10(14)
L1940717-113C	Vial water preserved	B	NA		3.5	Y	Absent	07-SEP-19 07:00	MCP-8260HLW-10(14)
L1940717-113D	Plastic 2oz unpreserved for TS	B	NA		3.5	Y	Absent		TS(7)
L1940717-113E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1940717-113E1	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1940717-113E2	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1940717-113F	Glass 120ml/4oz unpreserved/No Headspace	B	NA		3.5	Y	Absent		MCP-HEXCR7196-10(30)
L1940717-113G	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		ORP-9045(1),PH-9045(1),EPH-DELUX-10(14)
L1940717-113G1	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		ORP-9045(1),PH-9045(1),EPH-DELUX-10(14)
L1940717-113G2	Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		EPH-DELUX-10(14)
L1940717-114A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-115A	Vial MeOH preserved	B	NA		3.5	Y	Absent		MCP-8260HLW-10(14)
L1940717-115B	Vial water preserved	B	NA		3.5	Y	Absent	07-SEP-19 07:00	MCP-8260HLW-10(14)
L1940717-115C	Vial water preserved	B	NA		3.5	Y	Absent	07-SEP-19 07:00	MCP-8260HLW-10(14)
L1940717-115D	Plastic 2oz unpreserved for TS	B	NA		3.5	Y	Absent		TS(7)
L1940717-115E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1940717-115F	Glass 120ml/4oz unpreserved/No Headspace	B	NA		3.5	Y	Absent		MCP-HEXCR7196-10(30)
L1940717-115G	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		ORP-9045(1),MCP-8082-10-3540C(365),PH-9045(1),EPH-DELUX-10(14)
L1940717-116A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-117A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-118A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-119A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-11A	Vial MeOH preserved	B	NA		3.5	Y	Absent		MCP-8260HLW-10(14)
L1940717-11B	Vial water preserved	B	NA		3.5	Y	Absent	**07-SEP-19 07:00**	MCP-8260HLW-10(14)
L1940717-11C	Vial water preserved	B	NA		3.5	Y	Absent	**07-SEP-19 07:00**	MCP-8260HLW-10(14)
L1940717-11D	Plastic 2oz unpreserved for TS	B	NA		3.5	Y	Absent		TS(7)
L1940717-11E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)

*Values in parentheses indicate holding time in days

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1940717-11F	Glass 120ml/4oz unpreserved/No Headspace	B	NA		3.5	Y	Absent		MCP-HEXCR7196-10(30)
L1940717-11G	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		ORP-9045(1),MCP-8082-10-3540C(365),PH-9045(1),EPH-DELUX-10(14)
L1940717-120A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-121A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-122A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-123A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-124A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-125A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-126A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-127A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-128A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-129A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-12A	Vial MeOH preserved	B	NA		3.5	Y	Absent		MCP-8260HLW-10(14)
L1940717-12B	Vial water preserved	B	NA		3.5	Y	Absent	**07-SEP-19 07:00**	MCP-8260HLW-10(14)
L1940717-12C	Vial water preserved	B	NA		3.5	Y	Absent	**07-SEP-19 07:00**	MCP-8260HLW-10(14)
L1940717-12D	Plastic 2oz unpreserved for TS	B	NA		3.5	Y	Absent		TS(7)
L1940717-12E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1940717-12F	Glass 120ml/4oz unpreserved/No Headspace	B	NA		3.5	Y	Absent		MCP-HEXCR7196-10(30)
L1940717-12G	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		ORP-9045(1),MCP-8082-10-3540C(365),PH-9045(1),EPH-DELUX-10(14)
L1940717-130A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-131A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-132A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-133A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-134A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-135A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-136A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1940717-137A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-138A	Vial MeOH preserved	B	NA		3.5	Y	Absent		MCP-8260H-10(14),MCP-8260HLW-10(14)
L1940717-138B	Vial water preserved	B	NA		3.5	Y	Absent	07-SEP-19 07:00	MCP-8260H-10(14),MCP-8260HLW-10(14)
L1940717-138C	Vial water preserved	B	NA		3.5	Y	Absent	07-SEP-19 07:00	MCP-8260H-10(14),MCP-8260HLW-10(14)
L1940717-138E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1940717-138F	Glass 120ml/4oz unpreserved/No Headspace	B	NA		3.5	Y	Absent		MCP-HEXCR7196-10(30)
L1940717-138G	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		ORP-9045(1),TS(7),MCP-8082-10-3540C(365),PH-9045(1),EPH-DELUX-10(14)
L1940717-139A	Vial MeOH preserved	B	NA		3.5	Y	Absent		MCP-8260HLW-10(14)
L1940717-139B	Vial water preserved	B	NA		3.5	Y	Absent	07-SEP-19 07:00	MCP-8260HLW-10(14)
L1940717-139C	Vial water preserved	B	NA		3.5	Y	Absent	07-SEP-19 07:00	MCP-8260HLW-10(14)
L1940717-139D	Plastic 2oz unpreserved for TS	B	NA		3.5	Y	Absent		TS(7)
L1940717-139E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1940717-139E1	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1940717-139E2	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1940717-139F	Glass 120ml/4oz unpreserved/No Headspace	B	NA		3.5	Y	Absent		MCP-HEXCR7196-10(30)
L1940717-139G	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		ORP-9045(1),MCP-8082-10-3540C(365),PH-9045(1),EPH-DELUX-10(14)
L1940717-139G1	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		ORP-9045(1),MCP-8082-10-3540C(365),PH-9045(1),EPH-DELUX-10(14)
L1940717-139G2	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		ORP-9045(1),MCP-8082-10-3540C(365),PH-9045(1),EPH-DELUX-10(14)
L1940717-13A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1940717-140A	Vial MeOH preserved	B	NA		3.5	Y	Absent		MCP-8260HLW-10(14)
L1940717-140B	Vial water preserved	B	NA		3.5	Y	Absent	**07-SEP-19 07:00**	MCP-8260HLW-10(14)
L1940717-140C	Vial water preserved	B	NA		3.5	Y	Absent	**07-SEP-19 07:00**	MCP-8260HLW-10(14)
L1940717-140D	Plastic 2oz unpreserved for TS	B	NA		3.5	Y	Absent		TS(7)
L1940717-140E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1940717-140F	Glass 120ml/4oz unpreserved/No Headspace	B	NA		3.5	Y	Absent		MCP-HEXCR7196-10(30)
L1940717-140G	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		ORP-9045(1),MCP-8082-10-3540C(365),PH-9045(1),EPH-DELUX-10(14)
L1940717-141A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-142A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-143A	Vial MeOH preserved	B	NA		3.5	Y	Absent		MCP-8260H-10(14),MCP-8260HLW-10(14)
L1940717-143B	Vial water preserved	B	NA		3.5	Y	Absent	07-SEP-19 07:00	MCP-8260H-10(14),MCP-8260HLW-10(14)
L1940717-143C	Vial water preserved	B	NA		3.5	Y	Absent	07-SEP-19 07:00	MCP-8260H-10(14),MCP-8260HLW-10(14)
L1940717-143D	Plastic 2oz unpreserved for TS	B	NA		3.5	Y	Absent		TS(7)
L1940717-143E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1940717-143F	Glass 120ml/4oz unpreserved/No Headspace	B	NA		3.5	Y	Absent		MCP-HEXCR7196-10(30)
L1940717-143G	Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		ORP-9045(1),PH-9045(1),EPH-DELUX-10(14)
L1940717-144A	Vial MeOH preserved	A	NA		4.9	Y	Absent		ARCHIVE()
L1940717-144B	Vial MeOH preserved	B	NA		3.5	Y	Absent		ARCHIVE()
L1940717-144C	Vial water preserved	A	NA		4.9	Y	Absent	**07-SEP-19 07:00**	ARCHIVE()
L1940717-144D	Vial water preserved	B	NA		3.5	Y	Absent	**07-SEP-19 07:00**	ARCHIVE()
L1940717-14A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-15A	Vial MeOH preserved	B	NA		3.5	Y	Absent		MCP-8260H-10(14),MCP-8260HLW-10(14)
L1940717-15B	Vial water preserved	B	NA		3.5	Y	Absent	**07-SEP-19 07:00**	MCP-8260H-10(14),MCP-8260HLW-10(14)
L1940717-15C	Vial water preserved	B	NA		3.5	Y	Absent	**07-SEP-19 07:00**	MCP-8260H-10(14),MCP-8260HLW-10(14)

*Values in parentheses indicate holding time in days

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1940717-15D	Plastic 2oz unpreserved for TS	B	NA		3.5	Y	Absent		TS(7)
L1940717-15E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1940717-15F	Glass 120ml/4oz unpreserved/No Headspace	B	NA		3.5	Y	Absent		MCP-HEXCR7196-10(30)
L1940717-15G	Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		ORP-9045(1),MCP-8082-10-3540C(365),PH-9045(1),EPH-DELUX-10(14)
L1940717-16A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-17A	Vial MeOH preserved	B	NA		3.5	Y	Absent		MCP-8260HLW-10(14)
L1940717-17B	Vial water preserved	B	NA		3.5	Y	Absent	**07-SEP-19 07:00**	MCP-8260HLW-10(14)
L1940717-17C	Vial water preserved	B	NA		3.5	Y	Absent	**07-SEP-19 07:00**	MCP-8260HLW-10(14)
L1940717-17E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1940717-17F	Glass 120ml/4oz unpreserved/No Headspace	B	NA		3.5	Y	Absent		MCP-HEXCR7196-10(30)
L1940717-17G	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		ORP-9045(1),TS(7),MCP-8082-10-3540C(365),PH-9045(1),EPH-DELUX-10(14)
L1940717-18A	Vial MeOH preserved	B	NA		3.5	Y	Absent		MCP-8260HLW-10(14)
L1940717-18B	Vial water preserved	B	NA		3.5	Y	Absent	**07-SEP-19 07:00**	MCP-8260HLW-10(14)
L1940717-18C	Vial water preserved	B	NA		3.5	Y	Absent	**07-SEP-19 07:00**	MCP-8260HLW-10(14)
L1940717-18D	Plastic 2oz unpreserved for TS	B	NA		3.5	Y	Absent		TS(7)
L1940717-18E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1940717-18F	Glass 120ml/4oz unpreserved/No Headspace	B	NA		3.5	Y	Absent		MCP-HEXCR7196-10(30)
L1940717-18G	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		ORP-9045(1),MCP-8082-10-3540C(365),PH-9045(1),EPH-DELUX-10(14)
L1940717-19A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-20A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-21A	Vial MeOH preserved	B	NA		3.5	Y	Absent		MCP-8260HLW-10(14)
L1940717-21B	Vial water preserved	B	NA		3.5	Y	Absent	**07-SEP-19 07:00**	MCP-8260HLW-10(14)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1940717-21C	Vial water preserved	B	NA		3.5	Y	Absent	**07-SEP-19 07:00**	MCP-8260HLW-10(14)
L1940717-21E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1940717-21F	Glass 120ml/4oz unpreserved/No Headspace	B	NA		3.5	Y	Absent		MCP-HEXCR7196-10(30)
L1940717-21G	Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		ORP-9045(1),TS(7),PH-9045(1),EPH-DELUX-10(14)
L1940717-22A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-23A	Vial MeOH preserved	B	NA		3.5	Y	Absent		MCP-8260HLW-10(14)
L1940717-23B	Vial water preserved	B	NA		3.5	Y	Absent	**07-SEP-19 07:00**	MCP-8260HLW-10(14)
L1940717-23C	Vial water preserved	B	NA		3.5	Y	Absent	**07-SEP-19 07:00**	MCP-8260HLW-10(14)
L1940717-23E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1940717-23E1	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1940717-23E2	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1940717-23F	Glass 120ml/4oz unpreserved/No Headspace	B	NA		3.5	Y	Absent		MCP-HEXCR7196-10(30)
L1940717-23G	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		ORP-9045(1),TS(7),MCP-8082-10-3540C(365),PH-9045(1),EPH-DELUX-10(14)
L1940717-23G1	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		ORP-9045(1),TS(7),MCP-8082-10-3540C(365),PH-9045(1),EPH-DELUX-10(14)
L1940717-23G2	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		ORP-9045(1),TS(7),MCP-8082-10-3540C(365),PH-9045(1),EPH-DELUX-10(14)
L1940717-24A	Vial MeOH preserved	B	NA		3.5	Y	Absent		MCP-8260HLW-10(14)
L1940717-24B	Vial water preserved	B	NA		3.5	Y	Absent	**07-SEP-19 07:00**	MCP-8260HLW-10(14)
L1940717-24C	Vial water preserved	B	NA		3.5	Y	Absent	**07-SEP-19 07:00**	MCP-8260HLW-10(14)
L1940717-24D	Plastic 2oz unpreserved for TS	B	NA		3.5	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1940717-24E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1940717-24F	Glass 120ml/4oz unpreserved/No Headspace	B	NA		3.5	Y	Absent		MCP-HEXCR7196-10(30)
L1940717-24G	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		ORP-9045(1),MCP-8082-10-3540C(365),PH-9045(1),EPH-DELUX-10(14)
L1940717-25A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-26A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-27A	Vial MeOH preserved	B	NA		3.5	Y	Absent		MCP-8260H-10(14),MCP-8260HLW-10(14)
L1940717-27B	Vial water preserved	B	NA		3.5	Y	Absent	**07-SEP-19 07:00**	MCP-8260H-10(14),MCP-8260HLW-10(14)
L1940717-27C	Vial water preserved	B	NA		3.5	Y	Absent	**07-SEP-19 07:00**	MCP-8260H-10(14),MCP-8260HLW-10(14)
L1940717-27D	Plastic 2oz unpreserved for TS	B	NA		3.5	Y	Absent		TS(7)
L1940717-27E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1940717-27F	Glass 120ml/4oz unpreserved/No Headspace	B	NA		3.5	Y	Absent		MCP-HEXCR7196-10(30)
L1940717-27G	Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		ORP-9045(1),PH-9045(1),EPH-DELUX-10(14)
L1940717-28A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-29A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-30A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-31A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-32A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-33A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-34A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-35A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-36A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-37A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-38A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-39A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1940717-40A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-41A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-42A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-43A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-44A	Vial MeOH preserved	B	NA		3.5	Y	Absent		MCP-8260H-10(14),MCP-8260HLW-10(14)
L1940717-44B	Vial water preserved	B	NA		3.5	Y	Absent	**07-SEP-19 07:00**	MCP-8260H-10(14),MCP-8260HLW-10(14)
L1940717-44C	Vial water preserved	B	NA		3.5	Y	Absent	**07-SEP-19 07:00**	MCP-8260H-10(14),MCP-8260HLW-10(14)
L1940717-44D	Plastic 2oz unpreserved for TS	B	NA		3.5	Y	Absent		TS(7)
L1940717-44E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1940717-44F	Glass 120ml/4oz unpreserved/No Headspace	B	NA		3.5	Y	Absent		MCP-HEXCR7196-10(30)
L1940717-44G	Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		ORP-9045(1),PH-9045(1),EPH-DELUX-10(14)
L1940717-45A	Vial MeOH preserved	B	NA		3.5	Y	Absent		MCP-8260HLW-10(14)
L1940717-45B	Vial water preserved	B	NA		3.5	Y	Absent	**07-SEP-19 07:00**	MCP-8260HLW-10(14)
L1940717-45C	Vial water preserved	B	NA		3.5	Y	Absent	**07-SEP-19 07:00**	MCP-8260HLW-10(14)
L1940717-45E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1940717-45F	Glass 120ml/4oz unpreserved/No Headspace	B	NA		3.5	Y	Absent		MCP-HEXCR7196-10(30)
L1940717-45G	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		ORP-9045(1),TS(7),MCP-8082-10-3540C(365),PH-9045(1),EPH-DELUX-10(14)
L1940717-46A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-47A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-48A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-49A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-50A	Vial MeOH preserved	B	NA		3.5	Y	Absent		MCP-8260HLW-10(14)
L1940717-50B	Vial water preserved	B	NA		3.5	Y	Absent	**07-SEP-19 07:00**	MCP-8260HLW-10(14)
L1940717-50C	Vial water preserved	B	NA		3.5	Y	Absent	**07-SEP-19 07:00**	MCP-8260HLW-10(14)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1940717-50D	Plastic 2oz unpreserved for TS	B	NA		3.5	Y	Absent		TS(7)
L1940717-50E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1940717-50F	Glass 120ml/4oz unpreserved/No Headspace	B	NA		3.5	Y	Absent		MCP-HEXCR7196-10(30)
L1940717-50G	Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		ORP-9045(1),PH-9045(1),EPH-DELUX-10(14)
L1940717-51A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-52A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-53A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-54A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-55A	Vial MeOH preserved	B	NA		3.5	Y	Absent		MCP-8260HLW-10(14)
L1940717-55B	Vial water preserved	B	NA		3.5	Y	Absent	**07-SEP-19 07:00**	MCP-8260HLW-10(14)
L1940717-55C	Vial water preserved	B	NA		3.5	Y	Absent	**07-SEP-19 07:00**	MCP-8260HLW-10(14)
L1940717-55D	Plastic 2oz unpreserved for TS	B	NA		3.5	Y	Absent		TS(7)
L1940717-55E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1940717-55F	Glass 120ml/4oz unpreserved/No Headspace	B	NA		3.5	Y	Absent		MCP-HEXCR7196-10(30)
L1940717-55G	Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		ORP-9045(1),PH-9045(1),EPH-DELUX-10(14)
L1940717-56A	Vial MeOH preserved	B	NA		3.5	Y	Absent		MCP-8260HLW-10(14)
L1940717-56B	Vial water preserved	B	NA		3.5	Y	Absent	**07-SEP-19 07:00**	MCP-8260HLW-10(14)
L1940717-56C	Vial water preserved	B	NA		3.5	Y	Absent	**07-SEP-19 07:00**	MCP-8260HLW-10(14)
L1940717-56E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1940717-56F	Glass 120ml/4oz unpreserved/No Headspace	B	NA		3.5	Y	Absent		MCP-HEXCR7196-10(30)
L1940717-56G	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		ORP-9045(1),TS(7),MCP-8082-10-3540C(365),PH-9045(1),EPH-DELUX-10(14)
L1940717-57A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)

*Values in parentheses indicate holding time in days

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1940717-58A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-59A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-60A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-61A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-62A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-63A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-64A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-65A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-66A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-67A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-68A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-69A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-70A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-71A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-72A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-73A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-74A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-75A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-76A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-77A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-78A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-79A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-80A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-81A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-82A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-83A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-84A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-85A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)

*Values in parentheses indicate holding time in days

Project Name: TOMBARELLO SITE
Project Number: 17001426

Lab Number: L1940717
Report Date: 09/20/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1940717-86A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-87A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-88A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-89A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-90A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1940717-91A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-92A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-93A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-94A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-95A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-96A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-97A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-98A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		HOLD-8082(14)
L1940717-99A	Glass 60mL/2oz unpreserved	A	NA		4.9	Y	Absent		TS(7),MCP-8082-10-3540C(365)

*Values in parentheses indicate holding time in days

Project Name:	TOMBARELLO SITE	**Lab Number:**	L1940717
Project Number:	17001426	**Report Date:**	09/20/19

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:	TOMBARELLO SITE	**Lab Number:**	L1940717
Project Number:	17001426	**Report Date:**	09/20/19

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.

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.

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 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.

Report Format: Data Usability Report

Project Name:	TOMBARELLO SITE	**Lab Number:**	L1940717
Project Number:	17001426	**Report Date:**	09/20/19

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

68 Annual Book of ASTM (American Society for Testing and Materials) Standards following extraction by SW-846 EPA Method 9045C under the requirements of MADEP BWSC, WSC-CAM-VIB. August 2004.

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.

98 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, 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.

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
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.
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, SM4500Cl-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.

CHAIN OF CUSTODY

PAGE 1 OF 15

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 9/6/19

ALPHA Job #: L1940717

Client Information

Client: Credere Associates, LLC
Address: 776 Main Street
Westbrook, Maine
Phone: 207-828-1272
Fax:
Email: sgannon@crederellc.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Tombarello Site
Project Location: Lawrence, MA
Project #: 17001426
Project Manager: Sean Gannon
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

Report Information Data Deliverables

☐ FAX ☒ EMAIL
☐ ADEx ☒ Add'l Deliverables – GEI_EFWEDD

Billing Information

☒ Same as Client info PO #: 17001426

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PCB w/ soxhlet	EPH	RCRA-8 Metals	Zinc	Hexavalent Chromium	VOCs							Sample Specific Comments	TOTAL # BOTTLES
40717- 01	AS-5	9.3.19	1105	concrete DUST	SG	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-02	AS-6		1115			☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-03	AS-7		1120			☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-04	AS-8		1125			☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-05	AS-1		1145			☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-06	AS-2		1150			☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-07	AS-3		1155			☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-08	AS-4		1205			☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-09	AS-DUP-1		—			☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-10	SB-4 (0-0.5)	9.4.19	0830	Soil	SF	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
	Container Type					AT	-	-	-	-	-	-	-	-	-	-	-		
	Preservative					—	-	-	-	-	-	-	-	-	-	-	-		

Relinquished By:	Date/Time	Received By:	Date/Time
	9.6.19/1132		9/6/19 11:30
AAL	9/6/19 1845	Rob Mounts	9-6-19 1845
Rob Mounts	9.6.19 2040	AAL	9-6-19 2040

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(1-NJ) (rev. 5-JAN-12)

CHAIN OF CUSTODY

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ALPHA ANALYTICAL

Westborough, MA
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA
TEL: 508-822-9300
FAX: 508-822-3288

Date Rec'd in Lab: 9/6/17

ALPHA Job #: L1940717

Project Information

Project Name: Tombarello Site

Project Location: Lawrence, MA

Project #: 17001426

Project Manager: Sean Gannon

ALPHA Quote #:

Report Information

☐ FAX
☐ ADEx

Data Deliverables

☒ EMAIL
☒ Add'l Deliverables – GEI_EFWEDD

Billing Information

☒ Same as Client info
PO #: 17001426

Regulatory Requirements/Report Limits

State/Fed Program
Criteria

Client Information

Client: Credere Associates, LLC
Address: 776 Main Street
Westbrook, Maine
Phone: 207-828-1272
Fax:
Email: sgannon@crederellc.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PCB w/ soxhlet	EPH	RCRA-8 Metals	Zinc	Hexavalent Chromium	VOCs							Sample Specific Comments	TOTAL # BOTTLES
40717-11	SB-4 (1-2)	9.4.19	0850	Soil	SF	☒	☒	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐		7
-12	SB-4 (2-3)		0840			☒	☒	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐		7
-13	SB-4 (3-5)		0905			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-14	SB-4 (5-7)-1		0910			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	HOLD	1
-15	SB-4 (5-7)-2		0910			☐	☒	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐		7
-16	SB-3 (0-0.5)		0920			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-17	SB-3 (1-2)		0925			☒	☒	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐		7
-18	SB-3 (2-3)		0930			☒	☒	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐		7
-19	SB-3 (3-5)		0935			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-20	SB-3 (5-7)-1		0940			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1

Container Type	Jar					VOA	-	-	-	-	-	-
Preservative	-	-	-	-	-	MeOH	-	-	-	-	-	-

Hold SB-4(5-7)-1 pending approval
Hold SB-3(5-7) pending approval
Some samples with 7 bottles indicated may be missing total solids Jar due to insufficient soil volume

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	9.6.19/1130	[signature] AAL	9/6/19 11:30
[signature] AAL	9/6/19/845	Rob Mounts	9-6-19 1845
Rob Mounts	9-6-19 2040	[signature] AAL	9-6-19 2040

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-NJ) (rev. 5-JAN-12)

CHAIN OF CUSTODY

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ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 9/6/19

ALPHA Job #: L1940717

Project Information

Project Name: Tombarello Site
Project Location: Lawrence, MA
Project #: 17001426
Project Manager: Sean Gannon
ALPHA Quote #:

Client Information

Client: Credere Associates, LLC
Address: 776 Main Street
Westbrook, Maine
Phone: 207-828-1272
Fax:
Email: sgannon@crederellc.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☐ ADEx ☒ Add'l Deliverables – GEI_EFWEDD

Billing Information

☒ Same as Client info PO #: 17001426

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PCB w/ soxhlet	EPH	RCRA-8 Metals	Zinc	Hexavalent Chromium	VOCs							Sample Specific Comments	TOTAL # BOTTLES
40717-21	SB-3 (5-7)-2	9.4.19	0940	Soil	SF	☐	☒	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐		7
-22	SB-2 (0-0.5)		1000			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-23	SB-2 (1-2)		1005			☒	☒	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐	MS/MSD	11
-24	SB-2 (2-3)		1007			☒	☒	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐		7
-25	SB-2 (3-5)		1015			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-26	SB-2 (5-7)-1		1020			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	HOLD	1
-27	SB-2 (5-7)-2		1020			☐	☒	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐		7
-28	E-07 (1-2)		1100			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	HOLD	1
-29	E-07 (2-3)		1103			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	HOLD	1
-30	E-07 (3-5)		1106			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	HOLD	1
	Container Type					-	-	-	-	-	-	-	-	-	-	-	-		
	Preservative					-	-	-	-	-	-	-	-	-	-	-	-		

- SB-2(1-2) includes volume for MS/MSD (metals)
- SB-2(5-7)-1 hold pending approval.
- All E-07 samples held for approval
- Some samples with 7 bottles indicated may be missing total solids due to insufficient soil volume.

Relinquished By:	Date/Time	Received By:	Date/Time
	9.6.19/1132	AAL	9/6/19 11:32
AAL	9/6/19 1845	Rob Manto	9.6.19 1845
Rob Manto	9.6.19 2040		9-6-19 2040

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(1-NJ) (rev. 5-JAN-12)

CHAIN OF CUSTODY

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ALPHA ANALYTICAL
World Class Chemistry

Westborough, MA
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA
TEL: 508-822-9300
FAX: 508-822-3288

Date Rec'd in Lab: 9/6/19

ALPHA Job #: L1940717

Project Information

Project Name: Tombarello Site

Project Location: Lawrence, MA

Project #: 17001426

Project Manager: Sean Gannon

ALPHA Quote #:

Report Information

☐ FAX
☐ ADEx

Data Deliverables

☒ EMAIL
☒ Add'l Deliverables — GEI_EFWEDD

Billing Information

☒ Same as Client info
PO #: 17001426

Regulatory Requirements/Report Limits

State/Fed Program
Criteria

Client Information

Client: Credere Associates, LLC
Address: 776 Main Street
Westbrook, Maine
Phone: 207-828-1272
Fax:
Email: sgannon@crederellc.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PCB w/ soxhlet	EPH	RCRA-8 Metals	Zinc	Hexavalent Chromium	VOCs							Sample Specific Comments	TOTAL # BOTTLES
40717-31	E-07 (5-7)	9.4.19	1109	Soil	SF	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-32	E-08 (1-2)		1125			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-33	E-08 (2-3)		1130			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-34	E-08 (3-5)		1135			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-35	E-08 (5-7)		1140			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-36	D-08 (1-2)		1153			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-37	D-08 (2-3)		1156			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-38	D-08 (3-5)		1159			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-39	D-08 (5-7)		1203			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-40	D-07 (1-2)		1212			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
					Container Type	-	-	-	-	-	-	-	-	-	-	-	-		
					Preservative	-	-	-	-	-	-	-	-	-	-	-	-		

Hold for approval: E-07 (5-7), E-08 (3-5), E-08 (5-7), All D-08 samples

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	9.6.19/1132	[signature] IAAL	9/6/19 11:32
[signature] IAAL	9/6/19 1845	Rob Mauro	9.6.19 1845
Rob Mauro	9-6-19 2040	[signature] IAAL	9-6-19 2040

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-NJ)
(rev. 5-JAN-12)

CHAIN OF CUSTODY

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ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 9/6/19

ALPHA Job #: L1940717

Project Information

Project Name: Tombarello Site
Project Location: Lawrence, MA
Project #: 17001426
Project Manager: Sean Gannon
ALPHA Quote #:

Report Information — ☐ FAX ☐ ADEx

Data Deliverables — ☒ EMAIL ☒ Add'l Deliverables — GEI - EFWEDD

Billing Information — ☒ Same as Client info PO #: 17001426

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Client Information

Client: Credere Associates, LLC
Address: 776 Main Street
Westbrook, Maine
Phone: 207-828-1272
Fax:
Email: sgannon@crederellc.com
☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done ☒ Not Needed ☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PCB w/ soxhlet	EPH	RCRA-8 Metals	Zinc	Hexavalent Chromium	VOCs							Sample Specific Comments	TOTAL # BOTTLES
40717-41	D-07 (2-3)	9.4.19	1214	Soil	SF	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-42	D-07 (3-5)		1220			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-43	D-07 (5-7)		1225			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-44	D-07 (1-3)		1216			☐	☒	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐		7
-45	D-07 (7-9)		1230			☒	☒	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐		7
-46	~~D-06~~ D-06 (1-2)		1250			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-47	D-06 (2-3)		1253			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-48	D-06 (3-5)		1256			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-49	D-06 (5-7)		1259			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
~~-50~~	SB-DUP-5		—			☐	☒	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐		7

Container Type
Preservative

Hold for approval: D-07 (3-5), D-07 (3-5), all D-06

- Some samples with 7 bottles indicated may be missing total Solids VOA due to insufficient soil volume

Relinquished By:	Date/Time	Received By:	Date/Time
	9.6.19/1132	AAL	9/6/19 11:32
AAL	9/6/19 1845	Rob Manto	9.6.19 1845
Rob Manto	9/6/19 2040		9-6-19 2040

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-NJ) (rev. 5-JAN-12)

CHAIN OF CUSTODY

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ALPHA ANALYTICAL
World Class Chemistry

Westborough, MA
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA
TEL: 508-822-9300
FAX: 508-822-3288

Date Rec'd in Lab: 9/6/19

ALPHA Job #: L1940717

Project Information

Project Name: Tombarello Site

Project Location: Lawrence, MA

Project #: 17001426

Project Manager: Sean Gannon

ALPHA Quote #:

Report Information

☐ FAX
☐ ADEx

Data Deliverables

☒ EMAIL
☒ Add'l Deliverables – GEI_EFWEDD

Billing Information

☒ Same as Client info
PO #: 17001426

Regulatory Requirements/Report Limits

State/Fed Program
Criteria

Client Information

Client: Credere Associates, LLC
Address: 776 Main Street
Westbrook, Maine
Phone: 207-828-1272
Fax:
Email: sgannon@crederellc.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PCB w/ soxhlet	EPH	RCRA-8 Metals	Zinc	Hexavalent Chromium	VOCs							Sample Specific Comments	TOTAL # BOTTLES
40717-51	E-06 (1-2)	9.4.19	1322	Soil	SF	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-52	E-06 (2-3)		1326			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-53	E-06 (3-5)		1328			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-54	E-06 (5-7)-1		1335			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-55	E-06 (1-3)		1324			☐	☒	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐		7
-56	E-06 (5-7)-2		1335			☒	☒	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐		7
-57	E-05 (1-2)		1410			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-58	E-05 (2-3)		1412			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-59	E-05 (3-5)		1414			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-60	E-05 (5-7)		1416			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
					Container Type	-	-	-	-	-	-	-	-	-	-	-	-		
					Preservative	-	-	-	-	-	-	-	-	-	-	-	-		

Hold: E-06 (3-5), E-06 (5-7)-1, E-05 (3-5), E-05 (5-7)

Some samples with 7 bottles indicated may be missing total solids jar due to insufficient soil volume

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	9-6-19/1132	[signature] AAL	9/6/19 11:32
[signature] AAL	9/6/19 1845	Rob Maerts AAL	9/6/19 1845
R Maerts	9-6-19 2040	[signature] AAL	9-6-19 2040

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-NJ) (rev. 5-JAN-12)

CHAIN OF CUSTODY

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ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 9/6/19

ALPHA Job #: L1940717

Project Information

Project Name: Tombarello Site

Project Location: Lawrence, MA

Project #: 17001426

Project Manager: Sean Gannon

ALPHA Quote #:

Report Information

☐ FAX
☐ ADEx

Data Deliverables

☒ EMAIL
☒ Add'l Deliverables – GEI_EFWEDD

Billing Information

☒ Same as Client info
PO #: 17001426

Regulatory Requirements/Report Limits

State/Fed Program
Criteria

Client Information

Client: Credere Associates, LLC
Address: 776 Main Street
Westbrook, Maine
Phone: 207-828-1272
Fax:
Email: sgannon@crederellc.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PCB w/ soxhlet	EPH	RCRA-8 Metals	Zinc	Hexavalent Chromium	VOCs							Sample Specific Comments	TOTAL # BOTTLES
40717-61	SB-DUP-6	9.4.19	—	Soil	SF	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-62	D-05 (1-2)		1430			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-63	D-05 (2-3)		1433			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-64	D-05 (3-5)		1436			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-65	D-05 (5-7)		1439			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-66	D-09 (1-2)		1450			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-67	D-09 (2-3)		1453			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-68	D-09 (3-5)		1456			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-69	D-09 (5-7)		1459			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-70	B-06 (1-2)		1515			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
					Container Type	-	-	-	-	-	-	-	-	-	-	-	-		
					Preservative	-	-	-	-	-	-	-	-	-	-	-	-		

Hold: All D-05; D-09 (3-5, 5-7), B-06

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	9.6.19/1132	[signature] AAL	9/6/19 11:32
[signature] AAL	9/6/19	Rob Mounts	9.6.19 1845
Rob Mounts	9/6/19 2040	[signature] AAL	9-6-19 2040

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-NJ) (rev. 5-JAN-12)

CHAIN OF CUSTODY

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ALPHA ANALYTICAL — Boston Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 9/6/19

ALPHA Job #: L1940717

Project Information

Project Name: Tombarello Site
Project Location: Lawrence, MA
Project #: 17001426
Project Manager: Sean Gannon
ALPHA Quote #:

Report Information — ☐ FAX ☐ ADEx

Data Deliverables — ☒ EMAIL ☒ Add'l Deliverables — GEI_EFWEDD

Billing Information — ☒ Same as Client info PO #: 17001426

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Client Information

Client: Credere Associates, LLC
Address: 776 Main Street
Westbrook, Maine
Phone: 207-828-1272
Fax:
Email: sgannon@crederellc.com
☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done ☒ Not Needed ☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PCB w/ soxhlet	EPH	RCRA-8 Metals	Zinc	Hexavalent Chromium	VOCs							Sample Specific Comments	TOTAL # BOTTLES
40717-71	B-06 (2-3)	9.4.19	1518	Soil	SF	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-72	B-06 (3-5)		1521			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-73	B-06 (5-7)		1524			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-74	B-07 (1-2)		1527			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-75	B-07 (2-3)		1529			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-76	B-07 (3-5)		1531			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-77	B-07 (5-7)		1533			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-78	C-07 (1-2)	9.5.19	0825			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-79	C-07 (2-3)		0830			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-80	C-07 (3-5)		0835			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
						Container Type	-	-	-	-	-	-	-	-	-	-	-		
						Preservative	-	-	-	-	-	-	-	-	-	-	-		

Hold all B-06 pending approval
B-07 (3-5, 5-7), all C-07

Relinquished By:	Date/Time	Received By:	Date/Time
	9.6.19 1132	ATAL	9/6/19 11:32
ATAL	9/6/19 1845	Rob Mank ATAL	9.6.19 1845
RMank	9.6.19 2040		9-8-19 2140

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-NJ) (rev. 5-JAN-12)

CHAIN OF CUSTODY

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ALPHA ANALYTICAL World Class Chemistry

Westborough, MA
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA
TEL: 508-822-9300
FAX: 508-822-3288

Client Information

Client: Credere Associates, LLC
Address: 776 Main Street
Westbrook, Maine
Phone: 207-828-1272
Fax:
Email: sgannon@crederellc.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Tombarello Site
Project Location: Lawrence, MA
Project #: 17001426
Project Manager: Sean Gannon
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

Date Rec'd in Lab:

ALPHA Job #:

Report Information

☐ FAX
☐ ADEx

Data Deliverables

☒ EMAIL
☒ Add'l Deliverables — GEI — EFWEDD

Billing Information

☒ Same as Client info
PO #: 17001426

Regulatory Requirements/Report Limits

State/Fed Program
Criteria

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PCB w/ soxhlet	EPH	RCRA-8 Metals	Zinc	Hexavalent Chromium	VOCs							Sample Specific Comments	TOTAL # BOTTLES
40717-81	C-07 (5-7)	9.5.19	0840	Soil	SF	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-82	A-07 (1-2)		0853			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-83	A-07 (2-3)		0856			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-84	A-07 (3-5)		0859			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-85	A-07 (5-7)		0902			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-86	C-08 (1-2)		0908			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-87	C-08 (2-3)		0911			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-88	C-08 (3-5)		0914			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-89	C-08 (5-7)		0917			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-90	SB-DUP-4		—			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
					Container Type	-	-	-	-	-	-	-	-	-	-	-	-		
					Preservative	-	-	-	-	-	-	-	-	-	-	-	-		

Hold for approval: C-07 (5-7), all A-07 samples, C-08 (3-5), C-08 (5-7).

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	9.6.19/1132	[signature] AAL	9/6/19 11:32
[signature] AAL	9/6/19 1845	Rob Mauk	9.6.19 1845
R. Mauk	9.6.19 2040	[signature] AAL	9-6-19 2040

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-NJ)
(rev. 5-JAN-12)

CHAIN OF CUSTODY

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ALPHA ANALYTICAL World Class Chemistry

Westborough, MA
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA
TEL: 508-822-9300
FAX: 508-822-3288

Date Rec'd in Lab: 9/6/19

ALPHA Job #: L1940717

Project Information

Project Name: Tombarello Site

Project Location: Lawrence, MA

Project #: 17001426

Project Manager: Sean Gannon

ALPHA Quote #:

Report Information

☐ FAX
☐ ADEx

Data Deliverables

☒ EMAIL
☒ Add'l Deliverables — GEI_EFWEDD

Billing Information

☒ Same as Client info
PO #: 17001426

Regulatory Requirements/Report Limits

State/Fed Program
Criteria

Client Information

Client: Credere Associates, LLC
Address: 776 Main Street
Westbrook, Maine
Phone: 207-828-1272
Fax:
Email: sgannon@crederellc.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PCB w/ soxhlet	EPH	RCRA-8 Metals	Zinc	Hexavalent Chromium	VOCs							Sample Specific Comments	TOTAL # BOTTLES
40717-91	B-08 (1-2)	9-5-19	0928	Soil	SF	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-92	B-08 (2-3)		0930			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-93	B-08 (3-5)		0932			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-94	B-08 (5-7)		0934			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-95	C-09 (1-2)		0940			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-96	C-09 (2-3)		0942			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-97	C-09 (3-5)		0944			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-98	C-09 (5-7)		0946			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-99	B-09 (1-2)		0953			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-100	SB-DUP-3		—			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
					Container Type	-	-	-	-	-	-	-	-	-	-	-	-		
					Preservative	-	-	-	-	-	-	-	-	-	-	-	-		

Hold for approval: all B-08, all C-09

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	9.6.19/1132	[signature] AAL	9/6/19 11:32
[signature] AAL	9/6/19 1845	Rob Manto	9.6.19 1845
R. Manto	9.6.19 2040	[signature] AAL	9-6-19 2040

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-NJ)
(rev. 5-JAN-12)

CHAIN OF CUSTODY

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ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 9/6/19

ALPHA Job #: L1940717

Project Information

Project Name: Tombarello Site
Project Location: Lawrence, MA
Project #: 17001426
Project Manager: Sean Gannon
ALPHA Quote #:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☐ ADEx ☒ Add'l Deliverables — GEI_EFWEDD

Billing Information

☒ Same as Client info PO #: 17001426

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Client Information

Client: Credere Associates, LLC
Address: 776 Main Street
Westbrook, Maine
Phone: 207-828-1272
Fax:
Email: sgannon@crederellc.com
☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PCB w/ soxhlet	EPH	RCRA-8 Metals	Zinc	Hexavalent Chromium	VOCs							Sample Specific Comments	TOTAL # BOTTLES
40717-101	B-09 (1-3)	9.5.19	0954	Soil	SF	☐	☒	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐		7
-102	B-09 (2-3)		0955			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-103	B-09 (3-5)		0957			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-104	B-09 (5-7)-1		0959			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-105	B-09 (5-7)-2		1002			☒	☒	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐		7
-106	A-06 (1-2)		1033			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-107	A-06 (2-3)		1036			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-108	A-06 (3-5)		1039			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-109	A-06 (5-7)		1042			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-110	SB-DUP-2		—			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
	Container Type					-	-	-	-	-	-	-	-	-	-	-	-		
	Preservative					-	-	-	-	-	-	-	-	-	-	-	-		

- Hold for approval: B-09 (3-5, 5-7)
- B-09 (5-7)-2 no total solids was due to insufficient soil volume

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	9.6.19/1137	[signature] AMAL	9/6/19 1137
AMAL [signature]	9/6/19 1841	Rob Macedo AMAL	9.6.19 1845
Rob Macedo	9.6.19 2040	[signature] AMAL	9-6-19 2040

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-NJ) (rev. 9-JAN-12)

CHAIN OF CUSTODY

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ALPHA ANALYTICAL World Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 9/6/19

ALPHA Job #: L1940717

Project Information

Project Name: Tombarello Site

Project Location: Lawrence, MA

Project #: 17001426

Project Manager: Sean Gannon

ALPHA Quote #:

Report Information

☐ FAX
☐ ADEx

Data Deliverables

☒ EMAIL
☒ Add'l Deliverables – GEI_EFWEDD

Billing Information

☒ Same as Client info
PO #: 17001426

Regulatory Requirements/Report Limits

State/Fed Program
Criteria

Client Information

Client: Credere Associates, LLC
Address: 776 Main Street
Westbrook, Maine
Phone: 207-828-1272
Fax:
Email: sgannon@crederellc.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PCB w/ soxhlet	EPH	RCRA-8 Metals	Zinc	Hexavalent Chromium	VOCs							Sample Specific Comments	TOTAL # BOTTLES
40717-111	~~[illegible]~~ B-05(1-2)	9.5.19	1048	Soil	S.F	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-112	B-05(2-3)		1051			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-113	B-05(1-3)		1054			☐	☒	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐	MS/MSD	11
-114	B-05(3-5)-1		1057			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-115	B-05(3-5)-2		1057			☒	☒	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐		7
-116	B-05(5-7)		1100			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-117	C-05 (1-2)		1112			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-118	C-05 (2-3)		1115			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-119	C-05 (3-5)		1118			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-120	C-05 (5-7)		1121			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
					Container Type	-	-	-	-	-	-	-	-	-	-	-	-		
					Preservative	-	-	-	-	-	-	-	-	-	-	-	-		

- Hold for approval: B-05(3-5)-1, B-05(5-7), C-05(3-5), C-05(5-7)
- B-05(1-3) includes volume for MS/MSD (metals)

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	9.6.19/1132	[signature] AAL	9/6/19 11:32
[signature] AAL	9/6/19 1845	Rob Maerts	9-6-19 1845
Rob Maerts	9-6-19 2040	[signature] AAL	9-6-19 2040

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FORM NO: 01-01(I-NJ) (rev. 5-JAN-12)

CHAIN OF CUSTODY

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ALPHA ANALYTICAL World Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 9/6/19

ALPHA Job #: L1940717

Project Information

Project Name: Tombarello Site

Project Location: Lawrence, MA

Project #: 17001426

Project Manager: Sean Gannon

ALPHA Quote #:

Report Information

☐ FAX ☐ ADEx

Data Deliverables

☒ EMAIL ☒ Add'l Deliverables – GEI – EFWEDD

Billing Information

☒ Same as Client info PO #: 17001426

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Client Information

Client: Credere Associates, LLC

Address: 776 Main Street

Westbrook, Maine

Phone: 207-828-1272

Fax:

Email: sgannon@crederellc.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PCB w/ soxhlet	EPH	RCRA-8 Metals	Zinc	Hexavalent Chromium	VOCs							Sample Specific Comments	TOTAL # BOTTLES
40717-121	C-06 (1-2)	9.5.19	1132	Soil	SF	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-122	C-06 (2-3)		1134			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-123	C-06 (3-5)		1136			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-124	C-06 (5-7)		1138			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-125	A-05 (1-2)		1212			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-126	A-05 (2-3)		1214			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-127	A-05 (3-5)		1216			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-128	A-05 (5-7)		1218			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-129	E-02 (1-2)		1305			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-130	E-02 (2-3)		1308			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
					Container Type	-	-	-	-	-	-	-	-	-	-	-	-		
					Preservative	-	-	-	-	-	-	-	-	-	-	-	-		

-Hold for approval: C-06 (3-5, 5-7)

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	9.6.19/1132	[signature] AAL	9/6/19 11:32
[signature] AAL	9/6/19 1845	R. Maesto	9.6.19 1845
R. Maesto	9.6.19 2040	[signature] AAL	9-6-19 2040

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FORM NO: 01-01(I-NJ) (rev. 5-JAN-12)

CHAIN OF CUSTODY

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ALPHA ANALYTICAL World Class Chemistry

Westborough, MA
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA
TEL: 508-822-9300
FAX: 508-822-3288

Date Rec'd in Lab: 9/6/19

ALPHA Job #: L1940717

Project Information

Project Name: Tombarello Site

Project Location: Lawrence, MA

Project #: 17001426

Project Manager: Sean Gannon

ALPHA Quote #:

Report Information

☐ FAX
☐ ADEx

Data Deliverables

☒ EMAIL
☒ Add'l Deliverables — GEI – EFWEDD

Billing Information

☒ Same as Client info
PO #: 17001426

Regulatory Requirements/Report Limits

State/Fed Program
Criteria

Client Information

Client: Credere Associates, LLC
Address: 776 Main Street
Westbrook, Maine
Phone: 207-828-1272
Fax:
Email: sgannon@crederellc.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PCB w/ soxhlet	EPH	RCRA-8 Metals	Zinc	Hexavalent Chromium	VOCs							Sample Specific Comments	TOTAL # BOTTLES
40717-131	E-02 (3-5)	9.5.19	1311	Soil	SF	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-132	E-02 (5-7)		1314			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-133	B-04 (1-2)		1320			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-134	B-04 (2-3)		1323			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-135	B-04 (3-5)		1326			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-136	B-04 (5-7)		1329			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hold	1
-137	SB-1 (0-0.5)		1333			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-138	SB-1 (1-2)		1336			☒	☒	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐		7
-139	SB-1 (2-3)		1339			☒	☒	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐	MS/MSD	11
-140	SB-DUP-1		—			☒	☒	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐		7
					Container Type	-	-	-	-	-	-	-	-	-	-	-	-		
					Preservative	-	-	-	-	-	-	-	-	-	-	-	-		

- Hold for approval: E-02 (3-5, 5-7)
- SB-1 (2-3) include; volume for MS/MSD (metals)

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	9.6.19/1132	[signature] AAL	9/6/19 11:32
[signature] AAL	9/6/19 1845	Rob Mauro AAL	9.6.19 1845
Rob Mauro	9/6/19 2040	[signature] AAL	9-6-19 2040

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FORM NO: 01-01(I-NJ) (rev. 5-JAN-12)

CHAIN OF CUSTODY

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ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 9/6/19

ALPHA Job #: L1940717

Client Information
Client: Credere Associates, LLC
Address: 776 Main Street
Westbrook, Maine
Phone: 207-828-1272
Fax:
Email: sgannon@crederellc.com
☐ These samples have been Previously analyzed by Alpha

Project Information
Project Name: Tombarello Site
Project Location: Lawrence, MA
Project #: 17001426
Project Manager: Sean Gannon
ALPHA Quote #:

Turn-Around Time
☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

Report Information — Data Deliverables
☐ FAX ☒ EMAIL
☐ ADEx ☒ Add'l Deliverables — GEI_EFWEDD

Billing Information
☒ Same as Client info PO #: 17001426

Regulatory Requirements/Report Limits
State/Fed Program | Criteria

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done ☒ Not Needed ☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PCB w/ soxhlet	EPH	RCRA-8 Metals	Zinc	Hexavalent Chromium	VOCs	Sample Specific Comments	TOTAL # BOTTLES
40717-141	SB-1(3-5)	9.5.19	1342	Soil	SF	☒	☒	☐	☐	☐	☐		1
-142	SB-1(5-7)-1	"	1345	"	"	☒	☒	☐	☐	☐	☐	Hold	1
-143	SB-1(5-7)-2	"	1348	"	"	☐	☒	☒	☒	☒	☒		7

-SB-1(3-5) & SB-1(5-7)-2 only analyzed for PCBs
-Hold for approval: SB-1(5-7)

Container Type	-	-	-	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	9.6.19/1132	AAL	9/6/19 1132
AAL	9/6/19 1845	RMoore	9.6.19 1845
RMoore	9/6/19 2040		

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-NJ) (rev. 5-JAN-12)

Method Blank Summary
Form 4
Volatiles

Client	: Credere Associates, LLC	**Lab Number**	: L1940717
Project Name	: TOMBARELLO SITE	**Project Number**	: 17001426
Lab Sample ID	: WG1284565-5	**Lab File ID**	: V23190914A05
Instrument ID	: VOA123		
Matrix	: SOIL	**Analysis Date**	: 09/14/19 09:00

Client Sample No.	Lab Sample ID	Analysis Date
WG1284565-3LCS	WG1284565-3	09/14/19 07:24
WG1284565-4LCSD	WG1284565-4	09/14/19 07:48
SB-2 (5-7)-2	L1940717-27	09/14/19 16:15
D-07 (1-3)	L1940717-44	09/14/19 16:39
D-07 (7-9)	L1940717-45	09/14/19 17:03

Method Blank Summary
Form 4
Volatiles

Client	: Credere Associates, LLC	**Lab Number**	: L1940717
Project Name	: TOMBARELLO SITE	**Project Number**	: 17001426
Lab Sample ID	: WG1284397-5	**Lab File ID**	: V17190914A05
Instrument ID	: VOA117		
Matrix	: SOIL	**Analysis Date**	: 09/14/19 09:06

Client Sample No.	Lab Sample ID	Analysis Date
WG1284397-3LCS	WG1284397-3	09/14/19 07:48
WG1284397-4LCSD	WG1284397-4	09/14/19 08:14
SB-4 (5-7)-2	L1940717-15	09/14/19 13:27
SB-3 (1-2)	L1940717-17	09/14/19 13:53
SB-2 (1-2)	L1940717-23	09/14/19 15:11

Method Blank Summary
Form 4
Volatiles

Client	: Credere Associates, LLC	**Lab Number**	: L1940717
Project Name	: TOMBARELLO SITE	**Project Number**	: 17001426
Lab Sample ID	: WG1284521-5	**Lab File ID**	: V17190915A05
Instrument ID	: VOA117		
Matrix	: SOIL	**Analysis Date**	: 09/15/19 14:14

Client Sample No.	Lab Sample ID	Analysis Date
WG1284521-3LCS	WG1284521-3	09/15/19 12:56
WG1284521-4LCSD	WG1284521-4	09/15/19 13:22
SB-4 (5-7)-2	L1940717-15	09/15/19 17:18

Method Blank Summary
Form 4
Volatiles

Client	: Credere Associates, LLC	**Lab Number**	: L1940717
Project Name	: TOMBARELLO SITE	**Project Number**	: 17001426
Lab Sample ID	: WG1284519-5	**Lab File ID**	: V17190915A05
Instrument ID	: VOA117		
Matrix	: SOIL	**Analysis Date**	: 09/15/19 14:14

Client Sample No.	Lab Sample ID	Analysis Date
WG1284519-3LCS	WG1284519-3	09/15/19 12:56
WG1284519-4LCSD	WG1284519-4	09/15/19 13:22
SB-2 (2-3)	L1940717-24	09/15/19 15:07
SB-3 (5-7)-2	L1940717-21	09/15/19 15:33
SB-2 (1-2)	L1940717-23R	09/15/19 15:59

Method Blank Summary
Form 4
Volatiles

Client	: Credere Associates, LLC	**Lab Number**	: L1940717
Project Name	: TOMBARELLO SITE	**Project Number**	: 17001426
Lab Sample ID	: WG1284598-5	**Lab File ID**	: V23190915A04
Instrument ID	: VOA123		
Matrix	: SOIL	**Analysis Date**	: 09/15/19 17:36

Client Sample No.	Lab Sample ID	Analysis Date
WG1284598-3LCS	WG1284598-3	09/15/19 16:24
WG1284598-4LCSD	WG1284598-4	09/15/19 16:48
SB-4 (1-2)	L1940717-11	09/15/19 20:33
SB-1 (1-2)	L1940717-138	09/15/19 20:57
SB-1 (2-3)	L1940717-139	09/15/19 21:21
E-06 (1-3)	L1940717-55	09/15/19 21:45
E-06 (5-7)-2	L1940717-56	09/15/19 22:09
SB-1 (5-7)-2	L1940717-143	09/15/19 22:33
B-05 (3-5)-2	L1940717-115	09/15/19 22:57
B-09 (1-3)	L1940717-101	09/16/19 01:46

Method Blank Summary
Form 4
Volatiles

Client	: Credere Associates, LLC	**Lab Number**	: L1940717
Project Name	: TOMBARELLO SITE	**Project Number**	: 17001426
Lab Sample ID	: WG1284596-5	**Lab File ID**	: V23190915A04
Instrument ID	: VOA123		
Matrix	: SOIL	**Analysis Date**	: 09/15/19 17:36

Client Sample No.	Lab Sample ID	Analysis Date
WG1284596-3LCS	WG1284596-3	09/15/19 16:24
WG1284596-4LCSD	WG1284596-4	09/15/19 16:48
B-05 (1-3)	L1940717-113	09/15/19 18:32
SB-4 (2-3)	L1940717-12	09/15/19 19:20
SB-DUP-5	L1940717-50	09/15/19 19:44

Method Blank Summary
Form 4
Volatiles

Client	: Credere Associates, LLC	**Lab Number**	: L1940717
Project Name	: TOMBARELLO SITE	**Project Number**	: 17001426
Lab Sample ID	: WG1284780-5	**Lab File ID**	: V23190916A04
Instrument ID	: VOA123		
Matrix	: SOIL	**Analysis Date**	: 09/16/19 08:09

Client Sample No.	Lab Sample ID	Analysis Date
WG1284780-3LCS	WG1284780-3	09/16/19 06:56
WG1284780-4LCSD	WG1284780-4	09/16/19 07:20
D-07 (1-3)	L1940717-44	09/16/19 09:21

Method Blank Summary
Form 4
Volatiles

Client	: Credere Associates, LLC	**Lab Number**	: L1940717
Project Name	: TOMBARELLO SITE	**Project Number**	: 17001426
Lab Sample ID	: WG1284781-5	**Lab File ID**	: V23190916A04
Instrument ID	: VOA123		
Matrix	: SOIL	**Analysis Date**	: 09/16/19 08:09

Client Sample No.	Lab Sample ID	Analysis Date
WG1284781-3LCS	WG1284781-3	09/16/19 06:56
WG1284781-4LCSD	WG1284781-4	09/16/19 07:20
SB-3 (2-3)	L1940717-18	09/16/19 09:45
B-09 (5-7)-2	L1940717-105	09/16/19 10:09
SB-DUP-1	L1940717-140	09/16/19 10:33

Method Blank Summary
Form 4
Volatiles

Client	: Credere Associates, LLC	**Lab Number**	: L1940717
Project Name	: TOMBARELLO SITE	**Project Number**	: 17001426
Lab Sample ID	: WG1284929-5	**Lab File ID**	: V23190916N04
Instrument ID	: VOA123		
Matrix	: SOIL	**Analysis Date**	: 09/16/19 20:21

Client Sample No.	Lab Sample ID	Analysis Date
WG1284929-3LCS	WG1284929-3	09/16/19 19:09
WG1284929-4LCSD	WG1284929-4	09/16/19 19:33
SB-1 (1-2)	L1940717-138	09/16/19 20:46
SB-1 (5-7)-2	L1940717-143	09/16/19 21:10

Method Blank Summary
Form 4
Volatiles

Client	: Credere Associates, LLC	**Lab Number**	: L1940717
Project Name	: TOMBARELLO SITE	**Project Number**	: 17001426
Lab Sample ID	: WG1285102-5	**Lab File ID**	: V23190917A05
Instrument ID	: VOA123		
Matrix	: SOIL	**Analysis Date**	: 09/17/19 09:02

Client Sample No.	Lab Sample ID	Analysis Date
WG1285102-3LCS	WG1285102-3	09/17/19 07:26
WG1285102-4LCSD	WG1285102-4	09/17/19 07:50
SB-2 (5-7)-2	L1940717-27	09/17/19 12:15

Calibration Verification Summary
Form 7
Volatiles

Client	: Credere Associates, LLC	**Lab Number**	: L1940717
Project Name	: TOMBARELLO SITE	**Project Number**	: 17001426
Instrument ID	: VOA123	**Calibration Date**	: 09/14/19 07:24
Lab File ID	: V23190914A01	**Init. Calib. Date(s)**	: 06/21/19 06/21/19
Sample No	: WG1284565-2	**Init. Calib. Times**	: 03:09 06:33
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	80	-.01
Dichlorodifluoromethane	0.268	0.268	-	0	20	68	0
Chloromethane	0.275	0.309	-	-12.4	20	78	0
Vinyl chloride	0.312	0.296	-	5.1	20	64	0
Bromomethane	0.233	0.23	-	1.3	20	74	0
Chloroethane	0.235	0.204	-	13.2	20	62	0
Trichlorofluoromethane	0.429	0.407	-	5.1	20	64	0
Ethyl ether	0.143	0.115	-	19.6	20	57	0
1,1-Dichloroethene	0.214	0.196	-	8.4	20	63	0
Carbon disulfide	0.725	0.638	-	12	20	64	0
Freon-113	0.216	0.201	-	6.9	20	63	0
Acrolein	0.05	0.044*	-	12	20	65	-.01
Methylene chloride	0.28	0.222	-	20.7*	20	61	0
Acetone	20	20.299	-	-1.5	20	73	-.02
trans-1,2-Dichloroethene	0.245	0.225	-	8.2	20	64	0
Methyl acetate	0.187	0.182	-	2.7	20	69	-.02
Methyl tert-butyl ether	0.725	0.57	-	21.4*	20	55	-.01
tert-Butyl alcohol	0.038	0.028*	-	26.3*	20	53	-.01
Diisopropyl ether	0.748	0.766	-	-2.4	20	72	-.01
1,1-Dichloroethane	0.436	0.409	-	6.2	20	65	-.01
Halothane	0.182	0.164	-	9.9	20	61	-.01
Acrylonitrile	0.093	0.084	-	9.7	20	63	-.01
Ethyl tert-butyl ether	0.763	0.657	-	13.9	20	61	-.02
Vinyl acetate	0.662	0.65	-	1.8	20	70	-.01
cis-1,2-Dichloroethene	0.275	0.243	-	11.6	20	62	-.01
2,2-Dichloropropane	0.366	0.333	-	9	20	63	0
Bromochloromethane	0.134	0.119	-	11.2	20	62	-.01
Cyclohexane	0.39	0.372	-	4.6	20	65	0
Chloroform	0.43	0.395	-	8.1	20	64	-.01
Ethyl acetate	0.3	0.275	-	8.3	20	66	-.02
Carbon tetrachloride	0.331	0.31	-	6.3	20	64	-.01
Tetrahydrofuran	0.106	0.101	-	4.7	20	68	-.02
Dibromofluoromethane	0.262	0.249	-	5	20	75	0
1,1,1-Trichloroethane	0.365	0.352	-	3.6	20	64	-.01
2-Butanone	0.139	0.123	-	11.5	20	69	-.02
1,1-Dichloropropene	0.318	0.291	-	8.5	20	61	-.01
Benzene	0.959	0.855	-	10.8	20	61	-.01
tert-Amyl methyl ether	0.734	0.563	-	23.3*	20	54	-.02
1,2-Dichloroethane-d4	0.29	0.281	-	3.1	20	80	-.01
1,2-Dichloroethane	0.342	0.307	-	10.2	20	64	-.02
Methyl cyclohexane	0.415	0.346	-	16.6	20	57	-.01
Trichloroethene	0.249	0.226	-	9.2	20	62	-.01
Dibromomethane	0.164	0.14	-	14.6	20	61	-.02

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Credere Associates, LLC	**Lab Number**	: L1940717
Project Name	: TOMBARELLO SITE	**Project Number**	: 17001426
Instrument ID	: VOA123	**Calibration Date**	: 09/14/19 07:24
Lab File ID	: V23190914A01	**Init. Calib. Date(s)**	: 06/21/19 06/21/19
Sample No	: WG1284565-2	**Init. Calib. Times**	: 03:09 06:33
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.254	0.228	-	10.2	20	62	0
2-Chloroethyl vinyl ether	0.185	0.151	-	18.4	20	57	-.01
Bromodichloromethane	0.327	0.298	-	8.9	20	63	-.02
1,4-Dioxane	0.00343	0.00331*	-	3.5	20	71	-.02
cis-1,3-Dichloropropene	0.404	0.353	-	12.6	20	60	0
Chlorobenzene-d5	1	1	-	0	20	77	-.02
Toluene-d8	1.211	1.232	-	-1.7	20	78	-.02
Toluene	0.75	0.687	-	8.4	20	62	-.02
4-Methyl-2-pentanone	0.137	0.109	-	20.4*	20	55	-.02
Tetrachloroethene	0.306	0.286	-	6.5	20	60	-.02
trans-1,3-Dichloropropene	0.447	0.403	-	9.8	20	60	-.02
Ethyl methacrylate	0.415	0.312	-	24.8*	20	51	-.02
1,1,2-Trichloroethane	0.237	0.203	-	14.3	20	58	-.01
Chlorodibromomethane	0.311	0.284	-	8.7	20	61	-.02
1,3-Dichloropropane	0.475	0.405	-	14.7	20	57	-.01
1,2-Dibromoethane	0.286	0.248	-	13.3	20	58	-.01
2-Hexanone	0.245	0.221	-	9.8	20	63	-.02
Chlorobenzene	0.845	0.78	-	7.7	20	62	-.02
Ethylbenzene	1.401	1.308	-	6.6	20	62	-.02
1,1,1,2-Tetrachloroethane	0.297	0.282	-	5.1	20	62	0
p/m Xylene	0.545	0.519	-	4.8	20	63	-.02
o Xylene	0.539	0.497	-	7.8	20	62	-.02
Styrene	0.876	0.815	-	7	20	61	-.02
1,4-Dichlorobenzene-d4	1	1	-	0	20	79	-.01
Bromoform	0.424	0.341	-	19.6	20	61	-.02
Isopropylbenzene	2.578	2.412	-	6.4	20	63	-.02
4-Bromofluorobenzene	0.913	0.881	-	3.5	20	76	-.01
Bromobenzene	0.679	0.586	-	13.7	20	60	-.02
n-Propylbenzene	3.032	2.88	-	5	20	63	-.01
1,4-Dichlorobutane	0.91	0.833	-	8.5	20	65	-.01
1,1,2,2-Tetrachloroethane	0.726	0.612	-	15.7	20	56	-.01
4-Ethyltoluene	2.552	2.377	-	6.9	20	62	0
2-Chlorotoluene	2.106	1.976	-	6.2	20	64	-.01
1,3,5-Trimethylbenzene	2.162	2.036	-	5.8	20	64	-.02
1,2,3-Trichloropropane	0.612	0.505	-	17.5	20	58	-.02
trans-1,4-Dichloro-2-buten	0.212	0.203	-	4.2	20	66	0
4-Chlorotoluene	1.897	1.794	-	5.4	20	65	-.01
tert-Butylbenzene	1.876	1.735	-	7.5	20	62	-.01
1,2,4-Trimethylbenzene	2.172	2.053	-	5.5	20	64	-.02
sec-Butylbenzene	2.799	2.659	-	5	20	63	-.01
p-Isopropyltoluene	2.388	2.268	-	5	20	63	-.02
1,3-Dichlorobenzene	1.306	1.21	-	7.4	20	64	-.01
1,4-Dichlorobenzene	1.32	1.21	-	8.3	20	64	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Credere Associates, LLC		**Lab Number**	: L1940717	
Project Name	: TOMBARELLO SITE		**Project Number**	: 17001426	
Instrument ID	: VOA123		**Calibration Date**	: 09/14/19 07:24	
Lab File ID	: V23190914A01		**Init. Calib. Date(s)**	: 06/21/19	06/21/19
Sample No	: WG1284565-2		**Init. Calib. Times**	: 03:09	06:33
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.466	1.335	-	8.9	20	62	-.01
n-Butylbenzene	2.231	2.186	-	2	20	65	-.01
1,2-Dichlorobenzene	1.255	1.122	-	10.6	20	62	-.01
1,2,4,5-Tetramethylbenzene	2.325	2.074	-	10.8	20	61	-.01
1,2-Dibromo-3-chloropropan	0.136	0.101	-	25.7*	20	54	-.01
1,3,5-Trichlorobenzene	0.913	0.842	-	7.8	20	63	-.01
Hexachlorobutadiene	0.428	0.367	-	14.3	20	59	-.01
1,2,4-Trichlorobenzene	0.862	0.789	-	8.5	20	63	-.01
Naphthalene	2.486	2.034	-	18.2	20	56	-.01
1,2,3-Trichlorobenzene	0.842	0.734	-	12.8	20	60	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Credere Associates, LLC	**Lab Number**	: L1940717		
Project Name	: TOMBARELLO SITE	**Project Number**	: 17001426		
Instrument ID	: VOA117	**Calibration Date**	: 09/14/19 07:48		
Lab File ID	: V17190914A02	**Init. Calib. Date(s)**	: 07/26/19	07/26/19	
Sample No	: WG1284397-2	**Init. Calib. Times**	: 20:19	23:46	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	51	0
Dichlorodifluoromethane	0.158	0.241	-	-52.5*	20	76	0
Chloromethane	0.23	0.305	-	-32.6*	20	72	0
Vinyl chloride	0.21	0.199	-	5.2	20	49	0
Bromomethane	0.135	0.107	-	20.7*	20	46	0
Chloroethane	0.13	0.108	-	16.9	20	45	0
Trichlorofluoromethane	0.261	0.345	-	-32.2*	20	68	0
Ethyl ether	0.092	0.071	-	22.8*	20	41	0
1,1-Dichloroethene	0.198	0.172	-	13.1	20	45	0
Carbon disulfide	0.66	0.563	-	14.7	20	46	0
Freon-113	0.194	0.189	-	2.6	20	49	0
Acrolein	0.03	0.024*	-	20	20	43	0
Methylene chloride	0.219	0.201	-	8.2	20	49	0
Acetone	20	22.413	-	-12.1	20	52	0
trans-1,2-Dichloroethene	0.229	0.217	-	5.2	20	50	0
Methyl acetate	0.094	0.101	-	-7.4	20	61	0
Methyl tert-butyl ether	0.503	0.52	-	-3.4	20	53	0
tert-Butyl alcohol	0.017	0.016*	-	5.9	20	47	0
Diisopropyl ether	0.721	0.75	-	-4	20	53	0
1,1-Dichloroethane	0.421	0.458	-	-8.8	20	57	0
Halothane	0.188	0.166	-	11.7	20	46	0
Acrylonitrile	0.044	0.049*	-	-11.4	20	58	0
Ethyl tert-butyl ether	0.703	0.725	-	-3.1	20	53	0
Vinyl acetate	0.414	0.451	-	-8.9	20	55	0
cis-1,2-Dichloroethene	0.247	0.251	-	-1.6	20	54	0
2,2-Dichloropropane	0.376	0.435	-	-15.7	20	61	0
Bromochloromethane	0.098	0.104	-	-6.1	20	55	0
Cyclohexane	0.393	0.429	-	-9.2	20	56	0
Chloroform	0.417	0.486	-	-16.5	20	60	0
Ethyl acetate	0.153	0.159	-	-3.9	20	55	0
Carbon tetrachloride	0.334	0.424	-	-26.9*	20	65	0
Tetrahydrofuran	20	22.839	-	-14.2	20	53	0
Dibromofluoromethane	0.245	0.256	-	-4.5	20	52	0
1,1,1-Trichloroethane	0.382	0.463	-	-21.2*	20	63	0
2-Butanone	20	22.643	-	-13.2	20	61	0
1,1-Dichloropropene	0.316	0.333	-	-5.4	20	55	0
Benzene	0.93	0.911	-	2	20	53	0
tert-Amyl methyl ether	0.589	0.551	-	6.5	20	48	0
1,2-Dichloroethane-d4	0.249	0.307	-	-23.3*	20	63	0
1,2-Dichloroethane	0.268	0.36	-	-34.3*	20	69	0
Methyl cyclohexane	0.395	0.386	-	2.3	20	50	0
Trichloroethene	0.248	0.261	-	-5.2	20	57	0
Dibromomethane	0.112	0.128	-	-14.3	20	58	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Credere Associates, LLC	**Lab Number**	: L1940717
Project Name	: TOMBARELLO SITE	**Project Number**	: 17001426
Instrument ID	: VOA117	**Calibration Date**	: 09/14/19 07:48
Lab File ID	: V17190914A02	**Init. Calib. Date(s)**	: 07/26/19 07/26/19
Sample No	: WG1284397-2	**Init. Calib. Times**	: 20:19 23:46
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.227	0.246	-	-8.4	20	57	0
2-Chloroethyl vinyl ether	0.109	0.111	-	-1.8	20	51	0
Bromodichloromethane	0.312	0.353	-	-13.1	20	60	0
1,4-Dioxane	0.00149	0.0013*	-	12.8	20	46	0
cis-1,3-Dichloropropene	0.358	0.379	-	-5.9	20	56	0
Chlorobenzene-d5	1	1	-	0	20	57	0
Toluene-d8	1.374	1.244	-	9.5	20	52	0
Toluene	0.82	0.789	-	3.8	20	57	0
4-Methyl-2-pentanone	0.079	0.078*	-	1.3	20	54	0
Tetrachloroethene	0.328	0.332	-	-1.2	20	59	0
trans-1,3-Dichloropropene	0.414	0.425	-	-2.7	20	59	0
Ethyl methacrylate	0.316	0.262	-	17.1	20	49	0
1,1,2-Trichloroethane	0.186	0.184	-	1.1	20	57	0
Chlorodibromomethane	0.279	0.294	-	-5.4	20	62	0
1,3-Dichloropropane	0.389	0.386	-	0.8	20	57	0
1,2-Dibromoethane	0.215	0.213	-	0.9	20	57	0
2-Hexanone	0.142	0.124	-	12.7	20	51	0
Chlorobenzene	0.904	0.88	-	2.7	20	59	0
Ethylbenzene	1.578	1.604	-	-1.6	20	59	0
1,1,1,2-Tetrachloroethane	0.315	0.327	-	-3.8	20	63	0
p/m Xylene	0.614	0.612	-	0.3	20	59	0
o Xylene	0.596	0.584	-	2	20	58	0
Styrene	0.957	0.942	-	1.6	20	58	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	68	0
Bromoform	0.312	0.316	-	-1.3	20	68	0
Isopropylbenzene	3.228	2.814	-	12.8	20	60	0
4-Bromofluorobenzene	1.085	0.913	-	15.9	20	57	0
Bromobenzene	0.692	0.636	-	8.1	20	63	0
n-Propylbenzene	3.81	3.41	-	10.5	20	62	0
1,4-Dichlorobutane	0.842	0.808	-	4	20	67	0
1,1,2,2-Tetrachloroethane	0.56	0.497	-	11.3	20	62	0
4-Ethyltoluene	3.347	2.817	-	15.8	20	59	0
2-Chlorotoluene	2.218	2.031	-	8.4	20	64	0
1,3,5-Trimethylbenzene	2.697	2.458	-	8.9	20	63	0
1,2,3-Trichloropropane	0.423	0.412	-	2.6	20	67	0
trans-1,4-Dichloro-2-buten	0.159	0.159	-	0	20	68	0
4-Chlorotoluene	2.339	2.116	-	9.5	20	63	0
tert-Butylbenzene	2.305	2.069	-	10.2	20	62	0
1,2,4-Trimethylbenzene	2.653	2.431	-	8.4	20	64	0
sec-Butylbenzene	3.508	3.195	-	8.9	20	63	0
p-Isopropyltoluene	2.943	2.695	-	8.4	20	63	0
1,3-Dichlorobenzene	1.397	1.354	-	3.1	20	67	0
1,4-Dichlorobenzene	1.386	1.341	-	3.2	20	68	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Credere Associates, LLC		**Lab Number**	: L1940717	
Project Name	: TOMBARELLO SITE		**Project Number**	: 17001426	
Instrument ID	: VOA117		**Calibration Date**	: 09/14/19 07:48	
Lab File ID	: V17190914A02		**Init. Calib. Date(s)**	: 07/26/19	07/26/19
Sample No	: WG1284397-2		**Init. Calib. Times**	: 20:19	23:46
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.837	1.558	-	15.2	20	59	0
n-Butylbenzene	2.767	2.652	-	4.2	20	66	0
1,2-Dichlorobenzene	1.247	1.203	-	3.5	20	67	0
1,2,4,5-Tetramethylbenzene	2.774	2.346	-	15.4	20	59	0
1,2-Dibromo-3-chloropropan	0.076	0.074	-	2.6	20	66	0
1,3,5-Trichlorobenzene	1.032	0.953	-	7.7	20	65	0
Hexachlorobutadiene	0.472	0.451	-	4.4	20	67	0
1,2,4-Trichlorobenzene	0.835	0.819	-	1.9	20	68	0
Naphthalene	1.699	1.485	-	12.6	20	61	0
1,2,3-Trichlorobenzene	0.731	0.719	-	1.6	20	69	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Credere Associates, LLC	**Lab Number**	: L1940717
Project Name	: TOMBARELLO SITE	**Project Number**	: 17001426
Instrument ID	: VOA117	**Calibration Date**	: 09/15/19 12:56
Lab File ID	: V17190915A02	**Init. Calib. Date(s)**	: 07/26/19 07/26/19
Sample No	: WG1284519-2	**Init. Calib. Times**	: 20:19 23:46
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	73	0
Dichlorodifluoromethane	0.158	0.223	-	-41.1*	20	101	0
Chloromethane	0.23	0.296	-	-28.7*	20	100	0
Vinyl chloride	0.21	0.217	-	-3.3	20	76	0
Bromomethane	0.135	0.121	-	10.4	20	75	0
Chloroethane	0.13	0.123	-	5.4	20	74	0
Trichlorofluoromethane	0.261	0.334	-	-28*	20	95	0
Ethyl ether	0.092	0.074	-	19.6	20	62	0
1,1-Dichloroethene	0.198	0.185	-	6.6	20	69	0
Carbon disulfide	0.66	0.596	-	9.7	20	69	0
Freon-113	0.194	0.196	-	-1	20	74	0
Acrolein	0.03	0.028*	-	6.7	20	70	0
Methylene chloride	0.219	0.211	-	3.7	20	75	0
Acetone	20	22.121	-	-10.6	20	73	0
trans-1,2-Dichloroethene	0.229	0.218	-	4.8	20	72	0
Methyl acetate	0.094	0.098*	-	-4.3	20	85	0
Methyl tert-butyl ether	0.503	0.494	-	1.8	20	72	0
tert-Butyl alcohol	0.017	0.016*	-	5.9	20	66	0
Diisopropyl ether	0.721	0.722	-	-0.1	20	74	0
1,1-Dichloroethane	0.421	0.447	-	-6.2	20	80	0
Halothane	0.188	0.17	-	9.6	20	69	0
Acrylonitrile	0.044	0.049*	-	-11.4	20	85	0
Ethyl tert-butyl ether	0.703	0.685	-	2.6	20	71	0
Vinyl acetate	0.414	0.428	-	-3.4	20	75	0
cis-1,2-Dichloroethene	0.247	0.245	-	0.8	20	75	0
2,2-Dichloropropane	0.376	0.387	-	-2.9	20	78	0
Bromochloromethane	0.098	0.101	-	-3.1	20	77	0
Cyclohexane	0.393	0.436	-	-10.9	20	82	0
Chloroform	0.417	0.435	-	-4.3	20	77	0
Ethyl acetate	0.153	0.154	-	-0.7	20	77	0
Carbon tetrachloride	0.334	0.366	-	-9.6	20	81	0
Tetrahydrofuran	20	23.627	-	-18.1	20	79	0
Dibromofluoromethane	0.245	0.245	-	0	20	72	0
1,1,1-Trichloroethane	0.382	0.408	-	-6.8	20	80	0
2-Butanone	20	22.25	-	-11.3	20	86	0
1,1-Dichloropropene	0.316	0.325	-	-2.8	20	77	0
Benzene	0.93	0.909	-	2.3	20	77	0
tert-Amyl methyl ether	0.589	0.536	-	9	20	67	0
1,2-Dichloroethane-d4	0.249	0.253	-	-1.6	20	74	0
1,2-Dichloroethane	0.268	0.302	-	-12.7	20	84	0
Methyl cyclohexane	0.395	0.399	-	-1	20	74	0
Trichloroethene	0.248	0.254	-	-2.4	20	80	0
Dibromomethane	0.112	0.122	-	-8.9	20	80	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Credere Associates, LLC	**Lab Number**	: L1940717
Project Name	: TOMBARELLO SITE	**Project Number**	: 17001426
Instrument ID	: VOA117	**Calibration Date**	: 09/15/19 12:56
Lab File ID	: V17190915A02	**Init. Calib. Date(s)**	: 07/26/19 07/26/19
Sample No	: WG1284519-2	**Init. Calib. Times**	: 20:19 23:46
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.227	0.248	-	-9.3	20	82	0
2-Chloroethyl vinyl ether	0.109	0.108	-	0.9	20	71	0
Bromodichloromethane	0.312	0.325	-	-4.2	20	80	0
1,4-Dioxane	0.00149	0.00131*	-	12.1	20	66	0
cis-1,3-Dichloropropene	0.358	0.367	-	-2.5	20	78	0
Chlorobenzene-d5	1	1	-	0	20	79	0
Toluene-d8	1.374	1.246	-	9.3	20	72	0
Toluene	0.82	0.787	-	4	20	79	0
4-Methyl-2-pentanone	0.079	0.078*	-	1.3	20	76	0
Tetrachloroethene	0.328	0.323	-	1.5	20	80	0
trans-1,3-Dichloropropene	0.414	0.407	-	1.7	20	78	0
Ethyl methacrylate	0.316	0.266	-	15.8	20	69	0
1,1,2-Trichloroethane	0.186	0.185	-	0.5	20	80	0
Chlorodibromomethane	0.279	0.28	-	-0.4	20	81	0
1,3-Dichloropropane	0.389	0.391	-	-0.5	20	81	0
1,2-Dibromoethane	0.215	0.214	-	0.5	20	81	0
2-Hexanone	0.142	0.122	-	14.1	20	71	0
Chlorobenzene	0.904	0.854	-	5.5	20	80	0
Ethylbenzene	1.578	1.539	-	2.5	20	79	0
1,1,1,2-Tetrachloroethane	0.315	0.309	-	1.9	20	83	0
p/m Xylene	0.614	0.588	-	4.2	20	79	0
o Xylene	0.596	0.562	-	5.7	20	78	0
Styrene	0.957	0.909	-	5	20	78	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	85	0
Bromoform	0.312	0.311	-	0.3	20	84	0
Isopropylbenzene	3.228	2.917	-	9.6	20	78	0
4-Bromofluorobenzene	1.085	0.967	-	10.9	20	76	0
Bromobenzene	0.692	0.651	-	5.9	20	81	0
n-Propylbenzene	3.81	3.583	-	6	20	81	0
1,4-Dichlorobutane	0.842	0.824	-	2.1	20	86	0
1,1,2,2-Tetrachloroethane	0.56	0.529	-	5.5	20	83	0
4-Ethyltoluene	3.347	2.911	-	13	20	76	0
2-Chlorotoluene	2.218	2.084	-	6	20	82	0
1,3,5-Trimethylbenzene	2.697	2.49	-	7.7	20	81	0
1,2,3-Trichloropropane	0.423	0.42	-	0.7	20	85	0
trans-1,4-Dichloro-2-buten	0.159	0.156	-	1.9	20	84	0
4-Chlorotoluene	2.339	2.149	-	8.1	20	81	0
tert-Butylbenzene	2.305	2.109	-	8.5	20	79	0
1,2,4-Trimethylbenzene	2.653	2.451	-	7.6	20	81	0
sec-Butylbenzene	3.508	3.276	-	6.6	20	81	0
p-Isopropyltoluene	2.943	2.735	-	7.1	20	80	0
1,3-Dichlorobenzene	1.397	1.335	-	4.4	20	84	0
1,4-Dichlorobenzene	1.386	1.334	-	3.8	20	85	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Credere Associates, LLC		**Lab Number**	: L1940717	
Project Name	: TOMBARELLO SITE		**Project Number**	: 17001426	
Instrument ID	: VOA117		**Calibration Date**	: 09/15/19 12:56	
Lab File ID	: V17190915A02		**Init. Calib. Date(s)**	: 07/26/19	07/26/19
Sample No	: WG1284519-2		**Init. Calib. Times**	: 20:19	23:46
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.837	1.6	-	12.9	20	76	0
n-Butylbenzene	2.767	2.69	-	2.8	20	84	0
1,2-Dichlorobenzene	1.247	1.196	-	4.1	20	84	0
1,2,4,5-Tetramethylbenzene	2.774	2.344	-	15.5	20	74	0
1,2-Dibromo-3-chloropropan	0.076	0.073	-	3.9	20	82	0
1,3,5-Trichlorobenzene	1.032	0.949	-	8	20	81	0
Hexachlorobutadiene	0.472	0.446	-	5.5	20	83	0
1,2,4-Trichlorobenzene	0.835	0.827	-	1	20	87	0
Naphthalene	1.699	1.538	-	9.5	20	79	0
1,2,3-Trichlorobenzene	0.731	0.714	-	2.3	20	86	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Credere Associates, LLC		**Lab Number**	: L1940717	
Project Name	: TOMBARELLO SITE		**Project Number**	: 17001426	
Instrument ID	: VOA117		**Calibration Date**	: 09/15/19 12:56	
Lab File ID	: V17190915A02		**Init. Calib. Date(s)**	: 07/26/19	07/26/19
Sample No	: WG1284521-2		**Init. Calib. Times**	: 20:19	23:46
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	73	0
Dichlorodifluoromethane	0.158	0.223	-	-41.1*	20	101	0
Chloromethane	0.23	0.296	-	-28.7*	20	100	0
Vinyl chloride	0.21	0.217	-	-3.3	20	76	0
Bromomethane	0.135	0.121	-	10.4	20	75	0
Chloroethane	0.13	0.123	-	5.4	20	74	0
Trichlorofluoromethane	0.261	0.334	-	-28*	20	95	0
Ethyl ether	0.092	0.074	-	19.6	20	62	0
1,1-Dichloroethene	0.198	0.185	-	6.6	20	69	0
Carbon disulfide	0.66	0.596	-	9.7	20	69	0
Freon-113	0.194	0.196	-	-1	20	74	0
Acrolein	0.03	0.028*	-	6.7	20	70	0
Methylene chloride	0.219	0.211	-	3.7	20	75	0
Acetone	20	22.121	-	-10.6	20	73	0
trans-1,2-Dichloroethene	0.229	0.218	-	4.8	20	72	0
Methyl acetate	0.094	0.098*	-	-4.3	20	85	0
Methyl tert-butyl ether	0.503	0.494	-	1.8	20	72	0
tert-Butyl alcohol	0.017	0.016*	-	5.9	20	66	0
Diisopropyl ether	0.721	0.722	-	-0.1	20	74	0
1,1-Dichloroethane	0.421	0.447	-	-6.2	20	80	0
Halothane	0.188	0.17	-	9.6	20	69	0
Acrylonitrile	0.044	0.049*	-	-11.4	20	85	0
Ethyl tert-butyl ether	0.703	0.685	-	2.6	20	71	0
Vinyl acetate	0.414	0.428	-	-3.4	20	75	0
cis-1,2-Dichloroethene	0.247	0.245	-	0.8	20	75	0
2,2-Dichloropropane	0.376	0.387	-	-2.9	20	78	0
Bromochloromethane	0.098	0.101	-	-3.1	20	77	0
Cyclohexane	0.393	0.436	-	-10.9	20	82	0
Chloroform	0.417	0.435	-	-4.3	20	77	0
Ethyl acetate	0.153	0.154	-	-0.7	20	77	0
Carbon tetrachloride	0.334	0.366	-	-9.6	20	81	0
Tetrahydrofuran	20	23.627	-	-18.1	20	79	0
Dibromofluoromethane	0.245	0.245	-	0	20	72	0
1,1,1-Trichloroethane	0.382	0.408	-	-6.8	20	80	0
2-Butanone	20	22.25	-	-11.3	20	86	0
1,1-Dichloropropene	0.316	0.325	-	-2.8	20	77	0
Benzene	0.93	0.909	-	2.3	20	77	0
tert-Amyl methyl ether	0.589	0.536	-	9	20	67	0
1,2-Dichloroethane-d4	0.249	0.253	-	-1.6	20	74	0
1,2-Dichloroethane	0.268	0.302	-	-12.7	20	84	0
Methyl cyclohexane	0.395	0.399	-	-1	20	74	0
Trichloroethene	0.248	0.254	-	-2.4	20	80	0
Dibromomethane	0.112	0.122	-	-8.9	20	80	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Credere Associates, LLC	**Lab Number**	: L1940717
Project Name	: TOMBARELLO SITE	**Project Number**	: 17001426
Instrument ID	: VOA117	**Calibration Date**	: 09/15/19 12:56
Lab File ID	: V17190915A02	**Init. Calib. Date(s)**	: 07/26/19 07/26/19
Sample No	: WG1284521-2	**Init. Calib. Times**	: 20:19 23:46
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.227	0.248	-	-9.3	20	82	0
2-Chloroethyl vinyl ether	0.109	0.108	-	0.9	20	71	0
Bromodichloromethane	0.312	0.325	-	-4.2	20	80	0
1,4-Dioxane	0.00149	0.00131*	-	12.1	20	66	0
cis-1,3-Dichloropropene	0.358	0.367	-	-2.5	20	78	0
Chlorobenzene-d5	1	1	-	0	20	79	0
Toluene-d8	1.374	1.246	-	9.3	20	72	0
Toluene	0.82	0.787	-	4	20	79	0
4-Methyl-2-pentanone	0.079	0.078*	-	1.3	20	76	0
Tetrachloroethene	0.328	0.323	-	1.5	20	80	0
trans-1,3-Dichloropropene	0.414	0.407	-	1.7	20	78	0
Ethyl methacrylate	0.316	0.266	-	15.8	20	69	0
1,1,2-Trichloroethane	0.186	0.185	-	0.5	20	80	0
Chlorodibromomethane	0.279	0.28	-	-0.4	20	81	0
1,3-Dichloropropane	0.389	0.391	-	-0.5	20	81	0
1,2-Dibromoethane	0.215	0.214	-	0.5	20	81	0
2-Hexanone	0.142	0.122	-	14.1	20	71	0
Chlorobenzene	0.904	0.854	-	5.5	20	80	0
Ethylbenzene	1.578	1.539	-	2.5	20	79	0
1,1,1,2-Tetrachloroethane	0.315	0.309	-	1.9	20	83	0
p/m Xylene	0.614	0.588	-	4.2	20	79	0
o Xylene	0.596	0.562	-	5.7	20	78	0
Styrene	0.957	0.909	-	5	20	78	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	85	0
Bromoform	0.312	0.311	-	0.3	20	84	0
Isopropylbenzene	3.228	2.917	-	9.6	20	78	0
4-Bromofluorobenzene	1.085	0.967	-	10.9	20	76	0
Bromobenzene	0.692	0.651	-	5.9	20	81	0
n-Propylbenzene	3.81	3.583	-	6	20	81	0
1,4-Dichlorobutane	0.842	0.824	-	2.1	20	86	0
1,1,2,2-Tetrachloroethane	0.56	0.529	-	5.5	20	83	0
4-Ethyltoluene	3.347	2.911	-	13	20	76	0
2-Chlorotoluene	2.218	2.084	-	6	20	82	0
1,3,5-Trimethylbenzene	2.697	2.49	-	7.7	20	81	0
1,2,3-Trichloropropane	0.423	0.42	-	0.7	20	85	0
trans-1,4-Dichloro-2-buten	0.159	0.156	-	1.9	20	84	0
4-Chlorotoluene	2.339	2.149	-	8.1	20	81	0
tert-Butylbenzene	2.305	2.109	-	8.5	20	79	0
1,2,4-Trimethylbenzene	2.653	2.451	-	7.6	20	81	0
sec-Butylbenzene	3.508	3.276	-	6.6	20	81	0
p-Isopropyltoluene	2.943	2.735	-	7.1	20	80	0
1,3-Dichlorobenzene	1.397	1.335	-	4.4	20	84	0
1,4-Dichlorobenzene	1.386	1.334	-	3.8	20	85	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Credere Associates, LLC		**Lab Number**	: L1940717	
Project Name	: TOMBARELLO SITE		**Project Number**	: 17001426	
Instrument ID	: VOA117		**Calibration Date**	: 09/15/19 12:56	
Lab File ID	: V17190915A02		**Init. Calib. Date(s)**	: 07/26/19	07/26/19
Sample No	: WG1284521-2		**Init. Calib. Times**	: 20:19	23:46
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.837	1.6	-	12.9	20	76	0
n-Butylbenzene	2.767	2.69	-	2.8	20	84	0
1,2-Dichlorobenzene	1.247	1.196	-	4.1	20	84	0
1,2,4,5-Tetramethylbenzene	2.774	2.344	-	15.5	20	74	0
1,2-Dibromo-3-chloropropan	0.076	0.073	-	3.9	20	82	0
1,3,5-Trichlorobenzene	1.032	0.949	-	8	20	81	0
Hexachlorobutadiene	0.472	0.446	-	5.5	20	83	0
1,2,4-Trichlorobenzene	0.835	0.827	-	1	20	87	0
Naphthalene	1.699	1.538	-	9.5	20	79	0
1,2,3-Trichlorobenzene	0.731	0.714	-	2.3	20	86	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Credere Associates, LLC	**Lab Number**	: L1940717		
Project Name	: TOMBARELLO SITE	**Project Number**	: 17001426		
Instrument ID	: VOA123	**Calibration Date**	: 09/15/19 16:24		
Lab File ID	: V23190915A01	**Init. Calib. Date(s)**	: 06/21/19	06/21/19	
Sample No	: WG1284596-2	**Init. Calib. Times**	: 03:09	06:33	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	72	-.01
Dichlorodifluoromethane	0.268	0.296	-	-10.4	20	68	0
Chloromethane	0.275	0.353	-	-28.4*	20	81	0
Vinyl chloride	0.312	0.325	-	-4.2	20	64	0
Bromomethane	0.233	0.224	-	3.9	20	65	0
Chloroethane	0.235	0.225	-	4.3	20	62	0
Trichlorofluoromethane	0.429	0.441	-	-2.8	20	62	0
Ethyl ether	0.143	0.127	-	11.2	20	58	0
1,1-Dichloroethene	0.214	0.21	-	1.9	20	61	0
Carbon disulfide	0.725	0.693	-	4.4	20	63	0
Freon-113	0.216	0.215	-	0.5	20	61	0
Acrolein	0.05	0.053	-	-6	20	71	0
Methylene chloride	0.28	0.249	-	11.1	20	62	0
Acetone	20	24.264	-	-21.3*	20	78	-.01
trans-1,2-Dichloroethene	0.245	0.24	-	2	20	62	0
Methyl acetate	0.187	0.213	-	-13.9	20	74	-.01
Methyl tert-butyl ether	0.725	0.65	-	10.3	20	57	-.01
tert-Butyl alcohol	0.038	0.032*	-	15.8	20	54	-.01
Diisopropyl ether	0.748	0.879	-	-17.5	20	75	-.01
1,1-Dichloroethane	0.436	0.455	-	-4.4	20	66	-.01
Halothane	0.182	0.175	-	3.8	20	60	-.01
Acrylonitrile	0.093	0.097	-	-4.3	20	66	-.01
Ethyl tert-butyl ether	0.763	0.738	-	3.3	20	62	-.02
Vinyl acetate	0.662	0.756	-	-14.2	20	74	-.01
cis-1,2-Dichloroethene	0.275	0.267	-	2.9	20	62	-.01
2,2-Dichloropropane	0.366	0.368	-	-0.5	20	63	-.01
Bromochloromethane	0.134	0.13	-	3	20	61	-.01
Cyclohexane	0.39	0.411	-	-5.4	20	66	0
Chloroform	0.43	0.434	-	-0.9	20	64	-.01
Ethyl acetate	0.3	0.325	-	-8.3	20	71	-.01
Carbon tetrachloride	0.331	0.337	-	-1.8	20	64	-.01
Tetrahydrofuran	0.106	0.117	-	-10.4	20	72	-.02
Dibromofluoromethane	0.262	0.255	-	2.7	20	70	0
1,1,1-Trichloroethane	0.365	0.384	-	-5.2	20	64	-.01
2-Butanone	0.139	0.145	-	-4.3	20	74	-.02
1,1-Dichloropropene	0.318	0.32	-	-0.6	20	61	0
Benzene	0.959	0.945	-	1.5	20	61	-.01
tert-Amyl methyl ether	0.734	0.633	-	13.8	20	55	-.02
1,2-Dichloroethane-d4	0.29	0.294	-	-1.4	20	76	-.01
1,2-Dichloroethane	0.342	0.343	-	-0.3	20	64	-.01
Methyl cyclohexane	0.415	0.383	-	7.7	20	58	-.01
Trichloroethene	0.249	0.249	-	0	20	62	-.01
Dibromomethane	0.164	0.155	-	5.5	20	61	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Credere Associates, LLC	**Lab Number**	: L1940717
Project Name	: TOMBARELLO SITE	**Project Number**	: 17001426
Instrument ID	: VOA123	**Calibration Date**	: 09/15/19 16:24
Lab File ID	: V23190915A01	**Init. Calib. Date(s)**	: 06/21/19 06/21/19
Sample No	: WG1284596-2	**Init. Calib. Times**	: 03:09 06:33
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.254	0.254	-	0	20	63	0
2-Chloroethyl vinyl ether	0.185	0.171	-	7.6	20	59	-.01
Bromodichloromethane	0.327	0.331	-	-1.2	20	64	-.02
1,4-Dioxane	0.00343	0.003*	-	12.5	20	58	-.02
cis-1,3-Dichloropropene	0.404	0.396	-	2	20	61	0
Chlorobenzene-d5	1	1	-	0	20	71	-.02
Toluene-d8	1.211	1.215	-	-0.3	20	71	-.02
Toluene	0.75	0.74	-	1.3	20	62	-.01
4-Methyl-2-pentanone	0.137	0.131	-	4.4	20	61	-.02
Tetrachloroethene	0.306	0.3	-	2	20	59	-.02
trans-1,3-Dichloropropene	0.447	0.441	-	1.3	20	60	-.01
Ethyl methacrylate	0.415	0.344	-	17.1	20	52	-.02
1,1,2-Trichloroethane	0.237	0.221	-	6.8	20	58	-.01
Chlorodibromomethane	0.311	0.304	-	2.3	20	60	-.02
1,3-Dichloropropane	0.475	0.447	-	5.9	20	59	-.02
1,2-Dibromoethane	0.286	0.271	-	5.2	20	58	-.02
2-Hexanone	0.245	0.261	-	-6.5	20	69	-.02
Chlorobenzene	0.845	0.839	-	0.7	20	61	-.01
Ethylbenzene	1.401	1.407	-	-0.4	20	62	-.01
1,1,1,2-Tetrachloroethane	0.297	0.3	-	-1	20	61	-.02
p/m Xylene	0.545	0.552	-	-1.3	20	62	0
o Xylene	0.539	0.529	-	1.9	20	61	-.02
Styrene	0.876	0.878	-	-0.2	20	61	-.02
1,4-Dichlorobenzene-d4	1	1	-	0	20	72	-.01
Bromoform	0.424	0.367	-	13.4	20	60	-.01
Isopropylbenzene	2.578	2.613	-	-1.4	20	62	-.02
4-Bromofluorobenzene	0.913	0.884	-	3.2	20	69	-.01
Bromobenzene	0.679	0.626	-	7.8	20	58	-.02
n-Propylbenzene	3.032	3.162	-	-4.3	20	63	-.01
1,4-Dichlorobutane	0.91	0.941	-	-3.4	20	67	-.01
1,1,2,2-Tetrachloroethane	0.726	0.695	-	4.3	20	58	-.01
4-Ethyltoluene	2.552	2.595	-	-1.7	20	62	-.01
2-Chlorotoluene	2.106	2.154	-	-2.3	20	64	-.01
1,3,5-Trimethylbenzene	2.162	2.195	-	-1.5	20	63	-.02
1,2,3-Trichloropropane	0.612	0.571	-	6.7	20	59	-.02
trans-1,4-Dichloro-2-buten	0.212	0.235	-	-10.8	20	70	0
4-Chlorotoluene	1.897	1.962	-	-3.4	20	65	-.01
tert-Butylbenzene	1.876	1.87	-	0.3	20	61	-.01
1,2,4-Trimethylbenzene	2.172	2.244	-	-3.3	20	64	-.02
sec-Butylbenzene	2.799	2.868	-	-2.5	20	62	-.01
p-Isopropyltoluene	2.388	2.472	-	-3.5	20	63	-.01
1,3-Dichlorobenzene	1.306	1.296	-	0.8	20	62	-.01
1,4-Dichlorobenzene	1.32	1.316	-	0.3	20	63	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Credere Associates, LLC		**Lab Number**	: L1940717	
Project Name	: TOMBARELLO SITE		**Project Number**	: 17001426	
Instrument ID	: VOA123		**Calibration Date**	: 09/15/19 16:24	
Lab File ID	: V23190915A01		**Init. Calib. Date(s)**	: 06/21/19	06/21/19
Sample No	: WG1284596-2		**Init. Calib. Times**	: 03:09	06:33
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.466	1.467	-	-0.1	20	62	-.01
n-Butylbenzene	2.231	2.421	-	-8.5	20	66	-.01
1,2-Dichlorobenzene	1.255	1.214	-	3.3	20	61	-.01
1,2,4,5-Tetramethylbenzene	2.325	2.266	-	2.5	20	60	-.01
1,2-Dibromo-3-chloropropan	0.136	0.114	-	16.2	20	56	-.01
1,3,5-Trichlorobenzene	0.913	0.901	-	1.3	20	62	-.01
Hexachlorobutadiene	0.428	0.389	-	9.1	20	57	-.01
1,2,4-Trichlorobenzene	0.862	0.849	-	1.5	20	62	-.01
Naphthalene	2.486	2.258	-	9.2	20	57	-.01
1,2,3-Trichlorobenzene	0.842	0.809	-	3.9	20	60	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Credere Associates, LLC	**Lab Number**	: L1940717
Project Name	: TOMBARELLO SITE	**Project Number**	: 17001426
Instrument ID	: VOA123	**Calibration Date**	: 09/15/19 16:24
Lab File ID	: V23190915A01	**Init. Calib. Date(s)**	: 06/21/19 06/21/19
Sample No	: WG1284598-2	**Init. Calib. Times**	: 03:09 06:33
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	72	-.01
Dichlorodifluoromethane	0.268	0.296	-	-10.4	20	68	0
Chloromethane	0.275	0.353	-	-28.4*	20	81	0
Vinyl chloride	0.312	0.325	-	-4.2	20	64	0
Bromomethane	0.233	0.224	-	3.9	20	65	0
Chloroethane	0.235	0.225	-	4.3	20	62	0
Trichlorofluoromethane	0.429	0.441	-	-2.8	20	62	0
Ethyl ether	0.143	0.127	-	11.2	20	58	0
1,1-Dichloroethene	0.214	0.21	-	1.9	20	61	0
Carbon disulfide	0.725	0.693	-	4.4	20	63	0
Freon-113	0.216	0.215	-	0.5	20	61	0
Acrolein	0.05	0.053	-	-6	20	71	0
Methylene chloride	0.28	0.249	-	11.1	20	62	0
Acetone	20	24.264	-	-21.3*	20	78	-.01
trans-1,2-Dichloroethene	0.245	0.24	-	2	20	62	0
Methyl acetate	0.187	0.213	-	-13.9	20	74	-.01
Methyl tert-butyl ether	0.725	0.65	-	10.3	20	57	-.01
tert-Butyl alcohol	0.038	0.032*	-	15.8	20	54	-.01
Diisopropyl ether	0.748	0.879	-	-17.5	20	75	-.01
1,1-Dichloroethane	0.436	0.455	-	-4.4	20	66	-.01
Halothane	0.182	0.175	-	3.8	20	60	-.01
Acrylonitrile	0.093	0.097	-	-4.3	20	66	-.01
Ethyl tert-butyl ether	0.763	0.738	-	3.3	20	62	-.02
Vinyl acetate	0.662	0.756	-	-14.2	20	74	-.01
cis-1,2-Dichloroethene	0.275	0.267	-	2.9	20	62	-.01
2,2-Dichloropropane	0.366	0.368	-	-0.5	20	63	-.01
Bromochloromethane	0.134	0.13	-	3	20	61	-.01
Cyclohexane	0.39	0.411	-	-5.4	20	66	0
Chloroform	0.43	0.434	-	-0.9	20	64	-.01
Ethyl acetate	0.3	0.325	-	-8.3	20	71	-.01
Carbon tetrachloride	0.331	0.337	-	-1.8	20	64	-.01
Tetrahydrofuran	0.106	0.117	-	-10.4	20	72	-.02
Dibromofluoromethane	0.262	0.255	-	2.7	20	70	0
1,1,1-Trichloroethane	0.365	0.384	-	-5.2	20	64	-.01
2-Butanone	0.139	0.145	-	-4.3	20	74	-.02
1,1-Dichloropropene	0.318	0.32	-	-0.6	20	61	0
Benzene	0.959	0.945	-	1.5	20	61	-.01
tert-Amyl methyl ether	0.734	0.633	-	13.8	20	55	-.02
1,2-Dichloroethane-d4	0.29	0.294	-	-1.4	20	76	-.01
1,2-Dichloroethane	0.342	0.343	-	-0.3	20	64	-.01
Methyl cyclohexane	0.415	0.383	-	7.7	20	58	-.01
Trichloroethene	0.249	0.249	-	0	20	62	-.01
Dibromomethane	0.164	0.155	-	5.5	20	61	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Credere Associates, LLC	**Lab Number**	: L1940717
Project Name	: TOMBARELLO SITE	**Project Number**	: 17001426
Instrument ID	: VOA123	**Calibration Date**	: 09/15/19 16:24
Lab File ID	: V23190915A01	**Init. Calib. Date(s)**	: 06/21/19 06/21/19
Sample No	: WG1284598-2	**Init. Calib. Times**	: 03:09 06:33
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.254	0.254	-	0	20	63	0
2-Chloroethyl vinyl ether	0.185	0.171	-	7.6	20	59	-.01
Bromodichloromethane	0.327	0.331	-	-1.2	20	64	-.02
1,4-Dioxane	0.00343	0.003*	-	12.5	20	58	-.02
cis-1,3-Dichloropropene	0.404	0.396	-	2	20	61	0
Chlorobenzene-d5	1	1	-	0	20	71	-.02
Toluene-d8	1.211	1.215	-	-0.3	20	71	-.02
Toluene	0.75	0.74	-	1.3	20	62	-.01
4-Methyl-2-pentanone	0.137	0.131	-	4.4	20	61	-.02
Tetrachloroethene	0.306	0.3	-	2	20	59	-.02
trans-1,3-Dichloropropene	0.447	0.441	-	1.3	20	60	-.01
Ethyl methacrylate	0.415	0.344	-	17.1	20	52	-.02
1,1,2-Trichloroethane	0.237	0.221	-	6.8	20	58	-.01
Chlorodibromomethane	0.311	0.304	-	2.3	20	60	-.02
1,3-Dichloropropane	0.475	0.447	-	5.9	20	59	-.02
1,2-Dibromoethane	0.286	0.271	-	5.2	20	58	-.02
2-Hexanone	0.245	0.261	-	-6.5	20	69	-.02
Chlorobenzene	0.845	0.839	-	0.7	20	61	-.01
Ethylbenzene	1.401	1.407	-	-0.4	20	62	-.01
1,1,1,2-Tetrachloroethane	0.297	0.3	-	-1	20	61	-.02
p/m Xylene	0.545	0.552	-	-1.3	20	62	0
o Xylene	0.539	0.529	-	1.9	20	61	-.02
Styrene	0.876	0.878	-	-0.2	20	61	-.02
1,4-Dichlorobenzene-d4	1	1	-	0	20	72	-.01
Bromoform	0.424	0.367	-	13.4	20	60	-.01
Isopropylbenzene	2.578	2.613	-	-1.4	20	62	-.02
4-Bromofluorobenzene	0.913	0.884	-	3.2	20	69	-.01
Bromobenzene	0.679	0.626	-	7.8	20	58	-.02
n-Propylbenzene	3.032	3.162	-	-4.3	20	63	-.01
1,4-Dichlorobutane	0.91	0.941	-	-3.4	20	67	-.01
1,1,2,2-Tetrachloroethane	0.726	0.695	-	4.3	20	58	-.01
4-Ethyltoluene	2.552	2.595	-	-1.7	20	62	-.01
2-Chlorotoluene	2.106	2.154	-	-2.3	20	64	-.01
1,3,5-Trimethylbenzene	2.162	2.195	-	-1.5	20	63	-.02
1,2,3-Trichloropropane	0.612	0.571	-	6.7	20	59	-.02
trans-1,4-Dichloro-2-buten	0.212	0.235	-	-10.8	20	70	0
4-Chlorotoluene	1.897	1.962	-	-3.4	20	65	-.01
tert-Butylbenzene	1.876	1.87	-	0.3	20	61	-.01
1,2,4-Trimethylbenzene	2.172	2.244	-	-3.3	20	64	-.02
sec-Butylbenzene	2.799	2.868	-	-2.5	20	62	-.01
p-Isopropyltoluene	2.388	2.472	-	-3.5	20	63	-.01
1,3-Dichlorobenzene	1.306	1.296	-	0.8	20	62	-.01
1,4-Dichlorobenzene	1.32	1.316	-	0.3	20	63	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Credere Associates, LLC		**Lab Number**	: L1940717	
Project Name	: TOMBARELLO SITE		**Project Number**	: 17001426	
Instrument ID	: VOA123		**Calibration Date**	: 09/15/19 16:24	
Lab File ID	: V23190915A01		**Init. Calib. Date(s)**	: 06/21/19	06/21/19
Sample No	: WG1284598-2		**Init. Calib. Times**	: 03:09	06:33
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.466	1.467	-	-0.1	20	62	-.01
n-Butylbenzene	2.231	2.421	-	-8.5	20	66	-.01
1,2-Dichlorobenzene	1.255	1.214	-	3.3	20	61	-.01
1,2,4,5-Tetramethylbenzene	2.325	2.266	-	2.5	20	60	-.01
1,2-Dibromo-3-chloropropan	0.136	0.114	-	16.2	20	56	-.01
1,3,5-Trichlorobenzene	0.913	0.901	-	1.3	20	62	-.01
Hexachlorobutadiene	0.428	0.389	-	9.1	20	57	-.01
1,2,4-Trichlorobenzene	0.862	0.849	-	1.5	20	62	-.01
Naphthalene	2.486	2.258	-	9.2	20	57	-.01
1,2,3-Trichlorobenzene	0.842	0.809	-	3.9	20	60	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Credere Associates, LLC	**Lab Number**	: L1940717		
Project Name	: TOMBARELLO SITE	**Project Number**	: 17001426		
Instrument ID	: VOA123	**Calibration Date**	: 09/16/19 06:56		
Lab File ID	: V23190916A01	**Init. Calib. Date(s)**	: 06/21/19	06/21/19	
Sample No	: WG1284781-2	**Init. Calib. Times**	: 03:09	06:33	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	71	-.01
Dichlorodifluoromethane	0.268	0.224	-	16.4	20	51	0
Chloromethane	0.275	0.31	-	-12.7	20	70	0
Vinyl chloride	0.312	0.301	-	3.5	20	59	0
Bromomethane	0.233	0.217	-	6.9	20	63	0
Chloroethane	0.235	0.219	-	6.8	20	60	0
Trichlorofluoromethane	0.429	0.453	-	-5.6	20	63	0
Ethyl ether	0.143	0.132	-	7.7	20	59	0
1,1-Dichloroethene	0.214	0.214	-	0	20	61	0
Carbon disulfide	0.725	0.681	-	6.1	20	61	0
Freon-113	0.216	0.22	-	-1.9	20	62	0
Acrolein	0.05	0.054	-	-8	20	73	0
Methylene chloride	0.28	0.252	-	10	20	62	0
Acetone	20	24.255	-	-21.3*	20	77	-.01
trans-1,2-Dichloroethene	0.245	0.247	-	-0.8	20	63	0
Methyl acetate	0.187	0.229	-	-22.5*	20	78	-.02
Methyl tert-butyl ether	0.725	0.668	-	7.9	20	58	-.01
tert-Butyl alcohol	0.038	0.035*	-	7.9	20	58	-.01
Diisopropyl ether	0.748	0.909	-	-21.5*	20	76	-.01
1,1-Dichloroethane	0.436	0.466	-	-6.9	20	66	-.01
Halothane	0.182	0.186	-	-2.2	20	63	-.01
Acrylonitrile	0.093	0.101	-	-8.6	20	68	-.01
Ethyl tert-butyl ether	0.763	0.766	-	-0.4	20	63	-.02
Vinyl acetate	0.662	0.779	-	-17.7	20	75	-.01
cis-1,2-Dichloroethene	0.275	0.27	-	1.8	20	62	-.01
2,2-Dichloropropane	0.366	0.379	-	-3.6	20	64	-.01
Bromochloromethane	0.134	0.133	-	0.7	20	62	-.01
Cyclohexane	0.39	0.428	-	-9.7	20	67	0
Chloroform	0.43	0.452	-	-5.1	20	66	-.01
Ethyl acetate	0.3	0.335	-	-11.7	20	72	-.02
Carbon tetrachloride	0.331	0.355	-	-7.3	20	66	0
Tetrahydrofuran	0.106	0.123	-	-16	20	74	-.02
Dibromofluoromethane	0.262	0.254	-	3.1	20	69	-.01
1,1,1-Trichloroethane	0.365	0.398	-	-9	20	65	-.01
2-Butanone	0.139	0.155	-	-11.5	20	78	-.02
1,1-Dichloropropene	0.318	0.332	-	-4.4	20	63	-.01
Benzene	0.959	0.971	-	-1.3	20	62	-.01
tert-Amyl methyl ether	0.734	0.657	-	10.5	20	56	-.02
1,2-Dichloroethane-d4	0.29	0.298	-	-2.8	20	75	-.02
1,2-Dichloroethane	0.342	0.359	-	-5	20	67	-.02
Methyl cyclohexane	0.415	0.391	-	5.8	20	58	-.01
Trichloroethene	0.249	0.258	-	-3.6	20	63	-.01
Dibromomethane	0.164	0.162	-	1.2	20	63	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Credere Associates, LLC	**Lab Number**	: L1940717
Project Name	: TOMBARELLO SITE	**Project Number**	: 17001426
Instrument ID	: VOA123	**Calibration Date**	: 09/16/19 06:56
Lab File ID	: V23190916A01	**Init. Calib. Date(s)**	: 06/21/19 06/21/19
Sample No	: WG1284781-2	**Init. Calib. Times**	: 03:09 06:33
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.254	0.264	-	-3.9	20	65	-.02
2-Chloroethyl vinyl ether	0.185	0.177	-	4.3	20	60	-.01
Bromodichloromethane	0.327	0.346	-	-5.8	20	66	-.02
1,4-Dioxane	0.00343	0.00304*	-	11.4	20	58	-.02
cis-1,3-Dichloropropene	0.404	0.411	-	-1.7	20	62	0
Chlorobenzene-d5	1	1	-	0	20	70	-.02
Toluene-d8	1.211	1.205	-	0.5	20	70	-.02
Toluene	0.75	0.756	-	-0.8	20	62	-.02
4-Methyl-2-pentanone	0.137	0.133	-	2.9	20	61	-.02
Tetrachloroethene	0.306	0.314	-	-2.6	20	60	-.02
trans-1,3-Dichloropropene	0.447	0.46	-	-2.9	20	62	-.02
Ethyl methacrylate	0.415	0.365	-	12	20	54	-.02
1,1,2-Trichloroethane	0.237	0.233	-	1.7	20	61	-.01
Chlorodibromomethane	0.311	0.324	-	-4.2	20	64	-.02
1,3-Dichloropropane	0.475	0.47	-	1.1	20	61	-.01
1,2-Dibromoethane	0.286	0.286	-	0	20	61	-.02
2-Hexanone	0.245	0.269	-	-9.8	20	70	-.02
Chlorobenzene	0.845	0.869	-	-2.8	20	63	-.02
Ethylbenzene	1.401	1.469	-	-4.9	20	64	-.02
1,1,1,2-Tetrachloroethane	0.297	0.315	-	-6.1	20	63	-.02
p/m Xylene	0.545	0.575	-	-5.5	20	64	-.02
o Xylene	0.539	0.552	-	-2.4	20	62	-.02
Styrene	0.876	0.911	-	-4	20	62	-.02
1,4-Dichlorobenzene-d4	1	1	-	0	20	72	-.01
Bromoform	0.424	0.386	-	9	20	63	-.02
Isopropylbenzene	2.578	2.686	-	-4.2	20	64	-.02
4-Bromofluorobenzene	0.913	0.883	-	3.3	20	69	-.01
Bromobenzene	0.679	0.647	-	4.7	20	61	-.02
n-Propylbenzene	3.032	3.237	-	-6.8	20	65	-.01
1,4-Dichlorobutane	0.91	0.983	-	-8	20	70	-.01
1,1,2,2-Tetrachloroethane	0.726	0.73	-	-0.6	20	61	-.01
4-Ethyltoluene	2.552	2.632	-	-3.1	20	63	-.01
2-Chlorotoluene	2.106	2.196	-	-4.3	20	65	-.01
1,3,5-Trimethylbenzene	2.162	2.259	-	-4.5	20	65	-.02
1,2,3-Trichloropropane	0.612	0.595	-	2.8	20	62	-.02
trans-1,4-Dichloro-2-buten	0.212	0.248	-	-17	20	74	-.02
4-Chlorotoluene	1.897	2.008	-	-5.9	20	66	-.02
tert-Butylbenzene	1.876	1.917	-	-2.2	20	62	-.01
1,2,4-Trimethylbenzene	2.172	2.277	-	-4.8	20	65	-.02
sec-Butylbenzene	2.799	2.943	-	-5.1	20	64	-.01
p-Isopropyltoluene	2.388	2.502	-	-4.8	20	64	-.02
1,3-Dichlorobenzene	1.306	1.339	-	-2.5	20	65	-.01
1,4-Dichlorobenzene	1.32	1.352	-	-2.4	20	65	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Credere Associates, LLC		**Lab Number**	: L1940717	
Project Name	: TOMBARELLO SITE		**Project Number**	: 17001426	
Instrument ID	: VOA123		**Calibration Date**	: 09/16/19 06:56	
Lab File ID	: V23190916A01		**Init. Calib. Date(s)**	: 06/21/19	06/21/19
Sample No	: WG1284781-2		**Init. Calib. Times**	: 03:09	06:33
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.466	1.468	-	-0.1	20	62	-.01
n-Butylbenzene	2.231	2.436	-	-9.2	20	67	-.01
1,2-Dichlorobenzene	1.255	1.253	-	0.2	20	63	-.01
1,2,4,5-Tetramethylbenzene	2.325	2.304	-	0.9	20	62	-.01
1,2-Dibromo-3-chloropropan	0.136	0.119	-	12.5	20	58	-.01
1,3,5-Trichlorobenzene	0.913	0.902	-	1.2	20	62	-.01
Hexachlorobutadiene	0.428	0.378	-	11.7	20	56	-.01
1,2,4-Trichlorobenzene	0.862	0.858	-	0.5	20	63	-.01
Naphthalene	2.486	2.385	-	4.1	20	60	-.01
1,2,3-Trichlorobenzene	0.842	0.82	-	2.6	20	62	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Credere Associates, LLC	**Lab Number**	: L1940717		
Project Name	: TOMBARELLO SITE	**Project Number**	: 17001426		
Instrument ID	: VOA123	**Calibration Date**	: 09/16/19 06:56		
Lab File ID	: V23190916A01	**Init. Calib. Date(s)**	: 06/21/19	06/21/19	
Sample No	: WG1284780-2	**Init. Calib. Times**	: 03:09	06:33	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	71	-.01
Dichlorodifluoromethane	0.268	0.224	-	16.4	20	51	0
Chloromethane	0.275	0.31	-	-12.7	20	70	0
Vinyl chloride	0.312	0.301	-	3.5	20	59	0
Bromomethane	0.233	0.217	-	6.9	20	63	0
Chloroethane	0.235	0.219	-	6.8	20	60	0
Trichlorofluoromethane	0.429	0.453	-	-5.6	20	63	0
Ethyl ether	0.143	0.132	-	7.7	20	59	0
1,1-Dichloroethene	0.214	0.214	-	0	20	61	0
Carbon disulfide	0.725	0.681	-	6.1	20	61	0
Freon-113	0.216	0.22	-	-1.9	20	62	0
Acrolein	0.05	0.054	-	-8	20	73	0
Methylene chloride	0.28	0.252	-	10	20	62	0
Acetone	20	24.255	-	-21.3*	20	77	-.01
trans-1,2-Dichloroethene	0.245	0.247	-	-0.8	20	63	0
Methyl acetate	0.187	0.229	-	-22.5*	20	78	-.02
Methyl tert-butyl ether	0.725	0.668	-	7.9	20	58	-.01
tert-Butyl alcohol	0.038	0.035*	-	7.9	20	58	-.01
Diisopropyl ether	0.748	0.909	-	-21.5*	20	76	-.01
1,1-Dichloroethane	0.436	0.466	-	-6.9	20	66	-.01
Halothane	0.182	0.186	-	-2.2	20	63	-.01
Acrylonitrile	0.093	0.101	-	-8.6	20	68	-.01
Ethyl tert-butyl ether	0.763	0.766	-	-0.4	20	63	-.02
Vinyl acetate	0.662	0.779	-	-17.7	20	75	-.01
cis-1,2-Dichloroethene	0.275	0.27	-	1.8	20	62	-.01
2,2-Dichloropropane	0.366	0.379	-	-3.6	20	64	-.01
Bromochloromethane	0.134	0.133	-	0.7	20	62	-.01
Cyclohexane	0.39	0.428	-	-9.7	20	67	0
Chloroform	0.43	0.452	-	-5.1	20	66	-.01
Ethyl acetate	0.3	0.335	-	-11.7	20	72	-.02
Carbon tetrachloride	0.331	0.355	-	-7.3	20	66	0
Tetrahydrofuran	0.106	0.123	-	-16	20	74	-.02
Dibromofluoromethane	0.262	0.254	-	3.1	20	69	-.01
1,1,1-Trichloroethane	0.365	0.398	-	-9	20	65	-.01
2-Butanone	0.139	0.155	-	-11.5	20	78	-.02
1,1-Dichloropropene	0.318	0.332	-	-4.4	20	63	-.01
Benzene	0.959	0.971	-	-1.3	20	62	-.01
tert-Amyl methyl ether	0.734	0.657	-	10.5	20	56	-.02
1,2-Dichloroethane-d4	0.29	0.298	-	-2.8	20	75	-.02
1,2-Dichloroethane	0.342	0.359	-	-5	20	67	-.02
Methyl cyclohexane	0.415	0.391	-	5.8	20	58	-.01
Trichloroethene	0.249	0.258	-	-3.6	20	63	-.01
Dibromomethane	0.164	0.162	-	1.2	20	63	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Credere Associates, LLC	**Lab Number**	: L1940717
Project Name	: TOMBARELLO SITE	**Project Number**	: 17001426
Instrument ID	: VOA123	**Calibration Date**	: 09/16/19 06:56
Lab File ID	: V23190916A01	**Init. Calib. Date(s)**	: 06/21/19 06/21/19
Sample No	: WG1284780-2	**Init. Calib. Times**	: 03:09 06:33
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.254	0.264	-	-3.9	20	65	-.02
2-Chloroethyl vinyl ether	0.185	0.177	-	4.3	20	60	-.01
Bromodichloromethane	0.327	0.346	-	-5.8	20	66	-.02
1,4-Dioxane	0.00343	0.00304*	-	11.4	20	58	-.02
cis-1,3-Dichloropropene	0.404	0.411	-	-1.7	20	62	0
Chlorobenzene-d5	1	1	-	0	20	70	-.02
Toluene-d8	1.211	1.205	-	0.5	20	70	-.02
Toluene	0.75	0.756	-	-0.8	20	62	-.02
4-Methyl-2-pentanone	0.137	0.133	-	2.9	20	61	-.02
Tetrachloroethene	0.306	0.314	-	-2.6	20	60	-.02
trans-1,3-Dichloropropene	0.447	0.46	-	-2.9	20	62	-.02
Ethyl methacrylate	0.415	0.365	-	12	20	54	-.02
1,1,2-Trichloroethane	0.237	0.233	-	1.7	20	61	-.01
Chlorodibromomethane	0.311	0.324	-	-4.2	20	64	-.02
1,3-Dichloropropane	0.475	0.47	-	1.1	20	61	-.01
1,2-Dibromoethane	0.286	0.286	-	0	20	61	-.02
2-Hexanone	0.245	0.269	-	-9.8	20	70	-.02
Chlorobenzene	0.845	0.869	-	-2.8	20	63	-.02
Ethylbenzene	1.401	1.469	-	-4.9	20	64	-.02
1,1,1,2-Tetrachloroethane	0.297	0.315	-	-6.1	20	63	-.02
p/m Xylene	0.545	0.575	-	-5.5	20	64	-.02
o Xylene	0.539	0.552	-	-2.4	20	62	-.02
Styrene	0.876	0.911	-	-4	20	62	-.02
1,4-Dichlorobenzene-d4	1	1	-	0	20	72	-.01
Bromoform	0.424	0.386	-	9	20	63	-.02
Isopropylbenzene	2.578	2.686	-	-4.2	20	64	-.02
4-Bromofluorobenzene	0.913	0.883	-	3.3	20	69	-.01
Bromobenzene	0.679	0.647	-	4.7	20	61	-.02
n-Propylbenzene	3.032	3.237	-	-6.8	20	65	-.01
1,4-Dichlorobutane	0.91	0.983	-	-8	20	70	-.01
1,1,2,2-Tetrachloroethane	0.726	0.73	-	-0.6	20	61	-.01
4-Ethyltoluene	2.552	2.632	-	-3.1	20	63	-.01
2-Chlorotoluene	2.106	2.196	-	-4.3	20	65	-.01
1,3,5-Trimethylbenzene	2.162	2.259	-	-4.5	20	65	-.02
1,2,3-Trichloropropane	0.612	0.595	-	2.8	20	62	-.02
trans-1,4-Dichloro-2-buten	0.212	0.248	-	-17	20	74	-.02
4-Chlorotoluene	1.897	2.008	-	-5.9	20	66	-.02
tert-Butylbenzene	1.876	1.917	-	-2.2	20	62	-.01
1,2,4-Trimethylbenzene	2.172	2.277	-	-4.8	20	65	-.02
sec-Butylbenzene	2.799	2.943	-	-5.1	20	64	-.01
p-Isopropyltoluene	2.388	2.502	-	-4.8	20	64	-.02
1,3-Dichlorobenzene	1.306	1.339	-	-2.5	20	65	-.01
1,4-Dichlorobenzene	1.32	1.352	-	-2.4	20	65	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Credere Associates, LLC		**Lab Number**	: L1940717	
Project Name	: TOMBARELLO SITE		**Project Number**	: 17001426	
Instrument ID	: VOA123		**Calibration Date**	: 09/16/19 06:56	
Lab File ID	: V23190916A01		**Init. Calib. Date(s)**	: 06/21/19	06/21/19
Sample No	: WG1284780-2		**Init. Calib. Times**	: 03:09	06:33
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.466	1.468	-	-0.1	20	62	-.01
n-Butylbenzene	2.231	2.436	-	-9.2	20	67	-.01
1,2-Dichlorobenzene	1.255	1.253	-	0.2	20	63	-.01
1,2,4,5-Tetramethylbenzene	2.325	2.304	-	0.9	20	62	-.01
1,2-Dibromo-3-chloropropan	0.136	0.119	-	12.5	20	58	-.01
1,3,5-Trichlorobenzene	0.913	0.902	-	1.2	20	62	-.01
Hexachlorobutadiene	0.428	0.378	-	11.7	20	56	-.01
1,2,4-Trichlorobenzene	0.862	0.858	-	0.5	20	63	-.01
Naphthalene	2.486	2.385	-	4.1	20	60	-.01
1,2,3-Trichlorobenzene	0.842	0.82	-	2.6	20	62	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Credere Associates, LLC		**Lab Number**	: L1940717	
Project Name	: TOMBARELLO SITE		**Project Number**	: 17001426	
Instrument ID	: VOA123		**Calibration Date**	: 09/16/19 19:09	
Lab File ID	: V23190916N01		**Init. Calib. Date(s)**	: 06/21/19	06/21/19
Sample No	: WG1284929-2		**Init. Calib. Times**	: 03:09	06:33
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	65	-.01
Dichlorodifluoromethane	0.268	0.319	-	-19	20	65	0
Chloromethane	0.275	0.377	-	-37.1*	20	77	0
Vinyl chloride	0.312	0.361	-	-15.7	20	64	0
Bromomethane	0.233	0.242	-	-3.9	20	63	0
Chloroethane	0.235	0.242	-	-3	20	60	0
Trichlorofluoromethane	0.429	0.48	-	-11.9	20	61	0
Ethyl ether	0.143	0.129	-	9.8	20	52	0
1,1-Dichloroethene	0.214	0.228	-	-6.5	20	59	0
Carbon disulfide	0.725	0.745	-	-2.8	20	60	0
Freon-113	0.216	0.231	-	-6.9	20	59	0
Acrolein	0.05	0.057	-	-14	20	69	0
Methylene chloride	0.28	0.259	-	7.5	20	57	0
Acetone	20	26.629	-	-33.1*	20	76	-.02
trans-1,2-Dichloroethene	0.245	0.259	-	-5.7	20	59	0
Methyl acetate	0.187	0.226	-	-20.9*	20	70	-.01
Methyl tert-butyl ether	0.725	0.638	-	12	20	50	-.01
tert-Butyl alcohol	0.038	0.034*	-	10.5	20	51	-.02
Diisopropyl ether	0.748	0.896	-	-19.8	20	68	-.01
1,1-Dichloroethane	0.436	0.481	-	-10.3	20	62	0
Halothane	0.182	0.185	-	-1.6	20	56	-.01
Acrylonitrile	0.093	0.101	-	-8.6	20	62	-.01
Ethyl tert-butyl ether	0.763	0.739	-	3.1	20	55	-.01
Vinyl acetate	0.662	0.76	-	-14.8	20	66	-.01
cis-1,2-Dichloroethene	0.275	0.277	-	-0.7	20	57	-.01
2,2-Dichloropropane	0.366	0.389	-	-6.3	20	60	0
Bromochloromethane	0.134	0.129	-	3.7	20	54	-.01
Cyclohexane	0.39	0.448	-	-14.9	20	64	0
Chloroform	0.43	0.46	-	-7	20	60	-.01
Ethyl acetate	0.3	0.33	-	-10	20	64	-.02
Carbon tetrachloride	0.331	0.357	-	-7.9	20	60	-.01
Tetrahydrofuran	0.106	0.12	-	-13.2	20	66	-.02
Dibromofluoromethane	0.262	0.253	-	3.4	20	62	0
1,1,1-Trichloroethane	0.365	0.405	-	-11	20	60	-.01
2-Butanone	0.139	0.157	-	-12.9	20	71	-.02
1,1-Dichloropropene	0.318	0.347	-	-9.1	20	59	-.01
Benzene	0.959	1	-	-4.3	20	58	-.01
tert-Amyl methyl ether	0.734	0.621	-	15.4	20	48	-.02
1,2-Dichloroethane-d4	0.29	0.286	-	1.4	20	66	-.01
1,2-Dichloroethane	0.342	0.352	-	-2.9	20	59	-.01
Methyl cyclohexane	0.415	0.405	-	2.4	20	54	-.01
Trichloroethene	0.249	0.263	-	-5.6	20	58	-.01
Dibromomethane	0.164	0.156	-	4.9	20	55	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Credere Associates, LLC	**Lab Number**	: L1940717
Project Name	: TOMBARELLO SITE	**Project Number**	: 17001426
Instrument ID	: VOA123	**Calibration Date**	: 09/16/19 19:09
Lab File ID	: V23190916N01	**Init. Calib. Date(s)**	: 06/21/19 06/21/19
Sample No	: WG1284929-2	**Init. Calib. Times**	: 03:09 06:33
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.254	0.258	-	-1.6	20	57	0
2-Chloroethyl vinyl ether	0.185	0.172	-	7	20	53	-.01
Bromodichloromethane	0.327	0.342	-	-4.6	20	59	-.02
1,4-Dioxane	0.00343	0.00322*	-	6.1	20	56	-.02
cis-1,3-Dichloropropene	0.404	0.399	-	1.2	20	55	0
Chlorobenzene-d5	1	1	-	0	20	63	-.01
Toluene-d8	1.211	1.219	-	-0.7	20	63	-.02
Toluene	0.75	0.77	-	-2.7	20	57	-.02
4-Methyl-2-pentanone	0.137	0.13	-	5.1	20	54	-.02
Tetrachloroethene	0.306	0.316	-	-3.3	20	55	-.01
trans-1,3-Dichloropropene	0.447	0.444	-	0.7	20	54	-.01
Ethyl methacrylate	0.415	0.339	-	18.3	20	45	-.02
1,1,2-Trichloroethane	0.237	0.226	-	4.6	20	53	-.01
Chlorodibromomethane	0.311	0.31	-	0.3	20	55	-.02
1,3-Dichloropropane	0.475	0.452	-	4.8	20	53	-.01
1,2-Dibromoethane	0.286	0.271	-	5.2	20	51	-.01
2-Hexanone	0.245	0.261	-	-6.5	20	61	-.02
Chlorobenzene	0.845	0.872	-	-3.2	20	57	-.02
Ethylbenzene	1.401	1.495	-	-6.7	20	58	-.01
1,1,1,2-Tetrachloroethane	0.297	0.308	-	-3.7	20	55	-.02
p/m Xylene	0.545	0.576	-	-5.7	20	57	0
o Xylene	0.539	0.554	-	-2.8	20	56	-.01
Styrene	0.876	0.907	-	-3.5	20	56	-.02
1,4-Dichlorobenzene-d4	1	1	-	0	20	64	-.01
Bromoform	0.424	0.36	-	15.1	20	52	-.01
Isopropylbenzene	2.578	2.753	-	-6.8	20	58	-.02
4-Bromofluorobenzene	0.913	0.892	-	2.3	20	62	-.01
Bromobenzene	0.679	0.65	-	4.3	20	54	-.02
n-Propylbenzene	3.032	3.344	-	-10.3	20	59	-.01
1,4-Dichlorobutane	0.91	0.95	-	-4.4	20	60	-.01
1,1,2,2-Tetrachloroethane	0.726	0.704	-	3	20	52	-.01
4-Ethyltoluene	2.552	2.738	-	-7.3	20	58	0
2-Chlorotoluene	2.106	2.252	-	-6.9	20	59	-.01
1,3,5-Trimethylbenzene	2.162	2.333	-	-7.9	20	59	-.02
1,2,3-Trichloropropane	0.612	0.583	-	4.7	20	54	-.01
trans-1,4-Dichloro-2-buten	0.212	0.235	-	-10.8	20	62	0
4-Chlorotoluene	1.897	2.034	-	-7.2	20	59	-.01
tert-Butylbenzene	1.876	1.976	-	-5.3	20	57	-.01
1,2,4-Trimethylbenzene	2.172	2.323	-	-7	20	58	-.02
sec-Butylbenzene	2.799	3.106	-	-11	20	60	-.01
p-Isopropyltoluene	2.388	2.608	-	-9.2	20	59	-.02
1,3-Dichlorobenzene	1.306	1.341	-	-2.7	20	57	-.01
1,4-Dichlorobenzene	1.32	1.342	-	-1.7	20	57	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Credere Associates, LLC		**Lab Number**	: L1940717	
Project Name	: TOMBARELLO SITE		**Project Number**	: 17001426	
Instrument ID	: VOA123		**Calibration Date**	: 09/16/19 19:09	
Lab File ID	: V23190916N01		**Init. Calib. Date(s)**	: 06/21/19	06/21/19
Sample No	: WG1284929-2		**Init. Calib. Times**	: 03:09	06:33
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.466	1.542	-	-5.2	20	58	-.01
n-Butylbenzene	2.231	2.568	-	-15.1	20	62	-.01
1,2-Dichlorobenzene	1.255	1.25	-	0.4	20	56	-.01
1,2,4,5-Tetramethylbenzene	2.325	2.321	-	0.2	20	55	-.01
1,2-Dibromo-3-chloropropan	0.136	0.116	-	14.7	20	50	-.01
1,3,5-Trichlorobenzene	0.913	0.916	-	-0.3	20	56	-.01
Hexachlorobutadiene	0.428	0.415	-	3	20	54	0
1,2,4-Trichlorobenzene	0.862	0.834	-	3.2	20	54	-.01
Naphthalene	2.486	2.258	-	9.2	20	50	-.01
1,2,3-Trichlorobenzene	0.842	0.788	-	6.4	20	52	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Credere Associates, LLC	**Lab Number**	: L1940717
Project Name	: TOMBARELLO SITE	**Project Number**	: 17001426
Instrument ID	: VOA123	**Calibration Date**	: 09/17/19 07:26
Lab File ID	: V23190917A01	**Init. Calib. Date(s)**	: 06/21/19 06/21/19
Sample No	: WG1285102-2	**Init. Calib. Times**	: 03:09 06:33
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	82	-.01
Dichlorodifluoromethane	0.268	0.274	-	-2.2	20	71	0
Chloromethane	0.275	0.325	-	-18.2	20	85	0
Vinyl chloride	0.312	0.308	-	1.3	20	69	0
Bromomethane	0.233	0.209	-	10.3	20	69	0
Chloroethane	0.235	0.215	-	8.5	20	67	0
Trichlorofluoromethane	0.429	0.424	-	1.2	20	68	0
Ethyl ether	0.143	0.125	-	12.6	20	64	0
1,1-Dichloroethene	0.214	0.206	-	3.7	20	68	0
Carbon disulfide	0.725	0.674	-	7	20	69	0
Freon-113	0.216	0.207	-	4.2	20	66	0
Acrolein	0.05	0.051	-	-2	20	78	0
Methylene chloride	0.28	0.26	-	7.1	20	73	0
Acetone	20	22.467	-	-12.3	20	82	-.01
trans-1,2-Dichloroethene	0.245	0.236	-	3.7	20	69	0
Methyl acetate	0.187	0.21	-	-12.3	20	82	-.01
Methyl tert-butyl ether	0.725	0.625	-	13.8	20	62	-.01
tert-Butyl alcohol	0.038	0.033*	-	13.2	20	64	-.02
Diisopropyl ether	0.748	0.823	-	-10	20	79	-.01
1,1-Dichloroethane	0.436	0.43	-	1.4	20	70	-.01
Halothane	0.182	0.172	-	5.5	20	66	-.01
Acrylonitrile	0.093	0.096	-	-3.2	20	74	-.01
Ethyl tert-butyl ether	0.763	0.708	-	7.2	20	67	-.02
Vinyl acetate	0.662	0.71	-	-7.3	20	78	-.01
cis-1,2-Dichloroethene	0.275	0.255	-	7.3	20	67	-.01
2,2-Dichloropropane	0.366	0.354	-	3.3	20	69	-.01
Bromochloromethane	0.134	0.127	-	5.2	20	68	-.01
Cyclohexane	0.39	0.385	-	1.3	20	70	0
Chloroform	0.43	0.415	-	3.5	20	69	-.01
Ethyl acetate	0.3	0.303	-	-1	20	75	-.02
Carbon tetrachloride	0.331	0.326	-	1.5	20	70	0
Tetrahydrofuran	0.106	0.111	-	-4.7	20	77	-.02
Dibromofluoromethane	0.262	0.251	-	4.2	20	78	0
1,1,1-Trichloroethane	0.365	0.371	-	-1.6	20	70	-.01
2-Butanone	0.139	0.138	-	0.7	20	79	-.02
1,1-Dichloropropene	0.318	0.312	-	1.9	20	67	-.01
Benzene	0.959	0.906	-	5.5	20	67	-.01
tert-Amyl methyl ether	0.734	0.608	-	17.2	20	60	-.02
1,2-Dichloroethane-d4	0.29	0.283	-	2.4	20	82	-.01
1,2-Dichloroethane	0.342	0.331	-	3.2	20	70	-.01
Methyl cyclohexane	0.415	0.355	-	14.5	20	60	-.02
Trichloroethene	0.249	0.24	-	3.6	20	67	-.01
Dibromomethane	0.164	0.152	-	7.3	20	67	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Credere Associates, LLC	**Lab Number**	: L1940717
Project Name	: TOMBARELLO SITE	**Project Number**	: 17001426
Instrument ID	: VOA123	**Calibration Date**	: 09/17/19 07:26
Lab File ID	: V23190917A01	**Init. Calib. Date(s)**	: 06/21/19 06/21/19
Sample No	: WG1285102-2	**Init. Calib. Times**	: 03:09 06:33
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.254	0.242	-	4.7	20	68	0
2-Chloroethyl vinyl ether	0.185	0.167	-	9.7	20	65	-.01
Bromodichloromethane	0.327	0.317	-	3.1	20	69	-.02
1,4-Dioxane	0.00343	0.00325*	-	5.2	20	72	-.02
cis-1,3-Dichloropropene	0.404	0.38	-	5.9	20	66	0
Chlorobenzene-d5	1	1	-	0	20	83	-.02
Toluene-d8	1.211	1.193	-	1.5	20	81	-.02
Toluene	0.75	0.691	-	7.9	20	67	-.01
4-Methyl-2-pentanone	0.137	0.122	-	10.9	20	65	-.02
Tetrachloroethene	0.306	0.296	-	3.3	20	67	-.02
trans-1,3-Dichloropropene	0.447	0.414	-	7.4	20	66	-.01
Ethyl methacrylate	0.415	0.33	-	20.5*	20	58	-.02
1,1,2-Trichloroethane	0.237	0.209	-	11.8	20	64	-.01
Chlorodibromomethane	0.311	0.293	-	5.8	20	67	-.02
1,3-Dichloropropane	0.475	0.423	-	10.9	20	64	-.01
1,2-Dibromoethane	0.286	0.263	-	8	20	65	-.02
2-Hexanone	0.245	0.244	-	0.4	20	75	-.02
Chlorobenzene	0.845	0.798	-	5.6	20	68	-.02
Ethylbenzene	1.401	1.338	-	4.5	20	68	-.02
1,1,1,2-Tetrachloroethane	0.297	0.288	-	3	20	68	-.02
p/m Xylene	0.545	0.527	-	3.3	20	69	0
o Xylene	0.539	0.508	-	5.8	20	67	-.02
Styrene	0.876	0.829	-	5.4	20	67	-.02
1,4-Dichlorobenzene-d4	1	1	-	0	20	86	-.01
Bromoform	0.424	0.354	-	16.5	20	68	-.02
Isopropylbenzene	2.578	2.443	-	5.2	20	69	-.02
4-Bromofluorobenzene	0.913	0.872	-	4.5	20	81	-.01
Bromobenzene	0.679	0.597	-	12.1	20	66	-.02
n-Propylbenzene	3.032	2.903	-	4.3	20	69	-.01
1,4-Dichlorobutane	0.91	0.866	-	4.8	20	73	-.01
1,1,2,2-Tetrachloroethane	0.726	0.644	-	11.3	20	64	-.01
4-Ethyltoluene	2.552	2.385	-	6.5	20	67	-.01
2-Chlorotoluene	2.106	1.988	-	5.6	20	70	-.01
1,3,5-Trimethylbenzene	2.162	2.059	-	4.8	20	70	-.02
1,2,3-Trichloropropane	0.612	0.538	-	12.1	20	66	-.01
trans-1,4-Dichloro-2-buten	0.212	0.221	-	-4.2	20	78	0
4-Chlorotoluene	1.897	1.816	-	4.3	20	71	-.01
tert-Butylbenzene	1.876	1.747	-	6.9	20	67	-.01
1,2,4-Trimethylbenzene	2.172	2.067	-	4.8	20	70	-.02
sec-Butylbenzene	2.799	2.638	-	5.8	20	68	-.01
p-Isopropyltoluene	2.388	2.253	-	5.7	20	68	-.02
1,3-Dichlorobenzene	1.306	1.222	-	6.4	20	70	-.01
1,4-Dichlorobenzene	1.32	1.239	-	6.1	20	71	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Credere Associates, LLC		**Lab Number**	: L1940717	
Project Name	: TOMBARELLO SITE		**Project Number**	: 17001426	
Instrument ID	: VOA123		**Calibration Date**	: 09/17/19 07:26	
Lab File ID	: V23190917A01		**Init. Calib. Date(s)**	: 06/21/19	06/21/19
Sample No	: WG1285102-2		**Init. Calib. Times**	: 03:09	06:33
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.466	1.352	-	7.8	20	68	-.01
n-Butylbenzene	2.231	2.158	-	3.3	20	70	-.01
1,2-Dichlorobenzene	1.255	1.149	-	8.4	20	69	-.01
1,2,4,5-Tetramethylbenzene	2.325	2.087	-	10.2	20	66	-.01
1,2-Dibromo-3-chloropropan	0.136	0.114	-	16.2	20	66	-.01
1,3,5-Trichlorobenzene	0.913	0.844	-	7.6	20	69	-.01
Hexachlorobutadiene	0.428	0.355	-	17.1	20	62	-.01
1,2,4-Trichlorobenzene	0.862	0.791	-	8.2	20	68	-.01
Naphthalene	2.486	2.175	-	12.5	20	65	-.01
1,2,3-Trichlorobenzene	0.842	0.737	-	12.5	20	65	-.01

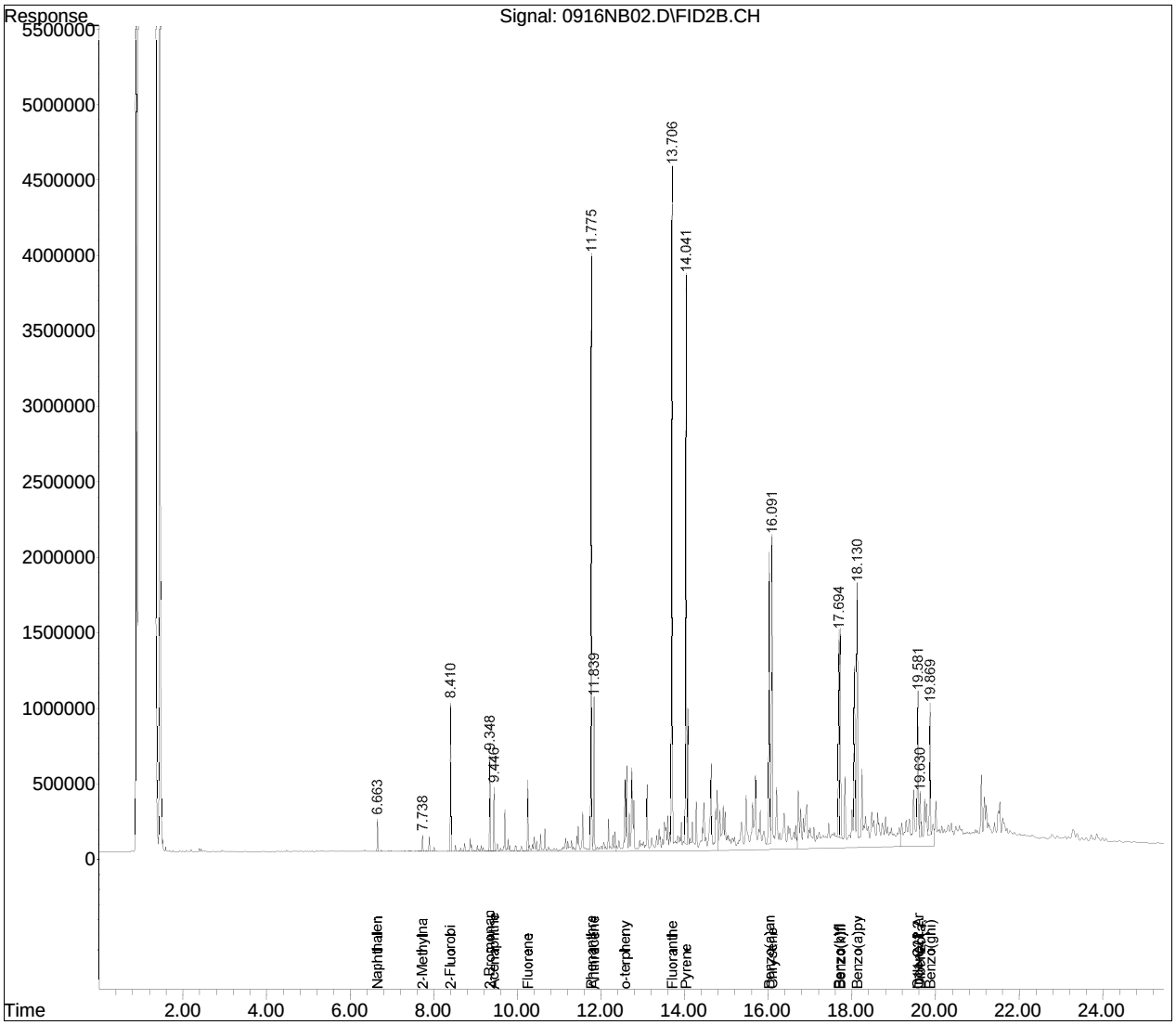
* Value outside of QC limits.

Sub List : Default - All compounds listed Reviewed)

Data Path : I:\Petro10\190916n.sec\
Data File : 0916NB02.D
Signal(s) : FID2B.CH
Acq On : 17 Sep 2019 1:10 am
Operator : Petro10b:meo
Sample : l1940717-50d,42,6, rf2x fv3
Misc : wg1284851,wg1283558,ical12178
ALS Vial : 52 Sample Multiplier: 1

Integration File: events.e
Quant Time: Sep 17 09:30:17 2019
Quant Method : I:\Petro10\190916n.sec\MAARO160318.M
Quant Title : MA EPH Aromatic
QLast Update : Sun Sep 15 15:13:40 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



ANALYTICAL REPORT

Lab Number:	L1961521
Client:	Credere Associates, LLC 776 Main Street Westbrook, ME 04092
ATTN:	Rick Vandenberg
Phone:	(207) 828-1272
Project Name:	TOMBARELLO
Project Number:	17001426
Report Date:	01/03/20

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: TOMBARELLO
Project Number: 17001426

Lab Number: L1961521
Report Date: 01/03/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1961521-01	SB-13 1'-1.5'	SOIL	MA	12/23/19 08:50	12/23/19
L1961521-02	SB-13 2'-3'	SOIL	MA	12/23/19 08:52	12/23/19
L1961521-03	SB-13 3'-4'	SOIL	MA	12/23/19 08:54	12/23/19
L1961521-04	SB-13 4'-5'	SOIL	MA	12/23/19 08:56	12/23/19
L1961521-05	SB-13 5'-7'	SOIL	MA	12/23/19 08:58	12/23/19
L1961521-06	SB-11 1'-1.5'	SOIL	MA	12/23/19 09:20	12/23/19
L1961521-07	SB-11 2'-3'	SOIL	MA	12/23/19 09:22	12/23/19
L1961521-08	SB-11 3'-4'	SOIL	MA	12/23/19 09:24	12/23/19
L1961521-09	SB-11 4'-5'	SOIL	MA	12/23/19 09:26	12/23/19
L1961521-10	SB-11 5'-7'	SOIL	MA	12/23/19 09:28	12/23/19
L1961521-11	SB-14 1'-1.5'	SOIL	MA	12/23/19 09:35	12/23/19
L1961521-12	SB-14 2'-3'	SOIL	MA	12/23/19 09:37	12/23/19
L1961521-13	SB-14 3'-4'	SOIL	MA	12/23/19 09:39	12/23/19
L1961521-14	SB-14 4'-5'	SOIL	MA	12/23/19 09:41	12/23/19
L1961521-15	SB-14 5'-7'	SOIL	MA	12/23/19 09:43	12/23/19
L1961521-16	SB-15 1'-1.5'	SOIL	MA	12/23/19 09:55	12/23/19
L1961521-17	SB-15 2'-3'	SOIL	MA	12/23/19 09:57	12/23/19
L1961521-18	SB-15 3'-4'	SOIL	MA	12/23/19 09:58	12/23/19
L1961521-19	SB-15 4'-5'	SOIL	MA	12/23/19 10:00	12/23/19
L1961521-20	SB-15 5'-7'	SOIL	MA	12/23/19 10:02	12/23/19
L1961521-21	SB-12 1'-1.5'	SOIL	MA	12/23/19 10:30	12/23/19
L1961521-22	SB-12 2'-3'	SOIL	MA	12/23/19 10:32	12/23/19
L1961521-23	SB-12 3'-4'	SOIL	MA	12/23/19 10:35	12/23/19
L1961521-24	SB-12 4'-5'	SOIL	MA	12/23/19 10:37	12/23/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1961521-25	SB-12 5'-7'	SOIL	MA	12/23/19 10:40	12/23/19
L1961521-26	SB-10	SOIL	MA	12/23/19 11:20	12/23/19
L1961521-27	SB-8	SOIL	MA	12/23/19 11:45	12/23/19
L1961521-28	SB-DUP-7	SOIL	MA	12/23/19 11:47	12/23/19
L1961521-29	SB-7	SOIL	MA	12/23/19 12:05	12/23/19
L1961521-30	SB-6	SOIL	MA	12/23/19 12:25	12/23/19
L1961521-31	SB-9	SOIL	MA	12/23/19 12:45	12/23/19
L1961521-32	SB-5	SOIL	MA	12/23/19 12:50	12/23/19

Project Name: TOMBARELLO **Lab Number:** L1961521

Project Number: 17001426 **Report Date:** 01/03/20

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)?	NO

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:	TOMBARELLO	**Lab Number:**	L1961521
Project Number:	17001426	**Report Date:**	01/03/20

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: TOMBARELLO **Lab Number:** L1961521
Project Number: 17001426 **Report Date:** 01/03/20

Case Narrative (continued)

MCP Related Narratives

PCBs

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

L1961521-21: The surrogate recoveries are below the acceptance criteria for 2,4,5,6-tetrachloro-m-xylene (0%) and decachlorobiphenyl (0%) due to the dilution required to quantitate the sample. Re-extraction was not required; therefore, the results of the original analysis are reported.

Total Metals

In reference to question H:

The WG1326468-4 MS recovery, performed on L1961521-26, is outside the acceptance criteria for lead (0%). Re-analysis of the MS yielded an unacceptable recovery of <30%. The MS % recovery is <30%, but the sample detection is above the RL. The LCS recovery is acceptable; therefore, no further action was taken. The WG1326468-5 MSD recovery, performed on L1961521-26, is outside the acceptance criteria for lead (2680%). Re-analysis of the MS yielded an unacceptable recovery of 2680%. The LCS recovery was within acceptance criteria for this analyte; therefore, no further action was taken. The WG1326468-4/-5 MS/MSD RPD for lead (118%) is above the acceptance criteria.

In reference to question I:

All samples were analyzed for a subset of MCP analytes per client request.

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: Cristin Walker

Title: Technical Director/Representative Date: 01/03/20

QC OUTLIER SUMMARY REPORT

Project Name: TOMBARELLO
Project Number: 17001426

Lab Number: L1961521
Report Date: 01/03/20

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Polychlorinated Biphenyls - Westborough Lab								
8082A	SB-12 1'-1.5'	L1961521-21 D	2,4,5,6-Tetrachloro-m-xylene (A)	Surrogate	0	30-150	-	- - not applicable - -
8082A	SB-12 1'-1.5'	L1961521-21 D	2,4,5,6-Tetrachloro-m-xylene (B)	Surrogate	0	30-150	-	- - not applicable - -
8082A	SB-12 1'-1.5'	L1961521-21 D	Decachlorobiphenyl (A)	Surrogate	0	30-150	-	- - not applicable - -
8082A	SB-12 1'-1.5'	L1961521-21 D	Decachlorobiphenyl (B)	Surrogate	0	30-150	-	- - not applicable - -
MCP Total Metals - Mansfield Lab								
6020B	Batch QC (L1961521-26)	WG1326468-4	Lead, Total	MS	0	75-125	26	potential low bias
6020B	Batch QC (L1961521-26)	WG1326468-5	Lead, Total	MSD	118	35	26	non-directional bias
6020B	Batch QC (L1961521-26)	WG1326468-5	Lead, Total	MSD	2680	75-125	26	potential high bias

ORGANICS

PETROLEUM HYDROCARBONS

Project Name: TOMBARELLO **Lab Number:** L1961521

Project Number: 17001426 **Report Date:** 01/03/20

SAMPLE RESULTS

Lab ID:	L1961521-26	Date Collected:	12/23/19 11:20
Client ID:	SB-10	Date Received:	12/23/19
Sample Location:	MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	12/24/19 21:47
Analytical Date:	12/27/19 15:50	Cleanup Method1:	EPH-04-1
Analyst:	SR	Cleanup Date1:	12/26/19
Percent Solids:	69%		

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
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	9.60	--	1
C19-C36 Aliphatics	26.3		mg/kg	9.60	--	1
C11-C22 Aromatics	82.8		mg/kg	9.60	--	1
C11-C22 Aromatics, Adjusted	46.0		mg/kg	9.60	--	1
Naphthalene	ND		mg/kg	0.480	--	1
2-Methylnaphthalene	ND		mg/kg	0.480	--	1
Acenaphthylene	ND		mg/kg	0.480	--	1
Acenaphthene	ND		mg/kg	0.480	--	1
Fluorene	ND		mg/kg	0.480	--	1
Phenanthrene	7.37		mg/kg	0.480	--	1
Anthracene	1.59		mg/kg	0.480	--	1
Fluoranthene	7.09		mg/kg	0.480	--	1
Pyrene	6.04		mg/kg	0.480	--	1
Benzo(a)anthracene	2.74		mg/kg	0.480	--	1
Chrysene	2.78		mg/kg	0.480	--	1
Benzo(b)fluoranthene	2.05		mg/kg	0.480	--	1
Benzo(k)fluoranthene	2.13		mg/kg	0.480	--	1
Benzo(a)pyrene	2.31		mg/kg	0.480	--	1
Indeno(1,2,3-cd)Pyrene	1.37		mg/kg	0.480	--	1
Dibenzo(a,h)anthracene	ND		mg/kg	0.480	--	1
Benzo(ghi)perylene	1.32		mg/kg	0.480	--	1

Project Name: TOMBARELLO **Lab Number:** L1961521

Project Number: 17001426 **Report Date:** 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-26 Date Collected: 12/23/19 11:20

Client ID: SB-10 Date Received: 12/23/19

Sample Location: MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	54		40-140
o-Terphenyl	64		40-140
2-Fluorobiphenyl	83		40-140
2-Bromonaphthalene	84		40-140

Project Name: TOMBARELLO **Lab Number:** L1961521

Project Number: 17001426 **Report Date:** 01/03/20

SAMPLE RESULTS

Lab ID:	L1961521-27	Date Collected:	12/23/19 11:45
Client ID:	SB-8	Date Received:	12/23/19
Sample Location:	MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	12/24/19 21:47
Analytical Date:	12/27/19 16:29	Cleanup Method1:	EPH-04-1
Analyst:	SR	Cleanup Date1:	12/26/19
Percent Solids:	66%		

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
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	9.88	--	1
C19-C36 Aliphatics	340		mg/kg	9.88	--	1
C11-C22 Aromatics	15.4		mg/kg	9.88	--	1
C11-C22 Aromatics, Adjusted	15.4		mg/kg	9.88	--	1
Naphthalene	ND		mg/kg	0.494	--	1
2-Methylnaphthalene	ND		mg/kg	0.494	--	1
Acenaphthylene	ND		mg/kg	0.494	--	1
Acenaphthene	ND		mg/kg	0.494	--	1
Fluorene	ND		mg/kg	0.494	--	1
Phenanthrene	ND		mg/kg	0.494	--	1
Anthracene	ND		mg/kg	0.494	--	1
Fluoranthene	ND		mg/kg	0.494	--	1
Pyrene	ND		mg/kg	0.494	--	1
Benzo(a)anthracene	ND		mg/kg	0.494	--	1
Chrysene	ND		mg/kg	0.494	--	1
Benzo(b)fluoranthene	ND		mg/kg	0.494	--	1
Benzo(k)fluoranthene	ND		mg/kg	0.494	--	1
Benzo(a)pyrene	ND		mg/kg	0.494	--	1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.494	--	1
Dibenzo(a,h)anthracene	ND		mg/kg	0.494	--	1
Benzo(ghi)perylene	ND		mg/kg	0.494	--	1

Project Name: TOMBARELLO **Lab Number:** L1961521

Project Number: 17001426 **Report Date:** 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-27 Date Collected: 12/23/19 11:45

Client ID: SB-8 Date Received: 12/23/19

Sample Location: MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	51		40-140
o-Terphenyl	59		40-140
2-Fluorobiphenyl	75		40-140
2-Bromonaphthalene	75		40-140

Project Name: TOMBARELLO
Project Number: 17001426
Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID:	L1961521-28	Date Collected:	12/23/19 11:47
Client ID:	SB-DUP-7	Date Received:	12/23/19
Sample Location:	MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	12/24/19 21:47
Analytical Date:	12/27/19 17:07	Cleanup Method1:	EPH-04-1
Analyst:	SR	Cleanup Date1:	12/26/19
Percent Solids:	66%		

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
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	9.62	--	1
C19-C36 Aliphatics	211		mg/kg	9.62	--	1
C11-C22 Aromatics	177		mg/kg	9.62	--	1
C11-C22 Aromatics, Adjusted	176		mg/kg	9.62	--	1
Naphthalene	ND		mg/kg	0.481	--	1
2-Methylnaphthalene	ND		mg/kg	0.481	--	1
Acenaphthylene	ND		mg/kg	0.481	--	1
Acenaphthene	ND		mg/kg	0.481	--	1
Fluorene	ND		mg/kg	0.481	--	1
Phenanthrene	ND		mg/kg	0.481	--	1
Anthracene	ND		mg/kg	0.481	--	1
Fluoranthene	0.697		mg/kg	0.481	--	1
Pyrene	0.696		mg/kg	0.481	--	1
Benzo(a)anthracene	ND		mg/kg	0.481	--	1
Chrysene	ND		mg/kg	0.481	--	1
Benzo(b)fluoranthene	ND		mg/kg	0.481	--	1
Benzo(k)fluoranthene	ND		mg/kg	0.481	--	1
Benzo(a)pyrene	ND		mg/kg	0.481	--	1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.481	--	1
Dibenzo(a,h)anthracene	ND		mg/kg	0.481	--	1
Benzo(ghi)perylene	ND		mg/kg	0.481	--	1

Project Name: TOMBARELLO **Lab Number:** L1961521

Project Number: 17001426 **Report Date:** 01/03/20

SAMPLE RESULTS

Lab ID:	L1961521-28	Date Collected:	12/23/19 11:47
Client ID:	SB-DUP-7	Date Received:	12/23/19
Sample Location:	MA	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	55		40-140
o-Terphenyl	65		40-140
2-Fluorobiphenyl	83		40-140
2-Bromonaphthalene	83		40-140

Project Name: TOMBARELLO
Project Number: 17001426
Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID:	L1961521-29	Date Collected:	12/23/19 12:05
Client ID:	SB-7	Date Received:	12/23/19
Sample Location:	MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	12/24/19 21:47
Analytical Date:	12/27/19 17:46	Cleanup Method1:	EPH-04-1
Analyst:	SR	Cleanup Date1:	12/26/19
Percent Solids:	61%		

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
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	10.8	--	1
C19-C36 Aliphatics	26.1		mg/kg	10.8	--	1
C11-C22 Aromatics	256		mg/kg	10.8	--	1
C11-C22 Aromatics, Adjusted	254		mg/kg	10.8	--	1
Naphthalene	ND		mg/kg	0.538	--	1
2-Methylnaphthalene	ND		mg/kg	0.538	--	1
Acenaphthylene	ND		mg/kg	0.538	--	1
Acenaphthene	ND		mg/kg	0.538	--	1
Fluorene	ND		mg/kg	0.538	--	1
Phenanthrene	ND		mg/kg	0.538	--	1
Anthracene	ND		mg/kg	0.538	--	1
Fluoranthene	0.620		mg/kg	0.538	--	1
Pyrene	0.641		mg/kg	0.538	--	1
Benzo(a)anthracene	ND		mg/kg	0.538	--	1
Chrysene	ND		mg/kg	0.538	--	1
Benzo(b)fluoranthene	ND		mg/kg	0.538	--	1
Benzo(k)fluoranthene	ND		mg/kg	0.538	--	1
Benzo(a)pyrene	ND		mg/kg	0.538	--	1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.538	--	1
Dibenzo(a,h)anthracene	ND		mg/kg	0.538	--	1
Benzo(ghi)perylene	ND		mg/kg	0.538	--	1

Project Name: TOMBARELLO **Lab Number:** L1961521

Project Number: 17001426 **Report Date:** 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-29 Date Collected: 12/23/19 12:05

Client ID: SB-7 Date Received: 12/23/19

Sample Location: MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	43		40-140
o-Terphenyl	63		40-140
2-Fluorobiphenyl	88		40-140
2-Bromonaphthalene	87		40-140

Project Name: TOMBARELLO
Project Number: 17001426
Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID:	L1961521-30	Date Collected:	12/23/19 12:25
Client ID:	SB-6	Date Received:	12/23/19
Sample Location:	MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	12/24/19 21:47
Analytical Date:	12/27/19 18:24	Cleanup Method1:	EPH-04-1
Analyst:	SR	Cleanup Date1:	12/26/19
Percent Solids:	63%		

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
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	10.2	--	1
C19-C36 Aliphatics	16.4		mg/kg	10.2	--	1
C11-C22 Aromatics	156		mg/kg	10.2	--	1
C11-C22 Aromatics, Adjusted	105		mg/kg	10.2	--	1
Naphthalene	ND		mg/kg	0.511	--	1
2-Methylnaphthalene	ND		mg/kg	0.511	--	1
Acenaphthylene	ND		mg/kg	0.511	--	1
Acenaphthene	0.794		mg/kg	0.511	--	1
Fluorene	0.645		mg/kg	0.511	--	1
Phenanthrene	8.95		mg/kg	0.511	--	1
Anthracene	1.49		mg/kg	0.511	--	1
Fluoranthene	7.30		mg/kg	0.511	--	1
Pyrene	9.88		mg/kg	0.511	--	1
Benzo(a)anthracene	4.32		mg/kg	0.511	--	1
Chrysene	4.80		mg/kg	0.511	--	1
Benzo(b)fluoranthene	2.49		mg/kg	0.511	--	1
Benzo(k)fluoranthene	2.82		mg/kg	0.511	--	1
Benzo(a)pyrene	3.58		mg/kg	0.511	--	1
Indeno(1,2,3-cd)Pyrene	1.98		mg/kg	0.511	--	1
Dibenzo(a,h)anthracene	ND		mg/kg	0.511	--	1
Benzo(ghi)perylene	2.01		mg/kg	0.511	--	1

Project Name: TOMBARELLO **Lab Number:** L1961521

Project Number: 17001426 **Report Date:** 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-30 Date Collected: 12/23/19 12:25

Client ID: SB-6 Date Received: 12/23/19

Sample Location: MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	44		40-140
o-Terphenyl	54		40-140
2-Fluorobiphenyl	83		40-140
2-Bromonaphthalene	83		40-140

Project Name: TOMBARELLO
Project Number: 17001426
Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID:	L1961521-31	Date Collected:	12/23/19 12:45
Client ID:	SB-9	Date Received:	12/23/19
Sample Location:	MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	12/24/19 21:47
Analytical Date:	12/27/19 11:42	Cleanup Method1:	EPH-04-1
Analyst:	SC	Cleanup Date1:	12/26/19
Percent Solids:	68%		

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
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	9.70	--	1
C19-C36 Aliphatics	40.4		mg/kg	9.70	--	1
C11-C22 Aromatics	16.0		mg/kg	9.70	--	1
C11-C22 Aromatics, Adjusted	16.0		mg/kg	9.70	--	1
Naphthalene	ND		mg/kg	0.485	--	1
2-Methylnaphthalene	ND		mg/kg	0.485	--	1
Acenaphthylene	ND		mg/kg	0.485	--	1
Acenaphthene	ND		mg/kg	0.485	--	1
Fluorene	ND		mg/kg	0.485	--	1
Phenanthrene	ND		mg/kg	0.485	--	1
Anthracene	ND		mg/kg	0.485	--	1
Fluoranthene	ND		mg/kg	0.485	--	1
Pyrene	ND		mg/kg	0.485	--	1
Benzo(a)anthracene	ND		mg/kg	0.485	--	1
Chrysene	ND		mg/kg	0.485	--	1
Benzo(b)fluoranthene	ND		mg/kg	0.485	--	1
Benzo(k)fluoranthene	ND		mg/kg	0.485	--	1
Benzo(a)pyrene	ND		mg/kg	0.485	--	1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.485	--	1
Dibenzo(a,h)anthracene	ND		mg/kg	0.485	--	1
Benzo(ghi)perylene	ND		mg/kg	0.485	--	1

Project Name: TOMBARELLO **Lab Number:** L1961521

Project Number: 17001426 **Report Date:** 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-31 Date Collected: 12/23/19 12:45

Client ID: SB-9 Date Received: 12/23/19

Sample Location: MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	60		40-140
o-Terphenyl	42		40-140
2-Fluorobiphenyl	65		40-140
2-Bromonaphthalene	65		40-140

Project Name: TOMBARELLO
Project Number: 17001426
Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID:	L1961521-32	Date Collected:	12/23/19 12:50
Client ID:	SB-5	Date Received:	12/23/19
Sample Location:	MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	12/24/19 21:47
Analytical Date:	12/27/19 12:14	Cleanup Method1:	EPH-04-1
Analyst:	SC	Cleanup Date1:	12/26/19
Percent Solids:	63%		

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
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	10.5	--	1
C19-C36 Aliphatics	ND		mg/kg	10.5	--	1
C11-C22 Aromatics	ND		mg/kg	10.5	--	1
C11-C22 Aromatics, Adjusted	ND		mg/kg	10.5	--	1
Naphthalene	ND		mg/kg	0.526	--	1
2-Methylnaphthalene	ND		mg/kg	0.526	--	1
Acenaphthylene	ND		mg/kg	0.526	--	1
Acenaphthene	ND		mg/kg	0.526	--	1
Fluorene	ND		mg/kg	0.526	--	1
Phenanthrene	ND		mg/kg	0.526	--	1
Anthracene	ND		mg/kg	0.526	--	1
Fluoranthene	ND		mg/kg	0.526	--	1
Pyrene	ND		mg/kg	0.526	--	1
Benzo(a)anthracene	ND		mg/kg	0.526	--	1
Chrysene	ND		mg/kg	0.526	--	1
Benzo(b)fluoranthene	ND		mg/kg	0.526	--	1
Benzo(k)fluoranthene	ND		mg/kg	0.526	--	1
Benzo(a)pyrene	ND		mg/kg	0.526	--	1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.526	--	1
Dibenzo(a,h)anthracene	ND		mg/kg	0.526	--	1
Benzo(ghi)perylene	ND		mg/kg	0.526	--	1

Project Name: TOMBARELLO **Lab Number:** L1961521

Project Number: 17001426 **Report Date:** 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-32 Date Collected: 12/23/19 12:50

Client ID: SB-5 Date Received: 12/23/19

Sample Location: MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	65		40-140
o-Terphenyl	54		40-140
2-Fluorobiphenyl	63		40-140
2-Bromonaphthalene	62		40-140

Project Name: TOMBARELLO
Project Number: 17001426
Lab Number: L1961521
Report Date: 01/03/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 12/27/19 10:05
Analyst: SR

Extraction Method: EPA 3546
Extraction Date: 12/24/19 21:46
Cleanup Method: EPH-04-1
Cleanup Date: 12/26/19

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 26-32 Batch: WG1324676-1					
C9-C18 Aliphatics	ND		mg/kg	6.56	--
C19-C36 Aliphatics	ND		mg/kg	6.56	--
C11-C22 Aromatics	ND		mg/kg	6.56	--
C11-C22 Aromatics, Adjusted	ND		mg/kg	6.56	--
Naphthalene	ND		mg/kg	0.328	--
2-Methylnaphthalene	ND		mg/kg	0.328	--
Acenaphthylene	ND		mg/kg	0.328	--
Acenaphthene	ND		mg/kg	0.328	--
Fluorene	ND		mg/kg	0.328	--
Phenanthrene	ND		mg/kg	0.328	--
Anthracene	ND		mg/kg	0.328	--
Fluoranthene	ND		mg/kg	0.328	--
Pyrene	ND		mg/kg	0.328	--
Benzo(a)anthracene	ND		mg/kg	0.328	--
Chrysene	ND		mg/kg	0.328	--
Benzo(b)fluoranthene	ND		mg/kg	0.328	--
Benzo(k)fluoranthene	ND		mg/kg	0.328	--
Benzo(a)pyrene	ND		mg/kg	0.328	--
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.328	--
Dibenzo(a,h)anthracene	ND		mg/kg	0.328	--
Benzo(ghi)perylene	ND		mg/kg	0.328	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	56		40-140
o-Terphenyl	65		40-140
2-Fluorobiphenyl	81		40-140
2-Bromonaphthalene	80		40-140

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO
Project Number: 17001426

Lab Number: L1961521
Report Date: 01/03/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 26-32 Batch: WG1324676-2 WG1324676-3								
C9-C18 Aliphatics	60		57		40-140	5		25
C19-C36 Aliphatics	76		68		40-140	11		25
C11-C22 Aromatics	77		68		40-140	12		25
Naphthalene	58		57		40-140	2		25
2-Methylnaphthalene	62		60		40-140	3		25
Acenaphthylene	62		60		40-140	3		25
Acenaphthene	66		63		40-140	5		25
Fluorene	67		62		40-140	8		25
Phenanthrene	76		67		40-140	13		25
Anthracene	77		67		40-140	14		25
Fluoranthene	79		68		40-140	15		25
Pyrene	81		70		40-140	15		25
Benzo(a)anthracene	79		68		40-140	15		25
Chrysene	79		70		40-140	12		25
Benzo(b)fluoranthene	78		67		40-140	15		25
Benzo(k)fluoranthene	77		68		40-140	12		25
Benzo(a)pyrene	76		66		40-140	14		25
Indeno(1,2,3-cd)Pyrene	75		65		40-140	14		25
Dibenzo(a,h)anthracene	74		65		40-140	13		25
Benzo(ghi)perylene	70		62		40-140	12		25
Nonane (C9)	43		46		30-140	7		25
Decane (C10)	49		52		40-140	6		25
Dodecane (C12)	50		52		40-140	4		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOMBARELLO
Project Number: 17001426

Lab Number: L1961521
Report Date: 01/03/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 26-32 Batch: WG1324676-2 WG1324676-3								
Tetradecane (C14)	50		52		40-140	4		25
Hexadecane (C16)	56		54		40-140	4		25
Octadecane (C18)	64		59		40-140	8		25
Nonadecane (C19)	67		59		40-140	13		25
Eicosane (C20)	69		61		40-140	12		25
Docosane (C22)	71		62		40-140	14		25
Tetracosane (C24)	72		63		40-140	13		25
Hexacosane (C26)	75		65		40-140	14		25
Octacosane (C28)	76		66		40-140	14		25
Triacontane (C30)	78		68		40-140	14		25
Hexatriacontane (C36)	79		70		40-140	12		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	65		57		40-140
o-Terphenyl	74		63		40-140
2-Fluorobiphenyl	83		79		40-140
2-Bromonaphthalene	82		78		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

PCBS

Project Name: TOMBARELLO
Project Number: 17001426
Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-01
Client ID: SB-13 1'-1.5'
Sample Location: MA

Date Collected: 12/23/19 08:50
Date Received: 12/23/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 12/29/19 12:14
Analyst: HT
Percent Solids: 89%

Extraction Method: EPA 3540C
Extraction Date: 12/26/19 10:00
Cleanup Method: EPA 3665A
Cleanup Date: 12/27/19
Cleanup Method: EPA 3660B
Cleanup Date: 12/27/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	36.5	--	1	A
Aroclor 1221	ND		ug/kg	36.5	--	1	A
Aroclor 1232	ND		ug/kg	36.5	--	1	A
Aroclor 1242	65.4		ug/kg	36.5	--	1	B
Aroclor 1248	ND		ug/kg	36.5	--	1	A
Aroclor 1254	ND		ug/kg	36.5	--	1	A
Aroclor 1260	531		ug/kg	36.5	--	1	B
Aroclor 1262	ND		ug/kg	36.5	--	1	A
Aroclor 1268	ND		ug/kg	36.5	--	1	A
PCBs, Total	596		ug/kg	36.5	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	68		30-150	B
Decachlorobiphenyl	64		30-150	B
2,4,5,6-Tetrachloro-m-xylene	64		30-150	A
Decachlorobiphenyl	55		30-150	A

Project Name: TOMBARELLO
Project Number: 17001426
Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-02
Client ID: SB-13 2'-3'
Sample Location: MA

Date Collected: 12/23/19 08:52
Date Received: 12/23/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 12/29/19 12:26
Analyst: HT
Percent Solids: 80%

Extraction Method: EPA 3540C
Extraction Date: 12/26/19 10:00
Cleanup Method: EPA 3665A
Cleanup Date: 12/27/19
Cleanup Method: EPA 3660B
Cleanup Date: 12/27/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	40.8	--	1	A
Aroclor 1221	ND		ug/kg	40.8	--	1	A
Aroclor 1232	ND		ug/kg	40.8	--	1	A
Aroclor 1242	ND		ug/kg	40.8	--	1	A
Aroclor 1248	ND		ug/kg	40.8	--	1	A
Aroclor 1254	ND		ug/kg	40.8	--	1	A
Aroclor 1260	ND		ug/kg	40.8	--	1	B
Aroclor 1262	ND		ug/kg	40.8	--	1	A
Aroclor 1268	ND		ug/kg	40.8	--	1	A
PCBs, Total	ND		ug/kg	40.8	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	65		30-150	B
Decachlorobiphenyl	88		30-150	B
2,4,5,6-Tetrachloro-m-xylene	63		30-150	A
Decachlorobiphenyl	60		30-150	A

Project Name: TOMBARELLO
Project Number: 17001426
Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-03
Client ID: SB-13 3'-4'
Sample Location: MA

Date Collected: 12/23/19 08:54
Date Received: 12/23/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 12/29/19 12:38
Analyst: HT
Percent Solids: 89%

Extraction Method: EPA 3540C
Extraction Date: 12/26/19 10:00
Cleanup Method: EPA 3665A
Cleanup Date: 12/27/19
Cleanup Method: EPA 3660B
Cleanup Date: 12/27/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	36.2	--	1	A
Aroclor 1221	ND		ug/kg	36.2	--	1	A
Aroclor 1232	ND		ug/kg	36.2	--	1	A
Aroclor 1242	ND		ug/kg	36.2	--	1	A
Aroclor 1248	ND		ug/kg	36.2	--	1	A
Aroclor 1254	ND		ug/kg	36.2	--	1	A
Aroclor 1260	ND		ug/kg	36.2	--	1	B
Aroclor 1262	ND		ug/kg	36.2	--	1	A
Aroclor 1268	ND		ug/kg	36.2	--	1	A
PCBs, Total	ND		ug/kg	36.2	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	68		30-150	B
Decachlorobiphenyl	89		30-150	B
2,4,5,6-Tetrachloro-m-xylene	65		30-150	A
Decachlorobiphenyl	56		30-150	A

Project Name: TOMBARELLO
Project Number: 17001426
Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-06
Client ID: SB-11 1'-1.5'
Sample Location: MA

Date Collected: 12/23/19 09:20
Date Received: 12/23/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 12/29/19 12:50
Analyst: HT
Percent Solids: 90%

Extraction Method: EPA 3540C
Extraction Date: 12/26/19 10:00
Cleanup Method: EPA 3665A
Cleanup Date: 12/27/19
Cleanup Method: EPA 3660B
Cleanup Date: 12/27/19

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	ND		ug/kg	36.0	--	1	A
Aroclor 1260	ND		ug/kg	36.0	--	1	A
Aroclor 1262	ND		ug/kg	36.0	--	1	A
Aroclor 1268	ND		ug/kg	36.0	--	1	A
PCBs, Total	ND		ug/kg	36.0	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	57		30-150	B
Decachlorobiphenyl	113		30-150	B
2,4,5,6-Tetrachloro-m-xylene	61		30-150	A
Decachlorobiphenyl	71		30-150	A

Project Name: TOMBARELLO
Project Number: 17001426
Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-07
Client ID: SB-11 2'-3'
Sample Location: MA

Date Collected: 12/23/19 09:22
Date Received: 12/23/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 12/29/19 13:02
Analyst: HT
Percent Solids: 92%

Extraction Method: EPA 3540C
Extraction Date: 12/26/19 10:00
Cleanup Method: EPA 3665A
Cleanup Date: 12/27/19
Cleanup Method: EPA 3660B
Cleanup Date: 12/27/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	35.9	--	1	A
Aroclor 1221	ND		ug/kg	35.9	--	1	A
Aroclor 1232	ND		ug/kg	35.9	--	1	A
Aroclor 1242	ND		ug/kg	35.9	--	1	A
Aroclor 1248	ND		ug/kg	35.9	--	1	A
Aroclor 1254	ND		ug/kg	35.9	--	1	A
Aroclor 1260	ND		ug/kg	35.9	--	1	A
Aroclor 1262	ND		ug/kg	35.9	--	1	A
Aroclor 1268	ND		ug/kg	35.9	--	1	A
PCBs, Total	ND		ug/kg	35.9	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	73		30-150	B
Decachlorobiphenyl	53		30-150	B
2,4,5,6-Tetrachloro-m-xylene	77		30-150	A
Decachlorobiphenyl	70		30-150	A

Project Name: TOMBARELLO
Project Number: 17001426
Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-08
Client ID: SB-11 3'-4'
Sample Location: MA

Date Collected: 12/23/19 09:24
Date Received: 12/23/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 12/29/19 13:15
Analyst: HT
Percent Solids: 91%

Extraction Method: EPA 3540C
Extraction Date: 12/26/19 10:00
Cleanup Method: EPA 3665A
Cleanup Date: 12/27/19
Cleanup Method: EPA 3660B
Cleanup Date: 12/27/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	36.2	--	1	A
Aroclor 1221	ND		ug/kg	36.2	--	1	A
Aroclor 1232	ND		ug/kg	36.2	--	1	A
Aroclor 1242	ND		ug/kg	36.2	--	1	A
Aroclor 1248	ND		ug/kg	36.2	--	1	A
Aroclor 1254	ND		ug/kg	36.2	--	1	A
Aroclor 1260	ND		ug/kg	36.2	--	1	A
Aroclor 1262	ND		ug/kg	36.2	--	1	A
Aroclor 1268	ND		ug/kg	36.2	--	1	A
PCBs, Total	ND		ug/kg	36.2	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	69		30-150	B
Decachlorobiphenyl	126		30-150	B
2,4,5,6-Tetrachloro-m-xylene	72		30-150	A
Decachlorobiphenyl	64		30-150	A

Project Name: TOMBARELLO
Project Number: 17001426
Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-11
Client ID: SB-14 1'-1.5'
Sample Location: MA

Date Collected: 12/23/19 09:35
Date Received: 12/23/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 01/01/20 22:29
Analyst: HT
Percent Solids: 89%

Extraction Method: EPA 3540C
Extraction Date: 12/31/19 03:23
Cleanup Method: EPA 3665A
Cleanup Date: 12/31/19
Cleanup Method: EPA 3660B
Cleanup Date: 01/01/20

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	35.4	--	1	A
Aroclor 1221	ND		ug/kg	35.4	--	1	A
Aroclor 1232	ND		ug/kg	35.4	--	1	A
Aroclor 1242	ND		ug/kg	35.4	--	1	A
Aroclor 1248	ND		ug/kg	35.4	--	1	A
Aroclor 1254	102		ug/kg	35.4	--	1	B
Aroclor 1260	54.0		ug/kg	35.4	--	1	A
Aroclor 1262	ND		ug/kg	35.4	--	1	A
Aroclor 1268	ND		ug/kg	35.4	--	1	A
PCBs, Total	156		ug/kg	35.4	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	71		30-150	B
Decachlorobiphenyl	85		30-150	B
2,4,5,6-Tetrachloro-m-xylene	71		30-150	A
Decachlorobiphenyl	70		30-150	A

Project Name: TOMBARELLO
Project Number: 17001426
Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-12
Client ID: SB-14 2'-3'
Sample Location: MA

Date Collected: 12/23/19 09:37
Date Received: 12/23/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 12/29/19 13:39
Analyst: HT
Percent Solids: 92%

Extraction Method: EPA 3540C
Extraction Date: 12/26/19 10:00
Cleanup Method: EPA 3665A
Cleanup Date: 12/27/19
Cleanup Method: EPA 3660B
Cleanup Date: 12/27/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	35.1	--	1	A
Aroclor 1221	ND		ug/kg	35.1	--	1	A
Aroclor 1232	ND		ug/kg	35.1	--	1	A
Aroclor 1242	ND		ug/kg	35.1	--	1	A
Aroclor 1248	ND		ug/kg	35.1	--	1	A
Aroclor 1254	ND		ug/kg	35.1	--	1	A
Aroclor 1260	ND		ug/kg	35.1	--	1	B
Aroclor 1262	ND		ug/kg	35.1	--	1	A
Aroclor 1268	ND		ug/kg	35.1	--	1	A
PCBs, Total	ND		ug/kg	35.1	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	70		30-150	B
Decachlorobiphenyl	81		30-150	B
2,4,5,6-Tetrachloro-m-xylene	73		30-150	A
Decachlorobiphenyl	72		30-150	A

Project Name: TOMBARELLO
Project Number: 17001426
Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-13
Client ID: SB-14 3'-4'
Sample Location: MA

Date Collected: 12/23/19 09:39
Date Received: 12/23/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 12/29/19 13:51
Analyst: HT
Percent Solids: 95%

Extraction Method: EPA 3540C
Extraction Date: 12/26/19 10:00
Cleanup Method: EPA 3665A
Cleanup Date: 12/27/19
Cleanup Method: EPA 3660B
Cleanup Date: 12/27/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	34.0	--	1	A
Aroclor 1221	ND		ug/kg	34.0	--	1	A
Aroclor 1232	ND		ug/kg	34.0	--	1	A
Aroclor 1242	ND		ug/kg	34.0	--	1	A
Aroclor 1248	ND		ug/kg	34.0	--	1	A
Aroclor 1254	ND		ug/kg	34.0	--	1	A
Aroclor 1260	ND		ug/kg	34.0	--	1	A
Aroclor 1262	ND		ug/kg	34.0	--	1	A
Aroclor 1268	ND		ug/kg	34.0	--	1	A
PCBs, Total	ND		ug/kg	34.0	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	69		30-150	B
Decachlorobiphenyl	92		30-150	B
2,4,5,6-Tetrachloro-m-xylene	74		30-150	A
Decachlorobiphenyl	61		30-150	A

Project Name: TOMBARELLO
Project Number: 17001426
Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-16
Client ID: SB-15 1'-1.5'
Sample Location: MA

Date Collected: 12/23/19 09:55
Date Received: 12/23/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 12/29/19 14:03
Analyst: HT
Percent Solids: 88%

Extraction Method: EPA 3540C
Extraction Date: 12/26/19 10:00
Cleanup Method: EPA 3665A
Cleanup Date: 12/27/19
Cleanup Method: EPA 3660B
Cleanup Date: 12/27/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	36.4	--	1	A
Aroclor 1221	ND		ug/kg	36.4	--	1	A
Aroclor 1232	ND		ug/kg	36.4	--	1	A
Aroclor 1242	ND		ug/kg	36.4	--	1	A
Aroclor 1248	ND		ug/kg	36.4	--	1	A
Aroclor 1254	ND		ug/kg	36.4	--	1	A
Aroclor 1260	132		ug/kg	36.4	--	1	B
Aroclor 1262	ND		ug/kg	36.4	--	1	A
Aroclor 1268	ND		ug/kg	36.4	--	1	A
PCBs, Total	132		ug/kg	36.4	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	53		30-150	B
Decachlorobiphenyl	66		30-150	B
2,4,5,6-Tetrachloro-m-xylene	51		30-150	A
Decachlorobiphenyl	49		30-150	A

Project Name: TOMBARELLO
Project Number: 17001426
Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-17
Client ID: SB-15 2'-3'
Sample Location: MA

Date Collected: 12/23/19 09:57
Date Received: 12/23/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 12/29/19 14:16
Analyst: HT
Percent Solids: 87%

Extraction Method: EPA 3540C
Extraction Date: 12/26/19 10:00
Cleanup Method: EPA 3665A
Cleanup Date: 12/27/19
Cleanup Method: EPA 3660B
Cleanup Date: 12/27/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	37.6	--	1	A
Aroclor 1221	ND		ug/kg	37.6	--	1	A
Aroclor 1232	ND		ug/kg	37.6	--	1	A
Aroclor 1242	ND		ug/kg	37.6	--	1	A
Aroclor 1248	ND		ug/kg	37.6	--	1	A
Aroclor 1254	ND		ug/kg	37.6	--	1	A
Aroclor 1260	ND		ug/kg	37.6	--	1	A
Aroclor 1262	ND		ug/kg	37.6	--	1	A
Aroclor 1268	ND		ug/kg	37.6	--	1	A
PCBs, Total	ND		ug/kg	37.6	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	58		30-150	B
Decachlorobiphenyl	57		30-150	B
2,4,5,6-Tetrachloro-m-xylene	62		30-150	A
Decachlorobiphenyl	57		30-150	A

Project Name: TOMBARELLO
Project Number: 17001426
Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-18
Client ID: SB-15 3'-4'
Sample Location: MA

Date Collected: 12/23/19 09:58
Date Received: 12/23/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 12/29/19 14:28
Analyst: HT
Percent Solids: 90%

Extraction Method: EPA 3540C
Extraction Date: 12/26/19 10:00
Cleanup Method: EPA 3665A
Cleanup Date: 12/27/19
Cleanup Method: EPA 3660B
Cleanup Date: 12/27/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	36.1	--	1	A
Aroclor 1221	ND		ug/kg	36.1	--	1	A
Aroclor 1232	ND		ug/kg	36.1	--	1	A
Aroclor 1242	ND		ug/kg	36.1	--	1	A
Aroclor 1248	ND		ug/kg	36.1	--	1	A
Aroclor 1254	ND		ug/kg	36.1	--	1	A
Aroclor 1260	ND		ug/kg	36.1	--	1	A
Aroclor 1262	ND		ug/kg	36.1	--	1	A
Aroclor 1268	ND		ug/kg	36.1	--	1	B
PCBs, Total	ND		ug/kg	36.1	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	68		30-150	B
Decachlorobiphenyl	104		30-150	B
2,4,5,6-Tetrachloro-m-xylene	69		30-150	A
Decachlorobiphenyl	71		30-150	A

Project Name: TOMBARELLO
Project Number: 17001426
Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-21 D
Client ID: SB-12 1'-1.5'
Sample Location: MA

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 12/30/19 16:01
Analyst: WR
Percent Solids: 80%

Date Collected: 12/23/19 10:30
Date Received: 12/23/19
Field Prep: Not Specified

Extraction Method: EPA 3540C
Extraction Date: 12/26/19 10:00
Cleanup Method: EPA 3665A
Cleanup Date: 12/27/19
Cleanup Method: EPA 3660B
Cleanup Date: 12/27/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	398	--	10	A
Aroclor 1221	ND		ug/kg	398	--	10	A
Aroclor 1232	ND		ug/kg	398	--	10	A
Aroclor 1242	ND		ug/kg	398	--	10	A
Aroclor 1248	ND		ug/kg	398	--	10	A
Aroclor 1254	ND		ug/kg	398	--	10	A
Aroclor 1260	3020		ug/kg	398	--	10	A
Aroclor 1262	ND		ug/kg	398	--	10	A
Aroclor 1268	ND		ug/kg	398	--	10	A
PCBs, Total	3020		ug/kg	398	--	10	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150	B
Decachlorobiphenyl	**0**	Q	30-150	B
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150	A
Decachlorobiphenyl	**0**	Q	30-150	A

Project Name: TOMBARELLO
Project Number: 17001426
Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-22
Client ID: SB-12 2'-3'
Sample Location: MA

Date Collected: 12/23/19 10:32
Date Received: 12/23/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 12/29/19 14:52
Analyst: HT
Percent Solids: 84%

Extraction Method: EPA 3540C
Extraction Date: 12/26/19 10:00
Cleanup Method: EPA 3665A
Cleanup Date: 12/27/19
Cleanup Method: EPA 3660B
Cleanup Date: 12/27/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	38.8	--	1	A
Aroclor 1221	ND		ug/kg	38.8	--	1	A
Aroclor 1232	ND		ug/kg	38.8	--	1	A
Aroclor 1242	ND		ug/kg	38.8	--	1	A
Aroclor 1248	ND		ug/kg	38.8	--	1	A
Aroclor 1254	ND		ug/kg	38.8	--	1	A
Aroclor 1260	77.5		ug/kg	38.8	--	1	B
Aroclor 1262	ND		ug/kg	38.8	--	1	A
Aroclor 1268	ND		ug/kg	38.8	--	1	A
PCBs, Total	77.5		ug/kg	38.8	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	70		30-150	B
Decachlorobiphenyl	86		30-150	B
2,4,5,6-Tetrachloro-m-xylene	72		30-150	A
Decachlorobiphenyl	71		30-150	A

Project Name: TOMBARELLO
Project Number: 17001426
Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-23
Client ID: SB-12 3'-4'
Sample Location: MA

Date Collected: 12/23/19 10:35
Date Received: 12/23/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 12/29/19 15:04
Analyst: HT
Percent Solids: 82%

Extraction Method: EPA 3540C
Extraction Date: 12/26/19 10:00
Cleanup Method: EPA 3665A
Cleanup Date: 12/27/19
Cleanup Method: EPA 3660B
Cleanup Date: 12/27/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	40.3	--	1	A
Aroclor 1221	ND		ug/kg	40.3	--	1	A
Aroclor 1232	ND		ug/kg	40.3	--	1	A
Aroclor 1242	ND		ug/kg	40.3	--	1	A
Aroclor 1248	ND		ug/kg	40.3	--	1	A
Aroclor 1254	ND		ug/kg	40.3	--	1	A
Aroclor 1260	ND		ug/kg	40.3	--	1	A
Aroclor 1262	ND		ug/kg	40.3	--	1	A
Aroclor 1268	ND		ug/kg	40.3	--	1	B
PCBs, Total	ND		ug/kg	40.3	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	61		30-150	B
Decachlorobiphenyl	83		30-150	B
2,4,5,6-Tetrachloro-m-xylene	64		30-150	A
Decachlorobiphenyl	62		30-150	A

Project Name: TOMBARELLO
Project Number: 17001426

Lab Number: L1961521
Report Date: 01/03/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 12/27/19 15:40
Analyst: HT

Extraction Method: EPA 3540C
Extraction Date: 12/26/19 10:00
Cleanup Method: EPA 3665A
Cleanup Date: 12/27/19
Cleanup Method: EPA 3660B
Cleanup Date: 12/27/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01-03,06-08,12-13,16-18,21-23 Batch: WG1324802-1						
Aroclor 1016	ND		ug/kg	32.3	--	A
Aroclor 1221	ND		ug/kg	32.3	--	A
Aroclor 1232	ND		ug/kg	32.3	--	A
Aroclor 1242	ND		ug/kg	32.3	--	A
Aroclor 1248	ND		ug/kg	32.3	--	A
Aroclor 1254	ND		ug/kg	32.3	--	A
Aroclor 1260	ND		ug/kg	32.3	--	A
Aroclor 1262	ND		ug/kg	32.3	--	A
Aroclor 1268	ND		ug/kg	32.3	--	A
PCBs, Total	ND		ug/kg	32.3	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	48		30-150	B
Decachlorobiphenyl	52		30-150	B
2,4,5,6-Tetrachloro-m-xylene	48		30-150	A
Decachlorobiphenyl	53		30-150	A

Project Name: TOMBARELLO
Project Number: 17001426

Lab Number: L1961521
Report Date: 01/03/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 12/31/19 15:34
Analyst: HT

Extraction Method: EPA 3540C
Extraction Date: 12/30/19 19:40
Cleanup Method: EPA 3665A
Cleanup Date: 12/31/19
Cleanup Method: EPA 3660B
Cleanup Date: 12/31/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 11 Batch: WG1325910-1						
Aroclor 1016	ND		ug/kg	33.2	--	A
Aroclor 1221	ND		ug/kg	33.2	--	A
Aroclor 1232	ND		ug/kg	33.2	--	A
Aroclor 1242	ND		ug/kg	33.2	--	A
Aroclor 1248	ND		ug/kg	33.2	--	A
Aroclor 1254	ND		ug/kg	33.2	--	A
Aroclor 1260	ND		ug/kg	33.2	--	A
Aroclor 1262	ND		ug/kg	33.2	--	A
Aroclor 1268	ND		ug/kg	33.2	--	A
PCBs, Total	ND		ug/kg	33.2	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	59		30-150	B
Decachlorobiphenyl	50		30-150	B
2,4,5,6-Tetrachloro-m-xylene	55		30-150	A
Decachlorobiphenyl	42		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOMBARELLO

Project Number: 17001426

Lab Number: L1961521

Report Date: 01/03/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01-03,06-08,12-13,16-18,21-23 Batch: WG1324802-2 WG1324802-3									
Aroclor 1016	61		79		40-140	26		30	A
Aroclor 1260	66		86		40-140	26		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	63		86		30-150	B
Decachlorobiphenyl	69		95		30-150	B
2,4,5,6-Tetrachloro-m-xylene	63		82		30-150	A
Decachlorobiphenyl	68		88		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOMBARELLO

Project Number: 17001426

Lab Number: L1961521

Report Date: 01/03/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 11 Batch: WG1325910-2 WG1325910-3									
Aroclor 1016	92		98		40-140	6		30	A
Aroclor 1260	67		72		40-140	7		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	61		63		30-150	B
Decachlorobiphenyl	46		47		30-150	B
2,4,5,6-Tetrachloro-m-xylene	63		64		30-150	A
Decachlorobiphenyl	42		45		30-150	A

METALS

Project Name: TOMBARELLO
Project Number: 17001426
Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-26
Client ID: SB-10
Sample Location: MA
Sample Depth:
Matrix: Soil
Percent Solids: 69%

Date Collected: 12/23/19 11:20
Date Received: 12/23/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Lead, Total	7000		mg/kg	4.2	--	50	12/27/19 06:15	01/02/20 19:35	EPA 3050B	97,6020B	MG

Project Name: TOMBARELLO
Project Number: 17001426
Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-27
Client ID: SB-8
Sample Location: MA
Date Collected: 12/23/19 11:45
Date Received: 12/23/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 66%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Lead, Total	240		mg/kg	0.90	--	10	12/28/19 01:00	12/30/19 23:36	EPA 3050B	97,6020B	MG

Project Name: TOMBARELLO
Project Number: 17001426
Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-28
Client ID: SB-DUP-7
Sample Location: MA
Sample Depth:
Matrix: Soil
Percent Solids: 66%

Date Collected: 12/23/19 11:47
Date Received: 12/23/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Lead, Total	190		mg/kg	0.89	--	10	12/28/19 01:00	12/30/19 23:40	EPA 3050B	97,6020B	MG

Project Name: TOMBARELLO
Project Number: 17001426
Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-29
Client ID: SB-7
Sample Location: MA
Sample Depth:
Matrix: Soil
Percent Solids: 61%

Date Collected: 12/23/19 12:05
Date Received: 12/23/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Lead, Total	2800		mg/kg	0.96	--	10	12/28/19 01:00	12/30/19 23:44	EPA 3050B	97,6020B	MG

Project Name: TOMBARELLO
Project Number: 17001426
Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-30
Client ID: SB-6
Sample Location: MA
Date Collected: 12/23/19 12:25
Date Received: 12/23/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 63%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Lead, Total	1100		mg/kg	0.91	--	10	12/28/19 01:00	12/30/19 23:49	EPA 3050B	97,6020B	MG

Project Name: TOMBARELLO
Project Number: 17001426
Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-31
Client ID: SB-9
Sample Location: MA
Sample Depth:
Matrix: Soil
Percent Solids: 68%

Date Collected: 12/23/19 12:45
Date Received: 12/23/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Lead, Total	25		mg/kg	0.88	--	10	12/28/19 01:00	12/30/19 23:53	EPA 3050B	97,6020B	MG

Project Name: TOMBARELLO
Project Number: 17001426
Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-32
Client ID: SB-5
Sample Location: MA
Sample Depth:
Matrix: Soil
Percent Solids: 63%

Date Collected: 12/23/19 12:50
Date Received: 12/23/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Lead, Total	110		mg/kg	0.93	--	10	12/28/19 01:00	12/30/19 23:57	EPA 3050B	97,6020B	MG

Project Name: TOMBARELLO
Project Number: 17001426
Lab Number: L1961521
Report Date: 01/03/20

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): 27-32 Batch: WG1325444-1										
Lead, Total	ND		mg/kg	0.60	--	10	12/28/19 01:00	12/30/19 23:23	97,6020B	MG

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 26 Batch: WG1326468-1										
Lead, Total	ND		mg/kg	0.60	--	10	12/27/19 06:15	01/02/20 18:03	97,6020B	MG

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOMBARELLO

Project Number: 17001426

Lab Number: L1961521

Report Date: 01/03/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 27-32 Batch: WG1325444-2 WG1325444-3 SRM Lot Number: D105-540								
Lead, Total	88		88		71-128	0		30
MCP Total Metals - Mansfield Lab Associated sample(s): 26 Batch: WG1326468-2 WG1326468-3 SRM Lot Number: D105-540								
Lead, Total	96		96		71-128	0		30

Matrix Spike Analysis
Batch Quality Control

Project Name: TOMBARELLO
Project Number: 17001426

Lab Number: L1961521
Report Date: 01/03/20

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 26 QC Batch ID: WG1326468-4 WG1326468-5 QC Sample: L1961521-26 Client ID: SB-10												
Lead, Total	7000	57.6	2200	**0**	Q	8500	**2680**	Q	75-125	**118**	Q	35

Project Name: TOMBARELLO
Project Number: 17001426

Lab Serial Dilution Analysis
Batch Quality Control

Lab Number: L1961521
Report Date: 01/03/20

Parameter	Native Sample	Serial Dilution	Units	% D	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 26 QC Batch ID: WG1326468-6 QC Sample: L1961521-26 Client ID: SB-10						
Lead, Total	7000	7000	mg/kg	0		20

INORGANICS
&
MISCELLANEOUS

Project Name: TOMBARELLO
Project Number: 17001426

Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-01
Client ID: SB-13 1'-1.5'
Sample Location: MA

Date Collected: 12/23/19 08:50
Date Received: 12/23/19
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	88.7		%	0.100	NA	1	-	12/24/19 12:53	121,2540G	RI

Project Name: TOMBARELLO
Project Number: 17001426

Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-02
Client ID: SB-13 2'-3'
Sample Location: MA

Date Collected: 12/23/19 08:52
Date Received: 12/23/19
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	80.4		%	0.100	NA	1	-	12/24/19 12:53	121,2540G	RI

Project Name: TOMBARELLO
Project Number: 17001426

Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-03
Client ID: SB-13 3'-4'
Sample Location: MA

Date Collected: 12/23/19 08:54
Date Received: 12/23/19
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	88.6		%	0.100	NA	1	-	12/24/19 12:53	121,2540G	RI

Project Name: TOMBARELLO
Project Number: 17001426

Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-06
Client ID: SB-11 1'-1.5'
Sample Location: MA

Date Collected: 12/23/19 09:20
Date Received: 12/23/19
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	89.9		%	0.100	NA	1	-	12/24/19 12:53	121,2540G	RI

Project Name: TOMBARELLO
Project Number: 17001426

Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-07
Client ID: SB-11 2'-3'
Sample Location: MA

Date Collected: 12/23/19 09:22
Date Received: 12/23/19
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	92.0		%	0.100	NA	1	-	12/24/19 12:53	121,2540G	RI

Project Name: TOMBARELLO
Project Number: 17001426

Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-08
Client ID: SB-11 3'-4'
Sample Location: MA

Date Collected: 12/23/19 09:24
Date Received: 12/23/19
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	90.6		%	0.100	NA	1	-	12/24/19 12:53	121,2540G	RI

Project Name: TOMBARELLO
Project Number: 17001426

Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-11
Client ID: SB-14 1'-1.5'
Sample Location: MA

Date Collected: 12/23/19 09:35
Date Received: 12/23/19
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	89.2		%	0.100	NA	1	-	12/24/19 12:53	121,2540G	RI

Project Name: TOMBARELLO
Project Number: 17001426

Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-12
Client ID: SB-14 2'-3'
Sample Location: MA

Date Collected: 12/23/19 09:37
Date Received: 12/23/19
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	92.3		%	0.100	NA	1	-	12/24/19 12:53	121,2540G	RI

Project Name: TOMBARELLO
Project Number: 17001426

Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-13
Client ID: SB-14 3'-4'
Sample Location: MA

Date Collected: 12/23/19 09:39
Date Received: 12/23/19
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	95.3		%	0.100	NA	1	-	12/24/19 12:53	121,2540G	RI

Project Name: TOMBARELLO
Project Number: 17001426

Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-16
Client ID: SB-15 1'-1.5'
Sample Location: MA

Date Collected: 12/23/19 09:55
Date Received: 12/23/19
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	87.5		%	0.100	NA	1	-	12/24/19 12:53	121,2540G	RI

Project Name: TOMBARELLO
Project Number: 17001426

Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-17
Client ID: SB-15 2'-3'
Sample Location: MA

Date Collected: 12/23/19 09:57
Date Received: 12/23/19
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	86.8		%	0.100	NA	1	-	12/24/19 12:53	121,2540G	RI

Project Name: TOMBARELLO
Project Number: 17001426

Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-18
Client ID: SB-15 3'-4'
Sample Location: MA

Date Collected: 12/23/19 09:58
Date Received: 12/23/19
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	-	12/24/19 12:53	121,2540G	RI

Project Name: TOMBARELLO
Project Number: 17001426

Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-21
Client ID: SB-12 1'-1.5'
Sample Location: MA

Date Collected: 12/23/19 10:30
Date Received: 12/23/19
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	79.8		%	0.100	NA	1	-	12/24/19 12:53	121,2540G	RI

Project Name: TOMBARELLO
Project Number: 17001426

Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-22
Client ID: SB-12 2'-3'
Sample Location: MA

Date Collected: 12/23/19 10:32
Date Received: 12/23/19
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	84.1		%	0.100	NA	1	-	12/24/19 12:53	121,2540G	RI

Project Name: TOMBARELLO
Project Number: 17001426

Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-23
Client ID: SB-12 3'-4'
Sample Location: MA

Date Collected: 12/23/19 10:35
Date Received: 12/23/19
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	81.9		%	0.100	NA	1	-	12/24/19 12:53	121,2540G	RI

Project Name: TOMBARELLO
Project Number: 17001426

Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-26
Client ID: SB-10
Sample Location: MA

Date Collected: 12/23/19 11:20
Date Received: 12/23/19
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	69.0		%	0.100	NA	1	-	12/24/19 12:53	121,2540G	RI

Project Name: TOMBARELLO
Project Number: 17001426

Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-27
Client ID: SB-8
Sample Location: MA

Date Collected: 12/23/19 11:45
Date Received: 12/23/19
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	66.4		%	0.100	NA	1	-	12/24/19 12:53	121,2540G	RI

Project Name: TOMBARELLO
Project Number: 17001426

Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-28
Client ID: SB-DUP-7
Sample Location: MA

Date Collected: 12/23/19 11:47
Date Received: 12/23/19
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	65.5		%	0.100	NA	1	-	12/24/19 12:53	121,2540G	RI

Project Name: TOMBARELLO
Project Number: 17001426

Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-29
Client ID: SB-7
Sample Location: MA

Date Collected: 12/23/19 12:05
Date Received: 12/23/19
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	61.2		%	0.100	NA	1	-	12/24/19 12:53	121,2540G	RI

Project Name: TOMBARELLO
Project Number: 17001426

Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-30
Client ID: SB-6
Sample Location: MA

Date Collected: 12/23/19 12:25
Date Received: 12/23/19
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	62.8		%	0.100	NA	1	-	12/24/19 12:53	121,2540G	RI

Project Name: TOMBARELLO
Project Number: 17001426

Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-31
Client ID: SB-9
Sample Location: MA

Date Collected: 12/23/19 12:45
Date Received: 12/23/19
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	67.6		%	0.100	NA	1	-	12/24/19 12:06	121,2540G	RI

Project Name: TOMBARELLO
Project Number: 17001426

Lab Number: L1961521
Report Date: 01/03/20

SAMPLE RESULTS

Lab ID: L1961521-32
Client ID: SB-5
Sample Location: MA

Date Collected: 12/23/19 12:50
Date Received: 12/23/19
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	62.5		%	0.100	NA	1	-	12/24/19 12:06	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: TOMBARELLO
Project Number: 17001426

Lab Number: L1961521
Report Date: 01/03/20

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03,06-08,11-13,16-18,21-23,26-30 QC Batch ID: WG1324563-1 QC Sample: L1961521-01 Client ID: SB-13 1'-1.5'						
Solids, Total	88.7	88.9	%	0		20

Project Name: TOMBARELLO
Project Number: 17001426

Lab Number: L1961521
Report Date: 01/03/20

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1961521-01A	Glass 120ml/4oz unpreserved	A	NA		3.4	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1961521-02A	Glass 120ml/4oz unpreserved	A	NA		3.4	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1961521-03A	Glass 120ml/4oz unpreserved	A	NA		3.4	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1961521-04A	Glass 120ml/4oz unpreserved	A	NA		3.4	Y	Absent		HOLD-WETCHEM(),HOLD-8082(14)
L1961521-05A	Glass 120ml/4oz unpreserved	A	NA		3.4	Y	Absent		HOLD-WETCHEM(),HOLD-8082(14)
L1961521-06A	Glass 120ml/4oz unpreserved	A	NA		3.4	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1961521-07A	Glass 120ml/4oz unpreserved	A	NA		3.4	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1961521-08A	Glass 120ml/4oz unpreserved	A	NA		3.4	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1961521-09A	Glass 120ml/4oz unpreserved	A	NA		3.4	Y	Absent		HOLD-WETCHEM(),HOLD-8082(14)
L1961521-10A	Glass 120ml/4oz unpreserved	A	NA		3.4	Y	Absent		HOLD-WETCHEM(),HOLD-8082(14)
L1961521-11A	Glass 120ml/4oz unpreserved	A	NA		3.4	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1961521-12A	Glass 120ml/4oz unpreserved	A	NA		3.4	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1961521-13A	Glass 120ml/4oz unpreserved	A	NA		3.4	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1961521-14A	Glass 120ml/4oz unpreserved	B	NA		4.4	Y	Absent		HOLD-WETCHEM(),HOLD-8082(14)
L1961521-15A	Glass 120ml/4oz unpreserved	B	NA		4.4	Y	Absent		HOLD-WETCHEM(),HOLD-8082(14)
L1961521-16A	Glass 120ml/4oz unpreserved	B	NA		4.4	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1961521-17A	Glass 120ml/4oz unpreserved	B	NA		4.4	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1961521-18A	Glass 120ml/4oz unpreserved	B	NA		4.4	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1961521-19A	Glass 120ml/4oz unpreserved	B	NA		4.4	Y	Absent		HOLD-WETCHEM(),HOLD-8082(14)
L1961521-20A	Glass 120ml/4oz unpreserved	B	NA		4.4	Y	Absent		HOLD-WETCHEM(),HOLD-8082(14)
L1961521-21A	Glass 120ml/4oz unpreserved	B	NA		4.4	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1961521-22A	Glass 120ml/4oz unpreserved	B	NA		4.4	Y	Absent		TS(7),MCP-8082-10-3540C(365)

*Values in parentheses indicate holding time in days

Project Name: TOMBARELLO
Project Number: 17001426

Lab Number: L1961521
Report Date: 01/03/20

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1961521-23A	Glass 120ml/4oz unpreserved	B	NA		4.4	Y	Absent		TS(7),MCP-8082-10-3540C(365)
L1961521-24A	Glass 120ml/4oz unpreserved	B	NA		4.4	Y	Absent		HOLD-WETCHEM(),HOLD-8082(14)
L1961521-25A	Glass 120ml/4oz unpreserved	B	NA		4.4	Y	Absent		HOLD-WETCHEM(),HOLD-8082(14)
L1961521-26A	Glass 120ml/4oz unpreserved	B	NA		4.4	Y	Absent		TS(7),EPH-DELUX-10(14)
L1961521-26B	Glass 120ml/4oz unpreserved	B	NA		4.4	Y	Absent		TS(7),EPH-DELUX-10(14)
L1961521-26C	Glass 120ml/4oz unpreserved	B	NA		4.4	Y	Absent		MCP-PB-6020T-10(180)
L1961521-26D	Glass 120ml/4oz unpreserved	B	NA		4.4	Y	Absent		MCP-PB-6020T-10(180)
L1961521-27A	Glass 120ml/4oz unpreserved	B	NA		4.4	Y	Absent		TS(7),EPH-DELUX-10(14)
L1961521-27B	Glass 120ml/4oz unpreserved	B	NA		4.4	Y	Absent		MCP-PB-6020T-10(180)
L1961521-28A	Glass 120ml/4oz unpreserved	B	NA		4.4	Y	Absent		TS(7),EPH-DELUX-10(14)
L1961521-28B	Glass 120ml/4oz unpreserved	B	NA		4.4	Y	Absent		MCP-PB-6020T-10(180)
L1961521-29A	Glass 120ml/4oz unpreserved	B	NA		4.4	Y	Absent		TS(7),EPH-DELUX-10(14)
L1961521-29B	Glass 120ml/4oz unpreserved	B	NA		4.4	Y	Absent		MCP-PB-6020T-10(180)
L1961521-30A	Glass 120ml/4oz unpreserved	B	NA		4.4	Y	Absent		TS(7),EPH-DELUX-10(14)
L1961521-30B	Glass 120ml/4oz unpreserved	B	NA		4.4	Y	Absent		MCP-PB-6020T-10(180)
L1961521-31A	Glass 120ml/4oz unpreserved	B	NA		4.4	Y	Absent		TS(7),EPH-DELUX-10(14)
L1961521-31B	Glass 120ml/4oz unpreserved	B	NA		4.4	Y	Absent		MCP-PB-6020T-10(180)
L1961521-32A	Glass 120ml/4oz unpreserved	B	NA		4.4	Y	Absent		TS(7),EPH-DELUX-10(14)
L1961521-32B	Glass 120ml/4oz unpreserved	B	NA		4.4	Y	Absent		MCP-PB-6020T-10(180)

*Values in parentheses indicate holding time in days

Project Name:	TOMBARELLO	**Lab Number:**	L1961521
Project Number:	17001426	**Report Date:**	01/03/20

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:	TOMBARELLO	**Lab Number:**	L1961521
Project Number:	17001426	**Report Date:**	01/03/20

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.

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 than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

Report Format: Data Usability Report

Project Name:	TOMBARELLO	**Lab Number:**	L1961521
Project Number:	17001426	**Report Date:**	01/03/20

Data Qualifiers

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

Project Name:	TOMBARELLO	**Lab Number:**	L1961521
Project Number:	17001426	**Report Date:**	01/03/20

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.

98 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, 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.

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
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.
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, SM4500Cl-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.

CHAIN OF CUSTODY

PAGE 1 OF 4

Date Rec'd in Lab: 12/23/19

ALPHA Job #: L1961521

ALPHA ANALYTICAL
8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Client Information

Client: CREDERE ASSOCIATE
Address: 776 MAIN ST
WESTBROOK ME 04092
Phone: 207-828-1272
Email: sfoote@crederellc.com
EVANDENBEEL@crederellc.com

Project Information

Project Name: TOMBARELLO
Project Location: MA
Project #: 17001426
Project Manager: R. VANDENBEEL
ALPHA Quote #:

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due:

Report Information - Data Deliverables

☐ ADEx ☐ EMAIL

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☐ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

Additional Project Information:

TOMBARELLO SUPPLEMENTAL SUB SURFACE INVESTIGATION

ANALYSIS

VOC: ☐ 8260 ☐ 624 ☐ 524.2
SVOC: ☐ ABN ☐ PAH
METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15
METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13
EPH: ☐ Ranges & Targets ☐ Ranges Only
VPH: ☐ Ranges & Targets ☐ Ranges Only
☐ PCB ☐ PEST SOXHLET EXT
TPH: ☐ Quant Only ☐ Fingerprint

SAMPLE INFO
Filtration ☐ Field ☐ Lab to do
Preservation ☐ Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Sample Comments	TOTAL # BOTTLES
61521-01	SB-13 1'-1.5'	12/23/19	0850	S	S.T.		
02	SB-13 2'-3'	12/23/19	0852	S	S.T		
03	SB-13 3'-4'	12/23/19	0854	S	S.T		
04	SB-13 4'-5'	12/23/19	0856	S	S.T.	HOLD	
05	SB-13 5'-7'	12/23/19	0858	S	S.T.	HOLD	
06	SB-11 1'-1.5'	12/23/19	0920	S	S.T		
07	SB-11 2'-3'	12/23/19	0922	S	S.T		
08	SB-11 3'-4'	12/23/19	0924	S	S.T		
09	SB-11 4'-5'	12/23/19	0926	S	S.T	HOLD	
10	SB-11 5'-7'	12/23/19	0928	S	S.T	HOLD	
	Container Type						
	Preservative						

Container Type	Preservative
P= Plastic	A= None
A= Amber glass	B= HCl
V= Vial	C= HNO_3
G= Glass	D= H_2SO_4
B= Bacteria cup	E= NaOH
C= Cube	F= MeOH
O= Other	G= $NaHSO_4$
E= Encore	H= $Na_2S_2O_3$
D= BOD Bottle	I= Ascorbic Acid
	J= NH_4Cl
	K= Zn Acetate
	O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
Stephanie Foote	12/23/19 1430	NHSC FEDEX DRIVER	
Storage locker	12/23/19 1715	Rob Maerto AAL	12/23/19 1715
Rob Maerto	12/23/19 1930	Clara Mejia AAL	12/23/19 1930

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

CHAIN OF CUSTODY

PAGE 2 OF 4

Date Rec'd in Lab: 12/23/19

ALPHA Job #: L1961521

ALPHA ANALYTICAL
8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Client Information

Client: CREDERE ASSOCIATES
Address: 776 MAIN ST
WESTBROOK ME 04092
Phone: 207-828-1276
Email: sfoote@crederelle.com
rvandenberg@crederelle.com

Project Information

Project Name: TOMBARELLO
Project Location: MA
Project #: 17001426
Project Manager: R. VANDENBERG
ALPHA Quote #:

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due:

Report Information - Data Deliverables

☐ ADEx ☐ EMAIL

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☐ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

Additional Project Information:

TOMBARELLO SUPPLEMENTAL SUB SURFACE INVESTIGATION

ANALYSIS

VOC: ☐ 8260 ☐ 624 ☐ 524.2
SVOC: ☐ ABN ☐ PAH
METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15
METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13
EPH: ☐ Ranges & Targets ☐ Ranges Only
VPH: ☐ Ranges & Targets ☐ Ranges Only
☒ PCB ☐ PEST SOXHLET EXT
TPH: ☐ Quant Only ☐ Fingerprint

SAMPLE INFO
Filtration
☐ Field
☐ Lab to do
Preservation
☐ Lab to do

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	PCB	Sample Comments
61521-11	SB-14 1'-1.5'	12/23/19	0935	S	S.T	X	
12	SB-14 2'-3'	12/23/19	0937	S	S.T	X	
13	SB-14 3'-4'	12/23/19	0939	S	S.T	X	
14	SB-14 4'-5'	12/23/19	0941	S	S.T	X	HOLD
15	SB-14 5'-7'	12/23/19	0943	S	S.T	X	HOLD
16	SB-15 1'-1.5'	12/23/19	0955	S	S.T	X	
17	SB-15 2'-3'	12/23/19	0957	S	S.T	X	
18	SB-15 3'-4'	12/23/19	0958	S	S.T	X	
19	SB-15 4'-5'	12/23/19	1000	S	S.T	X	HOLD
20	SB-15 5'-7'	12/23/19	1002	S	S.T	X	HOLD
	Container Type					A	
	Preservative					A	

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H= $Na_2S_2O_3$
I= Ascorbic Acid
J= NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
Stacy J. Foote	12/23/19 1430	NHSL STORAGE LOCKER	
Storage locker	12/23 1715	Rob Maietta AAI	12/23/19 1715
Rob Maietta	12/23/19 1930	Alana Riggs AAI	12/23/19 1930

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

CHAIN OF CUSTODY

PAGE 3 OF 4

Date Rec'd in Lab: 12/23/19

ALPHA Job #: L1961521

ALPHA ANALYTICAL
8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Client Information

Client: CREDERE ASSOCIATES
Address: 776 MAIN ST
WESTBROOK ME 04092
Phone: 207-828-1272
Email:

Project Information

Project Name: TOMBARELLO
Project Location: MA
Project #: 17001426
Project Manager: R. VANDENBERG
ALPHA Quote #:

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due:

Report Information - Data Deliverables

☐ ADEx ☐ EMAIL

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☐ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

Additional Project Information:

TOMBARELLO SUPPLEMENTAL SUB SURFACE INVESTIGATION

ANALYSIS: VOC: ☐ 8260 ☐ 624 ☐ 524.2; SVOC: ☐ ABN ☐ PAH; METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15; METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13; EPH: ☒ Ranges & Targets ☐ Ranges Only; VPH: ☐ Ranges & Targets ☐ Ranges Only; ☑ PCB ☐ PEST SOXHLET EXT.; TPH: ☐ Quant Only ☐ Fingerprint; Pb – 6020A

SAMPLE INFO: Filtration ☐ Field ☐ Lab to do; Preservation ☐ Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	VOC	SVOC	METALS	METALS	EPH	VPH	☑ PCB	TPH	Pb	Sample Comments	TOTAL # BOTTLES
61521-21	SB-12 1'-1.5'	12/23/19	1030	S	S.T.							X				
22	SB-12 2'-3'	12/23/19	1032	S	S.T.							X				
23	SB-12 3'-4'	12/23/19	1035	S	S.T							X				
24	SB-12 4'-5'	12/23/19	1037	S	S.T							X			HOLD	
25	SB-12 5'-7'	12/23/19	1040	S	S.T							X			HOLD	
26	SB-10	12/23/19	1120	S	C.B.					X				X	MS/MSD METALS ONLY	
27	SB-8	12/23/19	1145	S	C.B.					X				X		
28	SB-DUP-7	12/23/19	1147	S	C.B.					X				X		
29	SB-7	12/23/19	1205	S	C.B.					X				X		
30	SB-6	12/23/19	1225	S	C.B.					X				X		
					Container Type							A		G		
					Preservative							A		A		

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H = $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
Stay Rom	12/23/19 1930	NHSC STORAGE LOCKER	
Storage locker	12/23/19 1715	Rob Maeto AAL	12/23/19 1715
Rob Maeto	12/23/19 1930	Alana Riggs AAL	12/23/19 1930

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FORM NO: 01-01 (rev. 12-Mar-2012)

CHAIN OF CUSTODY

PAGE 4 OF 4

Date Rec'd in Lab: 12/23/19

ALPHA Job #: L1961521

ALPHA ANALYTICAL
8 Walkup Drive
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Tel: 508-822-9300

Client Information

Client: CREDERE ASSOCIATES
Address: 776 MAIN ST
WEST BROOK ME
Phone: 207-828-1272
Email: sfoote@credere llc.com
rvandenberg@credere llc.com

Project Information

Project Name: TOMBARELLO
Project Location: MA
Project #: 1700142
Project Manager: R. VANDENBERG
ALPHA Quote #:

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due:

Report Information - Data Deliverables

☐ ADEx ☐ EMAIL

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☐ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

Additional Project Information:

TOMBARELLO SUPPLEMENTAL SUB SURFACE INVESTIGATION

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	VOC: ☐ 8260 ☐ 624 ☐ 524.2	SVOC: ☐ ABN ☐ PAH	METALS: ☐ MCP 13	METALS: ☐ MCP 14 ☐ RCP 15 ☐ RCRA5 ☐ RCRA8	EPH: ☐ PP13 ☐ Ranges & Targets ☐ Ranges Only	VPH: ☐ Ranges & Targets ☐ Ranges Only	☐ PCB ☐ PEST	TPH: ☐ Quant Only ☐ Fingerprint	Pb 6020A	SAMPLE INFO / Sample Comments	TOTAL # BOTTLES
61521-31	SB-9	12/23/19	1245	S	C.B.					X				X		
32	SB-5	12/23/19	1250	S	C.B.					X				X		
Container Type										A		G				
Preservative										A		A				

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H = $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
Stacy Foote	12/23/19 1430	NHSC STORAGE LOCKER	
Storage locker	12/23/19 1715	Rob Maestro AM	12/23/19 1715
Rob Maestro	12/23/19 1930	Alana Krupp BMI	12/23/19 1930

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

CERTIFICATE OF ANALYSIS

Leslie Lombardo
GEI Consultants, Inc.
400 Unicorn Park Drive
Woburn, MA 01801

RE: Tombarello Site Investigation (1802441)
ESS Laboratory Work Order Number: 20C0466

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 2:29 pm, Apr 01, 2020

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0466

SAMPLE RECEIPT

The following samples were received on March 13, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Low Level VOA vials were frozen by ESS Laboratory on March 13, 2020 at 20:29.

Question I: All samples for Metals were analyzed for a subset of the required MCP list per the client's request.

Revision 1 April 1, 2020: This report has been revised to include TPH results for samples 20C0466-01 and 20C0466-03 per the client's request.

Lab Number	Sample Name	Matrix	Analysis
20C0466-01	1802441-Lot1-DISP01	Soil	1010, 1311, 1311/6010C, 6010C, 7.3.3.2, 7.3.4.1, 7471B, 8082A, 8100M, 8260B Low, 8270D, 9045
20C0466-02	1802441-Lot1-DISP02-Grab	Soil	8260B Low
20C0466-03	1802441-Lot1-DISP02-Comp	Soil	1010, 1311, 1311/6010C, 6010C, 7.3.3.2, 7.3.4.1, 7471B, 8082A, 8100M, 8270D, 9045

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation ESS Laboratory Work Order: 20C0466

PROJECT NARRATIVE

5035/8260B Volatile Organic Compounds / Low Level

D0C0330-CCV1	**Continuing Calibration %Diff/Drift is below control limit (CD-).** Acetone (21% @ 20%), Chloroethane (21% @ 20%), Chloromethane (22% @ 20%), Tetrahydrofuran (22% @ 20%), Vinyl Chloride (22% @ 20%)
D0C0358-CCV1	**Continuing Calibration %Diff/Drift is above control limit (CD+).** Bromomethane (22% @ 20%)
DC01838-BSD1	**Relative percent difference for duplicate is outside of criteria (D+).** Acetone (21% @ 20%), Bromomethane (21% @ 20%)

8270D Semi-Volatile Organic Compounds

20C0466-01	**Elevated Method Reporting Limits due to sample matrix (EL).**
20C0466-03	**Elevated Method Reporting Limits due to sample matrix (EL).**
D0C0313-CCV1	**Calibration required quadratic regression (Q).** 2,4-Dinitrophenol (129% @ 80-120%), Pentachlorophenol (109% @ 80-120%)
D0C0313-CCV1	**Continuing Calibration %Diff/Drift is above control limit (CD+).** 2,4-Dinitrophenol (29% @ 20%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0466

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH
MADEP 18-2.1 - VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035A - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0466

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20C0466-01 through 20C0466-03**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

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

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?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) 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?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) 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)?	Yes (X) 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 protocols(s)? ***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.***	Yes ( ) No (X)*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes ( ) No (X)*

All 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, accurate and complete.

Signature: Laurel Stoddard Date: March 20, 2020

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP01
Date Sampled: 03/12/20 08:40
Percent Solids: 88

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-01
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	**6.61** (2.20)		6010C		1	KJK	03/17/20 20:54	2.57	100	DC01642
Barium	**171** (2.20)		6010C		1	KJK	03/17/20 20:54	2.57	100	DC01642
Cadmium	**1.17** (0.44)		6010C		1	KJK	03/17/20 20:54	2.57	100	DC01642
Chromium	**33.9** (0.88)		6010C		1	KJK	03/17/20 20:54	2.57	100	DC01642
Lead	**392** (4.41)		6010C		1	KJK	03/17/20 20:54	2.57	100	DC01642
Mercury	**0.559** (0.033)		7471B		1	MKS	03/17/20 8:33	0.68	40	DC01643
Selenium	ND (4.41)		6010C		1	KJK	03/17/20 20:54	2.57	100	DC01642
Silver	ND (0.44)		6010C		1	KJK	03/17/20 20:54	2.57	100	DC01642

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP01
Date Sampled: 03/12/20 08:40
Percent Solids: 88

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-01
Sample Matrix: Soil
Units: mg/L

Extraction Method: 3005A TCLP

1311 TCLP Metals

Analyte	Results (MRL)	MDL	Method	TCLP Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Lead	**0.281** (0.050)		1311/6010C		1	KJK	03/19/20 20:36	50	50	DC01937

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP01
Date Sampled: 03/12/20 08:40
Percent Solids: 88
Initial Volume: 8.3
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,1,1-Trichloroethane	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,1,2,2-Tetrachloroethane	**0.0059** (0.0014)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,1,2-Trichloroethane	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,1-Dichloroethane	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,1-Dichloroethene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,1-Dichloropropene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,2,3-Trichlorobenzene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,2,3-Trichloropropane	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,2,4-Trichlorobenzene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,2,4-Trimethylbenzene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,2-Dibromo-3-Chloropropane	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,2-Dibromoethane	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,2-Dichlorobenzene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,2-Dichloroethane	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,2-Dichloropropane	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,3,5-Trimethylbenzene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,3-Dichlorobenzene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,3-Dichloropropane	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,4-Dichlorobenzene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,4-Dioxane	ND (0.0682)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
2,2-Dichloropropane	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
2-Butanone	ND (0.0068)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
2-Chlorotoluene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
2-Hexanone	ND (0.0068)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
4-Chlorotoluene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
4-Isopropyltoluene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
4-Methyl-2-Pentanone	ND (0.0068)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Acetone	ND (0.0068)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Benzene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Bromobenzene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Bromochloromethane	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP01
Date Sampled: 03/12/20 08:40
Percent Solids: 88
Initial Volume: 8.3
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Bromoform	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Bromomethane	ND (0.0068)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Carbon Disulfide	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Carbon Tetrachloride	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Chlorobenzene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Chloroethane	ND (0.0068)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Chloroform	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Chloromethane	ND (0.0068)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
cis-1,2-Dichloroethene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
cis-1,3-Dichloropropene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Dibromochloromethane	ND (0.0014)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Dibromomethane	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Dichlorodifluoromethane	ND (0.0068)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Diethyl Ether	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Di-isopropyl ether	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Ethyl tertiary-butyl ether	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Ethylbenzene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Hexachlorobutadiene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Isopropylbenzene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Methyl tert-Butyl Ether	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Methylene Chloride	ND (0.0068)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Naphthalene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
n-Butylbenzene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
n-Propylbenzene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
sec-Butylbenzene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Styrene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
tert-Butylbenzene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Tertiary-amyl methyl ether	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Tetrachloroethene	**0.0089** (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Tetrahydrofuran	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Toluene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP01
Date Sampled: 03/12/20 08:40
Percent Solids: 88
Initial Volume: 8.3
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
trans-1,3-Dichloropropene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Trichloroethene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Trichlorofluoromethane	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Vinyl Chloride	ND (0.0068)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Xylene O	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Xylene P,M	ND (0.0068)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Xylenes (Total)	ND (0.00682)		8260B Low		1	03/18/20 20:39		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichloroethane-d4	*89 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*77 %*		*70-130*
Surrogate: Dibromofluoromethane	*94 %*		*70-130*
Surrogate: Toluene-d8	*108 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP01
Date Sampled: 03/12/20 08:40
Percent Solids: 88
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 3/17/20 14:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	03/18/20 21:32		DC01701
Aroclor 1221	ND (0.06)		8082A		1	03/18/20 21:32		DC01701
Aroclor 1232	ND (0.06)		8082A		1	03/18/20 21:32		DC01701
Aroclor 1242	ND (0.06)		8082A		1	03/18/20 21:32		DC01701
Aroclor 1248	ND (0.06)		8082A		1	03/18/20 21:32		DC01701
Aroclor 1254	ND (0.06)		8082A		1	03/18/20 21:32		DC01701
Aroclor 1260	ND (0.06)		8082A		1	03/18/20 21:32		DC01701
Aroclor 1262	ND (0.06)		8082A		1	03/18/20 21:32		DC01701
Aroclor 1268	ND (0.06)		8082A		1	03/18/20 21:32		DC01701

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*65 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*67 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*71 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*89 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP01
Date Sampled: 03/12/20 08:40
Percent Solids: 88
Initial Volume: 19.4
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 3/24/20 14:49

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons	**352** (58.4)		8100M		5	03/25/20 23:09	D0C0445	DC02311

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*88 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP01
Date Sampled: 03/12/20 08:40
Percent Solids: 88
Initial Volume: 15.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/16/20 10:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
1,2-Dichlorobenzene	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
1,3-Dichlorobenzene	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
1,4-Dichlorobenzene	ND (0.378)		8270D		2	03/19/20 2:54	D0C0313	DC01609
2,4,5-Trichlorophenol	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
2,4,6-Trichlorophenol	ND (0.369)		8270D		2	03/19/20 2:54	D0C0313	DC01609
2,4-Dichlorophenol	ND (0.374)		8270D		2	03/19/20 2:54	D0C0313	DC01609
2,4-Dimethylphenol	ND (0.338)		8270D		2	03/19/20 2:54	D0C0313	DC01609
2,4-Dinitrophenol	ND (2.51)		8270D		2	03/19/20 2:54	D0C0313	DC01609
2,4-Dinitrotoluene	ND (0.482)		8270D		2	03/19/20 2:54	D0C0313	DC01609
2,6-Dinitrotoluene	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
2-Chloronaphthalene	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
2-Chlorophenol	ND (0.423)		8270D		2	03/19/20 2:54	D0C0313	DC01609
2-Methylnaphthalene	ND (0.324)		8270D		2	03/19/20 2:54	D0C0313	DC01609
2-Methylphenol	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
2-Nitrophenol	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
3,3′-Dichlorobenzidine	ND (0.752)		8270D		2	03/19/20 2:54	D0C0313	DC01609
3+4-Methylphenol	ND (3.00)		8270D		2	03/19/20 2:54	D0C0313	DC01609
4-Bromophenyl-phenylether	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
4-Chloroaniline	ND (0.752)		8270D		2	03/19/20 2:54	D0C0313	DC01609
4-Nitrophenol	ND (7.52)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Acenaphthene	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Acenaphthylene	ND (0.752)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Acetophenone	ND (3.00)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Aniline	ND (7.52)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Anthracene	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Azobenzene	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Benzo(a)anthracene	**2.28** (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Benzo(a)pyrene	**2.52** (0.752)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Benzo(b)fluoranthene	**2.42** (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Benzo(g,h,i)perylene	**1.75** (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Benzo(k)fluoranthene	**1.72** (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP01
Date Sampled: 03/12/20 08:40
Percent Solids: 88
Initial Volume: 15.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/16/20 10:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
bis(2-Chloroethoxy)methane	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
bis(2-Chloroethyl)ether	ND (0.405)		8270D		2	03/19/20 2:54	D0C0313	DC01609
bis(2-chloroisopropyl)Ether	ND (0.401)		8270D		2	03/19/20 2:54	D0C0313	DC01609
bis(2-Ethylhexyl)phthalate	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Butylbenzylphthalate	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Chrysene	**2.30** (0.752)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Dibenzo(a,h)Anthracene	**0.575** (0.230)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Dibenzofuran	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Diethylphthalate	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Dimethylphthalate	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Di-n-butylphthalate	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Di-n-octylphthalate	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Fluoranthene	**4.54** (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Fluorene	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Hexachlorobenzene	ND (0.252)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Hexachlorobutadiene	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Hexachloroethane	ND (0.378)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Indeno(1,2,3-cd)Pyrene	**1.50** (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Isophorone	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Naphthalene	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Nitrobenzene	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
N-Nitrosodimethylamine	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Pentachlorophenol	ND (7.52)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Phenanthrene	**2.43** (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Phenol	ND (0.365)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Pyrene	**4.39** (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*56 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*77 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*62 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*65 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP01
Date Sampled: 03/12/20 08:40
Percent Solids: 88
Initial Volume: 15.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/16/20 10:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Fluorophenol		*54 %*		*30-130*				
Surrogate: Nitrobenzene-d5		*59 %*		*30-130*				
Surrogate: Phenol-d6		*62 %*		*30-130*				
Surrogate: p-Terphenyl-d14		*83 %*		*30-130*				

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP01
Date Sampled: 03/12/20 08:40
Percent Solids: 88

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-01
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Corrosivity (pH)	**7.75** (N/A)		9045		1	DEL	03/13/20 20:45	S.U.	DC01326
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 19.6 ºC.**								
Flashpoint	**> 200** (N/A)		1010		1	CCP	03/16/20 13:30	°F	DC01620
Reactive Cyanide	ND (2.0)		7.3.3.2		1	EEM	03/16/20 10:58	mg/kg	DC01613
Reactive Sulfide	ND (2.0)		7.3.4.1		1	EEM	03/16/20 10:58	mg/kg	DC01613

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP01
Date Sampled: 03/12/20 08:40
Percent Solids: 88
Initial Volume: 100
Final Volume: 2000
Extraction Method: 1311

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-01
Sample Matrix: Soil
Units: °C
Analyst: MKS
Prepared: 3/18/20 20:15

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**19.8** (N/A)		1311		1	MKS	03/19/20 12:20	DC01824
Temperature (Max C)	**21.4** (N/A)		1311		1	MKS	03/19/20 12:20	DC01824
Temperature (Range)	**Temperature is not within 23 +/-2 ºC.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP02-Grab
Date Sampled: 03/12/20 08:50
Percent Solids: 93
Initial Volume: 8.4
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,1,1-Trichloroethane	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,1,2,2-Tetrachloroethane	ND (0.0013)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,1,2-Trichloroethane	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,1-Dichloroethane	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,1-Dichloroethene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,1-Dichloropropene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,2,3-Trichlorobenzene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,2,3-Trichloropropane	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,2,4-Trichlorobenzene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,2,4-Trimethylbenzene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,2-Dibromo-3-Chloropropane	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,2-Dibromoethane	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,2-Dichlorobenzene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,2-Dichloroethane	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,2-Dichloropropane	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,3,5-Trimethylbenzene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,3-Dichlorobenzene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,3-Dichloropropane	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,4-Dichlorobenzene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,4-Dioxane	ND (0.0642)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
2,2-Dichloropropane	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
2-Butanone	**0.0154** (0.0064)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
2-Chlorotoluene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
2-Hexanone	ND (0.0064)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
4-Chlorotoluene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
4-Isopropyltoluene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
4-Methyl-2-Pentanone	ND (0.0064)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Acetone	**0.123** (0.0064)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Benzene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Bromobenzene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Bromochloromethane	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP02-Grab
Date Sampled: 03/12/20 08:50
Percent Solids: 93
Initial Volume: 8.4
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Bromoform	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Bromomethane	ND (0.0064)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Carbon Disulfide	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Carbon Tetrachloride	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Chlorobenzene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Chloroethane	ND (0.0064)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Chloroform	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Chloromethane	ND (0.0064)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
cis-1,2-Dichloroethene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
cis-1,3-Dichloropropene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Dibromochloromethane	ND (0.0013)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Dibromomethane	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Dichlorodifluoromethane	ND (0.0064)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Diethyl Ether	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Di-isopropyl ether	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Ethyl tertiary-butyl ether	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Ethylbenzene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Hexachlorobutadiene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Isopropylbenzene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Methyl tert-Butyl Ether	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Methylene Chloride	ND (0.0064)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Naphthalene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
n-Butylbenzene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
n-Propylbenzene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
sec-Butylbenzene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Styrene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
tert-Butylbenzene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Tertiary-amyl methyl ether	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Tetrachloroethene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Tetrahydrofuran	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Toluene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP02-Grab
Date Sampled: 03/12/20 08:50
Percent Solids: 93
Initial Volume: 8.4
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
trans-1,3-Dichloropropene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Trichloroethene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Trichlorofluoromethane	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Vinyl Chloride	ND (0.0064)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Xylene O	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Xylene P,M	ND (0.0064)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Xylenes (Total)	ND (0.00642)		8260B Low		1	03/19/20 16:58		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*109 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*82 %*		*70-130*
Surrogate: Dibromofluoromethane	*106 %*		*70-130*
Surrogate: Toluene-d8	*112 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP02-Comp
Date Sampled: 03/12/20 11:30
Percent Solids: 93

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-03
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	**4.93** (2.24)		6010C		1	KJK	03/17/20 21:13	2.41	100	DC01642
Barium	**57.3** (2.24)		6010C		1	KJK	03/17/20 21:13	2.41	100	DC01642
Cadmium	ND (0.45)		6010C		1	KJK	03/17/20 21:13	2.41	100	DC01642
Chromium	**15.6** (0.90)		6010C		1	KJK	03/17/20 21:13	2.41	100	DC01642
Lead	**185** (4.48)		6010C		1	KJK	03/17/20 21:13	2.41	100	DC01642
Mercury	**0.059** (0.027)		7471B		1	MKS	03/17/20 8:35	0.8	40	DC01643
Selenium	ND (4.48)		6010C		1	KJK	03/17/20 21:13	2.41	100	DC01642
Silver	ND (0.45)		6010C		1	KJK	03/17/20 21:13	2.41	100	DC01642

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP02-Comp
Date Sampled: 03/12/20 11:30
Percent Solids: 93

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-03
Sample Matrix: Soil
Units: mg/L

Extraction Method: 3005A TCLP

1311 TCLP Metals

Analyte	Results (MRL)	MDL	Method	TCLP Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Lead	**1.26** (0.050)		1311/6010C		1	KJK	03/19/20 21:08	50	50	DC01937

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP02-Comp
Date Sampled: 03/12/20 11:30
Percent Solids: 93
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 3/17/20 14:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	03/19/20 13:03		DC01930
Aroclor 1221	ND (0.05)		8082A		1	03/19/20 13:03		DC01930
Aroclor 1232	ND (0.05)		8082A		1	03/19/20 13:03		DC01930
Aroclor 1242	**0.1** (0.05)		8082A		1	03/19/20 13:03		DC01930
Aroclor 1248	ND (0.05)		8082A		1	03/19/20 13:03		DC01930
Aroclor 1254	ND (0.05)		8082A		1	03/19/20 13:03		DC01930
Aroclor 1260	**0.06** (0.05)		8082A		1	03/19/20 13:03		DC01930
Aroclor 1262	ND (0.05)		8082A		1	03/19/20 13:03		DC01930
Aroclor 1268	ND (0.05)		8082A		1	03/19/20 13:03		DC01930

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*70 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*75 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*66 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*86 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP02-Comp
Date Sampled: 03/12/20 11:30
Percent Solids: 93
Initial Volume: 19.4
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 3/24/20 14:49

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons	**876** (111)		8100M		10	03/25/20 23:42	D0C0445	DC02311

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*107 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP02-Comp
Date Sampled: 03/12/20 11:30
Percent Solids: 93
Initial Volume: 15.7
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/16/20 10:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
1,2-Dichlorobenzene	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
1,3-Dichlorobenzene	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
1,4-Dichlorobenzene	ND (0.173)		8270D		2	03/19/20 3:20	D0C0313	DC01609
2,4,5-Trichlorophenol	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
2,4,6-Trichlorophenol	ND (0.169)		8270D		2	03/19/20 3:20	D0C0313	DC01609
2,4-Dichlorophenol	ND (0.171)		8270D		2	03/19/20 3:20	D0C0313	DC01609
2,4-Dimethylphenol	ND (0.155)		8270D		2	03/19/20 3:20	D0C0313	DC01609
2,4-Dinitrophenol	ND (1.15)		8270D		2	03/19/20 3:20	D0C0313	DC01609
2,4-Dinitrotoluene	ND (0.221)		8270D		2	03/19/20 3:20	D0C0313	DC01609
2,6-Dinitrotoluene	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
2-Chloronaphthalene	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
2-Chlorophenol	ND (0.194)		8270D		2	03/19/20 3:20	D0C0313	DC01609
2-Methylnaphthalene	**0.298** (0.148)		8270D		2	03/19/20 3:20	D0C0313	DC01609
2-Methylphenol	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
2-Nitrophenol	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
3,3′-Dichlorobenzidine	ND (0.344)		8270D		2	03/19/20 3:20	D0C0313	DC01609
3+4-Methylphenol	ND (1.38)		8270D		2	03/19/20 3:20	D0C0313	DC01609
4-Bromophenyl-phenylether	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
4-Chloroaniline	ND (0.344)		8270D		2	03/19/20 3:20	D0C0313	DC01609
4-Nitrophenol	ND (3.44)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Acenaphthene	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Acenaphthylene	**1.40** (0.344)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Acetophenone	ND (1.38)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Aniline	ND (3.44)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Anthracene	**2.30** (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Azobenzene	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Benzo(a)anthracene	**5.58** (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Benzo(a)pyrene	**5.77** (0.344)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Benzo(b)fluoranthene	**4.97** (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Benzo(g,h,i)perylene	**3.21** (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Benzo(k)fluoranthene	**4.00** (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP02-Comp
Date Sampled: 03/12/20 11:30
Percent Solids: 93
Initial Volume: 15.7
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/16/20 10:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
bis(2-Chloroethoxy)methane	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
bis(2-Chloroethyl)ether	ND (0.186)		8270D		2	03/19/20 3:20	D0C0313	DC01609
bis(2-chloroisopropyl)Ether	ND (0.184)		8270D		2	03/19/20 3:20	D0C0313	DC01609
bis(2-Ethylhexyl)phthalate	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Butylbenzylphthalate	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Chrysene	**5.41** (0.344)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Dibenzo(a,h)Anthracene	**1.16** (0.105)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Dibenzofuran	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Diethylphthalate	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Dimethylphthalate	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Di-n-butylphthalate	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Di-n-octylphthalate	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Fluoranthene	**11.1** (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Fluorene	**0.826** (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Hexachlorobenzene	ND (0.115)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Hexachlorobutadiene	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Hexachloroethane	ND (0.173)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Indeno(1,2,3-cd)Pyrene	**3.07** (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Isophorone	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Naphthalene	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Nitrobenzene	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
N-Nitrosodimethylamine	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Pentachlorophenol	ND (3.44)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Phenanthrene	**8.30** (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Phenol	ND (0.167)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Pyrene	**10.8** (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*49 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*73 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*54 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*57 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP02-Comp
Date Sampled: 03/12/20 11:30
Percent Solids: 93
Initial Volume: 15.7
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/16/20 10:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Fluorophenol		*47 %*		*30-130*				
Surrogate: Nitrobenzene-d5		*51 %*		*30-130*				
Surrogate: Phenol-d6		*53 %*		*30-130*				
Surrogate: p-Terphenyl-d14		*78 %*		*30-130*				

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP02-Comp
Date Sampled: 03/12/20 11:30
Percent Solids: 93

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-03
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Corrosivity (pH)	**7.15** (N/A)		9045		1	DEL	03/13/20 20:45	S.U.	DC01326
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 19.3 ºC.**								
Flashpoint	**> 200** (N/A)		1010		1	CCP	03/16/20 13:30	°F	DC01620
Reactive Cyanide	ND (2.0)		7.3.3.2		1	EEM	03/16/20 10:58	mg/kg	DC01613
Reactive Sulfide	ND (2.0)		7.3.4.1		1	EEM	03/16/20 10:58	mg/kg	DC01613

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP02-Comp
Date Sampled: 03/12/20 11:30
Percent Solids: 93
Initial Volume: 100
Final Volume: 2000
Extraction Method: 1311

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-03
Sample Matrix: Soil
Units: °C
Analyst: MKS
Prepared: 3/18/20 20:15

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**19.8** (N/A)		1311		1	MKS	03/19/20 12:20	DC01824
Temperature (Max C)	**21.4** (N/A)		1311		1	MKS	03/19/20 12:20	DC01824
Temperature (Range)	**Temperature is not within 23 +/-2 ºC.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0466

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch DC01642 - 3050B										
Blank										
Arsenic	ND	2.50	mg/kg wet							
Barium	ND	2.50	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							
Chromium	ND	1.00	mg/kg wet							
Lead	ND	5.00	mg/kg wet							
Selenium	ND	5.00	mg/kg wet							
Silver	ND	0.50	mg/kg wet							
LCS										
Arsenic	187	7.69	mg/kg wet	202.0		93	80-120			
Barium	320	7.69	mg/kg wet	343.0		93	80-120			
Cadmium	128	1.54	mg/kg wet	149.0		86	80-120			
Chromium	170	3.08	mg/kg wet	182.0		94	80-120			
Lead	318	15.4	mg/kg wet	333.0		95	80-120			
Selenium	158	15.4	mg/kg wet	169.0		93	80-120			
Silver	45.2	1.54	mg/kg wet	48.90		92	80-120			
LCS Dup										
Arsenic	194	8.20	mg/kg wet	202.0		96	80-120	4	20	
Barium	341	8.20	mg/kg wet	343.0		100	80-120	7	20	
Cadmium	135	1.64	mg/kg wet	149.0		91	80-120	6	20	
Chromium	176	3.28	mg/kg wet	182.0		97	80-120	3	20	
Lead	333	16.4	mg/kg wet	333.0		100	80-120	5	20	
Selenium	162	16.4	mg/kg wet	169.0		96	80-120	2	20	
Silver	45.2	1.64	mg/kg wet	48.90		92	80-120	0.1	20	
Batch DC01643 - 7471B										
Blank										
Mercury	ND	0.033	mg/kg wet							
LCS										
Mercury	9.60	0.550	mg/kg wet	7.760		124	71-125			
LCS Dup										
Mercury	9.15	0.574	mg/kg wet	7.760		118	71-125	5	20	
1311 TCLP Metals										
Batch DC01937 - 3005A_TCLP										
Blank										
Lead	ND	0.050	mg/L							
LCS										
Lead	0.469	0.050	mg/L	0.5000		94	80-120			
LCS Dup										
Lead	0.472	0.050	mg/L	0.5000		94	80-120	0.7	20	
5035/8260B Volatile Organic Compounds / Low Level										

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0466

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01838 - 5035										
Blank										
1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet							
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0020	mg/kg wet							
1,1,2-Trichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethene	ND	0.0050	mg/kg wet							
1,1-Dichloropropene	ND	0.0050	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,3-Trichloropropane	ND	0.0050	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/kg wet							
1,2-Dibromoethane	ND	0.0050	mg/kg wet							
1,2-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,2-Dichloroethane	ND	0.0050	mg/kg wet							
1,2-Dichloropropane	ND	0.0050	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,3-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,3-Dichloropropane	ND	0.0050	mg/kg wet							
1,4-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,4-Dioxane	ND	0.100	mg/kg wet							
2,2-Dichloropropane	ND	0.0050	mg/kg wet							
2-Butanone	ND	0.0100	mg/kg wet							
2-Chlorotoluene	ND	0.0050	mg/kg wet							
2-Hexanone	ND	0.0100	mg/kg wet							
4-Chlorotoluene	ND	0.0050	mg/kg wet							
4-Isopropyltoluene	ND	0.0050	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.0100	mg/kg wet							
Acetone	0.0292	0.0100	mg/kg wet							
Benzene	ND	0.0050	mg/kg wet							
Bromobenzene	ND	0.0050	mg/kg wet							
Bromochloromethane	ND	0.0050	mg/kg wet							
Bromodichloromethane	ND	0.0050	mg/kg wet							
Bromoform	ND	0.0050	mg/kg wet							
Bromomethane	ND	0.0100	mg/kg wet							
Carbon Disulfide	ND	0.0050	mg/kg wet							
Carbon Tetrachloride	ND	0.0050	mg/kg wet							
Chlorobenzene	ND	0.0050	mg/kg wet							
Chloroethane	ND	0.0100	mg/kg wet							
Chloroform	ND	0.0050	mg/kg wet							
Chloromethane	ND	0.0100	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
cis-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Dibromochloromethane	ND	0.0020	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0466

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01838 - 5035										
Dibromomethane	ND	0.0050	mg/kg wet							
Dichlorodifluoromethane	ND	0.0100	mg/kg wet							
Diethyl Ether	ND	0.0050	mg/kg wet							
Di-isopropyl ether	ND	0.0050	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.0050	mg/kg wet							
Ethylbenzene	ND	0.0050	mg/kg wet							
Hexachlorobutadiene	ND	0.0050	mg/kg wet							
Isopropylbenzene	ND	0.0050	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.0050	mg/kg wet							
Methylene Chloride	ND	0.0100	mg/kg wet							
Naphthalene	ND	0.0050	mg/kg wet							
n-Butylbenzene	ND	0.0050	mg/kg wet							
n-Propylbenzene	ND	0.0050	mg/kg wet							
sec-Butylbenzene	ND	0.0050	mg/kg wet							
Styrene	ND	0.0050	mg/kg wet							
tert-Butylbenzene	ND	0.0050	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0050	mg/kg wet							
Tetrachloroethene	ND	0.0050	mg/kg wet							
Tetrahydrofuran	ND	0.0050	mg/kg wet							
Toluene	ND	0.0050	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Trichloroethene	ND	0.0050	mg/kg wet							
Trichlorofluoromethane	ND	0.0050	mg/kg wet							
Vinyl Chloride	ND	0.0100	mg/kg wet							
Xylene O	ND	0.0050	mg/kg wet							
Xylene P,M	ND	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	*0.0481*		mg/kg wet	*0.05000*		*96*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0448*		mg/kg wet	*0.05000*		*90*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0463*		mg/kg wet	*0.05000*		*93*	*70-130*			
Surrogate: Toluene-d8	*0.0499*		mg/kg wet	*0.05000*		*100*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
1,1,1-Trichloroethane	0.0440	0.0050	mg/kg wet	0.05000		88	70-130			
1,1,2,2-Tetrachloroethane	0.0459	0.0020	mg/kg wet	0.05000		92	70-130			
1,1,2-Trichloroethane	0.0425	0.0050	mg/kg wet	0.05000		85	70-130			
1,1-Dichloroethane	0.0414	0.0050	mg/kg wet	0.05000		83	70-130			
1,1-Dichloroethene	0.0446	0.0050	mg/kg wet	0.05000		89	70-130			
1,1-Dichloropropene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
1,2,3-Trichlorobenzene	0.0452	0.0050	mg/kg wet	0.05000		90	70-130			
1,2,3-Trichloropropane	0.0421	0.0050	mg/kg wet	0.05000		84	70-130			
1,2,4-Trichlorobenzene	0.0458	0.0050	mg/kg wet	0.05000		92	70-130			
1,2,4-Trimethylbenzene	0.0476	0.0050	mg/kg wet	0.05000		95	70-130			
1,2-Dibromo-3-Chloropropane	0.0402	0.0050	mg/kg wet	0.05000		80	70-130			
1,2-Dibromoethane	0.0466	0.0050	mg/kg wet	0.05000		93	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0466

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01838 - 5035										
1,2-Dichlorobenzene	0.0490	0.0050	mg/kg wet	0.05000		98	70-130			
1,2-Dichloroethane	0.0449	0.0050	mg/kg wet	0.05000		90	70-130			
1,2-Dichloropropane	0.0419	0.0050	mg/kg wet	0.05000		84	70-130			
1,3,5-Trimethylbenzene	0.0465	0.0050	mg/kg wet	0.05000		93	70-130			
1,3-Dichlorobenzene	0.0491	0.0050	mg/kg wet	0.05000		98	70-130			
1,3-Dichloropropane	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			
1,4-Dichlorobenzene	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			
1,4-Dioxane	0.858	0.100	mg/kg wet	1.000		86	70-130			
2,2-Dichloropropane	0.0489	0.0050	mg/kg wet	0.05000		98	70-130			
2-Butanone	0.201	0.0100	mg/kg wet	0.2500		80	70-130			
2-Chlorotoluene	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			
2-Hexanone	0.214	0.0100	mg/kg wet	0.2500		86	70-130			
4-Chlorotoluene	0.0455	0.0050	mg/kg wet	0.05000		91	70-130			
4-Isopropyltoluene	0.0465	0.0050	mg/kg wet	0.05000		93	70-130			
4-Methyl-2-Pentanone	0.208	0.0100	mg/kg wet	0.2500		83	70-130			
Acetone	0.174	0.0100	mg/kg wet	0.2500		70	70-130			
Benzene	0.0433	0.0050	mg/kg wet	0.05000		87	70-130			
Bromobenzene	0.0473	0.0050	mg/kg wet	0.05000		95	70-130			
Bromochloromethane	0.0472	0.0050	mg/kg wet	0.05000		94	70-130			
Bromodichloromethane	0.0439	0.0050	mg/kg wet	0.05000		88	70-130			
Bromoform	0.0446	0.0050	mg/kg wet	0.05000		89	70-130			
Bromomethane	0.0398	0.0100	mg/kg wet	0.05000		80	70-130			
Carbon Disulfide	0.0442	0.0050	mg/kg wet	0.05000		88	70-130			
Carbon Tetrachloride	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
Chlorobenzene	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
Chloroethane	0.0373	0.0100	mg/kg wet	0.05000		75	70-130			
Chloroform	0.0443	0.0050	mg/kg wet	0.05000		89	70-130			
Chloromethane	0.0369	0.0100	mg/kg wet	0.05000		74	70-130			
cis-1,2-Dichloroethene	0.0464	0.0050	mg/kg wet	0.05000		93	70-130			
cis-1,3-Dichloropropene	0.0453	0.0050	mg/kg wet	0.05000		91	70-130			
Dibromochloromethane	0.0452	0.0020	mg/kg wet	0.05000		90	70-130			
Dibromomethane	0.0447	0.0050	mg/kg wet	0.05000		89	70-130			
Dichlorodifluoromethane	0.0454	0.0100	mg/kg wet	0.05000		91	70-130			
Diethyl Ether	0.0412	0.0050	mg/kg wet	0.05000		82	70-130			
Di-isopropyl ether	0.0402	0.0050	mg/kg wet	0.05000		80	70-130			
Ethyl tertiary-butyl ether	0.0514	0.0050	mg/kg wet	0.05000		103	70-130			
Ethylbenzene	0.0466	0.0050	mg/kg wet	0.05000		93	70-130			
Hexachlorobutadiene	0.0530	0.0050	mg/kg wet	0.05000		106	70-130			
Isopropylbenzene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
Methyl tert-Butyl Ether	0.0511	0.0050	mg/kg wet	0.05000		102	70-130			
Methylene Chloride	0.0463	0.0100	mg/kg wet	0.05000		93	70-130			
Naphthalene	0.0440	0.0050	mg/kg wet	0.05000		88	70-130			
n-Butylbenzene	0.0398	0.0050	mg/kg wet	0.05000		80	70-130			
n-Propylbenzene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
sec-Butylbenzene	0.0462	0.0050	mg/kg wet	0.05000		92	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0466

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01838 - 5035										
Styrene	0.0457	0.0050	mg/kg wet	0.05000		91	70-130			
tert-Butylbenzene	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
Tertiary-amyl methyl ether	0.0551	0.0050	mg/kg wet	0.05000		110	70-130			
Tetrachloroethene	0.0450	0.0050	mg/kg wet	0.05000		90	70-130			
Tetrahydrofuran	0.0374	0.0050	mg/kg wet	0.05000		75	70-130			
Toluene	0.0447	0.0050	mg/kg wet	0.05000		89	70-130			
trans-1,2-Dichloroethene	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			
trans-1,3-Dichloropropene	0.0424	0.0050	mg/kg wet	0.05000		85	70-130			
Trichloroethene	0.0442	0.0050	mg/kg wet	0.05000		88	70-130			
Trichlorofluoromethane	0.0511	0.0050	mg/kg wet	0.05000		102	70-130			
Vinyl Chloride	0.0368	0.0100	mg/kg wet	0.05000		74	70-130			
Xylene O	0.0475	0.0050	mg/kg wet	0.05000		95	70-130			
Xylene P,M	0.0946	0.0100	mg/kg wet	0.1000		95	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0472*		mg/kg wet	*0.05000*		*94*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0484*		mg/kg wet	*0.05000*		*97*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0482*		mg/kg wet	*0.05000*		*96*	*70-130*			
Surrogate: Toluene-d8	*0.0469*		mg/kg wet	*0.05000*		*94*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	0.0526	0.0050	mg/kg wet	0.05000		105	70-130	11	20	
1,1,1-Trichloroethane	0.0493	0.0050	mg/kg wet	0.05000		99	70-130	11	20	
1,1,2,2-Tetrachloroethane	0.0495	0.0020	mg/kg wet	0.05000		99	70-130	8	20	
1,1,2-Trichloroethane	0.0460	0.0050	mg/kg wet	0.05000		92	70-130	8	20	
1,1-Dichloroethane	0.0457	0.0050	mg/kg wet	0.05000		91	70-130	10	20	
1,1-Dichloroethene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130	9	20	
1,1-Dichloropropene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	10	20	
1,2,3-Trichlorobenzene	0.0509	0.0050	mg/kg wet	0.05000		102	70-130	12	20	
1,2,3-Trichloropropane	0.0459	0.0050	mg/kg wet	0.05000		92	70-130	9	20	
1,2,4-Trichlorobenzene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	10	20	
1,2,4-Trimethylbenzene	0.0523	0.0050	mg/kg wet	0.05000		105	70-130	9	20	
1,2-Dibromo-3-Chloropropane	0.0436	0.0050	mg/kg wet	0.05000		87	70-130	8	20	
1,2-Dibromoethane	0.0527	0.0050	mg/kg wet	0.05000		105	70-130	12	20	
1,2-Dichlorobenzene	0.0520	0.0050	mg/kg wet	0.05000		104	70-130	6	20	
1,2-Dichloroethane	0.0490	0.0050	mg/kg wet	0.05000		98	70-130	9	20	
1,2-Dichloropropane	0.0457	0.0050	mg/kg wet	0.05000		91	70-130	8	20	
1,3,5-Trimethylbenzene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	8	20	
1,3-Dichlorobenzene	0.0523	0.0050	mg/kg wet	0.05000		105	70-130	6	20	
1,3-Dichloropropane	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	12	20	
1,4-Dichlorobenzene	0.0530	0.0050	mg/kg wet	0.05000		106	70-130	7	20	
1,4-Dioxane	0.904	0.100	mg/kg wet	1.000		90	70-130	5	20	
2,2-Dichloropropane	0.0528	0.0050	mg/kg wet	0.05000		106	70-130	8	20	
2-Butanone	0.222	0.0100	mg/kg wet	0.2500		89	70-130	10	20	
2-Chlorotoluene	0.0483	0.0050	mg/kg wet	0.05000		97	70-130	6	20	
2-Hexanone	0.249	0.0100	mg/kg wet	0.2500		100	70-130	15	20	
4-Chlorotoluene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	7	20	
4-Isopropyltoluene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130	9	20	

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0466

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01838 - 5035										
4-Methyl-2-Pentanone	0.230	0.0100	mg/kg wet	0.2500		92	70-130	10	20	
Acetone	0.216	0.0100	mg/kg wet	0.2500		86	70-130	21	20	D+
Benzene	0.0476	0.0050	mg/kg wet	0.05000		95	70-130	9	20	
Bromobenzene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	7	20	
Bromochloromethane	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	8	20	
Bromodichloromethane	0.0479	0.0050	mg/kg wet	0.05000		96	70-130	9	20	
Bromoform	0.0497	0.0050	mg/kg wet	0.05000		99	70-130	11	20	
Bromomethane	0.0492	0.0100	mg/kg wet	0.05000		98	70-130	21	20	D+
Carbon Disulfide	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	10	20	
Carbon Tetrachloride	0.0517	0.0050	mg/kg wet	0.05000		103	70-130	9	20	
Chlorobenzene	0.0524	0.0050	mg/kg wet	0.05000		105	70-130	11	20	
Chloroethane	0.0413	0.0100	mg/kg wet	0.05000		83	70-130	10	20	
Chloroform	0.0488	0.0050	mg/kg wet	0.05000		98	70-130	10	20	
Chloromethane	0.0412	0.0100	mg/kg wet	0.05000		82	70-130	11	20	
cis-1,2-Dichloroethene	0.0506	0.0050	mg/kg wet	0.05000		101	70-130	9	20	
cis-1,3-Dichloropropene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	8	20	
Dibromochloromethane	0.0509	0.0020	mg/kg wet	0.05000		102	70-130	12	20	
Dibromomethane	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	8	20	
Dichlorodifluoromethane	0.0506	0.0100	mg/kg wet	0.05000		101	70-130	11	20	
Diethyl Ether	0.0445	0.0050	mg/kg wet	0.05000		89	70-130	8	20	
Di-isopropyl ether	0.0445	0.0050	mg/kg wet	0.05000		89	70-130	10	20	
Ethyl tertiary-butyl ether	0.0559	0.0050	mg/kg wet	0.05000		112	70-130	9	20	
Ethylbenzene	0.0517	0.0050	mg/kg wet	0.05000		103	70-130	10	20	
Hexachlorobutadiene	0.0559	0.0050	mg/kg wet	0.05000		112	70-130	5	20	
Isopropylbenzene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130	7	20	
Methyl tert-Butyl Ether	0.0546	0.0050	mg/kg wet	0.05000		109	70-130	7	20	
Methylene Chloride	0.0483	0.0100	mg/kg wet	0.05000		97	70-130	4	20	
Naphthalene	0.0513	0.0050	mg/kg wet	0.05000		103	70-130	15	20	
n-Butylbenzene	0.0451	0.0050	mg/kg wet	0.05000		90	70-130	13	20	
n-Propylbenzene	0.0495	0.0050	mg/kg wet	0.05000		99	70-130	8	20	
sec-Butylbenzene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130	8	20	
Styrene	0.0516	0.0050	mg/kg wet	0.05000		103	70-130	12	20	
tert-Butylbenzene	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	8	20	
Tertiary-amyl methyl ether	0.0600	0.0050	mg/kg wet	0.05000		120	70-130	8	20	
Tetrachloroethene	0.0511	0.0050	mg/kg wet	0.05000		102	70-130	13	20	
Tetrahydrofuran	0.0425	0.0050	mg/kg wet	0.05000		85	70-130	13	20	
Toluene	0.0483	0.0050	mg/kg wet	0.05000		97	70-130	8	20	
trans-1,2-Dichloroethene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130	10	20	
trans-1,3-Dichloropropene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130	8	20	
Trichloroethene	0.0494	0.0050	mg/kg wet	0.05000		99	70-130	11	20	
Trichlorofluoromethane	0.0554	0.0050	mg/kg wet	0.05000		111	70-130	8	20	
Vinyl Chloride	0.0415	0.0100	mg/kg wet	0.05000		83	70-130	12	20	
Xylene O	0.0525	0.0050	mg/kg wet	0.05000		105	70-130	10	20	
Xylene P,M	0.105	0.0100	mg/kg wet	0.1000		105	70-130	10	20	
Surrogate: 1,2-Dichloroethane-d4	*0.0471*		mg/kg wet	*0.05000*		*94*	*70-130*			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0466

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01838 - 5035										
Surrogate: 4-Bromofluorobenzene	*0.0493*		mg/kg wet	*0.05000*		*99*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0481*		mg/kg wet	*0.05000*		*96*	*70-130*			
Surrogate: Toluene-d8	*0.0485*		mg/kg wet	*0.05000*		*97*	*70-130*			
Batch DC01938 - 5035										
Blank										
1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet							
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0020	mg/kg wet							
1,1,2-Trichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethene	ND	0.0050	mg/kg wet							
1,1-Dichloropropene	ND	0.0050	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,3-Trichloropropane	ND	0.0050	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/kg wet							
1,2-Dibromoethane	ND	0.0050	mg/kg wet							
1,2-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,2-Dichloroethane	ND	0.0050	mg/kg wet							
1,2-Dichloropropane	ND	0.0050	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,3-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,3-Dichloropropane	ND	0.0050	mg/kg wet							
1,4-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,4-Dioxane	ND	0.100	mg/kg wet							
2,2-Dichloropropane	ND	0.0050	mg/kg wet							
2-Butanone	ND	0.0100	mg/kg wet							
2-Chlorotoluene	ND	0.0050	mg/kg wet							
2-Hexanone	ND	0.0100	mg/kg wet							
4-Chlorotoluene	ND	0.0050	mg/kg wet							
4-Isopropyltoluene	ND	0.0050	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.0100	mg/kg wet							
Acetone	ND	0.0100	mg/kg wet							
Benzene	ND	0.0050	mg/kg wet							
Bromobenzene	ND	0.0050	mg/kg wet							
Bromochloromethane	ND	0.0050	mg/kg wet							
Bromodichloromethane	ND	0.0050	mg/kg wet							
Bromoform	ND	0.0050	mg/kg wet							
Bromomethane	ND	0.0100	mg/kg wet							
Carbon Disulfide	ND	0.0050	mg/kg wet							
Carbon Tetrachloride	ND	0.0050	mg/kg wet							
Chlorobenzene	ND	0.0050	mg/kg wet							
Chloroethane	ND	0.0100	mg/kg wet							

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01938 - 5035										
Chloroform	ND	0.0050	mg/kg wet							
Chloromethane	ND	0.0100	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
cis-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Dibromochloromethane	ND	0.0020	mg/kg wet							
Dibromomethane	ND	0.0050	mg/kg wet							
Dichlorodifluoromethane	ND	0.0100	mg/kg wet							
Diethyl Ether	ND	0.0050	mg/kg wet							
Di-isopropyl ether	ND	0.0050	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.0050	mg/kg wet							
Ethylbenzene	ND	0.0050	mg/kg wet							
Hexachlorobutadiene	ND	0.0050	mg/kg wet							
Isopropylbenzene	ND	0.0050	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.0050	mg/kg wet							
Methylene Chloride	ND	0.0100	mg/kg wet							
Naphthalene	ND	0.0050	mg/kg wet							
n-Butylbenzene	ND	0.0050	mg/kg wet							
n-Propylbenzene	ND	0.0050	mg/kg wet							
sec-Butylbenzene	ND	0.0050	mg/kg wet							
Styrene	ND	0.0050	mg/kg wet							
tert-Butylbenzene	ND	0.0050	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0050	mg/kg wet							
Tetrachloroethene	ND	0.0050	mg/kg wet							
Tetrahydrofuran	ND	0.0050	mg/kg wet							
Toluene	ND	0.0050	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Trichloroethene	ND	0.0050	mg/kg wet							
Trichlorofluoromethane	ND	0.0050	mg/kg wet							
Vinyl Chloride	ND	0.0100	mg/kg wet							
Xylene O	ND	0.0050	mg/kg wet							
Xylene P,M	ND	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	*0.0551*		mg/kg wet	*0.05000*		*110*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0492*		mg/kg wet	*0.05000*		*98*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0531*		mg/kg wet	*0.05000*		*106*	*70-130*			
Surrogate: Toluene-d8	*0.0486*		mg/kg wet	*0.05000*		*97*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	0.0457	0.0050	mg/kg wet	0.05000		91	70-130			
1,1,1-Trichloroethane	0.0500	0.0050	mg/kg wet	0.05000		100	70-130			
1,1,2,2-Tetrachloroethane	0.0478	0.0020	mg/kg wet	0.05000		96	70-130			
1,1,2-Trichloroethane	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
1,1-Dichloroethane	0.0505	0.0050	mg/kg wet	0.05000		101	70-130			
1,1-Dichloroethene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130			
1,1-Dichloropropene	0.0531	0.0050	mg/kg wet	0.05000		106	70-130			
1,2,3-Trichlorobenzene	0.0442	0.0050	mg/kg wet	0.05000		88	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01938 - 5035										
1,2,3-Trichloropropane	0.0422	0.0050	mg/kg wet	0.05000		84	70-130			
1,2,4-Trichlorobenzene	0.0431	0.0050	mg/kg wet	0.05000		86	70-130			
1,2,4-Trimethylbenzene	0.0492	0.0050	mg/kg wet	0.05000		98	70-130			
1,2-Dibromo-3-Chloropropane	0.0387	0.0050	mg/kg wet	0.05000		77	70-130			
1,2-Dibromoethane	0.0458	0.0050	mg/kg wet	0.05000		92	70-130			
1,2-Dichlorobenzene	0.0461	0.0050	mg/kg wet	0.05000		92	70-130			
1,2-Dichloroethane	0.0511	0.0050	mg/kg wet	0.05000		102	70-130			
1,2-Dichloropropane	0.0514	0.0050	mg/kg wet	0.05000		103	70-130			
1,3,5-Trimethylbenzene	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			
1,3-Dichlorobenzene	0.0469	0.0050	mg/kg wet	0.05000		94	70-130			
1,3-Dichloropropane	0.0488	0.0050	mg/kg wet	0.05000		98	70-130			
1,4-Dichlorobenzene	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
1,4-Dioxane	0.850	0.100	mg/kg wet	1.000		85	70-130			
2,2-Dichloropropane	0.0480	0.0050	mg/kg wet	0.05000		96	70-130			
2-Butanone	0.249	0.0100	mg/kg wet	0.2500		100	70-130			
2-Chlorotoluene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130			
2-Hexanone	0.221	0.0100	mg/kg wet	0.2500		88	70-130			
4-Chlorotoluene	0.0486	0.0050	mg/kg wet	0.05000		97	70-130			
4-Isopropyltoluene	0.0475	0.0050	mg/kg wet	0.05000		95	70-130			
4-Methyl-2-Pentanone	0.236	0.0100	mg/kg wet	0.2500		95	70-130			
Acetone	0.244	0.0100	mg/kg wet	0.2500		97	70-130			
Benzene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130			
Bromobenzene	0.0455	0.0050	mg/kg wet	0.05000		91	70-130			
Bromochloromethane	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
Bromodichloromethane	0.0535	0.0050	mg/kg wet	0.05000		107	70-130			
Bromoform	0.0379	0.0050	mg/kg wet	0.05000		76	70-130			
Bromomethane	0.0578	0.0100	mg/kg wet	0.05000		116	70-130			
Carbon Disulfide	0.0531	0.0050	mg/kg wet	0.05000		106	70-130			
Carbon Tetrachloride	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			
Chlorobenzene	0.0467	0.0050	mg/kg wet	0.05000		93	70-130			
Chloroethane	0.0494	0.0100	mg/kg wet	0.05000		99	70-130			
Chloroform	0.0517	0.0050	mg/kg wet	0.05000		103	70-130			
Chloromethane	0.0472	0.0100	mg/kg wet	0.05000		94	70-130			
cis-1,2-Dichloroethene	0.0509	0.0050	mg/kg wet	0.05000		102	70-130			
cis-1,3-Dichloropropene	0.0523	0.0050	mg/kg wet	0.05000		105	70-130			
Dibromochloromethane	0.0440	0.0020	mg/kg wet	0.05000		88	70-130			
Dibromomethane	0.0483	0.0050	mg/kg wet	0.05000		97	70-130			
Dichlorodifluoromethane	0.0504	0.0100	mg/kg wet	0.05000		101	70-130			
Diethyl Ether	0.0491	0.0050	mg/kg wet	0.05000		98	70-130			
Di-isopropyl ether	0.0513	0.0050	mg/kg wet	0.05000		103	70-130			
Ethyl tertiary-butyl ether	0.0467	0.0050	mg/kg wet	0.05000		93	70-130			
Ethylbenzene	0.0482	0.0050	mg/kg wet	0.05000		96	70-130			
Hexachlorobutadiene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130			
Isopropylbenzene	0.0490	0.0050	mg/kg wet	0.05000		98	70-130			
Methyl tert-Butyl Ether	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
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ESS Laboratory Work Order: 20C0466

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01938 - 5035										
Methylene Chloride	0.0472	0.0100	mg/kg wet	0.05000		94	70-130			
Naphthalene	0.0440	0.0050	mg/kg wet	0.05000		88	70-130			
n-Butylbenzene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130			
n-Propylbenzene	0.0497	0.0050	mg/kg wet	0.05000		99	70-130			
sec-Butylbenzene	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			
Styrene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130			
tert-Butylbenzene	0.0481	0.0050	mg/kg wet	0.05000		96	70-130			
Tertiary-amyl methyl ether	0.0482	0.0050	mg/kg wet	0.05000		96	70-130			
Tetrachloroethene	0.0464	0.0050	mg/kg wet	0.05000		93	70-130			
Tetrahydrofuran	0.0434	0.0050	mg/kg wet	0.05000		87	70-130			
Toluene	0.0495	0.0050	mg/kg wet	0.05000		99	70-130			
trans-1,2-Dichloroethene	0.0504	0.0050	mg/kg wet	0.05000		101	70-130			
trans-1,3-Dichloropropene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130			
Trichloroethene	0.0511	0.0050	mg/kg wet	0.05000		102	70-130			
Trichlorofluoromethane	0.0541	0.0050	mg/kg wet	0.05000		108	70-130			
Vinyl Chloride	0.0521	0.0100	mg/kg wet	0.05000		104	70-130			
Xylene O	0.0487	0.0050	mg/kg wet	0.05000		97	70-130			
Xylene P,M	0.0971	0.0100	mg/kg wet	0.1000		97	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0514*		mg/kg wet	*0.05000*		*103*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0499*		mg/kg wet	*0.05000*		*100*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0512*		mg/kg wet	*0.05000*		*102*	*70-130*			
Surrogate: Toluene-d8	*0.0496*		mg/kg wet	*0.05000*		*99*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	0.0477	0.0050	mg/kg wet	0.05000		95	70-130	4	20	
1,1,1-Trichloroethane	0.0507	0.0050	mg/kg wet	0.05000		101	70-130	1	20	
1,1,2,2-Tetrachloroethane	0.0505	0.0020	mg/kg wet	0.05000		101	70-130	5	20	
1,1,2-Trichloroethane	0.0503	0.0050	mg/kg wet	0.05000		101	70-130	6	20	
1,1-Dichloroethane	0.0520	0.0050	mg/kg wet	0.05000		104	70-130	3	20	
1,1-Dichloroethene	0.0522	0.0050	mg/kg wet	0.05000		104	70-130	3	20	
1,1-Dichloropropene	0.0546	0.0050	mg/kg wet	0.05000		109	70-130	3	20	
1,2,3-Trichlorobenzene	0.0473	0.0050	mg/kg wet	0.05000		95	70-130	7	20	
1,2,3-Trichloropropane	0.0450	0.0050	mg/kg wet	0.05000		90	70-130	6	20	
1,2,4-Trichlorobenzene	0.0464	0.0050	mg/kg wet	0.05000		93	70-130	7	20	
1,2,4-Trimethylbenzene	0.0514	0.0050	mg/kg wet	0.05000		103	70-130	4	20	
1,2-Dibromo-3-Chloropropane	0.0416	0.0050	mg/kg wet	0.05000		83	70-130	7	20	
1,2-Dibromoethane	0.0483	0.0050	mg/kg wet	0.05000		97	70-130	5	20	
1,2-Dichlorobenzene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	6	20	
1,2-Dichloroethane	0.0530	0.0050	mg/kg wet	0.05000		106	70-130	4	20	
1,2-Dichloropropane	0.0526	0.0050	mg/kg wet	0.05000		105	70-130	2	20	
1,3,5-Trimethylbenzene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130	5	20	
1,3-Dichlorobenzene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	4	20	
1,3-Dichloropropane	0.0513	0.0050	mg/kg wet	0.05000		103	70-130	5	20	
1,4-Dichlorobenzene	0.0502	0.0050	mg/kg wet	0.05000		100	70-130	6	20	
1,4-Dioxane	0.942	0.100	mg/kg wet	1.000		94	70-130	10	20	
2,2-Dichloropropane	0.0495	0.0050	mg/kg wet	0.05000		99	70-130	3	20	

CERTIFICATE OF ANALYSIS

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01938 - 5035										
2-Butanone	0.259	0.0100	mg/kg wet	0.2500		104	70-130	4	20	
2-Chlorotoluene	0.0504	0.0050	mg/kg wet	0.05000		101	70-130	3	20	
2-Hexanone	0.227	0.0100	mg/kg wet	0.2500		91	70-130	3	20	
4-Chlorotoluene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130	4	20	
4-Isopropyltoluene	0.0491	0.0050	mg/kg wet	0.05000		98	70-130	3	20	
4-Methyl-2-Pentanone	0.246	0.0100	mg/kg wet	0.2500		98	70-130	4	20	
Acetone	0.240	0.0100	mg/kg wet	0.2500		96	70-130	1	20	
Benzene	0.0522	0.0050	mg/kg wet	0.05000		104	70-130	3	20	
Bromobenzene	0.0482	0.0050	mg/kg wet	0.05000		96	70-130	6	20	
Bromochloromethane	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	6	20	
Bromodichloromethane	0.0562	0.0050	mg/kg wet	0.05000		112	70-130	5	20	
Bromoform	0.0401	0.0050	mg/kg wet	0.05000		80	70-130	6	20	
Bromomethane	0.0605	0.0100	mg/kg wet	0.05000		121	70-130	5	20	
Carbon Disulfide	0.0541	0.0050	mg/kg wet	0.05000		108	70-130	2	20	
Carbon Tetrachloride	0.0504	0.0050	mg/kg wet	0.05000		101	70-130	2	20	
Chlorobenzene	0.0487	0.0050	mg/kg wet	0.05000		97	70-130	4	20	
Chloroethane	0.0505	0.0100	mg/kg wet	0.05000		101	70-130	2	20	
Chloroform	0.0533	0.0050	mg/kg wet	0.05000		107	70-130	3	20	
Chloromethane	0.0484	0.0100	mg/kg wet	0.05000		97	70-130	2	20	
cis-1,2-Dichloroethene	0.0529	0.0050	mg/kg wet	0.05000		106	70-130	4	20	
cis-1,3-Dichloropropene	0.0546	0.0050	mg/kg wet	0.05000		109	70-130	4	20	
Dibromochloromethane	0.0466	0.0020	mg/kg wet	0.05000		93	70-130	6	20	
Dibromomethane	0.0515	0.0050	mg/kg wet	0.05000		103	70-130	6	20	
Dichlorodifluoromethane	0.0512	0.0100	mg/kg wet	0.05000		102	70-130	2	20	
Diethyl Ether	0.0514	0.0050	mg/kg wet	0.05000		103	70-130	5	20	
Di-isopropyl ether	0.0534	0.0050	mg/kg wet	0.05000		107	70-130	4	20	
Ethyl tertiary-butyl ether	0.0490	0.0050	mg/kg wet	0.05000		98	70-130	5	20	
Ethylbenzene	0.0494	0.0050	mg/kg wet	0.05000		99	70-130	2	20	
Hexachlorobutadiene	0.0487	0.0050	mg/kg wet	0.05000		97	70-130	3	20	
Isopropylbenzene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130	3	20	
Methyl tert-Butyl Ether	0.0496	0.0050	mg/kg wet	0.05000		99	70-130	5	20	
Methylene Chloride	0.0492	0.0100	mg/kg wet	0.05000		98	70-130	4	20	
Naphthalene	0.0475	0.0050	mg/kg wet	0.05000		95	70-130	8	20	
n-Butylbenzene	0.0510	0.0050	mg/kg wet	0.05000		102	70-130	4	20	
n-Propylbenzene	0.0514	0.0050	mg/kg wet	0.05000		103	70-130	3	20	
sec-Butylbenzene	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	3	20	
Styrene	0.0486	0.0050	mg/kg wet	0.05000		97	70-130	3	20	
tert-Butylbenzene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130	4	20	
Tertiary-amyl methyl ether	0.0504	0.0050	mg/kg wet	0.05000		101	70-130	5	20	
Tetrachloroethene	0.0481	0.0050	mg/kg wet	0.05000		96	70-130	4	20	
Tetrahydrofuran	0.0452	0.0050	mg/kg wet	0.05000		90	70-130	4	20	
Toluene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130	2	20	
trans-1,2-Dichloroethene	0.0518	0.0050	mg/kg wet	0.05000		104	70-130	3	20	
trans-1,3-Dichloropropene	0.0497	0.0050	mg/kg wet	0.05000		99	70-130	6	20	
Trichloroethene	0.0522	0.0050	mg/kg wet	0.05000		104	70-130	2	20	

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01938 - 5035										
Trichlorofluoromethane	0.0547	0.0050	mg/kg wet	0.05000		109	70-130	1	20	
Vinyl Chloride	0.0525	0.0100	mg/kg wet	0.05000		105	70-130	0.8	20	
Xylene O	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	2	20	
Xylene P,M	0.101	0.0100	mg/kg wet	0.1000		101	70-130	4	20	
Surrogate: 1,2-Dichloroethane-d4	*0.0501*		mg/kg wet	*0.05000*		*100*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0497*		mg/kg wet	*0.05000*		*99*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0507*		mg/kg wet	*0.05000*		*101*	*70-130*			
Surrogate: Toluene-d8	*0.0496*		mg/kg wet	*0.05000*		*99*	*70-130*			
8082A Polychlorinated Biphenyls (PCB)										
Batch DC01701 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0192*		mg/kg wet	*0.02500*		*77*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0184*		mg/kg wet	*0.02500*		*74*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0169*		mg/kg wet	*0.02500*		*68*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0194*		mg/kg wet	*0.02500*		*78*	*30-150*			
LCS										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		86	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		87	40-140			
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		89	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		87	40-140			
Surrogate: Decachlorobiphenyl	*0.0225*		mg/kg wet	*0.02500*		*90*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0216*		mg/kg wet	*0.02500*		*86*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0207*		mg/kg wet	*0.02500*		*83*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0223*		mg/kg wet	*0.02500*		*89*	*30-150*			

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DC01701 - 3540C										
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		82	40-140	5	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		85	40-140	1	30	
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		87	40-140	2	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		83	40-140	4	30	
Surrogate: Decachlorobiphenyl	*0.0220*		mg/kg wet	*0.02500*		*88*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0209*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0203*		mg/kg wet	*0.02500*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0222*		mg/kg wet	*0.02500*		*89*	*30-150*			
Batch DC01930 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0198*		mg/kg wet	*0.02500*		*79*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0195*		mg/kg wet	*0.02500*		*78*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0179*		mg/kg wet	*0.02500*		*72*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0208*		mg/kg wet	*0.02500*		*83*	*30-150*			
LCS										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		89	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		91	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		93	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		90	40-140			
Surrogate: Decachlorobiphenyl	*0.0227*		mg/kg wet	*0.02500*		*91*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0221*		mg/kg wet	*0.02500*		*88*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0217*		mg/kg wet	*0.02500*		*87*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0236*		mg/kg wet	*0.02500*		*94*	*30-150*			

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DC01930 - 3540C										
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		86	40-140	3	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		88	40-140	3	30	
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		89	40-140	4	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		86	40-140	4	30	
Surrogate: Decachlorobiphenyl	*0.0219*		mg/kg wet	*0.02500*		*87*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0211*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0209*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0230*		mg/kg wet	*0.02500*		*92*	*30-150*			
8100M Total Petroleum Hydrocarbons										
Batch DC02311 - 3546										
Blank										
Decane (C10)	ND	0.2	mg/kg wet							
Docosane (C22)	ND	0.2	mg/kg wet							
Dodecane (C12)	ND	0.2	mg/kg wet							
Eicosane (C20)	ND	0.2	mg/kg wet							
Hexacosane (C26)	ND	0.2	mg/kg wet							
Hexadecane (C16)	ND	0.2	mg/kg wet							
Hexatriacontane (C36)	ND	0.2	mg/kg wet							
Nonadecane (C19)	ND	0.2	mg/kg wet							
Nonane (C9)	ND	0.2	mg/kg wet							
Octacosane (C28)	ND	0.2	mg/kg wet							
Octadecane (C18)	ND	0.2	mg/kg wet							
Tetracosane (C24)	ND	0.2	mg/kg wet							
Tetradecane (C14)	ND	0.2	mg/kg wet							
Total Petroleum Hydrocarbons	ND	10.0	mg/kg wet							
Triacontane (C30)	ND	0.2	mg/kg wet							
Surrogate: O-Terphenyl	*5.11*		mg/kg wet	*5.000*		*102*	*40-140*			
LCS										
Decane (C10)	1.9	0.2	mg/kg wet	2.500		77	40-140			
Docosane (C22)	2.4	0.2	mg/kg wet	2.500		97	40-140			
Dodecane (C12)	2.1	0.2	mg/kg wet	2.500		83	40-140			
Eicosane (C20)	2.4	0.2	mg/kg wet	2.500		96	40-140			
Hexacosane (C26)	2.5	0.2	mg/kg wet	2.500		99	40-140			
Hexadecane (C16)	2.3	0.2	mg/kg wet	2.500		91	40-140			
Hexatriacontane (C36)	2.4	0.2	mg/kg wet	2.500		97	40-140			
Nonadecane (C19)	2.4	0.2	mg/kg wet	2.500		96	40-140			
Nonane (C9)	1.7	0.2	mg/kg wet	2.500		69	30-140			
Octacosane (C28)	2.5	0.2	mg/kg wet	2.500		99	40-140			
Octadecane (C18)	2.3	0.2	mg/kg wet	2.500		93	40-140			
Tetracosane (C24)	2.5	0.2	mg/kg wet	2.500		98	40-140			
Tetradecane (C14)	2.1	0.2	mg/kg wet	2.500		85	40-140			

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8100M Total Petroleum Hydrocarbons										
Batch DC02311 - 3546										
Total Petroleum Hydrocarbons	32.0	10.0	mg/kg wet	35.00		91	40-140			
Triacontane (C30)	2.4	0.2	mg/kg wet	2.500		97	40-140			
Surrogate: O-Terphenyl	*5.00*		mg/kg wet	*5.000*		*100*	*40-140*			
LCS Dup										
Decane (C10)	2.0	0.2	mg/kg wet	2.500		82	40-140	6	25	
Docosane (C22)	2.5	0.2	mg/kg wet	2.500		101	40-140	3	25	
Dodecane (C12)	2.2	0.2	mg/kg wet	2.500		87	40-140	5	25	
Eicosane (C20)	2.5	0.2	mg/kg wet	2.500		100	40-140	3	25	
Hexacosane (C26)	2.5	0.2	mg/kg wet	2.500		101	40-140	3	25	
Hexadecane (C16)	2.3	0.2	mg/kg wet	2.500		94	40-140	3	25	
Hexatriacontane (C36)	2.5	0.2	mg/kg wet	2.500		100	40-140	3	25	
Nonadecane (C19)	2.5	0.2	mg/kg wet	2.500		100	40-140	4	25	
Nonane (C9)	1.8	0.2	mg/kg wet	2.500		74	30-140	6	25	
Octacosane (C28)	2.6	0.2	mg/kg wet	2.500		103	40-140	4	25	
Octadecane (C18)	2.4	0.2	mg/kg wet	2.500		96	40-140	3	25	
Tetracosane (C24)	2.5	0.2	mg/kg wet	2.500		101	40-140	3	25	
Tetradecane (C14)	2.2	0.2	mg/kg wet	2.500		89	40-140	4	25	
Total Petroleum Hydrocarbons	33.2	10.0	mg/kg wet	35.00		95	40-140	4	25	
Triacontane (C30)	2.5	0.2	mg/kg wet	2.500		100	40-140	3	25	
Surrogate: O-Terphenyl	*5.07*		mg/kg wet	*5.000*		*101*	*40-140*			
8270D Semi-Volatile Organic Compounds										
Batch DC01609 - 3546										
Blank										
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.080	mg/kg wet							
1,4-Dichlorobenzene	ND	0.084	mg/kg wet							
2,4,5-Trichlorophenol	ND	0.333	mg/kg wet							
2,4,6-Trichlorophenol	ND	0.082	mg/kg wet							
2,4-Dichlorophenol	ND	0.083	mg/kg wet							
2,4-Dimethylphenol	ND	0.075	mg/kg wet							
2,4-Dinitrophenol	ND	0.557	mg/kg wet							
2,4-Dinitrotoluene	ND	0.107	mg/kg wet							
2,6-Dinitrotoluene	ND	0.333	mg/kg wet							
2-Chloronaphthalene	ND	0.333	mg/kg wet							
2-Chlorophenol	ND	0.094	mg/kg wet							
2-Methylnaphthalene	ND	0.072	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
2-Nitrophenol	ND	0.333	mg/kg wet							
3,3´-Dichlorobenzidine	ND	0.167	mg/kg wet							
3+4-Methylphenol	ND	0.667	mg/kg wet							
4-Bromophenyl-phenylether	ND	0.333	mg/kg wet							

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DC01609 - 3546										
4-Chloroaniline	ND	0.167	mg/kg wet							
4-Nitrophenol	ND	1.67	mg/kg wet							
Acenaphthene	ND	0.333	mg/kg wet							
Acenaphthylene	ND	0.167	mg/kg wet							
Acetophenone	ND	0.667	mg/kg wet							
Aniline	ND	1.67	mg/kg wet							
Anthracene	ND	0.333	mg/kg wet							
Azobenzene	ND	0.333	mg/kg wet							
Benzo(a)anthracene	ND	0.333	mg/kg wet							
Benzo(a)pyrene	ND	0.167	mg/kg wet							
Benzo(b)fluoranthene	ND	0.333	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.333	mg/kg wet							
Benzo(k)fluoranthene	ND	0.333	mg/kg wet							
bis(2-Chloroethoxy)methane	ND	0.333	mg/kg wet							
bis(2-Chloroethyl)ether	ND	0.090	mg/kg wet							
bis(2-chloroisopropyl)Ether	ND	0.089	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Chrysene	ND	0.167	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.051	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Fluoranthene	ND	0.333	mg/kg wet							
Fluorene	ND	0.333	mg/kg wet							
Hexachlorobenzene	ND	0.056	mg/kg wet							
Hexachlorobutadiene	ND	0.333	mg/kg wet							
Hexachloroethane	ND	0.084	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet							
Isophorone	ND	0.333	mg/kg wet							
Naphthalene	ND	0.333	mg/kg wet							
Nitrobenzene	ND	0.333	mg/kg wet							
N-Nitrosodimethylamine	ND	0.333	mg/kg wet							
Pentachlorophenol	ND	0.667	mg/kg wet							
Phenanthrene	ND	0.333	mg/kg wet							
Phenol	ND	0.081	mg/kg wet							
Pyrene	ND	0.333	mg/kg wet							
Pyridine	ND	1.67	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*2.46*		mg/kg wet	*3.333*		*74*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.47*		mg/kg wet	*5.000*		*89*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.83*		mg/kg wet	*5.000*		*77*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.50*		mg/kg wet	*3.333*		*75*	*30-130*			
Surrogate: 2-Fluorophenol	*3.66*		mg/kg wet	*5.000*		*73*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.63*		mg/kg wet	*3.333*		*79*	*30-130*			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0466

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DC01609 - 3546										
Surrogate: Phenol-d6	*3.82*		mg/kg wet	*5.000*		*76*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.49*		mg/kg wet	*3.333*		*105*	*30-130*			
LCS										
1,2,4-Trichlorobenzene	2.47	0.333	mg/kg wet	3.333		74	40-140			
1,2-Dichlorobenzene	2.40	0.333	mg/kg wet	3.333		72	40-140			
1,3-Dichlorobenzene	2.39	0.080	mg/kg wet	3.333		72	40-140			
1,4-Dichlorobenzene	2.37	0.084	mg/kg wet	3.333		71	40-140			
2,4,5-Trichlorophenol	3.19	0.333	mg/kg wet	3.333		96	30-130			
2,4,6-Trichlorophenol	3.06	0.082	mg/kg wet	3.333		92	30-130			
2,4-Dichlorophenol	2.78	0.083	mg/kg wet	3.333		84	30-130			
2,4-Dimethylphenol	2.79	0.075	mg/kg wet	3.333		84	30-130			
2,4-Dinitrophenol	4.22	0.557	mg/kg wet	3.333		126	30-130			
2,4-Dinitrotoluene	3.59	0.107	mg/kg wet	3.333		108	40-140			
2,6-Dinitrotoluene	3.08	0.333	mg/kg wet	3.333		92	40-140			
2-Chloronaphthalene	2.53	0.333	mg/kg wet	3.333		76	40-140			
2-Chlorophenol	2.55	0.094	mg/kg wet	3.333		77	30-130			
2-Methylnaphthalene	2.52	0.072	mg/kg wet	3.333		76	40-140			
2-Methylphenol	2.58	0.333	mg/kg wet	3.333		77	30-130			
2-Nitrophenol	2.67	0.333	mg/kg wet	3.333		80	30-130			
3,3´-Dichlorobenzidine	2.71	0.167	mg/kg wet	3.333		81	40-140			
3+4-Methylphenol	5.37	0.667	mg/kg wet	6.667		80	30-130			
4-Bromophenyl-phenylether	3.18	0.333	mg/kg wet	3.333		95	40-140			
4-Chloroaniline	1.46	0.167	mg/kg wet	3.333		44	40-140			
4-Nitrophenol	3.44	1.67	mg/kg wet	3.333		103	30-130			
Acenaphthene	2.70	0.333	mg/kg wet	3.333		81	40-140			
Acenaphthylene	2.48	0.167	mg/kg wet	3.333		75	40-140			
Acetophenone	2.41	0.667	mg/kg wet	3.333		72	40-140			
Aniline	1.74	1.67	mg/kg wet	3.333		52	40-140			
Anthracene	3.17	0.333	mg/kg wet	3.333		95	40-140			
Azobenzene	3.04	0.333	mg/kg wet	3.333		91	40-140			
Benzo(a)anthracene	3.35	0.333	mg/kg wet	3.333		100	40-140			
Benzo(a)pyrene	3.58	0.167	mg/kg wet	3.333		107	40-140			
Benzo(b)fluoranthene	3.89	0.333	mg/kg wet	3.333		117	40-140			
Benzo(g,h,i)perylene	3.45	0.333	mg/kg wet	3.333		104	40-140			
Benzo(k)fluoranthene	2.94	0.333	mg/kg wet	3.333		88	40-140			
bis(2-Chloroethoxy)methane	2.57	0.333	mg/kg wet	3.333		77	40-140			
bis(2-Chloroethyl)ether	2.55	0.090	mg/kg wet	3.333		77	40-140			
bis(2-chloroisopropyl)Ether	2.47	0.089	mg/kg wet	3.333		74	40-140			
bis(2-Ethylhexyl)phthalate	3.62	0.333	mg/kg wet	3.333		109	40-140			
Butylbenzylphthalate	3.60	0.333	mg/kg wet	3.333		108	40-140			
Chrysene	3.32	0.167	mg/kg wet	3.333		100	40-140			
Dibenzo(a,h)Anthracene	3.70	0.051	mg/kg wet	3.333		111	40-140			
Dibenzofuran	2.77	0.333	mg/kg wet	3.333		83	40-140			
Diethylphthalate	3.18	0.333	mg/kg wet	3.333		95	40-140			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0466

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DC01609 - 3546										
Dimethylphthalate	3.05	0.333	mg/kg wet	3.333		91	40-140			
Di-n-butylphthalate	3.41	0.333	mg/kg wet	3.333		102	40-140			
Di-n-octylphthalate	3.48	0.333	mg/kg wet	3.333		104	40-140			
Fluoranthene	3.30	0.333	mg/kg wet	3.333		99	40-140			
Fluorene	3.09	0.333	mg/kg wet	3.333		93	40-140			
Hexachlorobenzene	3.15	0.056	mg/kg wet	3.333		95	40-140			
Hexachlorobutadiene	2.62	0.333	mg/kg wet	3.333		79	40-140			
Hexachloroethane	2.41	0.084	mg/kg wet	3.333		72	40-140			
Indeno(1,2,3-cd)Pyrene	3.61	0.333	mg/kg wet	3.333		108	40-140			
Isophorone	2.25	0.333	mg/kg wet	3.333		67	40-140			
Naphthalene	2.47	0.333	mg/kg wet	3.333		74	40-140			
Nitrobenzene	2.54	0.333	mg/kg wet	3.333		76	40-140			
N-Nitrosodimethylamine	2.22	0.333	mg/kg wet	3.333		67	40-140			
Pentachlorophenol	3.76	0.667	mg/kg wet	3.333		113	30-130			
Phenanthrene	3.09	0.333	mg/kg wet	3.333		93	40-140			
Phenol	2.76	0.081	mg/kg wet	3.333		83	30-130			
Pyrene	3.29	0.333	mg/kg wet	3.333		99	40-140			
Pyridine	1.94	1.67	mg/kg wet	3.333		58	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*2.49*		mg/kg wet	*3.333*		*75*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*5.39*		mg/kg wet	*5.000*		*108*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.94*		mg/kg wet	*5.000*		*79*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.67*		mg/kg wet	*3.333*		*80*	*30-130*			
Surrogate: 2-Fluorophenol	*3.78*		mg/kg wet	*5.000*		*76*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.71*		mg/kg wet	*3.333*		*81*	*30-130*			
Surrogate: Phenol-d6	*3.98*		mg/kg wet	*5.000*		*80*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.51*		mg/kg wet	*3.333*		*105*	*30-130*			
LCS Dup										
1,2,4-Trichlorobenzene	2.26	0.333	mg/kg wet	3.333		68	40-140	9	30	
1,2-Dichlorobenzene	2.14	0.333	mg/kg wet	3.333		64	40-140	11	30	
1,3-Dichlorobenzene	2.12	0.080	mg/kg wet	3.333		64	40-140	12	30	
1,4-Dichlorobenzene	2.12	0.084	mg/kg wet	3.333		64	40-140	11	30	
2,4,5-Trichlorophenol	3.11	0.333	mg/kg wet	3.333		93	30-130	2	30	
2,4,6-Trichlorophenol	3.00	0.082	mg/kg wet	3.333		90	30-130	2	30	
2,4-Dichlorophenol	2.67	0.083	mg/kg wet	3.333		80	30-130	4	30	
2,4-Dimethylphenol	2.69	0.075	mg/kg wet	3.333		81	30-130	4	30	
2,4-Dinitrophenol	4.14	0.557	mg/kg wet	3.333		124	30-130	2	30	
2,4-Dinitrotoluene	3.52	0.107	mg/kg wet	3.333		106	40-140	2	30	
2,6-Dinitrotoluene	3.06	0.333	mg/kg wet	3.333		92	40-140	0.6	30	
2-Chloronaphthalene	2.46	0.333	mg/kg wet	3.333		74	40-140	3	30	
2-Chlorophenol	2.33	0.094	mg/kg wet	3.333		70	30-130	9	30	
2-Methylnaphthalene	2.42	0.072	mg/kg wet	3.333		73	40-140	4	30	
2-Methylphenol	2.41	0.333	mg/kg wet	3.333		72	30-130	7	30	
2-Nitrophenol	2.49	0.333	mg/kg wet	3.333		75	30-130	7	30	
3,3´-Dichlorobenzidine	2.83	0.167	mg/kg wet	3.333		85	40-140	4	30	
3+4-Methylphenol	5.18	0.667	mg/kg wet	6.667		78	30-130	4	30	

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0466

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DC01609 - 3546										
4-Bromophenyl-phenylether	3.13	0.333	mg/kg wet	3.333		94	40-140	2	30	
4-Chloroaniline	1.61	0.167	mg/kg wet	3.333		48	40-140	10	30	
4-Nitrophenol	3.37	1.67	mg/kg wet	3.333		101	30-130	2	30	
Acenaphthene	2.66	0.333	mg/kg wet	3.333		80	40-140	1	30	
Acenaphthylene	2.43	0.167	mg/kg wet	3.333		73	40-140	2	30	
Acetophenone	2.26	0.667	mg/kg wet	3.333		68	40-140	6	30	
Aniline	1.68	1.67	mg/kg wet	3.333		50	40-140	4	30	
Anthracene	3.12	0.333	mg/kg wet	3.333		94	40-140	2	30	
Azobenzene	2.98	0.333	mg/kg wet	3.333		89	40-140	2	30	
Benzo(a)anthracene	3.25	0.333	mg/kg wet	3.333		97	40-140	3	30	
Benzo(a)pyrene	3.55	0.167	mg/kg wet	3.333		106	40-140	1	30	
Benzo(b)fluoranthene	3.44	0.333	mg/kg wet	3.333		103	40-140	12	30	
Benzo(g,h,i)perylene	3.40	0.333	mg/kg wet	3.333		102	40-140	2	30	
Benzo(k)fluoranthene	3.34	0.333	mg/kg wet	3.333		100	40-140	13	30	
bis(2-Chloroethoxy)methane	2.44	0.333	mg/kg wet	3.333		73	40-140	5	30	
bis(2-Chloroethyl)ether	2.29	0.090	mg/kg wet	3.333		69	40-140	11	30	
bis(2-chloroisopropyl)Ether	2.23	0.089	mg/kg wet	3.333		67	40-140	10	30	
bis(2-Ethylhexyl)phthalate	3.56	0.333	mg/kg wet	3.333		107	40-140	2	30	
Butylbenzylphthalate	3.51	0.333	mg/kg wet	3.333		105	40-140	3	30	
Chrysene	3.23	0.167	mg/kg wet	3.333		97	40-140	3	30	
Dibenzo(a,h)Anthracene	3.63	0.051	mg/kg wet	3.333		109	40-140	2	30	
Dibenzofuran	2.74	0.333	mg/kg wet	3.333		82	40-140	1	30	
Diethylphthalate	3.16	0.333	mg/kg wet	3.333		95	40-140	0.6	30	
Dimethylphthalate	3.02	0.333	mg/kg wet	3.333		91	40-140	0.9	30	
Di-n-butylphthalate	3.35	0.333	mg/kg wet	3.333		101	40-140	2	30	
Di-n-octylphthalate	3.50	0.333	mg/kg wet	3.333		105	40-140	0.6	30	
Fluoranthene	3.20	0.333	mg/kg wet	3.333		96	40-140	3	30	
Fluorene	3.06	0.333	mg/kg wet	3.333		92	40-140	0.9	30	
Hexachlorobenzene	3.11	0.056	mg/kg wet	3.333		93	40-140	1	30	
Hexachlorobutadiene	2.36	0.333	mg/kg wet	3.333		71	40-140	11	30	
Hexachloroethane	2.14	0.084	mg/kg wet	3.333		64	40-140	12	30	
Indeno(1,2,3-cd)Pyrene	3.56	0.333	mg/kg wet	3.333		107	40-140	1	30	
Isophorone	2.16	0.333	mg/kg wet	3.333		65	40-140	4	30	
Naphthalene	2.30	0.333	mg/kg wet	3.333		69	40-140	7	30	
Nitrobenzene	2.33	0.333	mg/kg wet	3.333		70	40-140	8	30	
N-Nitrosodimethylamine	2.02	0.333	mg/kg wet	3.333		61	40-140	9	30	
Pentachlorophenol	3.67	0.667	mg/kg wet	3.333		110	30-130	2	30	
Phenanthrene	3.04	0.333	mg/kg wet	3.333		91	40-140	2	30	
Phenol	2.55	0.081	mg/kg wet	3.333		77	30-130	8	30	
Pyrene	3.21	0.333	mg/kg wet	3.333		96	40-140	2	30	
Pyridine	1.65	1.67	mg/kg wet	3.333		49	40-140	16	30	
Surrogate: 1,2-Dichlorobenzene-d4	*2.22*		mg/kg wet	*3.333*		*67*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*5.31*		mg/kg wet	*5.000*		*106*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.61*		mg/kg wet	*5.000*		*72*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.62*		mg/kg wet	*3.333*		*79*	*30-130*			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0466

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DC01609 - 3546										
Surrogate: 2-Fluorophenol	*3.44*		mg/kg wet	*5.000*		*69*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.50*		mg/kg wet	*3.333*		*75*	*30-130*			
Surrogate: Phenol-d6	*3.71*		mg/kg wet	*5.000*		*74*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.46*		mg/kg wet	*3.333*		*104*	*30-130*			
Classical Chemistry										
Batch DC01613 - General Preparation										
Blank										
Reactive Cyanide	ND	2.0	mg/kg							
Reactive Sulfide	ND	2.0	mg/kg							
LCS										
Reactive Cyanide	3.8	2.0	mg/kg	100.3		4	0.68-5.41			
Reactive Sulfide	ND	2.0	mg/kg	10.00		0	0-44			
Batch DC01620 - General Preparation										
Reference										
Flashpoint	81		°F	81.00		100	97.9-102.1			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation ESS Laboratory Work Order: 20C0466

Notes and Definitions

Z18	Temperature is not within 23 +/-2 ºC.
Z-10a	Soil pH measured in water at 19.6 ºC.
Z-10	Soil pH measured in water at 19.3 ºC.
U	Analyte included in the analysis, but not detected
Q	Calibration required quadratic regression (Q).
EL	Elevated Method Reporting Limits due to sample matrix (EL).
D+	Relative percent difference for duplicate is outside of criteria (D+).
D	Diluted.
CD+	Continuing Calibration %Diff/Drift is above control limit (CD+).
CD-	Continuing Calibration %Diff/Drift is below control limit (CD-).
>	Greater than.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0466

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: GEI Consultants, Inc. - TB

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20C0466
Date Received: 3/13/2020
Project Due Date: 3/20/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 3.6 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? No
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** Yes / No / NA
10. Were any analyses received outside of hold time? Yes (No)

11. Any Subcontracting needed? Yes / No
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? Yes / No
    a. Air bubbles in aqueous VOAs? Yes / No
    b. Does methanol cover soil completely? Yes / No / NA
13. Are the samples properly preserved? Yes / No
    a. If metals preserved upon receipt: Date: Time: By:
    b. Low Level VOA vials frozen: Date: 3/13/20 Time: 1029 By:

Sample Receiving Notes:

Lot1-DISP02-grab collection time coc=0850, Label=1130; Lot1-DISP02-Comp collection time coc=1130, label=0850

14. Was there a need to contact Project Manager? Yes / No
    a. Was there a need to contact the client? Yes / No
    Who was contacted: Date: Time: By:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
1	23707	Yes	N/A	Yes	VOA Vial	MeOH	
1	23709	Yes	N/A	Yes	VOA Vial	DI Water	
1	23710	Yes	N/A	Yes	VOA Vial	DI Water	
1	23713	Yes	N/A	Yes	8 oz jar	NP	
1	23714	Yes	N/A	Yes	8 oz jar	NP	
2	23708	Yes	N/A	Yes	VOA Vial	MeOH	
2	23711	Yes	N/A	Yes	VOA Vial	DI Water	
2	23712	Yes	N/A	Yes	VOA Vial	DI Water	
3	23717	Yes	N/A	Yes	8 oz jar	NP	
3	23718	Yes	N/A	Yes	8 oz jar	NP	

2nd Review
Were all containers scanned into storage/lab? Initials
Are barcode labels on correct containers? Yes / No
Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA
Are all Hex Chrome stickers attached? Yes / No / NA
Are all QC stickers attached? Yes / No / NA
Are VOA stickers attached if bubbles noted? Yes / No / NA

ESS Laboratory Sample and Cooler Receipt Checklist

Client: GEI Consultants, Inc. - TB

ESS Project ID: 20C0466

Date Received: 3/13/2020

Completed By: _____ Date & Time: 3/13/20 2012

Reviewed By: _____ Date & Time: 3/13/20 2027

Delivered By: _____ 3/13/20 2027

Chain-of-Custody Record

Laboratory: ESS

Laboratory Job # (Lab use only) 20C0466

GEI Consultants
400 Unicorn Park Drive
Woburn, MA 01801
PH: 781.721.4000
FX: 781.721.4073

Project Information

Project Name: Former Tombarello

Project Number: 1802441

Project Location: Lawrence MA

Project Manager: L. Lombardo

339.221.3551

Send Report to: Elise Farrington

Send EDD to: labdata@geiconsultants.com

MCP PRESUMPTIVE CERTAINTY REQUIRED: (YES) NO

If Yes, Are MCP Analytical Methods Required? (YES) NO NA

If Yes, Are Drinking Water Samples Submitted? YES (NO) NA

If Yes, Have You Met Minimum Field QC Requirements? YES NO (NA)

Preservative

MeOH	DI H20	None	None						

Analysis

Lab Sample Number	GEI Sample ID	Collection Date	Collection Time	Matrix	No. of Bottles	Sampler(s) Initials	VOC(High Level)	VOC (Low Level)	SVOCs, RCRA 8 Metals**, Ignitability, Corrosivity, RCN/S	PCBs*	TPH (8100M) L.Lombardo 3/24/2020						Sample Specific Remarks
1	1802441-Lot1-DISP01	3/12/2020	8:40	SO	5	BRL	x	x	x	x	X						
2	1802441-Lot1-DISP02-Grab	3/12/2020	8:50	SO	3	BRL	x	x									
3	1802441-Lot1-DISP02-Comp	3/12/2020	11:30	SO	2	BRL			x	x	X						

Sample Handling

Samples Field Filtered: YES NO (NA)

Sampled Shipped With Ice: (YES) NO

MCP Level Needed: GEI requires the most stringent Method 1 MCP standard be met for all analytes whenever possible.

	Date :	Time:	
Relinquished by sampler: (signature) 1.	3/13/	1400	Received by: (signature) 1.
Relinquished by: (signature) 2.	3/13/20	1904	Received by: (signature) 2. 3/13/20
Relinquished by: (signature) 3.	Date :	Time:	Received by: (signature) 3.
Relinquished by: (signature) 4.	Date :	Time:	Received by: (signature) 4.

3.6

Turnaround Time (Business days):

Normal ____ Other ____

10-Day ____ 7-Day ____

5-Day __X__ 3-Day ____

Before submitting rush turnaround samples, you **must** notify the laboratory to confirm that the TAT can be achieved.

Additional Requirements/Comments/Remarks:

* Manual Soxhlet Extraction for PCBs. Analysis must be performed in accordance with GEI's Site Specific QAPP.

**Run TCLP if 20x Rule Exceeded

Chain-of-Custody Record

Laboratory: ESS

Laboratory Job # (Lab use only) 20C0466

GEI Consultants
400 Unicorn Park Drive
Woburn, MA 01801
PH: 781.721.4000
FX: 781.721.4073

Project Information

Project Name: Former Tombarello

Project Number: 1802441

Project Location: Lawrence MA

Project Manager: L. Lombardo

339.221.3551

Send Report to: Elise Farrington

Send EDD to: labdata@geiconsultants.com

MCP PRESUMPTIVE CERTAINTY REQUIRED: (YES) NO

If Yes, Are MCP Analytical Methods Required? (YES) NO NA

If Yes, Are Drinking Water Samples Submitted? YES (NO) NA

If Yes, Have You Met Minimum Field QC Requirements? YES NO (NA)

Preservative

MeOH	DI H20	None	None						

Analysis

Lab Sample Number	GEI Sample ID	Collection Date	Collection Time	Matrix	No. of Bottles	Sampler(s) Initials	VOC(High Level)	VOC (Low Level)	SVOCs, RCRA 8 Metals**, Ignitability, Corrosivity, RCN/S	PCBs*							Sample Specific Remarks
1	1802441-Lot1-DISP01	3/12/2020	8:40	SO	5	BRL	x	x	x	x							
2	1802441-Lot1-DISP02-Grab	3/12/2020	8:50	SO	3	BRL	x	x									
3	1802441-Lot1-DISP02-Comp	3/12/2020	11:30	SO	2	BRL			x	x							

Sample Handling

Samples Field Filtered: YES NO (NA)

Sampled Shipped With Ice: (YES) NO

MCP Level Needed: GEI requires the most stringent Method 1 MCP standard be met for all analytes whenever possible.

	Date :	Time:	
Relinquished by sampler: (signature) 1.	3/13/	1400	Received by: (signature) 1.
Relinquished by: (signature) 2.	3/13/20	1904	Received by: (signature) 2. 3/13/20
Relinquished by: (signature) 3.	Date :	Time:	Received by: (signature) 3.
Relinquished by: (signature) 4.	Date :	Time:	Received by: (signature) 4.

3.6

Turnaround Time (Business days):

Normal ____ Other ____

10-Day ____ 7-Day ____

5-Day __X__ 3-Day ____

Before submitting rush turnaround samples, you **must** notify the laboratory to confirm that the TAT can be achieved.

Additional Requirements/Comments/Remarks:

* Manual Soxhlet Extraction for PCBs. Analysis must be performed in accordance with GEI's Site Specific QAPP.

**Run TCLP if 20x Rule Exceeded

Appendix D

Plans and Specifications

TARGETED EXCAVATIONS - LOT 1 AND LOT 2

FORMER TOMBARELLO PROPERTY
LAWRENCE, MASSACHUSETTS

SCALE: 1" = 30 MILES

SOURCE:
MAP IMAGE PREPARED BY MAGELLAN GEOGRAPHICX SANTA BARBARA, CA 1994

SCALE: 1" = 2,000'

SOURCE:
MAP CREATED USING USGS SURVEY MAP, NORTH AMERICAN DATUM OF 1983 (NAD83)

SHEET INDEX

SHEET NO.	DRAWING NO.	TITLE
1	G-01	COVER SHEET
2	G-02	GENERAL NOTES
3	C-01	EXISTING CONDITIONS AND EXPLORATIONS PLAN
4	C-02	EROSION CONTROL AND SITE MANAGEMENT PLAN
5	C-03	DEMOLITION AND PROTECTION PLAN
6	C-04	LIMITS OF EXCAVATION - LOT 2
7	C-05	LIMITS OF EXCAVATION - LOT 1
8	C-06	RESTORATION PLAN - LOT 1
9	D-01	DETAILS

PREPARED FOR:

CITY OF LAWRENCE
12 METHUEN STREET
LAWRENCE, MASSACHUSETTS

PREPARED BY:

GEI CONSULTANTS, INC.
400 UNICORN PARK DRIVE
WOBURN, MA 01801
(781)721-4000

ISSUED
FOR CONSTRUCTION

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GEI PROJECT NO. 1802441

NO.	DATE	ISSUE/REVISION	APP
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0	3/5/2020	ISSUED FOR BID	ISG

COMMONWEALTH OF MASSACHUSETTS
ILEEN GLADSTONE
CIVIL
NO. 34655
REGISTERED PROFESSIONAL ENGINEER

ILEEN S. GLADSTONE
MA, P.E.
LICENSE NO.: 34655

DWG. NO.
G-01

SHEET NO.
1 OF 9

GENERAL CONSTRUCTION NOTES

1. PRIOR TO CONSTRUCTION, FABRIC MUST BE INSTALLED ON EXISTING PERIMETER FENCING AT LOCATIONS SHOWN IN THE DRAWINGS, AND MUST BE MAINTAINED. FABRIC ON FENCE TO REMAIN AT COMPLETION OF THE WORK. 1
2. THE CONTRACTOR IS NOT REQUIRED TO PROVIDE A SECURITY GUARD, BUT MAY CHOOSE TO DO SO AT THEIR OWN DISCRETION FOR THE CARE AND PROTECTION OF THE WORK, EQUIPMENT AND MATERIAL.
3. THE CONTRACTOR SHALL LIMIT MOVEMENT OF CREWS, VEHICLES, AND EQUIPMENT TO APPROVED ACCESS WAYS TO MINIMIZE TRACKING OF CONTAMINATED SURFACE SOILS.
4. THE CONTRACTOR SHALL PARK PERSONNEL AND CONSTRUCTION VEHICLES IN ONLY PAVED AREAS AND IN SUCH A WAY THAT THEY SHALL NOT INTERFERE WITH NORMAL TRAFFIC, CAUSE A SAFETY HAZARD, OR INTERFERE WITH ACTIVITIES WITHIN THE SITE.
5. ALL VEHICLES EXITING THE SITE MUST PASS THROUGH A TIRE WASH/DECONTAMINATION ZONE, WHERE VISIBLE DIRT WILL BE REMOVED FROM THE TIRES AND OTHER PARTS OF THE VEHICLES. PERFORM VEHICLE WASHDOWNS AS DIRECTED BY THE ENGINEER.
6. DECONTAMINATE MOVEABLE EQUIPMENT THAT HAS COME IN CONTACT WITH PCB-CONTAMINATED MATERIAL BY FIRST BRUSHING TO REMOVE SOLIDS AND THEN SWABBING WITH AN APPROVED SOLVENT AS DESCRIBED IN 40 CFR 761.79(c)(2).
7. NOISE IMPACTS SHALL BE MINIMIZED AND MITIGATED. CONTRACTOR SHALL COMPLY WITH STATE AND LOCAL NOISE ORDINANCES, INCLUDING POTENTIAL RESTRICTION OF WORK HOURS AS SET FORTH IN THOSE REGULATIONS. CONTRACTOR SHALL MAINTAIN ALL EQUIPMENT IN GOOD OPERATING CONDITIONS AND ALL MOTORS AND ENGINES SHALL BE MUFFLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS. ANY FAULTY NOISE SUPPRESSOR SHALL BE REPAIRED OR REPLACED.
8. VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS AND COORDINATES WITH EXCAVATION DRAWING AND FIELD CONDITIONS.
9. IN CASES OF CONFLICT BETWEEN DRAWINGS AND/OR SPECIFICATIONS OR EXISTING CONDITIONS, NOTIFY THE ENGINEER AND OBTAIN CLARIFICATION PRIOR TO BIDDING AND PROCEEDING WITH WORK.
10. FOLLOWING EXCAVATION OF EACH AREA, FIELD ENGINEER WILL COLLECT VERIFICATION SOIL SAMPLES. LABORATORY ANALYSIS AND ENGINEER REVIEW OF RESULTS WILL TAKE AT LEAST 7 BUSINESS DAYS. IF VERIFICATION SAMPLE RESULTS INDICATE SOIL CONCENTRATIONS MEET THE SPECIFIED CLEANUP CRITERIA FOR THE SPECIFIC AREA, THE EXCAVATED AREA MAY BE BACKFILLED, AS SPECIFIED. IF VERIFICATION SAMPLE RESULTS INDICATE SOIL CONCENTRATIONS ARE GREATER THAN THE SPECIFIED CLEANUP CRITERIA, FIELD ENGINEER MAY DIRECT FURTHER EXCAVATION TO BE FOLLOWED BY FURTHER VERIFICATION SAMPLING. EXCAVATION MAY OR MAY NOT CONTINUE UNTIL THE SPECIFIED CLEANUP CRITERIA ARE ACHIEVED.

GENERAL NOTES FOR SURVEY

1. COORDINATE AND HORIZONTAL REFERENCE BASED ON MASSACHUSETTS STATE PLANE COORDINATE SYSTEM NORTH AMERICAN DATUM OF 1983 (NAD 83). VERTICAL DATUM IS BASED UPON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
2. ALL CONSTRUCTION STAKEOUT SHALL BE PERFORMED UNDER THE SUPERVISION OF A COMMONWEALTH OF MASSACHUSETTS LICENSED LAND SURVEYOR.

GENERAL NOTES FOR UTILITIES

1. EXISTING UTILITIES, WHERE SHOWN, ARE APPROXIMATE. VERIFICATION OF THE PRESENCE AND LOCATION OF ALL UTILITIES PRIOR TO INITIATING WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
2. AT LEAST 72 HOURS PRIOR TO CONDUCTING INTRUSIVE WORK THE CONTRACTOR SHALL CONTACT DIG-SAFE AND THE APPROPRIATE UTILITY COMPANIES. DIG-SAFE SHALL BE NOTIFIED PER THE COMMONWEALTH OF MASSACHUSETTS STATUTE CHAPTER 82, SECTION 40, AT 1-888-344-7233.

GENERAL NOTES FOR DUST AND STORM WATER CONTROL

1. CONTRACTOR SHALL COMPLY WITH THE PERIMETER AIR MONITORING PLAN, WHICH HAS BEEN PREPARED BY GEI.
2. THE CONTRACTOR SHALL INSTALL AND MAINTAIN SEDIMENT AND EROSION CONTROLS AS SHOWN IN DRAWING C-02 EROSION CONTROL AND SITE MANAGEMENT PLAN AND AS SPECIFIED IN SECTION 02374 EROSION CONTROLS.

GENERAL NOTES FOR WORK AND SITE INSPECTION

1. REPRESENTATIVES FROM THE CITY OF LAWRENCE SHALL BE PERMITTED TO INSPECT THE SITE (INCLUDING RELEVANT RECORDS) AT ANY TIME DEEMED NECESSARY TO ENSURE THAT ALL ACTIVITIES ARE IN ACCORDANCE WITH CONTRACT REQUIREMENTS AND CITY OF LAWRENCE APPROVED SITE PLANS.
2. NOTIFY THE ENGINEER A MINIMUM OF 72 HOURS BEFORE COMMENCING ANY EXCAVATION, CONSTRUCTION, INSTALLATION, TESTING, OR BACKFILLING ACTIVITIES.

CONSTRUCTION SEQUENCE

1. MARK EXCAVATION AREAS AND VERIFY UTILITY LOCATIONS.
2. INSTALL NEW VEHICLE ENTRANCE GATE.
3. INSTALL PRIVACY SCREEN ON FENCE, EROSION AND SEDIMENTATION CONTROLS, AND OTHER TEMPORARY FACILITIES AND CONTROLS.
4. STABILIZE FOR LEAD AS NEEDED AND EXCAVATE AREAS ON LOT 2 IN THE ORDER SHOWN IN THE DRAWINGS. DO NOT CONDUCT EXCAVATIONS ON LOT 1 BEFORE COMPLETION OF EXCAVATIONS ON LOT 2, UNLESS DIRECTED TO DO SO BY THE ENGINEER.
5. BACKFILL THE LOT 2 EXCAVATIONS AS DIRECTED BY THE ENGINEER.
6. DECONTAMINATE EXCAVATION EQUIPMENT PRIOR TO CONDUCTING EXCAVATIONS ON LOT 1.
7. REMOVE ASPHALT FROM LOT 1 TO THE LIMITS SHOWN IN THE DRAWINGS.
8. STABILIZE FOR LEAD AS NEEDED AND EXCAVATE AREAS ON LOT 1 IN THE ORDER SHOWN IN THE DRAWINGS.
9. BACKFILL EXCAVATIONS ON LOT 1 WITH APPROVED IMPORTED BACKFILL. LOAM AND SEED DISTURBED AREA ON LOT 1.
10. INSTALL NEW CHAIN LINK FENCE ON LOT 1.
11. DECONTAMINATE EQUIPMENT PRIOR TO DEMOBILIZATION.
12. REMOVE TEMPORARY FACILITIES AND CONTROLS.

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FOR CONSTRUCTION

Attention:

0 1"

If this scale bar does not measure 1" then drawing is not original scale.

NO.	DATE	ISSUE/REVISION	APP
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0	3/5/2020	ISSUED FOR BID	ISG

COMMONWEALTH OF MASSACHUSETTS
ILEEN GLADSTONE
CIVIL
No. 34655
REGISTERED PROFESSIONAL ENGINEER

ILEEN S. GLADSTONE
MA. P.E.
LICENSE NO.: 34655

Designed:	L. LOMBARDO
Checked:	C. PRAY
Drawn:	J. MORIN
Submitted By:	I. GLADSTONE
P.E. Number:	34655

GEI Consultants
GEI CONSULTANTS, INC.
400 UNICORN PARK DRIVE
WOBURN, MA 01801
(781)721-4000

CITY OF LAWRENCE 1855

GEI Project 1802441

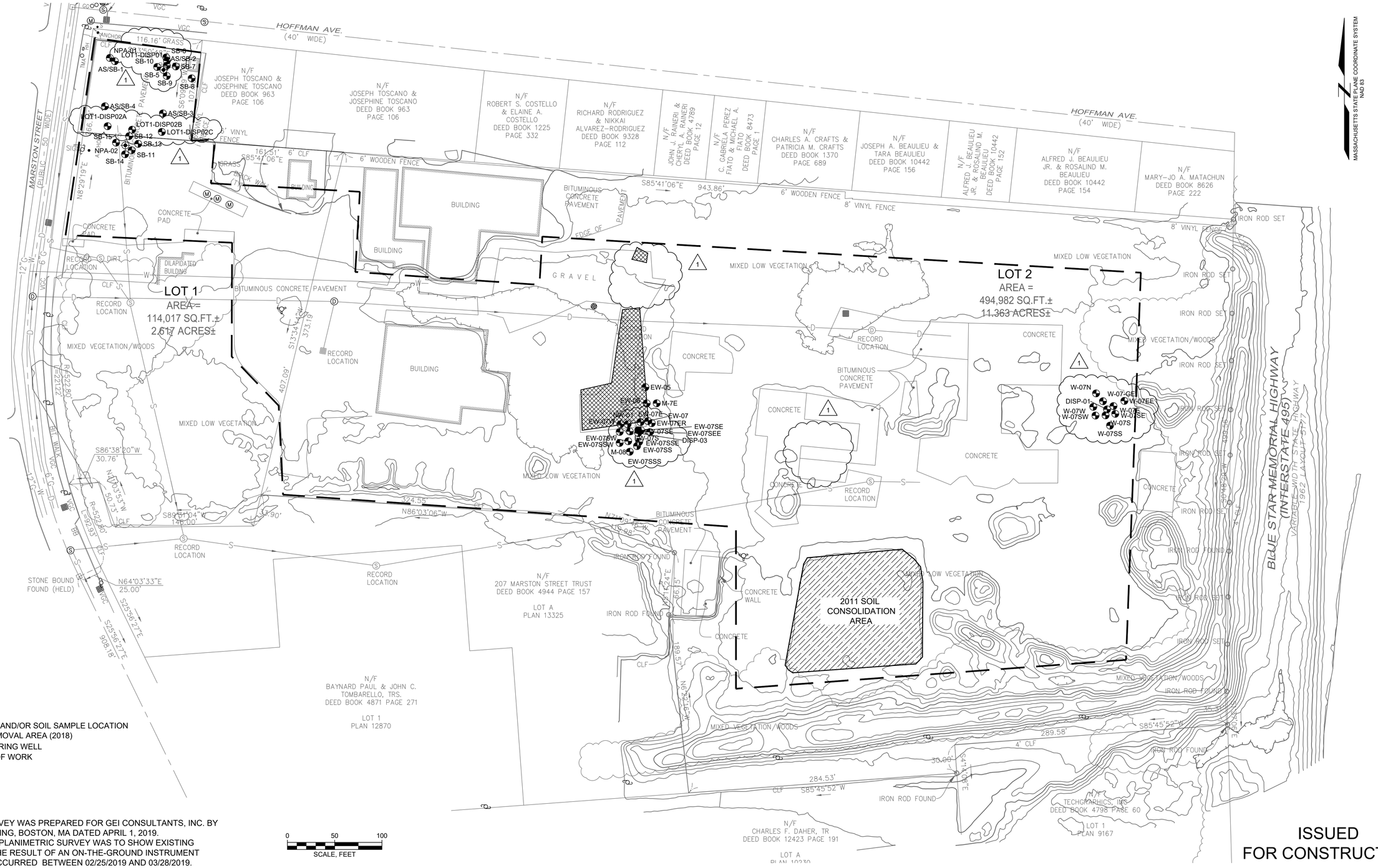
Targeted Excavations - Lot 1 and Lot 2
Former Tombarello Property
Lawrence, Massachusetts

GENERAL NOTES

DWG. NO. G-02

SHEET NO. 2 OF 9

\\geiconsulta B:\Working\LAWRENCE, CITY OF\1802441 Former Tombarello\00_CAD\Design\Working\G-02 GENERAL NOTES.dwg - 4/17/2020



LEGEND:

- BORING AND/OR SOIL SAMPLE LOCATION
- EPA REMOVAL AREA (2018)
- MONITORING WELL
- LIMITS OF WORK

NOTE:

1. PLANIMETRIC SURVEY WAS PREPARED FOR GEI CONSULTANTS, INC. BY NITSCH ENGINEERING, BOSTON, MA DATED APRIL 1, 2019.
2. THE PURPOSE OF PLANIMETRIC SURVEY WAS TO SHOW EXISTING CONDITIONS AS THE RESULT OF AN ON-THE-GROUND INSTRUMENT SURVEY WHICH OCCURRED BETWEEN 02/25/2019 AND 03/28/2019.
3. THIS PLANIMETRIC SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE ABSTRACT.
4. THE EXISTING TOPOGRAPHIC INFORMATION WAS OBTAINED BY GEI CONSULTANTS USING A UAS ON APRIL 15, 2019. THE VERTICAL DATUM IS NAVD88.
5. ONLY EXPLORATIONS LOCATIONS IN THE IMMEDIATE AREA OF THE WORK ARE SHOWN.

0 50 100
SCALE, FEET

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COMMONWEALTH OF MASSACHUSETTS ILEEN GLADSTONE CIVIL No. 34655 REGISTERED PROFESSIONAL ENGINEER

ILEEN S. GLADSTONE MA, P.E. LICENSE NO.: 34655

Designed:	L. LOMBARDO
Checked:	C. PRAY
Drawn:	J. MORIN
Submitted By:	I. GLADSTONE
P.E. Number:	34655

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(781)721-4000

GEI Project 1802441

Targeted Excavations - Lot 1 and Lot 2
Former Tombarello Property
Lawrence, Massachusetts

EXISTING CONDITIONS AND EXPLORATIONS PLAN

DWG. NO. C-01

SHEET NO. 3 OF 9

INSTALL STORM DRAIN INLET CONTROL

INSTALL PRIVACY SCREEN ON EXISTING FENCE LINE

APPROXIMATE LOCATION OF EXISTING GATE

REMOVE EXISTING FENCE PANEL(S) AND INSTALL NEW VEHICLE ENTRANCE GATE

6 D-01 ~~VEHICLE GATE~~ SEE NOTE 3

INSTALL STORM DRAIN INLET CONTROL

3 D-01 STORM DRAIN INLET CONTROL (TYP)

REMOVE VEGETATION ALONG FENCE LINE TO FACILITATE INSTALLATION OF PRIVACY SCREEN AND EROSION CONTROLS

EROSION CONTROL COIR LOGS 2 D-01

VEHICLE DECON PAD/WHEEL WASH SEE NOTE 3 1 D-01

INSTALL STORM DRAIN INLET CONTROL

HOFFMAN AVE. (40' WIDE)

MARSTON STREET (PUBLIC - 50' WIDE)

BITUMINOUS CONCRETE PAVEMENT

6' VINYL FENCE

6' WOODEN FENCE

8' VINYL FENCE

BUILDING

CONCRETE PAD

DILAPIDATED BUILDING

RECORD LOCATION

GRAVEL

MIXED LOW VEGETATION

MIXED VEGETATION/WOODS

CONCRETE

LOT 1
AREA=
114,017 SQ.FT.±
2.617 ACRES±

LOT 2
AREA =
494,982 SQ.FT.±
~~11.363 ACRES±~~

PRIMARY MATERIALS MANAGEMENT AREA

2011 SOIL CONSOLIDATION AREA

INSTALL STORM DRAIN INLET CONTROL

N/F JOSEPH TOSCANO & JOSEPHINE TOSCANO DEED BOOK 963 PAGE 106

N/F ROBERT S. COSTELLO & ELAINE A. COSTELLO DEED BOOK 1225 PAGE 332

N/F RICHARD RODRIGUEZ & NIKKAI ALVAREZ-RODRIGUEZ DEED BOOK 9328 PAGE 112

N/F JOHN J. RAINERI & CHERYL A. RAINERI DEED BOOK 4789 PAGE 12

N/F C. GABRIELLA PEREZ FIATO & MICHAEL A. FIATO DEED BOOK 8473 PAGE 1

N/F CHARLES A. CRAFTS & PATRICIA M. CRAFTS DEED BOOK 1370 PAGE 689

N/F JOSEPH A. BEAULIEU & TARA BEAULIEU DEED BOOK 10442 PAGE 156

N/F ALFRED J. BEAULIEU JR. & ROSALIND M. BEAULIEU DEED BOOK 10442 PAGE 152

N/F ALFRED J. BEAULIEU JR. & ROSALIND M. BEAULIEU DEED BOOK 10442 PAGE 154

N/F MARY-JO A. MATACHUN DEED BOOK 8626 PAGE 222

N/F 207 MARSTON STREET TRUST DEED BOOK 4944 PAGE 157
LOT A PLAN 13325

N/F BAYNARD PAUL & JOHN C. TOMBARELLO, TRS. DEED BOOK 4871 PAGE 271
LOT 1 PLAN 12870

N/F TECHGRAPHICS, INC. DEED BOOK 4798 PAGE 60
LOT 1 PLAN 9167

N/F CHARLES F. DAHER, TR DEED BOOK 12423 PAGE 191
LOT A PLAN 10230

BLUE STAR MEMORIAL HIGHWAY (INTERSTATE 495)
VARIABLE WIDTH STATE HIGHWAY
1962 LAYOUT 577

MASSACHUSETTS STATE PLANE COORDINATE SYSTEM NAD 83

IRON ROD SET

IRON ROD FOUND

STONE BOUND FOUND (HELD)

S86°38'20"W 30.76'

N20°33'5"W 50.73'

R=522.80' L=52.93'

S89°51'04"W 146.00'

N64°03'33"E 25.00

S25°56'27"E 908.18'

N86°03'06"W 324.55'

S85°41'06"E 943.86'

S85°45'52"W 289.58'

S85°45'52"E 284.53'

S41°14'08"E 30.00'

N27°08'24"W 66.15'

N21°24'54"W 168.57'

S16°31'06"E 161.31'

402.09'

173.19'

LEGEND:

- EROSION CONTROL COIR LOGS
- VEHICLE DECONTAMINATION/WHEEL WASH
- EPA REMOVAL AREA (2018)
- LIMITS OF WORK
- PRIVACY SCREEN
- 2011 SOIL CONSOLIDATION AREA

NOTE:

1. LOCATION OF NEW VEHICLE GATE TO BE APPROVED BY ENGINEER AND OWNER PRIOR TO REMOVAL OF EXISTING FENCE PANELS AND INSTALLATION OF GATE.
2. ACTUAL LOCATION OF VEHICLE DECONTAMINATION PAD/WHEEL WASH TO BE APPROVED BY ENGINEER AND OWNER.
3. INSTALL NEW VEHICLE ENTRANCE GATE PRIOR TO BEGINNING EXCAVATION ACTIVITIES ON LOT 1 AND LOT 2.

1

0 50 100
SCALE, FEET

ISSUED FOR CONSTRUCTION

Attention:

0 1"

If this scale bar does not measure 1" then drawing is not original scale.

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COMMONWEALTH OF MASSACHUSETTS ILEEN GLADSTONE CIVIL No. 34655 REGISTERED PROFESSIONAL ENGINEER

ILEEN S. GLADSTONE MA, P.E. LICENSE NO.: 34655

Designed:	L. LOMBARDO
Checked:	C. PRAY
Drawn:	J. MORIN
Submitted By:	I. GLADSTONE
P.E. Number:	34655

GEI Consultants
GEI CONSULTANTS, INC.
400 UNICORN PARK DRIVE
WOBURN, MA 01801
(781)721-4000

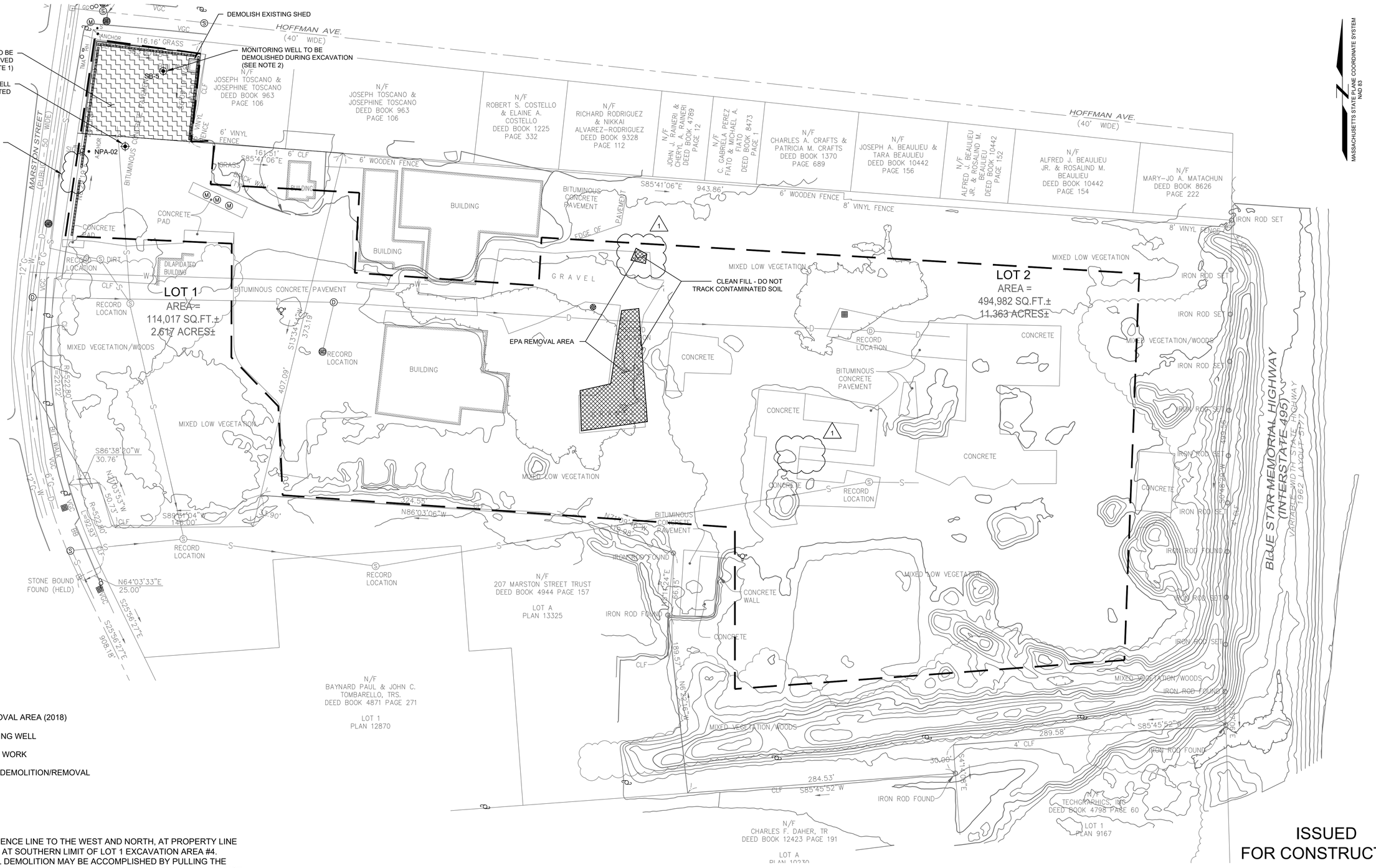
GEI Project 1802441

Targeted Excavations - Lot 1 and Lot 2
Former Tombarello Property
Lawrence, Massachusetts

EROSION CONTROL AND SITE MANAGEMENT PLAN

DWG. NO. C-02

SHEET NO. 4 OF 9



LEGEND:

- EPA REMOVAL AREA (2018)
- MONITORING WELL
- LIMITS OF WORK
- ASPHALT DEMOLITION/REMOVAL

NOTES:

1. CUT ASPHALT AT FENCE LINE TO THE WEST AND NORTH, AT PROPERTY LINE TO THE EAST, AND AT SOUTHERN LIMIT OF LOT 1 EXCAVATION AREA #4.
2. MONITORING WELL DEMOLITION MAY BE ACCOMPLISHED BY PULLING THE WELL CASING OUT OF THE GROUND. OVERDRILLING AND GROUTING ARE NOT REQUIRED.

1 — 0 50 100 SCALE, FEET

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COMMONWEALTH OF MASSACHUSETTS ILEEN GLADSTONE CIVIL No. 34655 REGISTERED PROFESSIONAL ENGINEER

ILEEN S. GLADSTONE MA, P.E. LICENSE NO.: 34655

Designed:	L. LOMBARDO
Checked:	C PRAY
Drawn:	J. MORIN
Submitted By:	I. GLADSTONE
P.E. Number:	34655

GEI Consultants

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GEI Project 1802441

Targeted Excavations - Lot 1 and Lot 2
Former Tombarello Property
Lawrence, Massachusetts

DEMOLITION AND PROTECTION PLAN

DWG. NO. C-03

SHEET NO. 5 OF 9

\\geiconsulta B:\Working\LAWRENCE, CITY OF\1802441 Former Tombarello\00_CAD\Design\Working\C-03 DEMO PLAN - LOT 1.dwg - 5/1/2020

EXCAVATION WORKING POINTS		
WORKING POINT	NORTHING	EASTING
LOT 2		
AREA #1A, #1B, & #1C		
WP9	753380.40	3087269.12
WP11	753347.15	3087237.49
WP12	753347.15	3087269.12
WP13	753390.06	3087269.12
WP14	753390.06	3087251.17
WP15	753380.40	3087251.17
WP16	753380.4	3087237.49
WP29	753360.4	3087237.49
WP30	753360.4	3087257.49
WP31	753380.4	3087257.49
AREA #2		
WP21	752885.28	3087267.10
WP22	752885.28	3087207.82
WP23	752875.69	3087207.82
WP24	752874.30	3087267.10
WP25	752875.68	3087238.62
WP26	752875.68	3087197.35
WP27	752846.14	3087197.35
WP28	752846.14	3087235.69

LEGEND:

- EPA REMOVAL AREA (2018)
- EXCAVATE 2-FEET BELOW EXISTING GRADE
- EXCAVATE 3-FEET BELOW EXISTING GRADE
- EXCAVATE 6-FEET BELOW EXISTING GRADE
- WORKING POINT

0 40 80
SCALE, FEET

ISSUED
FOR CONSTRUCTION

NOTE:

1. FINAL EXTENT OF EXCAVATION AREA #2 TO BE DETERMINED BASED ON AVAILABLE FUNDING.

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0	3/5/2020	ISSUED FOR BID	ISG

ILEEN S. GLADSTONE
MA, P.E.
LICENSE NO.: 34655

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GEI Project 1802441

Targeted Excavations - Lot 1 and Lot 2
Former Tombarello Property
Lawrence, Massachusetts

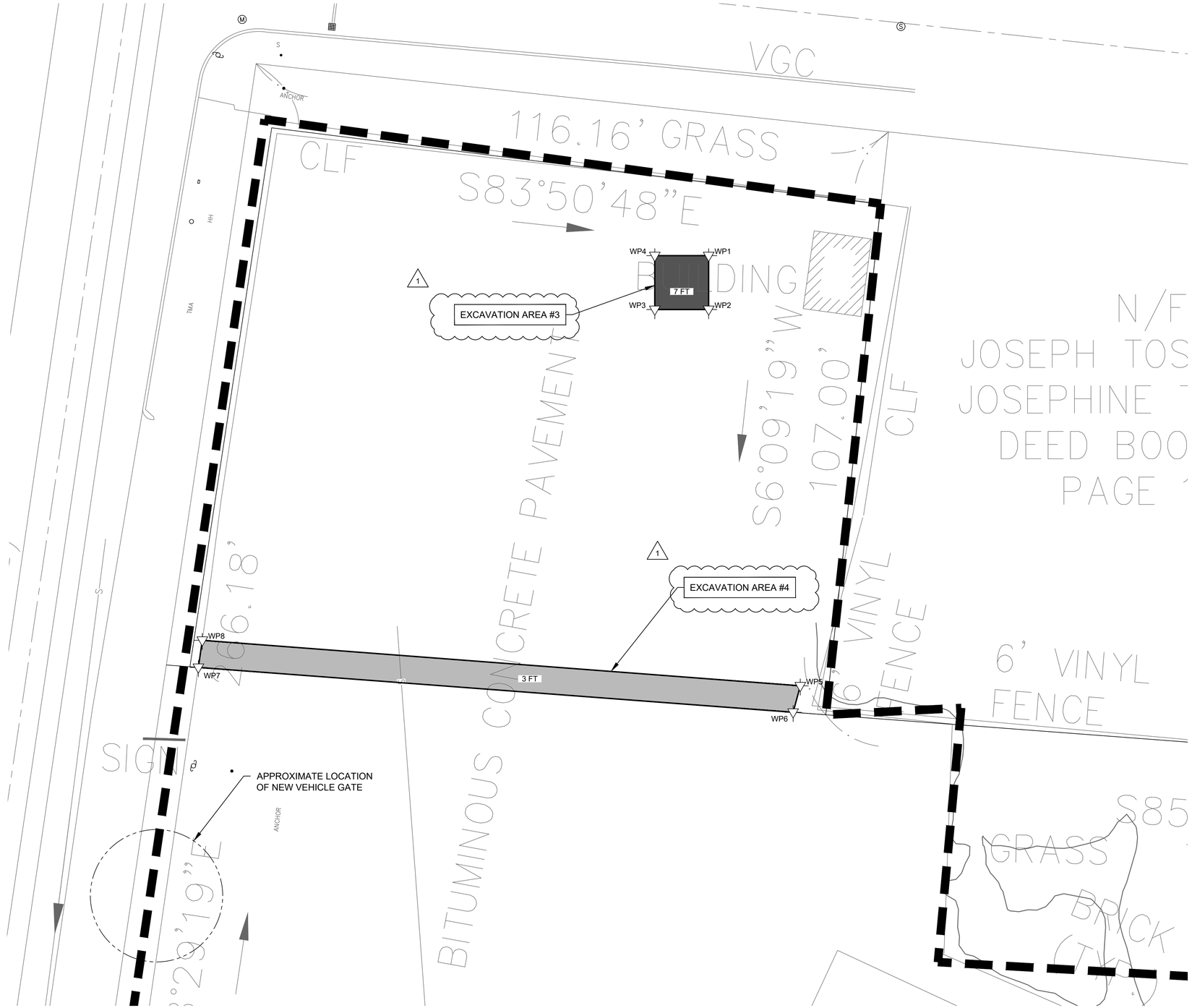
LIMITS OF EXCAVATION
LOT 2

DWG. NO. C-04

SHEET NO. 6 OF 9

EXCAVATION WORKING POINTS		
WORKING POINT	NORTHING	EASTING
LOT 1		
AREA #3		
WP1	752371.76	3087620.32
WP2	752371.76	3087610.48
WP3	752361.92	3087610.48
WP4	752361.92	3087620.32
AREA #4		
WP5	752388.49	3087541.81
WP6	752387.18	3087536.98
WP7	752278.59	3087545.17
WP8	752279.31	3087550.12

1



MASSACHUSETTS STATE PLANE COORDINATE SYSTEM NAD 83

LEGEND:

- EXCAVATE 3-FEET BELOW EXISTING GRADE
- EXCAVATE 7-FEET BELOW EXISTING GRADE
- LIMITS OF WORK
- WORKING POINT

NOTE:

1. DO NOT EXCAVATE LOT 1 AREAS PRIOR TO LOT 2 AREAS.
2. USE ONLY NEWLY INSTALLED VEHICLE GATE SOUTH OF LOT 1 EXCAVATION AREA #4 FOR SITE ACCESS.

1

0 10 20
SCALE, FEET

ISSUED
FOR CONSTRUCTION

Attention:

0 1"

If this scale bar does not measure 1" then drawing is not original scale.

NO.	DATE	ISSUE/REVISION	APP
1	5/1/2020	ISSUED FOR CONSTRUCTION	ISG
0	3/5/2020	ISSUED FOR BID	ISG

COMMONWEALTH OF MASSACHUSETTS
ILEEN GLADSTONE
CIVIL
No. 34655
REGISTERED PROFESSIONAL ENGINEER

ILEEN S. GLADSTONE
MA, P.E.
LICENSE NO.: 34655

Designed:	L. LOMBARDO
Checked:	C. PRAY
Drawn:	J. MORIN
Submitted By:	I. GLADSTONE
P.E. Number:	34655

GEI Consultants
GEI CONSULTANTS, INC.
400 UNICORN PARK DRIVE
WOBURN, MA 01801
(781)721-4000

GEI Project 1802441

Targeted Excavations - Lot 1 and Lot 2
Former Tombarello Property
Lawrence, Massachusetts

LIMITS OF EXCAVATION PLAN
LOT 1

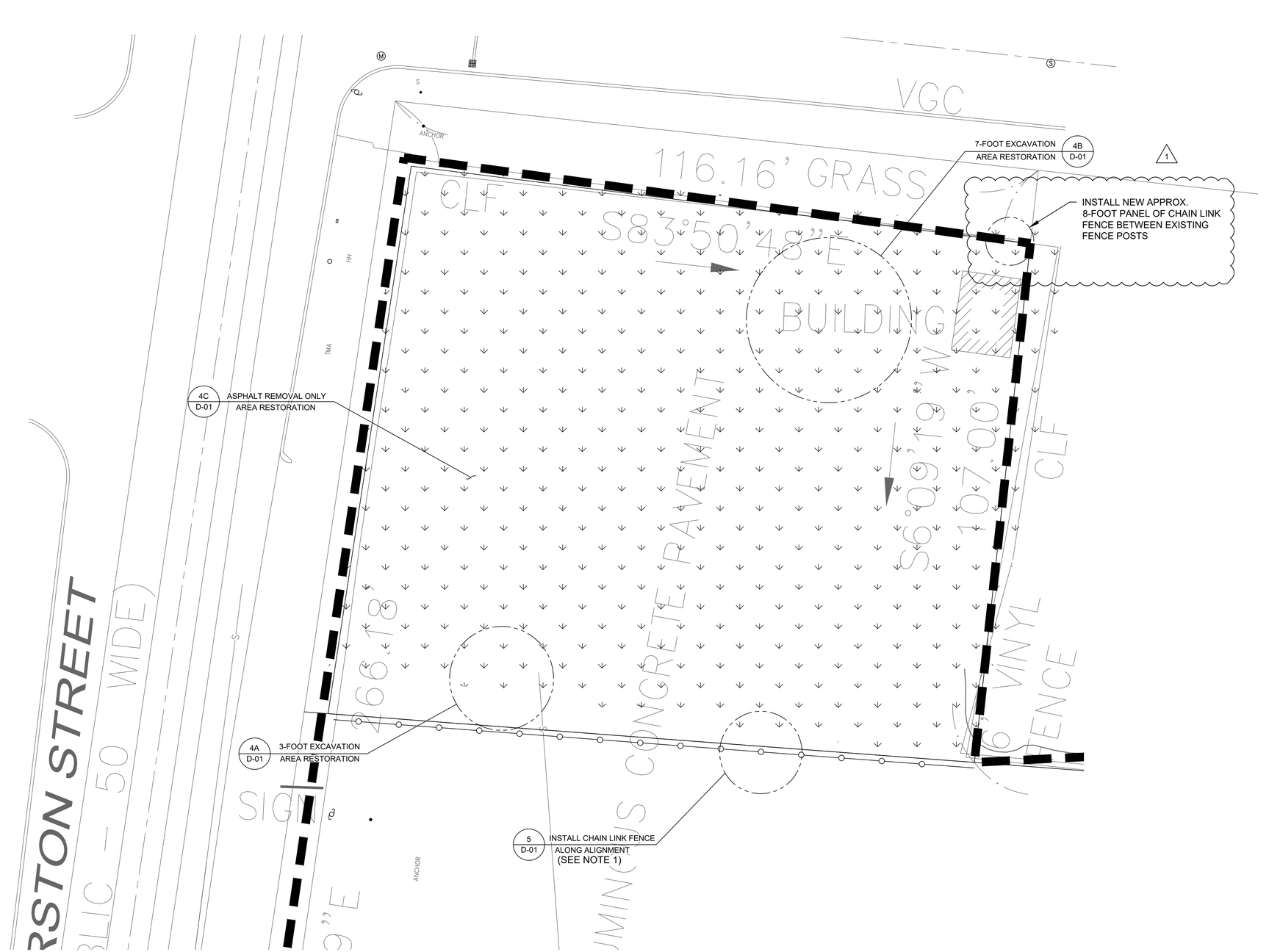
DWG. NO.
C-05

SHEET NO.
7 OF 9

\\geiconsulta B:\Working\LAWRENCE, CITY OF\1802441 Former Tombarello\00_CAD\Design\Working\C-05 LIMITS OF EXCAV-LOT 1.dwg - 5/1/2020

NOTES:

1. RESTORE THE SITE TO PRE-CONSTRUCTION GRADES.
2. MAINTAIN EROSION CONTROL AT PERIMETER OF LOT 1 UNTIL RESTORED AREA HAS BEEN STABILIZED.



MASSACHUSETTS STATE PLANE COORDINATE SYSTEM
NAD 83

LEGEND:

- LIMITS OF WORK
- HYDROSEED (1)
- INSTALL CHAIN LINK FENCE

NOTE:

(1)

1. EXCESS SOIL FROM FENCE POST CUTTINGS CAN BE SPREAD ON LOT 1, AS DIRECTED BY ENGINEER.

0 10 20
SCALE, FEET

ISSUED
FOR CONSTRUCTION

NO.	DATE	ISSUE/REVISION	APP
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0	3/5/2020	ISSUED FOR BID	ISG

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(781)721-4000

CITY OF LAWRENCE 1855

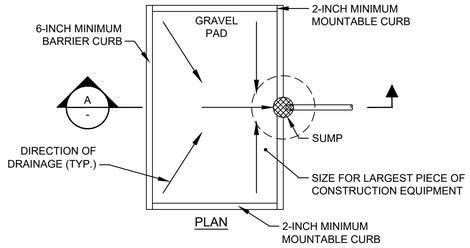
GEI Project 1802441

Targeted Excavations - Lot 1 and Lot 2
Former Tombarello Property
Lawrence, Massachusetts

RESTORATION PLAN
LOT 1

DWG. NO. C-06

SHEET NO. 8 OF 9

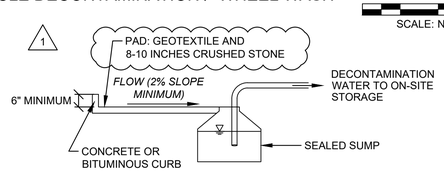


DECONTAMINATION NOTE:

ALL VEHICLES EXITING EXCLUSION ZONE MUST PASS THROUGH THE VEHICLE DECONTAMINATION / WHEEL WASH AS REQUIRED BY THE CONSTRUCTION MANAGER.

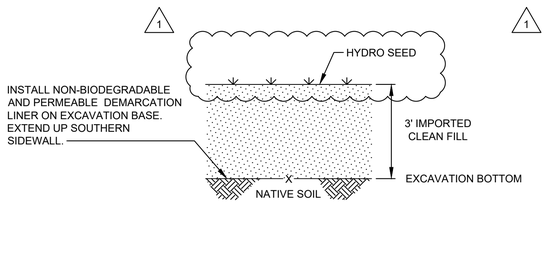
1 C-02 DETAIL-PLAN
VEHICLE DECONTAMINATION / WHEEL WASH

SCALE: N.T.S.

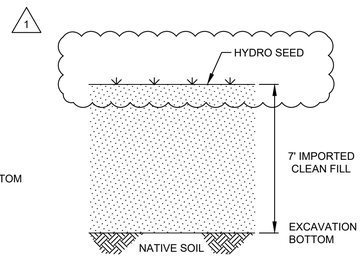


A - SECTION

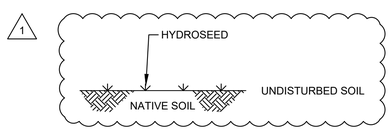
SCALE: N.T.S.



4A C-06 LOT 1 3-FOOT EXCAVATION
AREA RESTORATION



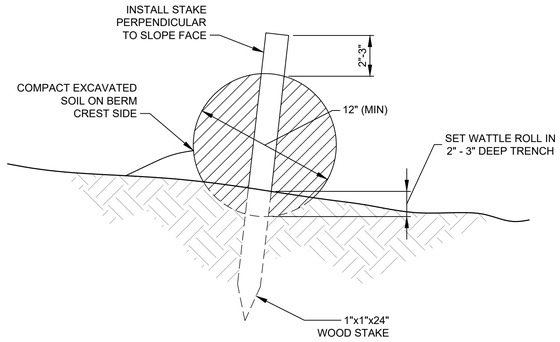
4B C-06 LOT 1 7-FOOT EXCAVATION
AREA RESTORATION



4C C-06 LOT 1 UN-EXCAVATED (PAVEMENT ONLY REMOVED)
AREA RESTORATION

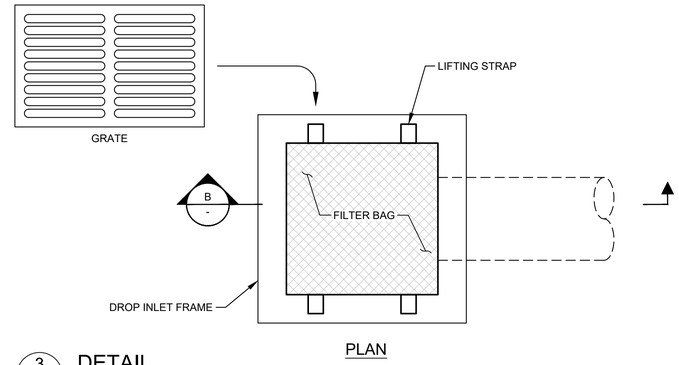
4 C-06 LANDSCAPE RESTORATION DETAILS

SCALE: N.T.S.



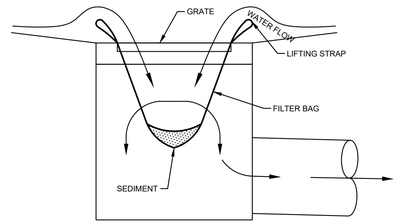
2 C-02 TYPICAL DETAIL
COIR LOG

SCALE: N.T.S.



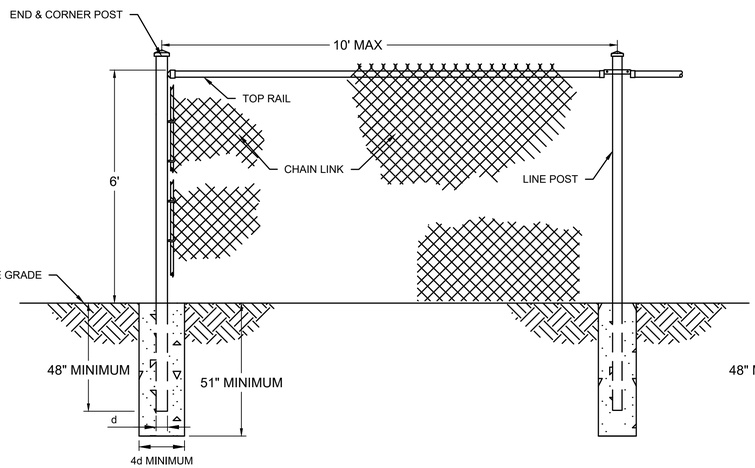
3 C-02 DETAIL
STORM DRAIN INLET CONTROL

SCALE: N.T.S.



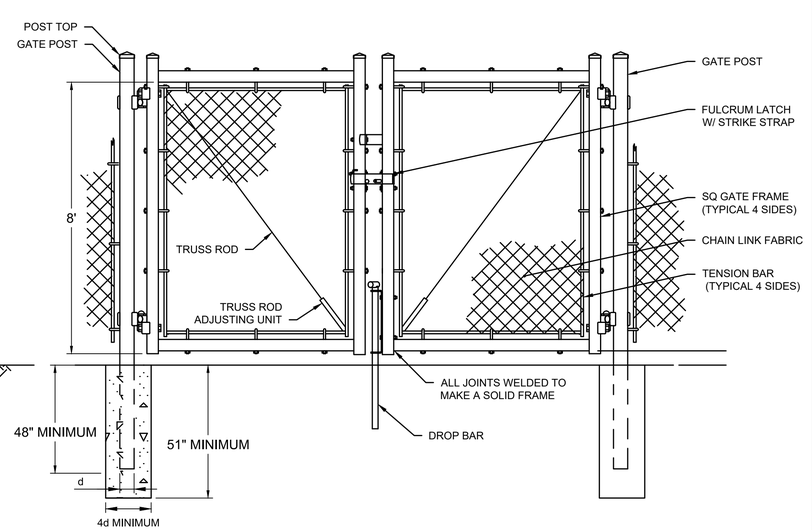
B - SECTION
FILTER BAG

SCALE: N.T.S.



5 D-06 DETAIL
TYPICAL FENCE

SCALE: N.T.S.



6 C-02 DETAIL
TYPICAL VEHICLE GATE

SCALE: N.T.S.

ISSUED FOR CONSTRUCTION

NO.	DATE	ISSUE/REVISION	APP
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Attention: 0 1" — If this scale bar does not measure 1" then drawing is not original scale.

ILEEN S. GLADSTONE MA, P.E. LICENSE NO.: 34655

Designed:	L. LOMBARDO
Checked:	C. PRAY
Drawn:	J. MORIN
Submitted By:	I. GLADSTONE
P.E. Number:	34655

GEI Consultants
GEI CONSULTANTS, INC.
400 UNICORN PARK DRIVE
WOBURN, MA 01801
(781)721-4000

GEI Project 1802441

Targeted Excavations - Lot 1 and Lot 2
Former Tombarello Property
Lawrence, Massachusetts

DETAILS

DWG. NO. D-01

SHEET NO. 9 OF 9

ISSUED FOR CONSTRUCTION
TECHNICAL SPECIFICATIONS
FOR

LOTS 1 AND 2 TARGETED EXCAVATIONS
FORMER TOMBARELLO PROPERTY
LAWRENCE, MASSACHUSETTS

Prepared by
GEI Consultants, Inc.
400 Unicorn Park Drive
Woburn, MA 01801

May 1, 2020

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CHEMICAL TESTING RESULTS – EXCAVATION AREA SOIL SAMPLES

SOIL BORING AND MONITORING WELL LOGS

SECTION 01100

SUMMARY OF WORK

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Site Description.

B. Contract Description.

1.2 SITE DESCRIPTION

A. Work site is on property owned by the City of Lawrence at 207 Marston Street in Lawrence, Massachusetts. The property has been subdivided into two Lots, Lot 1 and Lot 2. Work will be conduct on both Lots.

B. The Site is vacant and was historically operated as a scrap metals recycling facility.

C. Site soil is contaminated with polychlorinated biphenyls (PCBs), metals (particularly lead), petroleum hydrocarbons, and polynuclear aromatic hydrocarbons (PAHs).

D. Subsurface utilities including storm, sewer, water, gas and telephone lines may be present in work areas.

1.3 CONTRACT DESCRIPTION

A. The Work on Lot 1 is removal and offsite disposal of asphalt from a limited area; excavation and offsite disposal of an extractable petroleum hydrocarbon (EPH) hot spot in soil; and excavation and offsite disposal of soil with PCB concentrations greater than 1 and less than 50 parts per million (ppm). The objectives are to eliminate the EPH hot spot and to achieve less than or equal to 1 ppm PCBs in remaining soil.

B. As an alternative to offsite disposal of asphalt removed from Lot 1, the Work may include onsite crushing and placement on Lot 2 of crushed asphalt.

C. The Work on Lot 2 is excavation and offsite disposal of soil with PCB concentrations greater than 100 ppm from select areas. The objective is to achieve less than or equal to 100 ppm PCBs in remaining soil at the select areas.

D. Lots 1 and 2 excavations will be backfilled with clean imported fill.

E. As an alternative to backfill with clean imported fill, Lot 2 excavations may be backfilled with either processed asphalt from Lot 1 or soil from an existing soil consolidation area on Lot 2.

F. Some of the soil to be excavated may require lead stabilization to decrease the leaching potential of lead in soil prior to excavation and offsite disposal.

G. The Work will be conducted as a Release Abatement Measure (RAM) under the provisions of the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000) and in accordance with the U.S. Environmental Protection Agency (EPA) Toxic Substances Control Act (TSCA; 40 CFR 761).

H. The Work includes constructing and maintaining temporary facilities including, but not limited to Materials Management Area (MMA), temporary decontamination pad/wheel wash, a privacy screen on portions of the existing perimeter fence, and site sanitary facilities.

I. The Work includes installing a new vehicle gate south of existing vehicle gate to provide Site access from Marston Street without crossing excavation areas on Lot 1.

J. At completion of work on Lot 1, install new chain link fence along southern perimeter of removed asphalt.

K. Prepare and implement a Materials Management Plan (MMP) and a Health and Safety Plan (HASP).

L. Excavate Lot 2 locations prior to excavating Lot 1 locations.

M. Decontaminate equipment after excavating Lot 2 locations, prior to excavating Lot 1 locations, and prior to leaving the Site.

N. Transport and dispose of excavated material based on category assigned by the Engineer. It is expected that soil excavated from Lot 1 will be classified as Category A, B, or C. It is expected that soil excavated from Lot 2 will be classified as Category D.

O. Demolition and offsite disposal of the shed and its contents, on Lot 1. To be performed at the City's discretion.

P. Hydroseed the disturbed portion of Lot 1.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01200

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Measurement and payment criteria applicable to portions of the Work performed under a unit price payment method.

B. Measurement and payment criteria applicable to portions of the Work performed under a lump sum payment method.

C. Defect assessment and non-payment for rejected work.

1.2 SUBMITTALS

A. Schedule of Values, before the first application for payment.

B. Monthly Payment Applications.

C. Final Payment Application.

1.3 UNIT QUANTITIES SPECIFIED

A. Quantities indicated on the Project Price Schedule are for bidding and contract purposes only. Quantities and measurements supplied or placed in the Work and verified by the Owner determine payment.

B. If the actual Work requires more or fewer quantities than those quantities indicated, provide the required quantities at the unit prices contracted.

1.4 MEASUREMENT OF QUANTITIES

A. Measurement Devices.

1. Weigh Scales: Inspected, tested, and certified by the applicable State Weights and Measures Department within the past year.
2. Platform Scales: Of sufficient size and capacity to accommodate the conveying vehicle.
3. Metering Devices: Inspected, tested, and certified by the applicable State Department within the past year.
4. Provide documentation of outside source scales to the Owner.

B. Measurement by Weight:

1. Weigh Scales: Certified in accordance with applicable laws and regulations for the state in which the scales are located. Certification must be within a period of not more than one year prior to the date of use.

2. The term "ton" will mean the short ton consisting of 2,000 pounds.

3. For shipments to off-site disposal facilities, trucks will be weighed at the receiving facility for the purpose of measuring the quantity of Work for payment.

C. Measurement by Volume: Measured by cubic dimension using mean length, width, and height or thickness.

1. Measurement for excavation, demolition, or removal of materials will be in place before work.

2. Measurement for backfilling, placement, or installation of materials will be in place after work.

3. Volumes measured as in-place volumes will be determined by survey. The Contractor shall retain the services of an independent surveyor, licensed in the Commonwealth of Massachusetts, whose determination of in-place volumes will be authoritative and final for the purpose of measurement for payment. To compute in-place volumes, use the surface comparison function in the surveying software program, or other methods acceptable to the Engineer. Unless stated otherwise, all volumes measured for payment will be measured as in-place volumes.

D. Measurement by Area: Measured by square dimension using mean length and width or radius, and verified by the Engineer.

E. Linear Measurement: Measured by linear dimension at the item centerline or mean chord, and verified by the Engineer.

F. Measurement by Time: Measured by actual time, rounded to the nearest specified time unit, and verified by the Engineer.

1.5 PAY ITEMS

A. Payment for all items includes full compensation for all labor, materials, tools, equipment, plant, transportation services and incidentals, erection, breakdown and equipment removal, application, installation, and testing of an item of the Work; overhead and profit necessary to the completed Work and for performing all Work contemplated and embraced under the Contract; and for completing the Work according to the Contract Documents. Neither the payment of any estimate nor of any retained percentage relieve the Contractor of any obligation to make good any defective work or material

B. The extents of the Work are shown on the Drawings; these lines show the limits of Work that will be measured for payment. All quantities of work performed outside the limits, unless otherwise specified or directed by Owner, will not be paid for.

C. If the actual Work requires more or fewer units than the estimated units indicated on the Project Price Schedule, provide the required units at the contracted unit price. Under no circumstances may the Contractor exceed estimated quantities without prior written approval from the Engineer.

D. The Owner reserves the right to increase or decrease any pay item quantity, or to eliminate any pay item, as a result of the actual conditions encountered during the performance of the Work.

E. Payment for Unit Price Items:

1. Payment shall fully compensate the Contractor for any other work that is not specified or shown, but that is necessary to complete the Work specified or shown.

2. Payment for unit price items will be made on the basis of the actual measurements and quantities accepted by the Owner for Work which is incorporated in or made necessary by the Work.

F. Payment for Lump Sum Items:

1. Payment shall fully compensate the Contractor for any other work that is not specified or shown, but that is necessary to complete the Work specified or shown.

2. Partial payments for lump sum items may be made based on work performed as pro-rated against a schedule of values determined by the Contractor and accepted by the Engineer.

1.6 DEFECT ASSESSMENT

A. Replace the Work, or portions of the Work, as determined by the Owner or Engineer, not conforming to specified requirements at no additional cost to Owner or Engineer.

B. If, in the opinion of the Engineer or Owner, it is not practical to remove and replace the Work, the Engineer or Owner will direct one of the following remedies:

1. The defective Work may remain, but the unit sum/price will be adjusted to a new sum/price at the discretion of the Owner.

2. The defective Work will be partially repaired to the satisfaction of the Engineer or Owner, and the unit sum/price will be adjusted to a new sum/price at the discretion of the Owner.

C. The individual specification sections may modify these options or may identify a specific formula or percentage sum/price reduction.

D. The authority of the Engineer or Owner to assess the defect and identify payment adjustment, is final.

1.7 SCHEDULE OF VALUES

A. Submit on Contractor’s standard form.

1.8 PROGRESS PAYMENTS

A. Submit monthly payment applications.

B. Include the accepted schedule of values for each portion of work.

C. Preparation:

1. Round values to the nearest dollar.
2. List each Change Order and Written Amendment executed prior to date of payment request as separate line items.

1.9 NONPAYMENT FOR REJECTED OR UNUSED MATERIALS

A. Payment will not be made for the following:

1. Materials excavated and/or placed beyond the limits of work shown on the Drawings, except as specifically required by the Engineer.
2. Loading, hauling, and disposing of rejected material.
3. Quantities of material wasted or disposed of in a manner not called for under Contract Documents.
4. Rejected loads of material, including material rejected after it has been placed by reason of failure of Contractor to conform to provisions of Contract Documents.
5. Material not completely unloaded from transporting vehicle.
6. Defective work not accepted by Owner.
7. Material remaining on hand after completion of Work.
8. Material that originally had concentrations of polychlorinated biphenyls (PCBs) less than or equal to 1 parts per million (ppm) but results in PCB concentrations greater than 1 ppm due to Contractor's careless handing or use of unauthorized procedures, and material that originally had concentrations of PCBs less than 50 parts per million (ppm) but results in concentrations equal to or greater than 50 ppm due to the Contractor's careless handling or use of unauthorized procedures. This includes mixing soil from separate excavations and storage containers with different reuse, recycling, or disposal requirements.
9. Delays of work resulting from temporary storage of excavated material, regardless of field classification by the Engineer.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01300

COORDINATION, FIELD ENGINEERING, AND MEETINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Coordination.

B. Field engineering.

C. Preconstruction meeting.

D. Site mobilization meeting.

E. Progress meetings.

F. Pre-installation meetings.

G. Special procedures.

1.2 MEASUREMENT AND PAYMENT

A. 01300-01: Surveying – lump sum.

B. Except for land surveying, the items of work of this section will not be paid separately. Include costs for the work items of this section in other pay items.

1.3 COORDINATION

A. Coordinate scheduling, submittals, and work to ensure efficient and orderly construction.

B. After Owner occupancy, coordinate access for correction of defective work or work not completed in accordance with Contract Documents.

1.4 FIELD ENGINEERING

A. Refer to Section 02050-01 for field surveying requirements during excavation.

B. Employ Land Surveyor registered in Commonwealth of Massachusetts and acceptable to Engineer.

C. Engineer will provide AutoCAD files of the Contract Drawings to Contractor.

D. Establish horizontal control points and benchmarks, as needed. Protect the reference points from disturbance during performance of the Work.

E. When laying out and controlling the performance of the Work, use horizontal and vertical datums that are consistent with those used in the Contract Drawings.

F. Provide field engineering services. Use recognized engineering survey practices.

G. Establish elevations, lines, and levels. Verify setbacks and easements. Confirm elevation and drawing dimensions.

H. Perform the terrestrial survey Work using a total station with the following measurement tolerances and specified datums:

1. Horizontal: +/- 0.05 feet; North American Datum of 1983 (NAD83).
2. Vertical: +/- 0.01 feet; North American Vertical Datum of 1988 (NAVD88).

I. Maintain complete and accurate log of control and survey work as Work progresses.

J. Document that Work does not fall outside of the property lines shown on the Drawings.

1.5 PRECONSTRUCTION MEETING

A. Engineer or Owner to schedule meeting after Notice of Award (NOA).

B. Attendance Required: Owner, Engineer, and Contractor.

C. Agenda:

1. Submission of executed bonds and insurance certificates.
2. Distribution of Contract Documents.
3. Submission of list of Subcontractors, list of products, schedule of values, and progress schedule.
4. Designation of personnel representing parties in Contract and Engineer.
5. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
6. Scheduling.

D. Engineer will record minutes and distribute copies within five days after meeting to participants, with one copy to Owner, Contractor, and those affected by decisions made.

1.6 SITE MOBILIZATION MEETING

A. Engineer or Owner will schedule meeting prior to Contractor occupancy.

B. Attendance Required: Owner, Engineer, Contractor, and major Subcontractors.

C. Agenda:

1. Use of premises by Owner and Contractor.
2. Owner's requirements.
3. Construction facilities and controls provided by Contractor.
4. Temporary utilities provided by Owner.

5. Survey layout.
6. Security and housekeeping procedures.
7. Schedules.
8. Application for payment procedures.
9. Procedures for testing.
10. Procedures for maintaining record documents.
11. Requirements for start-up of equipment.
12. Inspection and acceptance of equipment put into service during construction period.

D. Engineer will record minutes and distribute copies within five days after meeting to participants, with one copy to Owner, Contractor and those affected by decisions made.

1.7 PROGRESS MEETINGS

A. Engineer or Owner will schedule and administer weekly progress meetings.

B. Engineer or Owner will make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.

C. Attendance Required: Job superintendent, major subcontractors and suppliers, Owner, Engineer, as appropriate to agenda topics for each meeting.

D. Agenda:

1. Review minutes of previous meetings.
2. Review of Work progress.
3. Field observations, problems, and decisions.
4. Identification of problems impeding planned progress.
5. Review of submittals schedule and status of submittals.
6. Maintenance of progress schedule.
7. Corrective measures to regain projected schedules.
8. Planned progress during succeeding work period.
9. Coordination of projected progress.
10. Maintenance of quality and work standards.
11. Effect of proposed changes on progress schedule and coordination.
12. Other business relating to Work.

E. Engineer will record minutes and distribute copies within five days after meeting to participants, with one copy to Owner, Contractor, and those affected by decisions made.

1.8 PRE-INSTALLATION MEETINGS

A. When required in individual specification sections, convene pre-installation meetings at Project site prior to commencing work of specific section.

B. Require attendance of parties directly affecting, or affected by, work of specific section.

C. Notify Engineer four days in advance of meeting date.

D. Prepare agenda and preside at meeting:

1. Review conditions of installation, preparation and installation procedures.

2. Review coordination with related work.

E. Engineer will record minutes and distribute copies within five days after meeting to participants, with two copies to Owner, Contractor, and those affected by decisions made.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01330

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. General Requirements.

B. Submittal procedures.

C. Construction progress schedules.

D. Proposed products list.

E. Product data.

F. Shop drawings.

G. Samples.

H. Certificates.

1.2 MEASUREMENT AND PAYMENT

A. The items of work of this section will not be paid separately. Include costs for the work items of this section in other pay items.

1.3 GENERAL REQUIREMENTS

A. Accompany submittals with a submittal form. Include project name, project number, dates of submittal, submittal description/title, submittal exclusions, special issues, subcontractor, etc. on each submittal. Submittal form must be signed by an individual authorized to sign on behalf of the Contractor.

B. The Engineer will review all submittals solely for the purpose of determining whether the information contained in the submittal conforms with the Agreement. The Engineer will return the submittals with the following classifications:

1. Work May Proceed: Reviewed for general consistency with Agreement, no correction or marks.
2. Work May Proceed Subject to the Changes Indicated. Resubmittal not required: minor corrections. Proceed with work subject to comments and revisions; no resubmittal is required.
3. Work May Proceed Subject to the Changes Indicated. Resubmittal required: minor corrections. Proceed with work subject to comments and revisions; a resubmittal is required.
4. Work May Not Proceed. Revise and Resubmit. Major corrections or not in conformance with Agreement. Correct and resubmit.

5. For Information Only: Items not reviewed or items for which no submittal is required.

C. Engineer's review of submittals for conformance with Agreement does not relieve the Contractor of its responsibility with regard to fulfillment of the terms of the Agreement and proper and complete performance of the Work in accordance with the requirements of the Drawings, Specifications, applicable Permits, as well as the general requirements of the Agreement.

D. Engineer's review of submittals does not relieve the Contractor from responsibility for errors or omissions in the Contractor's designs, details, calculations, analyses, test methods, materials, and Means and Methods of Construction, and safe and successful construction of the Work.

1.4 SUBMITTAL PROCEDURES

A. Transmit each submittal with a Submittal Form. Submittals received without the Submittal Form will not be reviewed.

B. Identify Project, Contractor, subcontractor and supplier; pertinent drawing and detail number, and specification section number, appropriate to submittal.

C. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction work, and coordination of information is in accordance with requirements of the Work and Contract Documents.

D. Provide all submittals in electronic format directly to the Engineer and Owner in accordance with the submittal schedule attached at the end of this Specification. The Engineer and Owner reserve the right to request that any submittal be requested via paper copy.

E. For all submittals requested via paper copy, provide two (2) copies to the Engineer and Owner unless otherwise directed.

F. Allow 5 business days for submittal review by Engineer and Owner.

G. Identify variations from Contract Documents and product or system limitations which may be detrimental to successful performance of completed Work.

H. Provide space on submittals for Contractor and Engineer review stamps.

I. Revise, update, and resubmit, identifying all changes made since previous submission. For each resubmittal (in response to "Work may proceed subject to change" and "Work may not proceed") allow the same number of workdays required for the original submittal, unless otherwise specified.

J. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report inability to comply with requirements.

K. Submittals not requested will not be recognized or processed.

1.5 CONSTRUCTION PROGRESS SCHEDULES

A. Submit initial schedules within 5 calendar days after date of Owner-Contractor Agreement. After review, resubmit required revised schedule within 3 calendar days.

B. Submit revised Progress Schedules with each Application for Payment.

C. Distribute copies of reviewed schedules to Project site file, subcontractors, and other concerned parties.

D. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.

E. Submit computer generated horizontal bar chart with separate line for each major portion of work or operation, identifying first workday of each week.

F. Show complete sequence of construction by activity, identifying work of separate stages and other logically grouped activities. Indicate early and late start, early and late finish, float dates, and duration.

G. Indicate estimated percentage of completion for each item of Work at each submission.

H. Submit separate schedule of submittal dates for shop drawings, product data, and samples, including products identified under Allowances and dates reviewed submittals will be required from Engineer. Indicate delivery dates for products identified under Allowances.

I. Revisions To Schedules:

1. Indicate progress of each activity to date of submittal, and projected completion date of each activity.
2. Identify activities modified since previous submittal, major changes in scope, and other identifiable changes.
3. Prepare narrative report to define problem areas, anticipated delays, and impact on Schedule. Report corrective action taken, or proposed, and its effect including effect of changes on schedules of separate contractors.

1.6 PROPOSED PRODUCTS LIST

A. Within 5 calendar days after date of Owner-Contractor Agreement, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product. Submit two copies to the Engineer, one copy to the Owner, and one to the Site.

B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

C. Shop Drawings: Submit for review. After review, produce copies and distribute in accordance with the SUBMITTAL PROCEDURES article above and for Record Documents purposes described in Section 01700 – Execution and Closeout Requirements.

1.7 PRODUCT DATA

A. Submit to Engineer for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.

B. Submit number of copies Contractor requires, plus two copies Engineer will retain.

C. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

D. After review, produce copies and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents described in Section 01700 – Execution and Closeout Requirements.

1.8 SHOP DRAWINGS

A. Shop Drawings: Submit to Engineer for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.

B. When required by individual specification sections, provide shop drawings signed and sealed by professional engineer responsible for designing components shown on shop drawings.

1. Include signed and sealed calculations to support design.
2. Submit drawings and calculations in form suitable for submission to and approval by authorities having jurisdiction.
3. Make revisions and provide additional information when required by authorities having jurisdiction.

C. Submit in electronic form.

D. After review, produce copies and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents described in Section 01700 – Execution and Closeout Requirements.

1.9 SAMPLES

A. Submit to Engineer for review. Engineer to locate storage facilities for samples.

B. Submit samples to illustrate functional and aesthetic characteristics of Products, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.

C. Include identification on each sample, with full Project information.

D. Submit number of samples specified; Engineer will retain one sample.

E. Reviewed samples which may be used in the Work are indicated in individual specification sections.

1.10 CERTIFICATES

A. When specified in individual specification sections, submit certification by manufacturer, installation/application subcontractor, or Contractor to Engineer, in quantities specified for Product Data.

B. Indicate material or Product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

C. Certificates may be recent or previous test results on material or Product, but must be acceptable to Engineer.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

TABLE 1
LIST OF SUBMITTALS

Specification	Reference Section	Submittals Required	Due Date or Delivery Time
Coordination, Field Engineering, and Meetings	01300	Contact Information and Qualifications of construction surveyor. Certificate of Insurance Coverage.	7 calendar days prior to starting survey work.
		Final survey Plan.	Within 15 workdays of final inspection of Work.
Regulatory Requirements	01410	Construction Permits.	5 workdays prior to commencement of relevant construction activity.
		Additional Correspondence or Addendum to Permits.	Within 5 workdays of receipt of original.
Submittal Procedures	01330	Initial overall Project schedule and sequencing.	5 calendar days after award of contract.
		Revised Project schedule and sequencing including percent completion.	With each application for payment.
		Proposed major product list	5 calendar days after award of contract.
Environmental Protection and Pollution Control	01510	Pollution Protection Plan	7 calendar days prior to mobilization
Health and Safety	01610	Contractor's Health and Safety Plan.	7 calendar days after award of contract.
		Safety Data Sheets.	With appropriate product submittal.
		Documentation of worker 40-hour training and medical monitoring	5 workdays prior to mobilization.
		Accident reports.	7 calendar days after date of accident.
Records and Closeout	01700	Written certification that the Agreement has been reviewed, Work has been inspected, and Work is complete.	5 workdays prior to final inspection.
		Updated Record Documents for Work related to progress payments.	5 workdays prior to application for progress payments.
		Final Copies of Record Documents (Drawings, Details, Addenda, etc.)	5 workdays prior to final inspection.

TABLE 1
LIST OF SUBMITTALS

Specification	Reference Section	Submittals Required	Due Date or Delivery Time
Excavated Material Management	02050	List of Disposal Facilities	5 work days after award
		Material Management Plan	10 workdays prior to mobilization.
		Soil Treatment/Stabilization Plan	10 workdays prior to mobilization.
		Storage Container Tracking Log.	Daily.
		Manifests, Bill of Lading log sheets, weight slips.	5 calendar days following final delivery of material covered by a manifest or BOL.
Earthwork	02300	Soil sample, source information.	10 calendar days before scheduled backfilling.
		Analytical laboratory testing results.	10 calendar days before scheduled backfilling.
		Vendor seed mix certification	5 calendar days before use.
		Sketch Plan for excavations.	5 workdays after final excavation
Erosion Controls	02374	Samples and Product Data	10 workdays prior to mobilization.

SECTION 01400

QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Quality control of installation.

B. Tolerances.

C. References.

D. Inspecting and testing laboratory services.

1.2 MEASUREMENT AND PAYMENT

A. The items of work of this section will not be paid separately. Include costs for the work items of this section in other pay items.

1.3 QUALITY CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, Site conditions, and workmanship to produce work of specified quality.

B. Comply with manufacturers' instructions, including each step in sequence.

C. Should manufacturers' instructions conflict with the Agreement, request clarification from Engineer before proceeding.

D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Perform Work by persons qualified to produce workmanship of specified quality.

F. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

G. The Contractor’s superintendent is requited to monitor site conditions, quality of product installation, quality of workmanship, and to take actions when necessary to meet quality requirements.

1.4 TOLERANCES

A. Monitor tolerance control of installed Products to produce acceptable work. Do not permit tolerances to accumulate.

B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with the Agreement, request clarification from Engineer before proceeding.

C. Adjust Products to appropriate dimensions; position before securing Products in place.

1.5 REFERENCES

A. For Products or workmanship specified by association, trade, or other consensus standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. Conform to reference standard by date of issue current on date of the Agreement, except where a specific date is established by code.

C. Obtain copies of standards as specified.

D. Neither the contractual relationship, duties, responsibilities of the parties in the Agreement, nor those of the Engineer will be altered from the Agreement by mention or inference otherwise in any reference document.

E. When specified reference standards or regulations contradict with Contract Documents request clarification from the Engineer, before proceeding.

1.6 INSPECTING AND TESTING LABORATORY SERVICES

A. Owner may appoint, employ, and pay for specified services of an independent firm to perform inspecting, sampling, and testing for Quality Assurance. The independent firm will perform inspections, sample collection, tests, and other services specified in individual Specification sections and as required by the Engineer or the Owner.

B. The Contractor shall provide all material property tests necessary to show that materials from proposed sources meet the requirements of the Specification.

C. Inspecting, testing, and source quality control and quality assurance may occur on or off the Site as required by the Engineer or the Owner.

D. Reports will be submitted by the independent firm to the Engineer, Owner, and Contractor, in triplicate, indicating observations and results of tests and indicating compliance or non-compliance with the Agreement.

E. Results of field tests completed by the Owner or Engineer will be available to the Contractor at the end of the next working day following completion of the tests. Verbal results may be presented earlier to the Contractor.

F. Base final acceptance of all materials, placement, and compaction on a review of the quality control and quality assurance tests, as well as on visual observation of the Owner or Engineer of the placement, conditioning, and compaction procedures.

G. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage, safe access, and assistance by incidental labor as requested.

1. Notify Engineer and independent firm at least 24 hours prior to expected time for operations requiring services.

H. Testing or inspecting does not relieve Contractor from responsibility to perform Work according to the Agreement or from monitoring or maintaining quality control.

I. Retesting required because of non-conformance to specified requirements will be performed by the same independent firm on instructions by the Engineer or Owner. The Contractor shall pay for retesting by deducting inspecting or testing charges from the Contractor's next invoice or retainage.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01410

REGULATORY REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Submittals.

B. Project Documents.

C. Project Permits Obtained by Owner.

D. Project Permits Obtained by Contractor.

1.2 MEASUREMENT AND PAYMENT

A. The items of work of this section will not be paid separately. Include costs for the work items of this section in other pay items.

1.3 SUBMITTALS

A. Submit copies of all applicable Permits to the Owner and Engineer. Submit Permits at least 5 workdays prior to start of relevant work.

B. Submit additional correspondence or addendum to Permits to the Owner and Engineer within 5 workdays prior to start of relevant work.

1.4 PROJECT DOCUMENTS

A. Maintain on Site complete and accurate copies of all Permits, addenda, or relevant correspondence from appropriate agencies.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 PROJECT PERMITS OBTAINED BY OWNER

A. The Work will be conducted as a Release Abatement Measure (RAM) under the provisions of the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000). The Owner will submit a RAM Plan to MassDEP prior to the start of intrusive activities.

B. The Work on Lot 2 will be conducted in accordance with the *Performance Based* Disposal provisions of TSCA (40 CFR 761.61(b)). No approvals or permits are required for the work on Lot 2.

C. A portion of the Work on Lot 1 will be conducted in accordance with the *Self-Implementing On-site Cleanup and Disposal* provisions of TSCA (40 CFR 761.61(a)). The Owner will submit to EPA for approval a Self-Implementing Cleanup and Disposal Plan. Offsite disposal or backfilling of Excavation Area #4 on Lot 1 cannot begin until EPA approval is obtained.

D. The Owner may obtain a Beneficial Use Determination (BUD) from MassDEP for the onsite crushing and reuse of asphalt pavement removed from Lot 1. Onsite crushing and reuse of asphalt shall not be conducted unless and until Authorization is issued by MassDEP and if directed to do so by the Owner or Engineer.

3.2 PROJECT PERMITS OBTAINED BY THE CONTRACTOR

A. Obtain all other permits required in accordance with local, Commonwealth of Massachusetts, and Federal regulations, including permits required for work near underground and overhead utilities and other relevant work.

3.3 PROJECT PERMIT COMPLIANCE

A. Comply with all terms and conditions of all project permits in the execution of the Work. The Contractor shall also be responsible for any and all fines and/or penalties resulting from noncompliance with project permit requirements.

END OF SECTION

SECTION 01500

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Construction facilities include vehicular access and parking, and progress cleaning and waste removal.

B. Temporary controls include barriers, enclosures and fencing, privacy screen on fencing, security, storm water drainage, dust control, erosion and sediment control, and pollution control (e.g. decontamination pads).

C. Removal of facilities and controls.

1.2 MEASUREMENT AND PAYMENT

A. Item 01500-01: Site mobilization/demobilization, including installation, maintenance, repair, and removal of all temporary facilities and controls – lump sum. Payment will be 50% early, 25% during Work, and 25% at the completion of Work.

B. Item 01500-02: Temporary facilities and controls, including but not limited to sanitation facilities, waste removal, temporary barriers (including privacy screen), erosion and sedimentation controls, dust control, and decontamination pad -lump sum.

C. Item 01500-03: Police Detail (if needed) – day.

1.3 TEMPORARY POWER, WATER, AND SANITATION FACILITIES

A. Provide, maintain, and pay for adequate sanitation facilities.

1.4 VEHICULAR ACCESS AND PARKING

A. Vehicle parking to accommodate construction personnel is restricted to existing asphalt pavement; locate as approved by Engineer.

B. Extend and relocate vehicular access as Work progress requires.

C. Construct temporary decontamination pad/wheel wash station within the Work area; locate as approved by Engineer.

D. Maintain traffic and parking areas free of excavated material, construction equipment, products, mud, snow, and ice.

E. Provide and maintain means of removing mud from vehicle wheels before entering streets.

F. Provide police detail, if required by Owner or Engineer.

1.5 PROGRESS CLEANING AND WASTE REMOVAL

A. Maintain Work Area free of waste materials, debris, and rubbish. Maintain Site in a clean and orderly condition.

B. Perform street sweeping on any private or public roadways where soils from the Work Area have been tracked as necessary and as directed by the Engineer.

C. Collect waste materials, debris, and rubbish daily.

1.6 PERSONNEL DECONTAMINATION

A. Comply with all requirements of the Contractor Health and Safety Plan.

B. Provide the means for Owner, Engineer, and visiting regulatory agency representatives, to comply with the Contractor Health and Safety Plan.

C. Provide a decontamination station where personnel can drop equipment and remove personal protective equipment (PPE).

1. Equip the decontamination station with basins for water and detergent, and trash bags or cans for containing disposable PPE and other discarded materials.

2. Supply a sink as a secondary means of personal hygiene for personnel.

1.7 EQUIPMENT DECONTAMINATION

A. Refer to Section 02070 - Decontamination for decontamination procedures for equipment.

1.8 BARRIERS AND FENCING

A. Ensure perimeter fencing remains intact and provide repairs when directed by Engineer.

B. Install a temporary privacy screen on the portions of existing fence along Marston Street and Hoffman Ave. If needed, provide additional reinforcement to prevent damage to the fence during periods of high wind from the addition of the privacy fabric. Promptly repair any damage to the fence and/or privacy fabric.

C. Remove and dispose of offsite vegetation along northern fence line to provide access for installation of privacy screen.

D. Provide barriers to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from damage from construction operations.

1.9 SECURITY

A. Take appropriate precautions to protect Work and property from theft, vandalism, and unauthorized entry.

B. Maintain log of workers and visitors, make available to Owner on request.

C. Ensure that all equipment is de-energized when left on-Site and not in use to prevent electrical/fire/explosive hazards.

1.10 DUST CONTROL

A. Coordinate with Section 02050- Excavated Material Management.

B. Execute Work by methods to minimize raising dust from construction operations. Dust control methods include spraying with water or other Engineer-approved material as necessary; fabric liner on the fence; and removing soil from truck tires and equipment before leaving the Site. Do not create runoff from spraying with water or other Environmental Consultant-approved material.

C. Do not create ice hazards in cold weather. Do not use calcium chloride or other chemicals or solvents.

D. Cover all trucks transporting soil prior to leaving the Site.

E. The action level for total dust in the Work zone is 150 micrograms per cubic meter ($\mu g/m^3$) above background. Provide additional dust control procedures if action levels are exceeded. The Contractor shall monitor dust in the Work zone.

F. The alert level for total dust at the Site perimeter is 100 $\mu g/m^3$ above background for a 15-minute average and no visible dust leaving the Site. Provide additional dust control procedures if alert levels are exceeded.

G. The action level for total dust at the Site perimeter is 150 $\mu g/m^3$ above background for a 15-minute average. Stop work and evaluate activities and implement mitigation measures. Work may resume if mitigation measures are successful at reducing perimeter dust levels to below the action level.

H. The Engineer will monitor dust along the site perimeter and will notify Contractor if alert and action levels are exceeded.

1.11 EROSION AND SEDIMENT CONTROL

A. Coordinate with Section 02374 – Erosion Controls.

B. Furnish, install, and maintain the erosion and sediment controls as shown on the Contract Drawings.

C. Prevent erosion via the use of best management practices.

D. Provide temporary measures including berms, dikes, and drains, and other devices to prevent water flow.

1.12 POLLUTION CONTROL

A. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.

B. Comply with pollution and environmental control requirements of authorities having jurisdiction.

1.13 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary equipment, and materials, prior to Substantial Completion. Clean and repair damage caused by installation or use of temporary work.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01510

ENVIRONMENTAL PROTECTION AND POLLUTION CONTROL

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Erosion and sedimentation control, pollution control, and protection of waterways.

B. Pollution Protection Plan.

C. Submittals

1.2 MEASUREMENT AND PAYMENT

A. The items of work of this section will not be paid separately. Include costs for the work items of this section in other pay items.

1.3 REGULATORY REQUIREMENTS

A. Conform to applicable Commonwealth of Massachusetts, federal, and local regulations for the control, prevention, and remediation of soil and water pollution.

1.4 SUBMITTALS

A. Pollution Protection Plan

1. Include location and method of storing materials in Work Area, containment procedures, and means to be used for containment in the event of a spill.

2. Include plans for the prevention, containment, and control of fuel or oil leakage or spillage resulting from equipment storage, re-fueling, maintenance, and operation in the Contractor staging area and the Work Area.

B. Product Data: Indicate Product standards, physical and chemical characteristics, technical specifications, limitations, maintenance instructions, and general recommendations regarding each material proposed for containment and remediation.

1.5 PROTECTION

A. Limit construction activities to areas within the Limit of Work area shown on the Drawings. Establish erosion and sediment controls as shown on the Drawings. Do not work outside the Limit of Work area without permission of the Owner and regulatory agencies.

B. Perform construction activities by methods that prevent entrance or accidental spillage of solid matter, contaminants, debris, and other pollutants and wastes onto surfaces outside the Work Area.

C. Such pollutants include, but are not restricted to, excavated material, refuse, garbage, sediment from erosion of construction areas, sanitary wastes, industrial waste, leachates, oil, and other petroleum products, mineral salts, and thermal pollution.

D. Manage excavated materials in accordance with Sections 02050 – Excavated Material Management and 02300 – Earthwork.

E. Minimum limits of erosion and sedimentation controls are shown on the Drawings. Establish additional barriers as required to control erosion and runoff from the Work Area and as may be required in the Permits.

F. Establish a staging area. Storage of oil or fuel or fueling of equipment is not allowed outside of the staging area.

G. Store emergency cleanup equipment for oil or fuel spills within the Work Area. The Contractor shall notify the Owner and Engineer within 1 hour of any spill. Environmental media contaminated by oil or fuel spills due to releases from the Contractor's Equipment, or due to the action of its employees or Subcontractors, is the responsibility of the Contractor. Remediate contaminated environmental media at the Contractor's expense as required by applicable local, state, and federal regulations, subject to the approval of the Engineer and Owner.

PART 2 PRODUCTS

2.1 SORBENT PADS

A. Use sorbent pads constructed from a material that effectively absorbs petroleum hydrocarbon materials and resists saturation by water. Provide and store on the Project Site a minimum of 200, 17-inch by 19-inch square pads.

2.2 COIR LOGS

A. Provide coir logs to prevent erosion until vegetative cover is established. See Section 02374 – Erosion Controls.

PART 3 EXECUTION

3.1 PREPARATION

A. Inspect the Work Area. Verify locations of erosion and sediment control.

B. Provide sorbent pads on-site before the Work starts.

3.2 SPILL CLEANUP

A. In the event of a spill, notify the Engineer and Owner, and clean up the spill in accordance with the Pollution Protection Plan.

END OF SECTION

SECTION 01610

HEALTH AND SAFETY

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Personnel Protection Requirements.

B. Safety Data Sheets (SDS).

C. Submittals.

1.2 MEASUREMENT AND PAYMENT

A. Item 01610-01: Provide higher level (Level C) of personal protective equipment (PPE) – day.

B. Other items of work of this section will not be paid separately. Include costs for the work items of this section in other pay items.

1.3 SITE INFORMATION

A. The Engineer will provide to the Contractor for its use as a reference, a copy of the Engineers Site and project-specific Health and Safety Plan, which was prepared for the protection of the Engineers employees.

B. Boring logs and a summary of chemical testing results of soil samples collected from the planned excavation areas are appended to this Specification. The Engineer will conduct additional soil sample for disposal characterization purposes. These data will be provided to the Contractor.

1.4 INFORMATIONAL SUBMITTALS

A. Within 7 calendar days of the Notice to Proceed, submit a Contractor's Health and Safety Plan (HASP) for encountering oil or hazardous materials (OHM), particularly polychlorinated biphenyls (PCBs) and lead, including exposure monitoring, prevention methods, and emergency response procedures.

1. Include procedures for complying with the Commonwealth of Massachusetts Covid-19 Guidelines and Procedures for all Construction Sites and Workers at all Public Work (Attached).

2. Include decontamination procedures for personnel, vehicles, and equipment in accordance with Toxic Substances Control Act (TSCA) regulations (40 CFR 761) and Section 02070 – Decontamination.

3. Include the name, title, and affiliation of the Contractor's designated Health and Safety Officer.

4. The HASP shall be prepared by a qualified professional and shall comply with the requirements of Occupational Safety and Health Administration (OSHA)

Hazardous Waste Operations and Emergency Response (HAZWOPER; 29 CFR 1910.120) and all other applicable regulations, including but not limited to those listed in paragraph 1.5 of this Section.

B. Submit one completed (Material) Safety Data Sheet (M) SDS for each material as required by Federal Standards No. 313E (Material Safety Data, Transportation Safety Data and Disposal Data for Hazardous Materials Furnished to Governmental Activities, revised July 2014) Follow the information in the SDS to assure safe use, handling, storage, and an environmentally acceptable disposal of the hazardous material. Maintain a complete set of SDSs on site.

C. Within 5 work days prior to mobilization, submit documentation to the GEI Corporate Health and Safety Officer or representative prior to the start of field activities that personnel be in direct contact with soil or groundwater are HAZWOPER 40-hour trained and enrolled in a medical surveillance program that complies with OSHA regulations for hazardous waste operations (i.e., 29 CFR 1910.120 and 29 CFR 1926.65).

D. Accident Reporting: Submit a copy of each accident report that the Contractor or Subcontractors submits to their insurance carriers to the Owner within 7 calendar days of date of the accident.

1.5 HEALTH AND SAFETY REQUIREMENTS

A. Construction site health and safety is the sole responsibility of the Contractor.

B. Contractor staff must follow Commonwealth of Massachusetts COVID-19 guidelines and procedures for all construction sites, including implementing social distancing by maintaining a minimum distance of 6-feet from other individuals.

C. PCB contamination, petroleum, polynuclear aromatic hydrocarbons (PAHs), and heavy metal contamination (particularly lead) has been identified in soil at the site.

D. Contractor staff who will potentially be in direct contact with soil or groundwater must conduct the Work in accordance with OSHA 29 CFR 1910.120, as implemented through the Contractor's HASP. Such employees must be HAZWOPER 40-hour trained and enrolled in a medical monitoring program. All site personnel will be required to wear appropriate PPE.

E. Daily Health and Safety briefings will be conducted.

F. Contractors in direct contact with soil that are not in compliance with training requirements and medical monitoring will not be allowed to conduct work.

G. Designate an on-site, full-time Health and Safety Officer responsible for implementing and enforcing the HASP. Perform air quality monitoring, as required by the HASP.

H. The Work will be performed at Personal Protection Level D. This includes hard hat, safety glasses, hearing protection, gloves, and work boots. In the event that the Contractor determines that a level of protection higher than Level D is required, the Contractor's personnel shall stop work, notify Owner and Engineer, and commence

upgrade in level of protection as outlined in the Contractors HASP following Owner and Engineer approval.

I. Conduct work to prevent any on-site employee or others who may be in the general vicinity from exposure to conditions that are unsanitary, hazardous, or dangerous to health and safety, as determined under construction safety and health standards promulgated by the Secretary of Labor under section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 327 et seq.) as amended. Construction Safety and Health Standards promulgated by the Secretary of Labor may be obtained from the regional or area office of the OSHA of the U.S. Department of Labor.

J. Immediately correct violations of the health and safety requirements contained in the Specifications or standards referenced above. Failure of the Owner to provide notification of health and safety violations does not relieve the Contractor from responsibility for conformance with the regulations and the safety of personnel and property.

K. If the Owner identifies violations of the health and safety standards and requirements, the Owner may issue an order to stop all or part of the Work. When satisfactory corrective action is taken, an order to resume work will be issued. The Contractor shall not be entitled to any extension of time, or to any claim for damage or additional compensation by reason of either the notification of a violation or the stop work order.

L. Maintain an accurate record of, and report to the Owner immediately, all cases of death and, within 24 hours, all cases of occupational diseases or traumatic injury to employees or the public involved, and property damage incident to performance of work under this Contract. Report using OSHA Form 300, Log of Work-Related Injuries and Illnesses.

M. The rights and remedies of the Owner provided in the Specifications are in addition to any other rights and remedies provided by law or under this Contract.

N. In the event there is a conflict between the requirements contained in the OSHA Health and Safety Codes and Standards, the U.S. Department of Labor Construction Health and Safety Codes and Standards, promulgated under section 107 of the Contract Work Hours and Safety Act (40 U.S.C. 327 et seq.), as amended, the more stringent requirement will prevail.

1.6 REGULATIONS

A. Comply with all applicable health and safety regulations, including but not limited to:

1. United States OSHA Code of Federal Regulations 29 CFR 1910.120 for Hazardous Waste operations (HAZWOPER).
2. U.S. Environmental Protection Agency (EPA) Executive orders 1440.2 and 1440.3.
3. OSHA Guidance Manual for Hazardous Waste Site Activities, Department of Health and Human Services (DHHS)/National Institute for Occupational Safety and Health (NIOSH) Pub. No. 85-115, 10/85.
4. 29 CFR 1926: Safety and Health Requirements for Construction, OSHA.

5. EPA/625/9-85/006, Protection of Health and Safety at Hazardous Waste Sites: An Overview.
6. 40 CFR 761: TSCA.
7. 454 CMR 10, MA Division of Labor and Industry.
8. 105 CMR 670.0000 and 441 CMR 21.00 (Right to Know).
9. 310 CMR 40.0000 (Massachusetts Contingency Plan).

PART 2 PRODUCTS

2.1 PERSONAL PROTECTIVE EQUIPMENT

A. Provide Level D PPE for all Contractor and Subcontractor personnel in accordance with the Contractor's HASP. Delays in the Work due to inability to provide PPE as site conditions require shall be at no additional cost to the Owner.

B. Be able to provide a level of protection higher than Level D, if necessary.

PART 3 EXECUTION

3.1 HEALTH AND SAFETY IMPLEMENTATION

A. Conduct work in accordance with the Contractor's HASP and applicable regulations.

END OF SECTION

ATTACHMENT 1
COMMONWEALTH OF MASSACHUSETTS
COVID-19 GUIDELINES AND PROCEDURES
FOR ALL CONSTRUCTION SITES AND WORKERS AT ALL PUBLIC WORK
(Reference: https://www.mass.gov/covid-19-guidelines-and-procedures-for-all-construction-sites-and-workers-at-all-public-work), Accessed April 24, 2020

These Guidelines and Procedures MUST be implemented at all times on all construction sites. All construction sites MUST conduct a Safety Stand Down day to disseminate these Guidelines to all employees and workers.

Employee Health Protection – ZERO Tolerance

ZERO TOLERANCE FOR SICK WORKERS REPORTING TO WORK. IF YOU ARE SICK, STAY HOME! IF YOU FEEL SICK, GO HOME! IF YOU SEE SOMEONE SICK, SEND THEM HOME!

If you are exhibiting any of the symptoms below, you are to report this to your supervisor (via phone, text or email) right away, and head home from the job site or stay home if already there.

If you notice a co-worker showing signs or complaining about such symptoms, he or she should be directed to their supervisor (via phone, text or email) and asked to leave the project site immediately.

COVID-19 Typical Symptoms:

- Fever
- Cough
- Shortness of Breath
- Sore Throat

Self-Certify Prior To Shift

Prior to starting a shift, each employee will self-certify to their supervisor that they:

- Have no signs of a fever or a measured temperature above 100.3 degrees or greater, a cough or trouble breathing within the past 24 hours.
- Have not had "close contact" with an individual diagnosed with COVID-19. “Close contact” means living in the same household as a person who has tested positive for COVID-19, caring for a person who has tested positive for COVID-19, being within 6 feet of a person who has tested positive for COVID-19 for about 15 minutes, or coming in direct contact with secretions (e.g., sharing utensils, being coughed on) from a person who has tested positive for COVID-19, while that person was symptomatic.
- Have not been asked to self-isolate or quarantine by their doctor or a local public health official.

Workers that are working in a confined space or inside a closed building envelope will have to be temperature screened by a Medical Professional or Trained Individual provided that such screening is out of public view to respect privacy and results are kept private.

Employees exhibiting symptoms or unable to self-certify should be directed to leave the work site and seek medical attention and applicable testing by their health care provider. They are not to return to the work site until cleared by a medical professional.

General On-the-Job Guidance to Prevent Exposure & Limit the Transmission of the Virus

- No handshaking
- Wash hands often with soap for at least 20 seconds or use an alcohol-based hand sanitizer with at least 60% ethanol or 70% isopropanol
- Contractor and State Agency Field Offices are locked down to all but authorized personnel
- Each jobsite should develop cleaning and decontamination procedures that are posted and shared. These Procedures must cover all areas including trailers, gates, equipment, vehicles, etc. and shall be posted at all entry points to the sites, and throughout the project site.
- A "No Congregation" policy is in effect; individuals must implement social distancing by maintaining a minimum distance of 6-feet from other individuals.
- Avoid face to face meetings – critical situations requiring in-person discussion must follow social distancing
- Conduct all meetings via conference calls, if possible. Do not convene meetings of more than 10 people. Recommend use of cell phones, texting, web meeting sites and conference calls for project discussion
- All individual work crew meetings/tailgate talks should be held outside and follow social distancing
- Please keep all crews a minimum of 6’ apart at all times to eliminate the potential of cross contamination
- At each job briefing/tool box talk, employees are asked if they are experiencing any symptoms, and are sent home if they are
- Each jobsite should have laminated COVID-19 safety guidelines and handwashing instructions
- All restroom facilities/porta-potties should be cleaned and handwashing stations must be provided with soap, hand sanitizer and paper towels
- All surfaces should be regularly cleaned, including surfaces, door handles, laptops, etc.
- All common areas and meeting areas are to be regularly cleaned and disinfected at least once a day but preferably twice a day
- Be sure to use your own water bottle, and do not share
- To avoid external contamination, we recommend everyone bring food from home
- Please maintain Social Distancing separation during breaks and lunch.
- Cover coughing or sneezing with a tissue, then throw the tissue in the trash and wash hands, if no tissue is available then cough into your elbow
- Avoid touching eyes, nose, and mouth with your hands
- To avoid sharing germs, please clean up after Yourself. DO NOT make others responsible for moving, unpacking and packing up your personal belongings
- If you or a family member is feeling ill, stay home!

Work Site Risk Prevention Practices

- At the start of each shift, confirm with all employees that they are healthy.
- We will have a 100% glove policy from today going forward. All construction workers will be required to wear cut-resistant gloves or the equivalent.
- Use of eye protection (safety goggles/face shields) is recommended
- In work conditions where required social distancing is impossible to achieve affected employees shall be supplied PPE including as appropriate a standard face mask, gloves, and eye protection.
- All employees shall drive to work site/parking area in a single occupant vehicle. Contractors / State staff shall not ride together in the same vehicle
- When entering a machine or vehicle which you are not sure you were the last person to enter, make sure that you wipe down the interior and door handles with disinfectant prior to entry
- In instances where it is possible, workers should maintain separation of 6' from each other per CDC guidelines.
- Multi person activities will be limited where feasible (two person lifting activities)
- Large gathering places on the site such as shacks and break areas will be eliminated and instead small break areas will be used with seating limited to ensure social distancing.
- Contact the cleaning person for your office trailer or office space and ensure they have proper COVID- 19 sanitation processes. Increase their cleaning visits to daily
- Clean all high contact surfaces a minimum of twice a day in order to minimize the spread of germs in areas that people touch frequently. This includes but is not limited to desks, laptops and vehicles

Wash Stations

All site-specific projects with outside construction sites without ready access to an indoor bathroom MUST install Wash Stations.

- Install hand wash stations with hot water, if possible, and soap at fire hydrants or other water sources to be used for frequent handwashing for all onsite employees
- All onsite workers must help to maintain and keep stations clean
- If a worker notices soap or towels are running low or out, immediately notify supervisors
- Garbage barrels will be placed next to the hand wash station for disposal of tissues/towels

Do all you can to maintain your good health by: getting adequate sleep; eating a balanced, healthy diet, avoid alcohol; and consume plenty of fluids.

Please Note: This document is not intended to replace any formalized procedures currently in place with the General Contractor.

Where these guidance does not meet or exceed the standards put forth by the General Contractor, everyone shall abide by the most stringent procedure available.

A site-specific COVID-19 Officer (who may also be the Health and Safety Officer) shall be designated for every site.

The approved project Health and Safety Plan (HASP) shall be modified to require that the Contractor's site-specific project COVID-19 Officer submit a written daily report to the Owner's Representative. The COVID-19 Officer shall certify that the contractor and all subcontractors are in full compliance with these guidelines.

Any issue of non-compliance with these guidelines shall be a basis for the suspension of work. The contractor will be required to submit a corrective action plan detailing each issue of non-conformance and a plan to rectify the issue(s). The contractor will not be allowed to resume work until the plan is approved by the Owner. Any additional issues of non-conformance may be subject to action against the contractor's prequalification and certification status.

SUPPLEMENTAL GUIDELINES FOR CONSTRUCTION SITES ADDENDUM 1 LIMITING EXPOSURES AND WORKER INFECTION PROTOCOL COVID-19 EMPLOYEE HEALTH, PROTECTION, GUIDANCE AND PREVENTION

Limiting Exposures

Workers should follow the General On-the-Job Guidance to Prevent Exposure & Limit the Transmission of the Virus of the COVID-19 Employee Health, protection, guidance and prevention guide.

In addition, Contractors should advise workers pf best practice to limit exposures off the construction site.

When leaving a construction site for breaks, lunch, or other reasons are required to wash hands with soap for at least 20 seconds or use an alcohol-based hand sanitizer with at least 60% ethanol or 70% isopropanol before leaving the site and must maintain social distancing if traveling to other locations off the construction site. Frequent use of handwashing or alcohol-based hand sanitizers should be encouraged and handwashing facilities and/or alcohol-based hand sanitizers should be made readily available at work sites.

Worker Infection Protocol

As provided in the guidance document, there is a zero tolerance for sick workers reporting to work. Employees should be instructed that even those with mild symptoms of respiratory infection (cough, shortness of breath, sore throat) or fever should stay off work. Contractors shall take immediate steps to limit infections at the job site in the event that a worker discovered to have tested positive for COVID-19 or has COVID-19 related symptoms.

Although it is understood that contractors are enforcing Work Site Risk Prevention Practices including social distancing rules and use of PPE, consistent with guidelines it is also recognized that there may be occasions where someone who has tested positive for COVID-19 or who has COVID-19 symptoms has been present in a work area..

Prompt identification and isolation of potentially infectious individuals is a critical step in protecting workers, vendors, visitors, and others at a worksite.

Identification Of Exposure

The Contractor shall direct workers with COVID-19 related symptoms to leave the jobsite immediately and contact their healthcare provider. The Massachusetts Department of Health (DPH) or a local board of health will make appropriate notifications to those who had direct prolonged contact with the COVID-19 positive workers.

The Contractor shall work with the local board of health to identify any potential jobsite exposures, including :

- Other workers, vendors, inspectors, or visitors to the work site with close contact to the individual
- Work areas such as supply cabinets and designated work stations or rooms
- Work tools and equipment
- Common areas such as break rooms and tables, vending machines, and sanitary facilities

Notification And Quarantine Requirements

As provided by law, the identity of the worker must be kept confidential.

Upon learning of an infection, the contractor must immediately notify the designated COVID-19 safety officer, the site safety officer, and the owner.

Sanitization Requirements

Contractor shall take immediate steps to sanitize common areas and direct work places. This includes all on-site bathroom facilities, any break facilities, and any other common areas on the job site that may have been in close contact with the infected worker.

Sanitation will be conducted with personnel, equipment, and material approved for COVID-19 sanitization.

Identified areas should remain isolated from workers until sanitation process has been completed and area is deemed safe for use.

Returning To Work

All impacted workers should follow CDC and DPH recommended steps concerning return to work. Workers who are considered close contacts to a COVID19 case by public health authorities should not return for 14 days and are subject quarantine by public health.

Workers who leave during the work day due to COVID-19 symptoms and develop COVID-19 as confirmed by laboratory testing or diagnosis by a healthcare provider shall not return to the site until either released from isolation by healthcare provider or public health.

In All Cases

Keep all employee names confidential as required by law. Other employees may be sent home while a workspace is being cleaned but will return to work after cleaning unless advised otherwise by a health care provider. Other employees should be asked to contact their health provider if they have any questions Remind other employees to continue to practice proper sanitation and monitor for flu like symptoms.

SECTION 01700

RECORDS AND CLOSEOUT

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Closeout procedures.

B. Final cleaning.

C. Project record documents.

D. Warranties.

1.2 MEASUREMENT AND PAYMENT

A. The work of this section will not be paid separately. Include costs for the work of this section in other pay items.

1.3 CLOSEOUT PROCEDURES

A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Engineer's review.

B. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

1.4 FINAL CLEANING

A. Execute final cleaning prior to final project assessment.

B. Clean Site; sweep paved areas.

C. Remove waste and surplus materials, rubbish, and construction facilities from Site.

1.5 PROJECT RECORD DOCUMENTS

A. Maintain on Site one set of the following record documents; record actual revisions to the Work:

1. Drawings.
2. Specifications.
3. Addenda.
4. Change Orders and other modifications to the Contract.
5. Reviewed Shop Drawings, Product Data, and Samples.

B. Ensure entries are complete and accurate, enabling future reference by Owner.

C. Store record documents separate from documents used for construction.

D. Record information concurrent with construction progress. Record Documents will be reviewed by the Engineer as the work progresses. Prior to applying for payments, submit Record Documents related to the work for which payment is being requested. The Owner will not accept application for payment without Engineer's verification of Record Documents.

E. Product Specification: Legibly mark and record at each Product section the description of actual Products installed including the following:

1. Manufacturer's name and product model and number.
2. Product substitutions or alternates utilized.
3. Changes made by addenda and modifications.

F. Record Documents and Shop Drawings: Legibly mark in red ink each item to record actual construction including:

1. Measured horizontal and vertical locations of soil and other work referenced to permanent surface structures.
2. Measured locations of utilities and appurtenances encountered during construction, referenced to visible and accessible features of the work.
3. Field changes of dimension and detail.
4. Details not on original Drawings.
5. Stamped as-built survey per Section 01300, Part 1.4.

G. Submit documents to Engineer.

H. Submit final documents to Owner with application for final payment.

1.6 WARRANTIES

A. Execute and assemble transferable warranty documents from subcontractors, suppliers, and manufacturers.

B. Submit prior to final Application for Payment.

C. For items of work for which acceptance is delayed beyond Date of Substantial Completion, provide updated submittal within 10 workdays after acceptance, listing date of acceptance as start of warranty period.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01726

PROTECTION OF EXISTING UTILITIES

PART 1 GENERAL

1.1 SECTION INCLUDES:

A. Requirements for the location and protection of utilities affected by the performance of the Work.

1.2 MEASUREMENT AND PAYMENT

A. The work of this section will not be paid separately. Include costs for the work of this section in other pay items.

1.3 PROJECT CONDITIONS

A. Drawings included in these specifications show existing utilities, but may not show all utilities existing at the job site.

1.4 UTILITY COORDINATION

A. The Contractor is solely responsible for any and all required notifications to utility companies prior to commencing the Work, and for response to any emergencies that may arise during the Work. Certain active and inactive utilities may currently be present at the Site. The exact location and type of utility is to be determined by the Contractor without reliance on information provided by Owner or Engineer

1.5 PROTECTION OF EXISTING UTILITIES

A. Call DigSafe service not less than five working days before performing Work.

1. Request underground utilities to be located and marked within and surrounding construction areas.

B. Comply with the requirements of all applicable utility protection laws or regulations.

C. Contact and cooperate with utility companies to locate all utilities (including pipelines, cables, power poles, guy wires, and other structures) on the Site prior to beginning the Work.

D. Protect all utilities from damage during construction, unless otherwise indicated to be removed or abandoned. If damaged, repair the utilities as required by the utility's owner at the Contractor's expense.

E. If a utility is encountered that is not shown on the Contract Drawings, not identified by the independent utility location company, or otherwise not made known to the Contractor prior to beginning the Work, promptly take the necessary steps to ensure that the utility is not damaged, and notify Owner in writing of the presence of the utility. Owner will review the conditions and determine the extent, if any, to which a change is required in

the Contract Documents to reflect and document the consequences of the existence of the utility.

F. Immediately notify Owner of any incident involving a utility.

G. All utilities within 50-feet of the limits of intrusive work must be located and positively identified prior to the start of intrusive activities.

1.6 SUBMITTALS

A. Submit a utility incident report to Owner within 4 hours of any incident causing direct or indirect damage to a utility. At a minimum, document the following items in a utility incident report:

1. Description of the incident.
2. Damage assessment.
3. Corrective actions taken.
4. Initial estimate on the need for permanent repairs.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 02050

EXCAVATED MATERIALS MANAGEMENT

PART 1 GENERAL

1.1 WORK INCLUDES

A. Excavating, handling, segregating, storing, loading, reusing, recycling, disposing, transporting, and tracking of excavated materials. Materials with varying concentrations of oil and hazardous material (OHM) will be encountered during excavation and material handling, including soils contaminated with PCBs, extractable petroleum hydrocarbons (EPH), and metals, particularly lead. Asphalt pavement and buried debris, including metal, asphalt, brick, and concrete may be encountered during the work and will be managed in accordance with this section.

B. Locating on-site area(s) suitable for material storage (Materials Management Areas [MMAs]) to minimize interference with the Work. Proposed MMAs are schematically shown on the Drawings. Propose actual on-site MMA locations for approval by the Engineer and Owner.

C. Off-site transportation and disposal of excess soil, excavated rubble, and excavated debris including documentation requirements and restrictions for off-site transport and reuse, recycling, or disposal of excavated material are described in this Section. The Contractor shall propose off-site disposal facilities for approval by the Engineer and Owner.

D. The Engineer will pre-characterize soil for off-site reuse, recycling, or disposal. A summary of the soil disposal categories and estimated quantities will be in the Release Abatement Measure (RAM) Plan prepared by the Engineer.

E. The Work will be conducted as a RAM under the provisions of the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000) and in accordance with the U.S. Environmental Protection Agency (EPA) Toxic Substances Control Act (TSCA; 40 CFR 761.61.

F. Dust monitoring requirements are described in this Section. The Contractor will be responsible for monitoring dust in the work zone for the protection of its workers and the Engineer will be responsible for monitoring dust at the Site perimeter for the protection of offsite receptors. The Contractor will implement dust controls if specified action levels are exceeded in the work zone or at the site perimeter.

G. Treatment and/or stabilization requirements for lead in soil.

H. Comply with all applicable regulations, rules, laws, and ordinances of the Commonwealth of Massachusetts, and all other authorities having jurisdiction including, but not limited to the U.S. Environmental Protection Agency (EPA), the MassDEP, and the City of Lawrence. Provide without additional costs to the Owner, all labor, materials, equipment and services necessary to comply with such requirements.

1.2 MEASUREMENT AND PAYMENT

A. Item 02050-01 and -02: Transport and disposal of excavated material will be measured by weight of each category of material transported and described in Section 3.3, as indicated on the receiving facility's certified scale weight – per ton.

1. Item 020501-01: Transportation, Offsite Disposal of Soil at Subtitle D Facility (Category B and C).
2. Item 020501-02: Transportation, Offsite Disposal of Soil at an EPA approved TSCA PCB Disposal Facility (Category D).

B. Item 02050-Alt01: In-place treatment and/or stabilization of material to reduce TCLP lead concentrations from ≥ 5 mg/l to < 5 mg/l (if needed) – measured based on in-place measurement of material per cubic yard.

C. Payment for excavating and loading is in Section 02300 – Earth Work

D. Payment for asphalt pavement removal and offsite disposal is in Section 02419 – Demolition.

1.3 SUBMITTALS

A. Submit to the Engineer for approval within 7 calendar days of award a list of proposed disposal, reuse, or recycling facilities for all classes of material described in Paragraph 3.3 of this Section.

B. Submit to the Engineer for approval a Materials Management Plan (MMP). Allow ten (10) business days for Engineer's review of MMP. Do not begin excavation activity until the Engineer approves the MMP. Include in the MMP:

1. Location, design, and operating plan for the MMA, including proposed container storage area.
2. Procedures for marking PCB-containing material and storage areas.
3. Procedures for segregating, storing, and transporting excavated material.
4. Material tracking sheets for documenting the excavation, storage, and final disposition of all excavated material.
5. Dust and storm water runoff control measures.
6. Description of truck liners and covers that will be used to prevent leakage and dust blow off during transportation of excavated material.
7. Name, location, and classification of the proposed disposal, reuse, or recycling facilities for all classes of material described in Paragraph 3.3 of this Section. Include a copy of each facility's permit (if applicable), acceptance criteria, and required sampling frequency and parameters for characterization for acceptance. Include written confirmation from the reuse, recycling, or disposal facility that they will accept the material if it meets their requirements.
8. Name, address, and license number of hauler who will transport material.

C. At the end of each day, submit material storage container tracking information, as specified in Paragraph 3.2 of this Section.

D. Within 10 business days after transport off-site, submit complete shipping records signed by the transporter and receiving location for all materials transported off-site. Include copies of the receiving facility's weight slips.

E. Along with each Application for Payment, submit comprehensive tracking logs and weight slips for each category of material transported, indicating the receiving facility's certified scale weight.

1.4 RESPONSIBILITIES

A. Contractor's Responsibilities:

1. Propose off-site reuse, recycling, or disposal facilities for each class of material described in Paragraph 3.3 of this Section.
2. Excavate, handle, segregate, store, load, track, and transport to approved reuse, recycling, or disposal facility, materials identified in the Drawings, in accordance with this Section.
3. Transport excavated material directly to receiving facility or segregate excavated materials into containers in the Materials Management Area(s) based on material type and/or information provided by the Engineer. Temporary stockpiling of soil is not acceptable.
4. Maintain storage containers and MMA.
5. Coordinate with offsite reuse, recycling, and disposal facilities approved by the Owner and Engineer, verify testing requirements.
6. Perform on-site in-situ stabilization and confirmatory testing of soil for TCLP lead, if necessary.
7. Control and manage dust.
8. Perform work zone air dust monitoring.
9. Provide survey for establishing extent and depth of excavations; and location of Engineer's verification soil samples.
10. Prepare all documentation required for off-site reuse, recycling, or disposal of materials based on information provided by the Engineer and Owner, except Licensed Site Professional (LSP) Opinion letters, MassDEP Bills of Lading (BOLs), which will be prepared by the Engineer.
11. Decontaminate all tools and equipment, as required.
12. Provide personnel and equipment to assist Engineer with soil sampling, if necessary.
13. Implement health and safety measures and provide health and safety protection for all Contractor and Subcontractor personnel while conducting the Work covered by this Section, particularly upon encountering oil or hazardous material (OHM).

14. Comply with all applicable regulations, this Specification, and recognized standard and regulatory practices. Storage, handling, transport, and on-site reuse of soils are to be in accordance with laws, codes, ordinances, and regulations of Federal, State, and Municipal authorities having jurisdiction. The Owner and the Engineer will not be responsible at any time for the Contractor's violation of any applicable local, state, or federal regulations, or endangerment of laborers or others.

B. Engineer's Responsibilities:

1. Prepare and obtain U.S. Environmental Protection Agency (EPA) approval of a PCB Self-Implementing Cleanup and Disposal Plan (SIP) for the management and disposal of PCB contaminated soil on Lot 1 (Excavation Area #4). PCB contaminated soil in Lot 2 will be managed in accordance with the Performance Based Disposal Provisions of and 40 CFR 761.61(b).
2. Classify materials for purposes of off-site reuse, recycling, or disposal based on the results of laboratory chemical analyses performed by the Engineer. The Engineer will conduct a pre-characterization program to characterize soils to be excavated and disposed off-site.
3. Classify additional materials (if any) that are excavated for purposes of on-site reuse or off-site disposal that were not characterized or classified as part of the in-situ characterization program.
4. Prepare a Release Abatement Measure (RAM) Plan, pursuant to the MCP, and submit to the Massachusetts Department of Environmental Protection (MassDEP) prior to the start of excavation.
5. Review proposed disposal facilities and disposal documentation.
6. Provide information to the Contractor to support preparation of disposal documents.
7. Perform chemical testing required to characterize the excavated material for reuse and/or off-site disposal. Provide laboratory results to the Owner, Contractor, and the disposal/reuse facility.
8. Prepare LSP Opinion Letters, MassDEP BOLs,, if required.
9. Collect soil verification samples at the bottom and sidewalls of the excavation(s) and provide chemical testing results to the Contractor, a minimum of 7 days after sample collection.
10. Perform perimeter dust monitoring in accordance with a Perimeter Air Monitoring Plan (PAMP) prepared by the Engineer.

C. Owner's Responsibilities:

1. Review and approve off-site disposal facilities. The Owner reserves the right to reject and proposed disposal location, at no additional cost to the Owner.
2. Sign all documents as the designated generator for all material reuses, recycled, or disposed off-site except those generated from a release by the Contractor.

1.5 REFERENCES

A. "Massachusetts Contingency Plan" (MCP), 310 CMR 40.0000.

B. "Massachusetts Hazardous Waste Regulations," 310 CMR 30.00.

C. "Solid Waste Management Facility Regulations," 310 CMR 19.00.

D. "Site Assignment Regulation for Solid Waste Facilities," 310 CMR 16.000.

E. "Ambient Air Quality Standards, " 310 CMR 6.00

F. "Resource Conservation and Recovery Act," 40 CFR 262-262.

G. "Hazardous Waste Operations Emergency Response, " Federal Occupational Safety and Health Act (OSHA), 29 CFR 1910.120.

H. "Interim Remediation Waste Management Policy for Petroleum Contaminated Soils," MassDEP Bureau of Waste Site Cleanup Policy No. WSC-94-400.

I. "Reuse and Disposal of Contaminated Soils at Landfills," MassDEP Bureau of Waste Prevention Policy No. COMM-97-001.

J. "Construction of Buildings in Contaminated Areas,' MassDEP Bureau of Waste Site Cleanup Policy No. WSC 00-425, dated January 2000.

K. "Hazardous Waste Operations and Emergency Response," Federal Occupational Safety and Health Act (OSHA), 29 CFR 1910.120.

L. "MassDEP Similar Soils Provisions Guidance, " MassDEP Bureau of Waste Site Cleanup Policy No. WSC#13-500, dated October 2, 2013.

M. "Interim Policy on the Reuse of Soil for Large Reclamation Projects, " MassDEP Bureau of Waste Site Cleanup Prevention Policy No. COMM-15-001, dated August 28, 2015.

N. The Toxic Substances Control Act (TSCA), 40 CFR 760 and 761.

PART 2 PRODUCTS

2.1 GENERAL

A. Provide all employees of the Contractor and the Subcontractor(s) with personal protective equipment and protective clothing consistent with the levels of protection required for this work as indicated in the Contractor's Health and Safety Plan (HASP).

2.2 STORAGE OF EXCAVATED MATERIALS

A. Provide roll-off containers or dump trailers lined with a minimum 6-mil-thick polyethylene sheeting, and covered with waterproof tarps. Covers shall be anchored to resist wind damage, precipitation, meltwater infiltration, and windblown soils.

B. Provide 55-gallon Massachusetts Department of Transportation (MassDOT)-approved drums, or equivalent, suitable for the storage and transport of oil and hazardous materials.

C. Provide signage and/or labels for PCB-containing material or storage areas in accordance with TSCA regulations on all PCB containers (including but not limited to containers and drums) and PCB storage areas (including but not limited to the MMA(s)).

1. The marking shall state the following:

Caution

Contains

PCBs

(Polychlorinated Biphenyls)

A toxic environmental contaminant requiring
special handling and disposal in accordance with
U.S. Environmental Protection Agency Regulations
40 CFR 761 – For Disposal Information contact
the nearest U.S. E.P.A. Office.

In case of accident or spill, call toll free the U.S.
Coast Guard National Response Center:
800.424.8802

Also Contact:
Tel. No.:

2. Marking format:
   a. Letters and striping (along border of mark) shall be placed on a white or yellow background and shall be sufficiently durable to equal or exceed the life (including storage for disposal) of the PCB container or PCB storage area.
   b. The size of the mark shall be at least 15.25 centimeters (6 inches) on each side. If the PCB container is too small to accommodate this size, the mark may be reduced in size proportionately down to a minimum of 5 centimeters (2 inches) on each side.

2.3 DECONTAMINATION

A. Provide decontamination materials and equipment for decontamination as described in Section 02070 – Decontamination).

PART 3 EXECUTION

3.1 GENERAL

A. Perform this Work in accordance with these Specifications and Drawings and the following documents that are to be prepared: The SIP Plan and EPA Approval, and the RAM Plan. Copies of the SIP Plan and EPA Approval, and RAM Plan will be available from the Engineer, once they are issued.

B. Provide personnel and equipment to assist the Engineer perform field testing or to collect samples, if requested.

C. Provide all permits required for Work in this Section.

D. Prior to excavation, survey and stake the limits of the excavation areas shown on the Drawings.

E. As the excavation proceeds, survey and stake the horizontal and vertical extents of the excavations as shown on the Drawings.

F. Sequence excavation such that soil in Lot 2 is excavated prior to soil in Lot 1. Decontaminate equipment after excavation in Lot 2 is complete and prior to excavation in Lot 1 (Refer to Section 02070 – Decontamination).

G. After excavation to limits shown in the Drawings, the Engineer will collect verification samples for laboratory testing. The Contractor will provide the personnel and equipment to assist the Engineer collect soil samples. Verification sampling is further described in Section 3.2.

H. Survey locations of the Engineer's PCB verification soil samples.

I. Load and transport all excavated material directly to the receiving facility or store in containers in the MMAs.

J. Provide dust and stormwater control measures. Refer to Section 02374 – Erosion Controls.

K. Implement control measures to prevent discharge of stored soils to wetlands, storm drains, and sewers. Control measures may include, but are not limited to temporary berms, coir logs, and temporary covers. Remove control measures upon completion of the work.

L. Immediately notify the Engineer of visible stains or unnatural odor of any excavated material, or if oil or potentially hazardous material is encountered.

M. Transport excavated materials to the MMA(s), except those identified by Engineer as appropriate for direct loading, transporting, and off-site reuse, recycling, or disposal. All materials will be stored in containers. Stockpiling is not acceptable unless approved by the Engineer.

3.2 VERIFICATION SAMPLING

A. Excavation of the areas shown on the Drawings will be considered complete if PCB concentrations in verification samples are ≤ 1 ppm in Lot 1 and ≤ 100 ppm in Lot 2. If verification sample results indicate PCB concentrations > 1 ppm in Lot 1 and > 100 ppm in Lot 2, the Engineer may direct further excavation. Excavation may continue until PCB concentrations in verifications samples are ≤1 ppm in Lot 1 and ≤100 ppm in Lot 2.

B. The Environmental Engineer will provide the results of the verification sampling and the approval to continue with the excavation within 7 working days.

3.3 EXCAVATED MATERIALS CLASSIFICATION SYSTEM

A. The Engineer will classify excavated material for purposes of off-site reuse, recycling, or disposal based on the results of the laboratory chemical analyses and /or field testing performed by the Engineer. The Engineer may re-classify previously classified material based on additional characterization. The Owner may at any time reclassify material that has been classified by the Engineer, without additional expense to the Owner other than the additional cost for disposal. The classifications for off-site reuse, recycling, or disposal are:

1. Category B – Soil (PCBs ≤1 ppm) - Disposal in Out-of-State Landfill as Non-Hazardous Waste: Soil with concentrations of PCBs ≤1 that has been treated to reduce toxicity characteristic leachate TCLP lead concentrations to levels that are not considered to be a characteristic hazardous waste. Soil from Lot 1 may be classified as Category B.

2. Category C – Soil or asphalt (PCBs > 1 ppm and < 50 ppm) - Disposal in Out-of-State Landfill as Non-Hazardous Waste: Soil or asphalt debris with concentrations of PCBs greater than 1 ppm and less than 50 ppm that otherwise meets the acceptance criteria for disposal at a non-hazardous waste landfill. This category includes material that has been treated to reduce TCLP lead concentrations to levels that are not considered to be a characteristic hazardous waste. Soil and/or asphalt from Lot 1 may be classified as Category B.

3. Category D: Soil or asphalt (PCBs ≥ 50 ppm): Disposal in Out-of-State EPA approved TSCA PCB disposal facility: Soil or asphalt debris with concentrations of PCBs greater than or equal to 50 ppm that otherwise meets the acceptance criteria for an out-of-state EPA approved TSCA PCB disposal facility. This category includes material that has been treated to reduce TCLP lead concentrations to levels that are not considered to be a characteristic hazardous waste. Soil from Lot 2 is Category D soil, so long as TCLP lead is <5 mg/L.

3.4 ON-SITE HANDLING AND STORAGE

A. Locate MMAs to minimize interference with the work while protecting adjacent areas. Store all excavated materials in containers the MMAs or load directly onto a truck for disposal.

B. Provide Engineer access to perform required analytical characterization of the material for reuse and/or off-site disposal.

C. Perform segregation as recommended by the Engineer. Maintain separate storage containers as necessary to segregate materials, or as recommended by the Engineer.

D. Dispose of material that is OHM-impacted as a result of careless handling or use of unauthorized procedures at the Contractor's expense. Delays of work resulting from temporary storage of excavated material, regardless of field classification by the Engineer, shall be at no additional cost to the Owner.

3.5 CONTINGENCY MATERIAL TREATMENT/STABILIZATION

A. Treat/stabilize material to reduce TCLP lead concentrations from ≥5 mg/L to <5 mg/L if requested by the Engineer.

1. Provide qualifications of treatment/stabilization subcontractor.
2. Submit plan for treatment/stabilization, including proposed technology, dose, application method, and verification testing method and frequency.
3. Perform treatment/stabilization of material with TCLP lead concentrations ≥5 mg/L either in-situ or in containers.
4. Perform post-treatment/stabilization testing to confirm effectiveness.

3.6 MATERIAL TRACKING

A. Provide a material tracking system for excavation, storage, and final disposal of all excavated materials.

1. Include in the material tracking system the identification of the source of material (location, depth, date of excavation, etc.), container identification, and container location.
2. Provide to the Engineer, on a daily basis, copies of updated field records documenting the stored material.

3.7 OFF-SITE TRANSPORTATION AND DISPOSAL

A. Load and transport all excavated material directly to the receiving facility or store in the MMAs. If stored in the MMAs, after material is properly segregated, transport to the appropriate off-site reuse, recycling, or disposal facility as determined by the Engineer and approved by the Owner.

B. Prepare all documentation required for off-site reuse, recycling, or disposal of excavated materials based on information provided by the Engineer and Owner, except Licensed Site Professional (LSP) Opinion letters, and MassDEP Bills of Lading (BOLs), which will be prepared by the Engineer.

1. Category B and C will be transported on a MassDEP BOL.
2. Category D will be transported on hazardous waste manifests.

C. Maintain on-site copies of all documents involving off-site transportation of materials. Submit copies of these records to the Engineer at a frequency agreed to by the Contractor and Engineer. Turn over all records to the Owner at the completion of the Work.

Provide the Owner with copies of BOLs or Hazardous Waste Manifests within 5 workdays after material is transported off-site.

D. The Engineer will provide laboratory analysis of excavated material to meet the acceptance criteria for reuse, recycle or disposal locations.

E. Person(s) transporting the excavated materials shall be licensed and permitted to transport such materials in state(s) having jurisdiction. Trailers used for transport shall have covers to prevent dust fly off.

F. Dewater excavated materials prior to transport to prevent free water from developing during transport.

G. The Contractor shall be responsible for any and all actions necessary to remedy situations involving material spilled or leaked in transit, or mud or dirt tracked off-site. Clean up spills and leaks in accordance with federal, state, and local regulations at no additional cost to the Owner.

H. Trucks shall proceed directly to the designated treatment, storage, and disposal facility. Do not combine impacted material from the Site with any other material.

I. Transport excavated material to a reuse, recycling, or disposal location that is not under pending or active enforcement action by a state or federal agency, and in accordance with Paragraph 3.3 of this Section.

3.8 DUST MONITORING AND CONTROL

A. Execute work by methods to minimize raising dust from construction operations. Dust control methods include spraying with water or other Engineer-approved material as necessary; and removing soil from truck tires and equipment before leaving the site. Do not create runoff when spraying with water or other Engineer-approved material.

B. The Contractor will monitor the Work Zone air for airborne dust during, excavation, or handling of contaminated material that may generate dust. The action level for total dust in the Work zone is 150 $\mu g/m^3$ above background. Provide additional dust control procedures if action levels are exceeded.

C. The Engineer will monitor air at the perimeter of the Site in accordance with a Perimeter Air Monitoring Plan (PAMP) prepared by the Engineer. The Engineer will monitor for airborne dust during, excavation, or handling of contaminated material that may generate dust. Airborne dust will be measured as a 15-minute time-weighted average (TWA). A 15-minute TWA of 100 $\mu g/m^3$ above background will be considered exceeding an Alert Level and activities shall be modified and engineering controls shall be applied. A 15-minute TWA of 150 $\mu g/m^3$ above background or visible dust leaving the Site will be considered exceeding an Action Level and work shall be stopped, activities shall be modified, and engineering controls shall be applied. Continue work when the 15-minute TWA for downwind airborne dust levels are less than 150 $\mu g/m^3$ above background and no visible dust is leaving the Site.

D. To monitor dust levels against the Alert and Action Levels, the Engineer will establish, operate, and monitor air quality monitoring stations.

E. Modify or enhance dust suppression if on-site monitoring indicates exceedances of the Action Levels specified above.

F. The Engineer will record all perimeter air monitoring activities and data.

G. The Contractor shall utilize the following techniques to suppress dust if particulate action levels are exceeded or as directed by the Engineer:

1. Spray misted water onsite to prevent dust formation. Do not create runoff when spraying with water or other Engineer-approved material.
2. Temporarily suspend excavation activities.
3. Sequence work to minimize open excavation areas.
4. Reduce construction equipment traffic and/or speed.

END OF SECTION

SECTION 02070

DECONTAMINATION

PART 1 GENERAL

1.1 WORK INCLUDES

A. Decontamination of equipment, containers, tools, vehicles, and personnel.

B. Removal of Materials Management Area (MMA) .

C. Soil may not be stockpiled onsite at any time. This soil may be stored temporarily in the MMA in sealed containers or removed from site by live-loading trucks.

D. Containment and disposal of decontamination solids, water, Personal Protective Equipment (PPE), and other materials.

E. Construction, maintenance, and use of temporary decontamination pad/wheel wash.

1.2 MEASUREMENT AND PAYMENT

A. Decontamination of equipment, containers, tools, vehicles, and personnel will not be paid separately. Include costs for these work items in other pay items.

B. Item 02070-01: Transport and offsite disposal of decontamination solids, PPE, and other materials at an EPA approved TSCA PCB disposal facility – per drum.

C. Item 02070-02: Transport and offsite disposal of decontamination water at an EPA approved TSCA PCB disposal facility – per drum.

1.3 REGULATIONS

A. Conform to the PCB decontamination requirements in Toxic Substances Control Act (TSCA) (40 CFR 761.79[c]).

1.4 SUBMITTALS

A. Contractor's Health and Safety Plan (HASP) submittal: Coordinate with Section 01610 – Health and Safety. Describe proposed methods of decontamination, and the proposed method for reuse or disposal of wastes that will be generated as a result of decontamination in accordance with TSCA regulations (40 CFR 761).

PART 2 PRODUCTS

2.1 DECONTAMINATION PAD AND WHEEL WASH

A. Construct decontamination pad/wheel wash from a layer of geotextile and 8 to 10 inches of crushed stone.

2.2 55-GALLON DRUMS

A. Provide Massachusetts Department of Transportation (MassDOT) 55-gallon drums for containment of decontamination water and other decontamination liquids and used PPE and other decontamination solids.

PART 3 EXECUTION

3.1 REQUIREMENTS

A. Perform equipment decontamination in accordance with 40 CFR 761.79(c)(2).

B. Refer to Section 01500 – Temporary Facilities and Controls for decontamination procedures for personnel.

C. All vehicles that have come in contact with PCB-impacted material must pass through the decontamination pad/wheel wash prior to exiting the site.

D. Decontaminate all equipment, tools, and vehicles that have come in contact with PCB-impacted material in accordance with 40 CFR 761.79(c)(2):

1. After excavating soil in areas with PCB concentrations > 100 ppm (Lot 2) and prior to excavating soil in areas with PCB concentrations ≤100 ppm (Lot 1).
2. Prior to demobilizing the equipment, tools, or vehicles from the site.

E. Until work is complete the Contractor shall provide a boot wash station for use by any onsite personnel exiting the site.

F. Following use of Material Management Area(s) (refer to Section 02050), the Contractor shall thoroughly dismantle, remove, and clean the storage areas, so that no residues of excavated materials remain.

3.2 PREPARATION

A. Construct a decontamination pad/wheel wash in accordance with the Contract Drawings.

1. The location of the decontamination pad shall be approved by the Engineer prior to construction of the pad.
2. The decontamination pad/wheel wash shall be of an adequate size to contain the largest equipment that the Contractor proposes to use and that will require decontamination.
3. Line the decontamination pad with geotextile and 8 to 10 inches of crushed stone.
4. Provide water, hoses, nozzles, personnel, and any other incidental labor and materials to construct and use the decontamination pad.
5. Contain decontamination solids, decontamination liquids, and overspray within the decontamination pad.

3.3 DECONTAMINATION

A. For equipment, tools, concrete, and vehicles that have come in contact with PCB-contaminated material, first brush to remove solids and then swab with an approved solvent as described in 40 CFR 761.79(c)(2). Approved solvents include methanol, hexane, diesel, and kerosene.

B. Sampling to confirm appropriate decontamination is not required if decontamination is performed in accordance with 40 CFR 761.79(c)(2) and this Section.

C. For equipment, tools, concrete, and vehicles that have come in contact with, or are suspected to have come in contact with, oil or hazardous materials (OHM), excluding PCB-impacted material, decontaminate, and properly dispose of generated decontamination fluids and solids.

3.4 WASTE MANAGEMENT

A. Decontamination wastes, residues, and PPE will be managed and disposed of as PCB remediation waste in accordance with 40 CFR 761.61.

B. Dispose of tools and equipment that cannot be decontaminated (e.g. brushes used from removing soil from the equipment etc.) as PCB remediation waste in accordance with 40 CRR 761.61.

C. Pump or otherwise transfer decontamination water and other liquids to 55-gallon drums.

1. The Engineer will sample the drummed water for PCBs during or after decontamination.
2. The Engineer may approve discharge of drummed decontamination water to an on-site recharge pit if total PCB concentrations in the water are < 0.5 Micrograms per liter (µg/L). In this case, dispose of settled solids at a facility that is approved for PCB-impacted soil ≥ 50 ppm (Category D).
3. If the Engineer does not approve discharge of decontamination water to an on-site recharge pit, submit to the Engineer for approval a proposed off-site location for treatment and/or disposal of the decontamination water based on the PCB concentration.
4. Reuse or dispose of decontamination solvents in accordance with 40 CFR 761.79(g).
5. Decontamination liquids requiring off-site disposal will be transported off-site using a Hazardous Waste Manifest signed by the Owner.

D. Drum and dispose of used PPE at a facility that is approved for PCB-impacted soil ≥ 50 ppm in Section 02050 – Excavated Material Management.

E. Decontaminate, dismantle, and dispose of decontamination pad/wheel wash at a facility that is approved for PCB-contaminated soil ≥ 50 ppm in Section 02050 – Excavated Material Management.

END OF SECTION

SECTION 02300

EARTHWORK

PART 1 GENERAL

1.1 WORK INCLUDES

A. Excavating and loading of soil for off-site disposal.

B. Dewatering or backfilling, if necessary.

1.2 MEASUREMENT AND PAYMENT

A. Item 02300-01: Excavating and loading of soil - per cubic yard. Temporary storage of excavated soil is incidental to the Work.

B. Item 02300-02: Procuring and placing ordinary fill for excavation backfill – per cubic yard.

C. Item 02300-03: Procuring and placing topsoil and grass seed for Lot 1 – per cubic yard

D. Item 02300-04: Applying hydroseed for Lot 1 – per 1,000 square feet.

E. Other items of work of this section will not be paid separately. Include costs for other work items (e.g. routine dewatering) of this section in other pay items.

1.3 SUBMITTALS

A. Borrow Source Evaluation: 10 calendar days prior to backfilling, submit a borrow source evaluation for each type of material to be used as imported clean backfill to document that the material is in compliance with the geotechnical and environmental criteria. Perform a borrow source evaluation and submit to the Engineer for review and acceptance prior to the import of fill from the borrow source. Include the following:

1. Name, address, telephone number, and web site address of the borrow source.
2. Certificate of clean fill from the borrow location stating that the soil is native in origin and free of contamination.
3. Geotechnical test results from the borrow source, specific to the actual fill being imported to the Site, as confirmation that the material is in compliance with the clean fill geotechnical criteria.
4. Analytical test results from the borrow source, specific to the actual fill being imported to the Site. Testing frequency shall be one set of tests per source per material for the first 500 cubic yards imported and one additional set of tests per source per material for each additional 500 cubic yards imported. The analytical testing required with each borrow source submittal is as follows:
   a. MCP 14 Metals by EPA Method 6010/7471C.
   b. VOCs by EPA Method 8260.
   c. SVOCs by EPA Method 8270C.
   d. TPH by EPA Method 8015.

e. PCBs by EPA Method 3540C (manual Soxhlet extraction) and analysis by Method 8082.

5. Analytical test results for all imported materials must be less than Massachusetts Contingency Plan (MCP; 310 CMR 40.0000) RCS-1 criteria for VOCs, SVOCs, TPH, PCBs, and MCP 14 Metals.

B. Within 10 days prior to use, submit certification of seed from seed vendor stating the botanical and common name, percentage by weight of each species and variety, place of origin, strain, percentage of purity, germination and amount of Pure Live Seed (PLS) per bag. Include the year of production and date of packaging.

1.4 EXISTING CONDITIONS

A. Site Information:

1. The Engineer will prepare a RAM Plan documenting Site information including the results of a soil pre-characterization program conducted to classify the excavated material for purposes of off-site reuse, recycling, or disposal. A summary of the subsurface conditions, chemical testing data, soil disposal categories and estimated quantities will be in the RAM Plan.

2. Boring logs and a summary tables of soil chemical testing results for investigation locations conducted in the planned excavation areas are appended. The subsurface explorations were performed primarily for use in preparing the designs and are included for the convenience of the Contractor. Use and interpretation of these data for purposes of the work is the responsibility of the Contractor. Subsoil conditions and ground water levels are not to be considered as accurate for any times or locations other than the specific time and location of each of the explorations.

3. The Contractor may perform additional test borings and other explorations at no cost to Owner.

B. Existing Utilities:

1. Coordinate with Section 01726 – Protection of Utilities.

2. Locate existing underground utilities in areas of work. Provide adequate means of support and protection during earthwork operations.

3. Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavation, consult utility owner immediately for directions. Cooperate with Owner and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of utility owner.

1.5 LAYOUT AND GRADES

A. Verify all lines and grades shown on the Drawings.

B. Verify all existing ground surface elevations within the contract limits.

C. Lay out all needed locations, lines, and grades not presently established at the site. Establish permanent benchmarks by employment of a registered land surveyor or professional civil engineer. Maintain all established bounds and benchmarks and replace

any that are destroyed or disturbed. Bring any deviations from the locations and elevations indicated on the Drawings to the attention of the Engineer immediately.

1.6 REFERENCES

A. ASTM International:

1. ASTM D2487 - Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System).

PART 2 PRODUCTS

2.1 SOIL MATERIALS

A. Furnish each imported soil from a single source throughout the Work. Resubmit samples if source material changes.

B. Submit results to Engineer analytical laboratory testing of soils for VOCs, PAHs, PCBs, and RCRA 8 metals. Submit testing laboratory qualifications prior to testing. Disqualification of the testing laboratory shall be at no additional cost to the Owner.

C. Provide materials that conforms to:

1. Massachusetts Contingency Plan (MCP; 310 CMR 40.0000) Method 1 S-1 standards.

2. Analytical test results shall be less than MCP Method 1 S-1 standards for:
   a. VOCs (8260)
   b. PAHs (8270)
   c. PCBs (Soxhlet extraction by EPA Method 3540C and analysis by Method 8082)
   d. RCRA 8 metals (6010B/7471).

3. If tests indicate materials do not meet specified requirements, change material and retest.

D. Imported Soil Materials:

1. Ordinary Fill: Granular soil, free from debris, organics, or frozen materials. Ordinary Fill shall have less than 20% by weight passing the No. 200 sieve and shall contain no stones larger than 6 inches in maximum dimension.

2. Top Soil: Topsoil shall consist of fertile, friable, natural topsoil, reasonably free of stumps, roots, stiff clay, stone larger than 25-millimeter diameter, noxious weeds, sticks, brush or other litter.

2.2 GRASS SEED MIX

A. Furnish seed in sealed standard containers labelled with producer's name and seed analysis in accordance with U.S. Department of Rules and Regulations under the Federal Seed Act.

B. Grass seed mix shall be Ernst Native Habitat for Strip Mines Mix (https://www.ernstseed.com/product/ernst-native-habitat-for-strip-mines-mix/) or equivalent.

C. Seed that has become wet, moldy, or otherwise damaged will not be acceptable.

PART 3 EXECUTION

3.1 EXAMINATION AND PREPARATION

A. Call DigSafe service not less than five working days before performing Work.

1. Request underground utilities to be located and marked within and surrounding construction areas.

B. Identify required lines, levels, contours, and datum.

C. Notify Engineer of unexpected subsurface conditions and discontinue affected work in area until notified to resume work.

D. Protection of Existing Structures: Prevent damage to existing utilities.

3.2 EXCAVATION

A. The approximate extents and depths of excavations are shown on the Drawings. Prior to excavation, survey and stake the limits of the excavation areas shown on the Drawings. As the excavation proceeds, survey and stake the horizontal and vertical extents of the excavations as shown on the Drawings.

B. If surface water runoff enters the excavation, conduct dewatering and recharge in accordance with Paragraph 3.3 of this Section.

C. Sequence excavation such that soil in Lot 2 is excavated prior to soil in Lot 1. Decontaminate equipment after excavation in Lot 2 is complete and prior to excavation in Lot 1 (Refer to Section 02070 – Decontamination).

D. Following excavation verification sampling will be performed by the Engineer. Allow at least 7 business days between verification soil sampling by the Engineer and the receipt and review of chemical testing data. Excavation will be considered complete if verification results indicate soil concentrations of PCBs are less than or equal to 100 parts per million (ppm) in Lot 2 excavations or less than or equal to 1 ppm in Lot 1 excavations. If verification sample results indicate soil concentrations are greater than 100 ppm in Lot 2 or greater than 1 ppm in Lot 1, the Engineer may direct further excavation. Excavation may continue until verification results are less than 100 ppm in Lot 2 and 1 ppm in Lot 1.

E. Excavation in Lot 1 may be performed during the 7-day waiting period for laboratory testing data collected on Lot 2, however, all tools and equipment must be decontaminated in accordance with Section 02070 Decontamination prior to performing work in Lot 1.

F. Survey locations of the Engineer's PCB verification soil samples.

G. Load and transport all excavated material directly to the receiving facility or temporarily store in containers in the MMAs. Manage excavated materials in accordance with Section 02050 – Excavated Material Management.

H. Final limits and volumes of excavations are dependent on verification sampling.

I. After completing each excavation survey the dimensions and depth of the excavation. Provide coordinates to define the limits of the excavation. Submit a survey plan for each excavation area.

J. Do not excavate in frozen materials, unless approved by the Engineer.

K. Notify Engineer if rock, boulders, or debris is encountered larger than 1/3 cubic yard measured by volume. Where large obstructions are encountered within excavation areas, the Engineer will observe the removal of the obstruction.

3.3 DEWATERING

A. Install and maintain temporary trenches, pumps, drain pipes, sumps, and other equipment to keep excavations dry. Collect and remove all groundwater seepage and storm water runoff.

B. Install filters for pumps to prevent silt an fine sand from being pumped with the water.

C. Do not place fill in excavations containing standing water.

D. Pump dewatering discharge into 55-gallon drums.

1. The Engineer will sample the drummed water for PCBs.
2. The Engineer may approve recharge of drummed dewatering effluent to an on-site recharge pit if total PCB concentrations in the water are less than or equal to 0.5 micrograms per liter (µg/L). In this case, dispose of settled solids at a facility that is approved for PCB-impacted soil >50 ppm.
3. If the Engineer does not approve recharge of dewatering discharge to an on-site recharge pit, submit to the Engineer for approval a proposed off-site location for treatment and/or disposal of the dewatering effluent based on the PCB concentration.
4. Obtain approval from Engineer for location of each recharge pit prior to discharge.

E. Dispose of water from excavations in a manner that does not damage adjacent property, and that complies with all applicable laws and regulations. Obtain permits from local authorities before disposing of water into sewers, storm drains, or wetlands.

3.4 BACKFILLING

A. Prior to backfilling excavations on Lot 2, provide and place in the excavations a separation layer of non-woven needle punched geotextile. Separation layer shall cover bottom and sides of excavation areas. Separation layer shall be of a color that is easily noticed during future soil disturbance activities.

B. Prior to backfilling Excavation Area #4 on Lot 1, provide and place in the excavation a separation layer of non-woven needle punched geotextile. Separation layer shall cover bottom and sides of excavation areas. Separation layer shall be of a color that is easily noticed during future soil disturbance activities.

C. Backfill excavations on Lot 2 as directed by the Engineer. Backfill may consist of either processed asphalt removed from Lot 1, soil from an existing soil consolidation area on Lot 2, or imported Ordinary Fill.

D. Backfill excavations in Lot 1 using imported Ordinary Fill. Use unfrozen and unsaturated materials.

E. Place and compact Ordinary Fill in 12-inch-loose lifts at locations directed by the Engineer. Compact with at least four coverages of a vibratory compactor weighing at least 200 lbs and imparting an impact load of at least 2.5 tons.

F. Place Dense-Grade Crushed Stone in 9-inch-loose lifts in the wheel wash area shown on the Contract Drawings.

3.5 SEEDING

A. Apply seed on clean bare soil by hydroseeding at a rate consistent with seed vendor recommendations.

B. The season for hydroseeding shall be from April 1 to June 1 and from August 15 to October 15.

END OF SECTION

SECTION 02374

EROSION CONTROLS

PART 1 GENERAL

PART 2 WORK INCLUDES:

A. Installation and maintenance of erosion controls

2.2 MEASUREMENT AND PAYMENT

A. Items of work of this section will not be paid separately. Include costs for work items of this section in pay item for Section 01500-02 – Temporary Facilities and Controls.

2.3 SUBMITTALS

A. Within 5 calendar days, prior to ordering silt sacks and coir logs, submit representative samples, source, and/or or product information (as requested) to the Engineer for selection and approval. Do not order materials until Engineer's approval has been obtained. Delivered materials must closely match the approved samples.

PART 3 PRODUCTS

3.1 WOODEN STAKES

A. Use 1-inch-square wood, 3-foot-long stakes, six stakes per coir log.

3.2 EROSION CONTROL LOGS

A. Coir Logs: 12-inch-diameter, open weave 100% biodegradable erosion control fabric with a non-shifting square mesh consisting of 100 percent coir fiber yarns in both the warp and the weft. The Coir Mesh used for soil and slope stabilization has a minimum of 55 yarns per yard warp and 32 yarns per yard weft, with a minimum weight of 400 grams per square meter (or 11.8 oz./sq. yd). The minimum tensile strength of the fabric is 51/31 pounds per inch dry (using test method ASTM 4595) and 38/24 pounds per inch wet (using test method ASTM 4595), and the open area of the fabric must be 65 percent. Equivalent to Belton Industries GEOCOIR DeKoWe 400.

3.3 SILT SACK

A. Silt sack: Inlet protection for catch basins within paved areas manufactured from specially designed woven polypropylene geotextile and sewn by a double needle machine using high strength nylon thread.

1. Inlet protection will be manufactured to fit the opening of the catch basin or drop inlet and will have the following features: two straps attached at the bottom to facilitate the emptying of inlet protection; lifting loops as an integral part of the system to lift inlet protection from the basin; and a restraining cord

approximately halfway up the sack to keep the sides away from the catch basin walls. The restraining cord is also a visual means of indicating when the silt sack should be emptied. Equivalent to Siltstak® manufactured by ACF Environmental, Inc.; Drain Insert Plus manufactured by New Pig; Dandy Sacks manufactured by Dandy Products, Inc.; Drain Pack TM manufactured by United Stormwater, Inc.

PART 4 EXECUTION

4.1 GENERAL

A. Pre-Installation Examination: Examine previous work, related work, and conditions under which this work is to be performed and notify Engineer in writing of all deficiencies and conditions detrimental to the proper completion of this work. Beginning work means Contractor accepts previous work and conditions.

B. Install erosion protection prior to any mobilization of remediation equipment to the Site. The location of the coir logs is shown on the Drawings.

C. Erosion controls on top of soil consist of coir logs with stakes.

D. Erosion controls on top of pavement consist of coir logs with no stakes.

E. Erosion controls in catch basins and inlets in paved areas consist of silt sacks.

F. Layout and Approval: Layout and stake coir logs and obtain Engineer’s approval before excavation begins. Make revisions and adjustments as directed.

G. Install inlet protection in accordance with the manufacturer's instructions. Install inlet protection in catch basins in paved areas within the Work Area and on Marston Street as shown in the Drawings.

END OF SECTION

SECTION 02411

DEMOLITION

PART 1 GENERAL

1.1 WORK INCLDUES

A. Removal and offsite disposal at a Subtitle D landfill or onsite crushing and placement on Lot 2 of asphalt pavement removed from Lot 1.

B. Demolition, removal, and offsite disposal of shed and its contents, on Lot 1.

C. Obtaining all necessary permits, providing necessary notifications, and complying with all local, state, and federal laws regarding safety and demolition.

1.2 MEASUREMENT AND PAYMENT

A. 02411-01: Asphalt removal and disposal at Subtitle D facility (Lot 1) –per ton.

B. 02411-02: Asphalt removal and disposal at TSCA PCB Disposal Facility (Lot 2) – per ton.

C. 02411-03: Demolition, removal, offsite disposal of shed (Lot 1)– lump sum.

1.3 SUBMITTALS

A. Not Used.

PART 2 MATERIALS

(Not Applicable)

PART 3 EXECUTION

3.1 PREPARATION

A. Provide safeguards including warning signs, barricades, temporary fences, warning lights and other items as needed for the protection of all personnel during demolition and removal Work.

B. Protect from damage the existing pavement and structures that are not scheduled for demolition.

C. Section pavement to be removed using complete depth saw cuts.

3.2 GENERAL

A. Remove the asphalt pavement indicated for demolition on the Contract Drawings. Use precautions to protect existing pavement and structures to remain and their finishes during demolition.

B. Completely demolish, remove, and lawfully dispose of existing shed and its contents.

3.3 ASPHALT PROCESSING

A. Identify an onsite location acceptable to the Owner and Engineer for onsite processing of demolished asphalt from Lot 1.

B. If a Beneficial Use Determination (BUD) Authorization is issued by MassDEP, and if directed to do so by the Engineer, process asphalt removed from Lot 1 onsite into pieces with no dimensions no greater than 6-inches.

3.4 MATERIAL HANDLING

A. Store demolished asphalt on a debris pad, or in a container designed for the purpose.

B. Dispose of removed asphalt as directed by the Engineer based on regulatory approvals obtained. Alternatives include:

1. Dispose of asphalt debris at an appropriate facility based on its classification assigned by the Engineer and in accordance with Section 02 05 00 – Excavated Material Management.
2. Place processed asphalt as backfill in Lot 2 excavations in accordance with Section 02300 – Earthwork.

3.5 CLEANUP

A. Remove all debris, residuals, and materials at the conclusion of demolition activities.

END OF SECTION

SECTION 02830

CHAIN LINK FENCES AND GATES

PART 1 GENERAL

1.1 WORK INCLUDES

A. This Specification includes performing all Work required to furnish and install permanent chain link fences and gates at the locations shown on the Contract Drawings.

1.2 MEASUREMENT AND PAYMENT

A. 02830-01: Installation of vehicle gate and fence – lump sum.

1.3 REFERENCES

A. American Society for Testing and Materials (ASTM):

1. A 116 – Standard Specification for Metallic-Coated, Steel Woven Wire Fence Fabric.
2. A 702 – Standard Specification for Steel Fence Posts and Assemblies, Hot Wrought.
3. F 626 – Standard Specification for Fence Fittings.
4. A 90/A 90 M – Standard Test Method for Weight (MASS) of Coatings on Iron and Steel Articles with Zinc or Zinc-Alloy Coatings.
5. F 1083 – Standard Specification for Pipe, Steel, Hot-Dipping Zinc-Coated (Galvanized) Welded, for Fence Structures.
6. A 153/A 153 M – Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
7. F 1043 – Standard Specification for Strength and Protective Coatings on Steel Industrial Chain Link Fence Framework.
8. A 121 – Standard Specification for Metallic-Coated Carbon Steel Barbed Wire.
9. C 94/C 94 M – Standard Specification for Ready-Mixed Concrete.

1.4 SUBMITTALS

A. Submit shop drawings for review and acceptance detailing the erection and installation of the chain link fence and gates which shall include, but are not limited to, the following items:

1. Fence assembly.
2. Location of gate, corner, end, and line posts.
3. Gate assembly.
4. Gate hardware and accessories.

B. Submit manufacturer's catalog data for review and acceptance for the following items:

1. Fence assembly.
2. Gate assembly.
3. Gate hardware and accessories.
4. Fence hardware and accessories.

C. The manufacturer provided catalog data must indicate the weight in ounces of zinc coating for each component of the fence and gate assembly.

1.5 DELIVERY STORAGE AND HANDLING

A. Deliver materials to the Site in an undamaged condition. Store materials off the ground to provide protection against oxidation caused by ground contact.

1.6 INSTALLER QUALIFICATIONS

A. Manufacturer's Qualifications:

1. The manufacturer of the fencing and gates shall have at least five years of experience in the manufacture of such materials.

B. Installer's Qualifications:

1. The fencing and gate installer shall be the manufacturer, approved manufacturer's installer, or a Subcontractor acceptable that is acceptable to Eversource to install the fencing and gates.

PART 2 MATERIALS

2.1 GENERAL

A. Provide fencing materials that conform to the requirements of ASTM A 116, ASTM A 702, ASTM F 626, and as specified.

2.2 ZINC COATING

A. Provide hot-dip galvanized (after fabrication) ferrous-metal components and accessories, except as otherwise specified.

B. Provide zinc coating of a weight as detailed in this Specification, as determined from the average result of two specimens when testing in accordance with ASTM A90/A90M.

C. Provide zinc coating that conforms to the requirements of the following:

1. Pipe: ASTM F1083.
2. Hardware and accessories: ASTM A 153/A 153M, Table 1.
3. Surface: ASTM F 1043

D. Provide galvanized repair material that is cold-applied zinc-rich coating conforming to ASTM A 780/A 780M.

2.3 FABRIC

A. Provide fabric consisting of No. 6 gage wires woven into a 2-inch diamond mesh, with a Class 2 weight of zinc coating. The weight of zinc coating shall not be less than 2.0 ounces per square foot of uncoated wire surface.

B. Provide one-piece fabric widths for the fence height shown on the Contract Drawings.

2.4 TOP AND BOTTOM SELVAGES

A. Provide twisted and barbed top selvage and knuckled bottom selvage.

2.5 LINE POSTS

A. Provide Type 1 round posts with a nominal outside diameter of 2.375 inches, a weight of 3.65 pounds per linear foot, and a minimum average zinc coating of 1.8 ounces per square foot.

2.6 END AND CORNER POSTS

A. Provide Type 1 round posts with a nominal outside diameter of 2.875 inches, a weight of 5.79 pounds per linear foot, and a minimum average zinc coating of 1.8 ounces per square foot.

2.7 TOP RAIL

A. Provide a round top rail with a nominal outside diameter of 1.66 inches, a weight of 2.27 pounds per square foot, and a minimum average zinc coating of 1.8 ounces per square foot.

B. Fit top rails with couplings for connecting the lengths into a continuous run. The couple may not be less than 6 inches long with 0.070 inches minimum wall thickness, and shall allow for expansion and contraction of the rail.

C. Provide suitable wire ties in sufficient number for attaching the fabric securely to the rail at intervals not exceeding 24 inches.

D. Provide the means to attach the top rail to each corner, and line post.

2.8 SLEEVES

A. Provide sleeves for setting into concrete which consist of the same material as the post sections, sized 1 inch greater than the diameter of the post.

B. Weld flat plates to each sleeve base to provide anchorage and prevent intrusion of concrete.

2.9 STRETCHER BARS

A. Provide bars that have one-piece lengths equal to the full height of the fabric with a minimum cross section of 3/16 by 3/4 inch.

2.10 STRETCHER BAR BANDS

A. Provide bar bands for securing stretcher bars to posts that are steel, wrought iron, or malleable iron spaced not over 15 inches on center. Provide bands with projected edges chamfered or eased.

2.11 WIRE TIES

A. Provide 16-gage galvanized steel wire for tying fabric to line posts at intervals not exceeding 12 inches. For tying fabric to rails and braces, space wire ties 24 inches on center.

2.12 POST TOPS

A. Provide galvanized steel combination tops that fit over the outside of the posts and exclude moisture from the entering the inside of the posts.

B. Provide caps with an opening to permit through passage of the top rail.

C. Post tops must have dual barbed wire arms angled at 45° degrees into and out of the Site and be fitted with clips for attached three strands of barbed wire per arm.

D. The top barbed wire shall be located twelve inches horizontally from the fence line on both sides and the other wires spaced uniformly between the top of the fence fabric and the outside strand.

2.13 CONCRETE

A. Provide concrete conforming to ASTM C 94/C 94M, and obtaining a minimum 28-day compressive strength of 3,000 psi.

PART 3 EXECUTION

3.1 GENERAL

A. Remove and dispose of sections of chain link fence along Marston Street necessary to install new vehicle gate. Install new fence panels as required to accommodate new vehicle gate.

B. Erect the new fence following the fence alignment shown on the reviewed and accepted shop drawings.

C. Verify the absence of defects or errors in the subgrade or other applicable Site features which would cause defective erection, installation, or application of products, or cause latent defects in workmanship and function.

D. Comply with manufacturer's written instructions, specifications, and recommendations for the erection and installation of the chain link fences and gates.

3.2 SECURITY

A. Maintain a secure perimeter around the Site at the conclusion of each work day.

3.3 EXCAVATION

A. Provide excavation for post footings which shall be drilled holes in compacted soil.

B. Spread excess soil from post footing excavations on Lot 1 prior to placement of topsoil, or on Lot 2 at a location approved by the Engineer.

C. Space footings for line posts at a maximum interval of 10 feet on center, and at closer intervals where required.

D. Set the bottom of each post not less than 48 inches below finished grade with the bottom of the hole at least 3 inches below the bottom of the posts. The diameter of borehole shall be a minimum of 4 times the largest cross section of the post that is being set. Set posts deeper, as required, in soft and problem soils or to support heavy lateral loads.

3.4 SETTING POSTS

A. Remove loose and foreign materials from the boreholes and moisten the soil prior to placing concrete.

B. Set sleeves in a vertical position, plumb and align while concrete is placed.

C. Provide tops of footings that are trowel finished and sloped or domed to shed water away from posts.

D. Keep exposed concrete moist for at least 7 calendar days after placement, or cured with a membrane curing material.

3.5 CONCRETE STRENGTH

A. Allow concrete to attain at least 75% of its minimum 28-day compressive strength, but in no case sooner than 7 calendar days after placement, before rails, wire, or fabric are installed.

B. Do not stretch fabric and wires until the concrete has attained its full design strength.

3.6 TOP RAILS

A. Install top rails to run continuously through post caps, bending to radius for curved runs. Provide expansion couplings as recommended by the fencing manufacturer.

3.7 FABRIC INSTALLATION

A. Install fabric in single lengths between posts with bottom barbs placed approximately 1.0 to 1.5 inches above the ground.

B. Install fabric on the security side of the fence.

C. Pull fabric taunt and tie to posts and rails with wire ties.

D. Ensure fabric remains under tension after the pulling force is released.

3.8 WIRE TIE INSTALLATION

A. Install tie wires that are "U" shaped to the pipe diameters to which attached. Twist ends of tie wires not less than two full turns and bend so as not to present a hazard.

3.9 FASTENERS

A. Install nuts for tension bands and hardware on the side of the fence opposite the fabric side.

B. Peen ends of bolts to prevent removal of nuts.

3.10 ZINC COATING REPAIR

A. Clean and repair galvanized surfaces damaged by welding, abrasion, peening, and cut ends of fabric, or other cut sections with specified galvanized repair material applied in strict conformance with the manufacturer's printed instructions.

3.11 TOLERANCES

A. Provide posts that are straight and plumb within a vertical tolerance of 0.25 inch after the fabric has been stretched. Provide fencing and gates that are true to line with no more than 0.5-inch deviation from the established centerline between line posts.

B. Repair defects as directed by Owner.

3.12 CLEANUP

A. Remove waste fencing and gate materials from the Site.

END OF SECTION

APPENDICES

CHEMICAL TESTING RESULTS – EXCAVATION AREA SOIL SAMPLES

Table 1. Chemical Testing Results - Excavation Area Soil Samples
Former Tombarello Site
Lawrence, Massachusetts

		Lot #:	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
		Excavation Area #:	3	3	3	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		Location Name:	AS/SB-2	AS/SB-2	AS/SB-2	AS/SB-2	AS/SB-2	W-07	W-07E	W-07E	W-07E	W-07-GEI	W-07S	W-07S	W-07S	W-07SS	W-07SS	W-07SS	W-07SE	W-07SE	W-07SE	W-07SE	W-07EE	W-07EE	W-07EE	W-07SW
		Sample Name:	SB-2 (0-0.5)	SB-2 (1-2)	SB-2 (2-3)	SB-2 (3-5)	SB-2 (5-7)-2	W-07	W-07E 0-0.5	W-07E 1-2	W-07E 2-3	W-07 0-3	W-07S 0-0.5	W-07S 1-2	W-07S 2-3	W-07SS 0-0.5	W-07SS 1-2	W-07SS 2-3	W-07SE 0-0.5	W-07SE 1-2	W-07SE 2-3	W-07SE 3-5	W-07EE 0-0.5	W-07EE 1-2	W-07EE 2-3	W-07SW 0-0.5
		Start Depth:	0	1	2	3	5	0	0	1	2	0	0	1	2	0	1	2	0	1	2	3	0	1	2	0
		End Depth:	0.5	2	3	5	7	0.25	0.5	2	3	3	0.5	2	3	0.5	2	3	0.5	2	3	5	0.5	2	3	0.5
		Depth Unit:	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
		Sample Date:	9/4/2019	9/4/2019	9/4/2019	9/4/2019	9/4/2019	10/20/2010	9/12/2019	9/12/2019	9/12/2019	8/6/2019	9/12/2019	9/12/2019	9/12/2019	3/13/2020	3/13/2020	3/13/2020	3/13/2020	3/13/2020	3/13/2020	3/13/2020	3/13/2020	3/13/2020	3/13/2020	3/13/2020
Analyte	**Units**	**CAS No.**																								
Volatile Organic Compounds (VOCs)	mg/kg		NT			NT		NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Acetone		67-64-1		0.019	0.12		< 1					0.0303														
cis-1,2-Dichloroethene		156-59-2		< 0.00085	< 0.00097		0.13					< 0.0027														
Naphthalene		91-20-3		0.024	< 0.0039		< 0.41					0.0041														
Tetrachloroethene (PCE)		127-18-4		0.0014	0.00061		0.34					< 0.0027														
Trichloroethene (TCE)		79-01-6		< 0.00042	< 0.00048		0.13					< 0.0027														
Polycyclic Aromatic Hydrocarbons (PAHs)	mg/kg		NT	NT	NT	NT	NT		NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Acenaphthene		83-32-9						< 1.000																		
Acenaphthylene		208-96-8						< 1.000																		
Anthracene		120-12-7						< 1.000																		
Benzo(a)anthracene		56-55-3						3.700																		
Benzo(b)fluoranthene		205-99-2						3.500																		
Benzo(k)fluoranthene		207-08-9						2.200																		
Benzo(g,h,i)perylene		191-24-2						3.000																		
Benzo(a)pyrene		50-32-8						3.500																		
Chrysene		218-01-9						3.700																		
Dibenz(a,h)anthracene		53-70-3						< 1.000																		
Fluoranthene		206-44-0						7.500																		
Fluorene		86-73-7						< 1.000																		
Indeno(1,2,3-cd)pyrene		193-39-5						2.500																		
2-Methylnaphthalene		91-57-6						NT																		
Naphthalene		91-20-3						< 1.000																		
Phenanthrene		85-01-8						3.400																		
Pyrene		129-00-0						5.600																		
EPH with PAHs	mg/kg		NT			NT		NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
C9-C18 Aliphatics		EPH918		< 14.6	< 7.07		< 319					< 161														
C11-C22 Aromatics (Adjusted)		EPH1122		265	102		1120					10800														
C19-C36 Aliphatics		EPH1936		418	17		56800					187														
Acenaphthene		83-32-9		< 0.728	0.93		< 15.9					15.3														
Acenaphthylene		208-96-8		< 0.728	< 0.353		< 15.9					< 2.15														
Anthracene		120-12-7		1.24	1.44		< 15.9					23.1														
Benzo(a)anthracene		56-55-3		3.49	5.54		< 15.9					57.6														
Benzo(b)fluoranthene		205-99-2		2.96	4.36		< 15.9					72.3														
Benzo(k)fluoranthene		207-08-9		2.89	4.34		< 15.9					27.0														
Benzo(g,h,i)perylene		191-24-2		1.83	2.3		< 15.9					22.3														
Benzo(a)pyrene		50-32-8		3.21	4.63		< 15.9					43.7														
Chrysene		218-01-9		3.46	5.61		< 15.9					61.7														
Dibenz(a,h)anthracene		53-70-3		< 0.728	0.775		< 15.9					9.03														
Fluoranthene		206-44-0		7.38	10.3		25.2					85.0														
Fluorene		86-73-7		< 0.728	0.689		< 15.9					14.8														
Indeno(1,2,3-cd)pyrene		193-39-5		2.11	2.77		< 15.9					30.8														
2-Methylnaphthalene		91-57-6		< 0.728	< 0.353		< 15.9					4.67														
Naphthalene		91-20-3		< 0.728	< 0.353		< 15.9					8.29														
Phenanthrene		85-01-8		5.13	7.08		24					39.1														
Pyrene		129-00-0		6.52	8.71		22.3					106														
PCBs	mg/kg						NT																			
Total PCBs		1336-36-3	0.0403	0.083	ND	ND		32.2	7020	28	11.1	4903	9.8	3650	17.7	39.3	7.8	0.4	25.9	11200.6	124006.7	36140	208.9	23.5	2.9	2.2
Metals	mg/kg								NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic		7440-38-2		9.19	8.41		7.93	115				333 F-														
Barium		7440-39-3		132 J-	98.5 J-		126 J-	ND				148 FG														
Cadmium		7440-43-9		0.851	0.875		1.33	23				2.91 G														
Chromium		7440-47-3		67.9 J-	47.7 J-		41.3 J-	128				71.4 FG														
Hexavalent Chromium (Cr VI)		18540-29-9		< 0.885	1.13		< 0.985	NT				< 0.5														
Lead		7439-92-1		215 J	149 J		698 J	1319				233 F-														
Mercury		7439-97-6		0.33	2.03		0.393	ND				1.04														
Selenium		7782-49-2		< 2.18	< 2.12		< 2.46	ND				2.80														
Silver		7440-22-4		< 0.436	< 0.425		< 0.493	ND				< 87.7 R														
Zinc		7440-66-6		123 J+	116 J+		512 J+	NT				338 FG														
General Chemistry								NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Percent Solids	%	SOLIDS	96.8	90.4	89.2	86	81.2					NT														
Corrosivity (pH)	S.U.	CORROS (PH)	NT	7.9	7.8	NT	7.6					7.06														
Oxidation Reduction Potential (ORP)	mV	ORP	NT	140	160	NT	150					396														

General Notes:
1. EPH = Extractable Petroleum Hydrocarbons
2. PCB = Polychlorinated Biphenyl
3. mg/kg = milligrams per kilogram
4. mV = millivolts
5. CAS No. = Chemical Abstracts System Number
6. ft = feet
7. S.U. = standard units
8. % = percent
9. NT = not tested for the listed analyte
10. ND = not detected above the laboratory reporting limit

Validator Qualifiers:
J The result is estimated.
J-/J+ The results is estimated with a low/high bias.
F-/F The result has a low bias / high bias due to matrix spike recovery above upper / below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
R The result is Rejected.

Table 1. Chemical Testing Results - Excavation Area Soil Samples
Former Tombarello Site
Lawrence, Massachusetts

		Lot #:	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
		Excavation Area #:	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
		Location Name:	W-07SW	W-07SW	EW-06	EW-07ER	EW-07ER	EW-07ER	EW-07SEE	EW-07SEE	EW-07SEE	EW-07SEE	EW-07SSE	EW-07SSE	EW-07SSE	EW-07SSS	EW-07SSS	EW-07SSS	EW-07SSW	EW-07SSW	EW-07SSW	EW-07SE
		Sample Name:	W-07SW 1-2	W-07SW 2-3	EW-06	EW-07ER 0-0.5	EW-07ER 1-2	EW-07ER 2-3	EW-07SEE 0-0.5	EW-07SEE 1-2	EW-07SEE 2-3	EW-07SEE 3-5	EW-07SSE 0-0.5	EW-07SSE 1-2	EW-07SSE 2-3	EW-07SSS 0-0.5	EW-07SSS 1-2	EW-07SSS 2-3	EW-07SSW 0-0.5	EW-07SSW 1-2	EW-07SSW 2-3	EW-07SE 2-3
		Start Depth:	1	2	1.5	0	1	2	0	1	2	3	0	1	2	0	1	2	0	1	2	2
		End Depth:	2	3	1.5	0.5	2	3	0.5	2	3	5	0.5	2	3	0.5	2	3	0.5	2	3	3
		Depth Unit:	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
		Sample Date:	3/13/2020	3/13/2020	12/12/2018	3/12/2020	3/12/2020	3/12/2020	3/12/2020	3/12/2020	3/12/2020	3/12/2020	3/12/2020	3/12/2020	3/12/2020	3/12/2020	3/12/2020	3/12/2020	3/12/2020	3/12/2020	3/12/2020	3/13/2020
Analyte	**Units**	**CAS No.**																				
Volatile Organic Compounds (VOCs)	mg/kg		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Acetone		67-64-1																				
cis-1,2-Dichloroethene		156-59-2																				
Naphthalene		91-20-3																				
Tetrachloroethene (PCE)		127-18-4																				
Trichloroethene (TCE)		79-01-6																				
Polycyclic Aromatic Hydrocarbons (PAHs)	mg/kg		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Acenaphthene		83-32-9																				
Acenaphthylene		208-96-8																				
Anthracene		120-12-7																				
Benzo(a)anthracene		56-55-3																				
Benzo(b)fluoranthene		205-99-2																				
Benzo(k)fluoranthene		207-08-9																				
Benzo(g,h,i)perylene		191-24-2																				
Benzo(a)pyrene		50-32-8																				
Chrysene		218-01-9																				
Dibenz(a,h)anthracene		53-70-3																				
Fluoranthene		206-44-0																				
Fluorene		86-73-7																				
Indeno(1,2,3-cd)pyrene		193-39-5																				
2-Methylnaphthalene		91-57-6																				
Naphthalene		91-20-3																				
Phenanthrene		85-01-8																				
Pyrene		129-00-0																				
EPH with PAHs	mg/kg		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
C9-C18 Aliphatics		EPH918																				
C11-C22 Aromatics (Adjusted)		EPH1122																				
C19-C36 Aliphatics		EPH1936																				
Acenaphthene		83-32-9																				
Acenaphthylene		208-96-8																				
Anthracene		120-12-7																				
Benzo(a)anthracene		56-55-3																				
Benzo(b)fluoranthene		205-99-2																				
Benzo(k)fluoranthene		207-08-9																				
Benzo(g,h,i)perylene		191-24-2																				
Benzo(a)pyrene		50-32-8																				
Chrysene		218-01-9																				
Dibenz(a,h)anthracene		53-70-3																				
Fluoranthene		206-44-0																				
Fluorene		86-73-7																				
Indeno(1,2,3-cd)pyrene		193-39-5																				
2-Methylnaphthalene		91-57-6																				
Naphthalene		91-20-3																				
Phenanthrene		85-01-8																				
Pyrene		129-00-0																				
PCBs	mg/kg																					
Total PCBs		1336-36-3	8.5	0.38	111	135.3	14	0.2	49.2	14.9	87.6	3.9	21.5	2.4	ND	13.8	68.5	0.09	64	0.1	ND	0.4
Metals	mg/kg		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic		7440-38-2																				
Barium		7440-39-3																				
Cadmium		7440-43-9																				
Chromium		7440-47-3																				
Hexavalent Chromium (Cr VI)		18540-29-9																				
Lead		7439-92-1																				
Mercury		7439-97-6																				
Selenium		7782-49-2																				
Silver		7440-22-4																				
Zinc		7440-66-6																				
General Chemistry			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Percent Solids	%	SOLIDS																				
Corrosivity (pH)	S.U.	CORROS (PH)																				
Oxidation Reduction Potential (ORP)	mV	ORP																				

General Notes:
1. EPH = Extractable Petroleum Hydrocarbons
2. PCB = Polychlorinated Biphenyl
3. mg/kg = milligrams per kilogram
4. mV = millivolts
5. CAS No. = Chemical Abstracts System Number
6. ft = feet
7. S.U. = standard units
8. % = percent
9. NT = not tested for the listed analyte
10. ND = not detected above the laboratory reporting limit

Validator Qualifiers:
J The result is estimated.
J-/J+ The results is estimated with a low/high bias.
F-/F The result has a low bias / high bias due to matrix spike recovery above upper / be
G The result is estimated due to duplicate precision outside control limits.
R The result is Rejected.

SOIL BORING AND MONITORING WELL LOGS

BORING INFORMATION

LOCATION: NE corner of NW portion of Lot 1
GROUND SURFACE EL. (ft): NA
VERTICAL DATUM: NA
TOTAL DEPTH (ft): 7.0
LOGGED BY: B.Lee
DATE START/END: 3/12/2020 - 3/12/2020
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: C. Devillers
RIG TYPE: Geoprobe 6620DT

BORING

Lot 1 Disp-01

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Geoprobe
CASING I.D./O.D.: 2.125 inch / 2.25 inch
DRILL ROD O.D.: NM
CORE BARREL TYPE: Macrocore
CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation
= Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 5	60/23	NA	0.0 ppm	FILL	S1: (0-3"): ASPHALT S1: (3-5"): WIDELY GRADED SAND WITH GRAVEL (SW); ~55% fine to coarse sand, ~ 40% subrounded gravel (0-0.25"), ~5% non-plastic fines, dark gray, loose. S1: (5-23"): WIDELY GRADED SAND WITH GRAVEL (SW); ~65% fine to coarse sand, ~30% subrounded gravel (0-1.5"), ~5% non-plastic fines, loose, black to brown. Contains brick and slag fragments
	5	S2	5 to 7	24/7	NA	0.1 ppm	SAND	S2: (0-7"): SILTY SAND (SM); ~70% fine to medium sand, ~30% sligtly plastic fines, medium dense, light brown.
								Bottom of boring at depth 7 ft.
	10							
	15							
	20							

NOTES: ppm = parts per million

PROJECT NAME: Former Tombarello Site
CITY/STATE: Lawrence, Massachussetts
GEI PROJECT NUMBER: 1802441

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME BORING LOGS 2020 - COPY.GPJ 3/31/20

BORING INFORMATION

LOCATION: Near south boundary of NW portion of Lot 1
GROUND SURFACE EL. (ft): NA
VERTICAL DATUM: NA
TOTAL DEPTH (ft): 3.0
LOGGED BY: B.Lee
DATE START/END: 3/12/2020 - 3/12/2020
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: C. Devillers
RIG TYPE: Geoprobe 6620DT

BORING

Lot 1 Disp-02A

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Geoprobe
CASING I.D./O.D.: 2.125 inch / 2.25 inch
DRILL ROD O.D.: NM
CORE BARREL TYPE: Macrocore
CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 3	36/27	NA	0.0 ppm	FILL	S1: (0-3"): ASPHALT S1: (3-7"): NARROWLY GRADED SAND WITH GRAVEL (SP); ~50% mostly fine sand, ~45% subangular gravel (0-0.5"), ~5% non-plastic fines, loose. S1: (7-15"): WIDELY GRADED SAND WITH GRAVEL (SW); ~65% fine to coarse sand, ~30% subangular gravel (0-0.75"), ~5% non-plastic fines, black, loose. Burnt odor. S1: (15-27"): WIDELY GRADED SAND (SW); ~90% fine to coarse sand, ~5% subrounded gravel (0-0.25"), ~5% non-plastic fines, tan to brown, loose. Bottom of boring at depth 3 ft.
	5							
	10							
	15							
	20							

NOTES: ppm = parts per million

PROJECT NAME: Former Tombarello Site
CITY/STATE: Lawrence, Massachussetts
GEI PROJECT NUMBER: 1802441

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME BORING LOGS 2020 - COPY.GPJ 3/31/20

BORING INFORMATION

LOCATION: Near south boundary of NW portion of Lot 1

GROUND SURFACE EL. (ft): NA | **DATE START/END:** 3/12/2020 - 3/12/2020

VERTICAL DATUM: NA | **DRILLING COMPANY:** Northern Drill Service, Inc.

TOTAL DEPTH (ft): 3.0 | **DRILLER NAME:** C. Devillers

LOGGED BY: B.Lee | **RIG TYPE:** Geoprobe 6620DT

BORING

Lot 1 Disp-02B

DRILLING INFORMATION

HAMMER TYPE: Automatic | **CASING I.D./O.D.:** 2.125 inch / 2.25 inch | **CORE BARREL TYPE:** Macrocore

AUGER I.D./O.D.: NA / NA | **DRILL ROD O.D.:** NM | **CORE BARREL I.D./O.D.** NA / NA

DRILLING METHOD: Geoprobe

ABBREVIATIONS:

Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer

S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger

Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter

NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 3	36/30	NA	0.3 ppm	FILL	S1: (0-3"): ASPHALT S1: (3-6"): WIDELY GRADED SAND WITH GRAVEL (SW); ~50% fine to coarse sand, ~45% subangular gravel (0-0.5"), ~5% non-plastic fines, loose, gray. S1: 6-30"): NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% mostly fine sand, ~10% non-plastic fines, ~5% subrounded gravel (0-0.25"), medium dense, dark brown. Bottom of boring at depth 3 ft.
	5							
	10							
	15							
	20							

NOTES: ppm = parts per million

PROJECT NAME: Former Tombarello Site

CITY/STATE: Lawrence, Massachussetts

GEI PROJECT NUMBER: 1802441

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME BORING LOGS 2020 - COPY.GPJ 3/31/20

BORING INFORMATION

LOCATION: Near south boundary of NW portion of Lot 1
GROUND SURFACE EL. (ft): NA
VERTICAL DATUM: NA
TOTAL DEPTH (ft): 3.0
LOGGED BY: B.Lee
DATE START/END: 3/12/2020 - 3/12/2020
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: C. Devillers
RIG TYPE: Geoprobe 6620DT

BORING

Lot 1 Disp-02C

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Geoprobe
CASING I.D./O.D.: 2.125 inch / 2.25 inch
DRILL ROD O.D.: NM
CORE BARREL TYPE: Macrocore
CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 3	36/27	NA	0.0 ppm	FILL	S1: (0-3"): ASPHALT S1: (3-5"): NARROWLY GRADED SAND WITH GRAVEL (SP); ~50% mostly fine sand, ~45% subangular gravel (0-0.5"), ~5% non-plastic fines, loose, light gray. S1: (5-23"): WIDELY GRADED SAND WITH GRAVEL (SW); ~70% fine to coarse sand, ~25% subangular gravel, ~5% non-plastic fines, loose, brown to black. S1: (23-27"): DRIED PAINT/CAULKING; No visible grains, white. Bottom of boring at depth 3 ft.

NOTES: ppm = parts per million

PROJECT NAME: Former Tombarello Site
CITY/STATE: Lawrence, Massachussetts
GEI PROJECT NUMBER: 1802441

GEI Consultants

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Tombarello Facility TBA

Location: 207 Marston Street, Lawrence, MA

Nobis Project No.: 80108.04

Boring No.: **NPA-01**

Boring Location: See Site Plan

Checked by:

Date Start: June 10, 2016

Date Finish: June 10, 2016

Contractor: Technical Drilling Services

Driller: T. Newton

Nobis Rep.: E. Johnson

Rig Type / Model: Geoprobe 6620DT

Hammer Type: N/A

Hammer Hoist: N/A

Ground Surface Elev.:

Datum:

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)		1.75 x 60
Advancement	Direct Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	SAMPLE INFORMATION Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	Ground Water	LITHOLOGY Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	S-1	20	0-2					ASPHALT / 0.5	S-1A (6"): Asphalt.	
1					1.5				S-1B (14"): Brown to black, fine to coarse SAND, some Gravel, trace Silt, trace coal, trace brick, trace glass. dry.	
2								FILL		
	S-2	12	2-3		0.1				S-2: Dark brown, fine to medium SAND, little Gravel, trace coal fragments. moist.	
3								/ 3.0		
4									Boring terminated at 3 feet.	
5										
6										
7										
8										
9										
10										

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

DRAFT

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 8/8/16 10:51 - R:\80000 TASK ORDERS\80108 BROWNFIELDS MULTI-SITE\TECHNICAL\LAWRENCE\BORING LOGS\80108.04 BORING LOGS.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Tombarello Facility TBA

Location: 207 Marston Street, Lawrence, MA

Nobis Project No.: 80108.04

Boring No.: **NPA-02 / MW-15**

Boring Location: See Site Plan

Checked by:

Date Start: June 10, 2016

Date Finish: June 10, 2016

Contractor: Technical Drilling Services

Driller: T. Newton

Nobis Rep.: E. Johnson

Rig Type / Model: Geoprobe 6620DT

Hammer Type: N/A

Hammer Hoist: N/A

Ground Surface Elev.:

Datum:

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)		1.75 x 60
Advancement	Direct Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	Sample Info: Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Lithology: Graphic	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)	Well Detail	Notes
11								S-4B (12"): Black, fine SAND, little Silt. wet.		
12							SAND	S-4C (12"): Black to copper, fine to coarse SAND, some Gravel. wet.		
13							/ 13.0			
14								Boring terminated at 13 feet.		
15										
16										
17										
18										
19										
20										

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

DRAFT

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 8/8/16 10:51 - R:\80000 TASK ORDERS\80108 BROWNFIELDS MULTI-SITE\TECHNICAL\LAWRENCE\BORING LOGS\80108.04 BORING LOGS.GPJ

Credere Associates, LLC
776 Main Street
Westbrook, Maine 04092
Phone: 207-828-1272
Fax: 207-887-1051

Boring Log

SB-1

CLIENT MVPC
PROJECT NAME Tombarello
PROJECT # 17001426
PROJECT LOCATION Lawrence, MA
DATE STARTED 9/5/19
LOGGED BY Samantha Foote
DEPTH TO WATER 6.5
DIAMETER NA
CONTRACTOR Geosearch, Inc./Brian Houle
WELL MATERIALS NA
DRILLING METHOD Direct Push
ANNULUS MATERIALS NA
DRILLING EQUIPMENT Geoprobe 6610 DT Track Rig
TOC ELEVATION
GROUND ELEVATION NA
NOTES bgs= Below ground surface; SAA= Same as above; groundwater encountered at 6.5 feet bgs

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0.0	60/38		0.35	SB-1 (0-0.5)		0-7" ASPHALT.	
						7-11" Brown, fine to coarse SAND. Dry.	
			0.09	SB-1 (1-2)		11-26" Dark brown/gray, fine to coarse SAND, some Silt. Moist.	
			0.09				
2.5				SB-1 (2-3)		26-38" Black/orange/brown, fine to coarse SAND, some Fibrous Material, some Glass (fill). Moist. Coal and Coal Ash oberved in sample.	
			0.09				
			0.06	SB-1 (3-5)			
5.0	60/32		0.07			0-24" SAA. Wet at 18".	
				SB-1 (5-7)-1			
			0.06	SB-1 (5-7)-2			
			0.06			24-28" Dark gray, fine to coarse SAND, trace fine Gravel. Wet.	
7.5						28-32" Dark gray, very fine to medium SAND. Wet.	
			0.06				
			0.08				
10.0						End of boring at 10 feet bgs (no refusal).	
12.5							

CREDERE ENV 2015 - GINT STD US LAB.GDT - 2/4/20 16:33 - P:\17001426 MVPC ASSESSMENT\WORK\TOMBARELLO SITE-LAWRENCE\FIELD\TOMBARELLO_LOGS.GPJ

Credere Associates, LLC
776 Main Street
Westbrook, Maine 04092
Phone: 207-828-1272
Fax: 207-887-1051

Boring Log

SB-2

CLIENT MVPC
PROJECT NAME Tombarello
PROJECT # 17001426
PROJECT LOCATION Lawrence, MA
DATE STARTED 9/4/19
LOGGED BY Samantha Foote
DEPTH TO WATER 7.5
DIAMETER NA
CONTRACTOR Geosearch, Inc./Brian Houle
WELL MATERIALS NA
DRILLING METHOD Direct Push
ANNULUS MATERIALS NA
DRILLING EQUIPMENT Geoprobe 6610 DT Track Rig
TOC ELEVATION
GROUND ELEVATION NA
NOTES bgs= Below ground surface; SAA= Same as above; groundwater encountered at 7.5 feet bgs.

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0.0	60/44		0.09	SB-2 (0-0.5)		0-10" ASPHALT.	
			0.10			10-12" Light brown, very fine to fine SAND, trace fine Gravel. Moist.	
				SB-2 (1-2)		12-32" Dark brown, fine to coarse SAND, little Silt, trace Glass, trace Brick, layer of brick from 21-22" (fill). Dry.	
			0.04				
2.5				SB-2 (2-3)		32-39" Brown, very fine to fine SAND. Moist.	
			0.00				
						39-44" Dark brown, fine to coarse SAND, little Silt, trace Glass, trace Brick (fill). Moist.	
			0.05	SB-2 (3-5)			
5.0	60/40		0.07			0-30" SAA.	
				SB-2 (5-7)-1			
			0.08	SB-2 (5-7)-2			
			0.31				
7.5						30-40" Light brown, very fine to fine SAND, little Silt. Wet.	
			0.03				
			0.07				
10.0						End of boring at 10 feet bgs (no refusal)	
12.5							

CREDERE ENV 2015 - GINT STD US LAB.GDT - 2/4/20 16:33 - P:\17001426 MVPC ASSESSMENT\WORK\TOMBARELLO SITE-LAWRENCE\FIELD\TOMBARELLO_LOGS.GPJ

Credere Associates, LLC
776 Main Street
Westbrook, Maine 04092
Phone: 207-828-1272
Fax: 207-887-1051

Boring Log

SB-3

CLIENT MVPC
PROJECT NAME Tombarello
PROJECT # 17001426
PROJECT LOCATION Lawrence, MA
DATE STARTED 9/4/19
LOGGED BY Samantha Foote
DEPTH TO WATER 7
DIAMETER NA
CONTRACTOR Geosearch, Inc./Brian Houle
WELL MATERIALS NA
DRILLING METHOD Direct Push
ANNULUS MATERIALS NA
DRILLING EQUIPMENT Geoprobe 6610 DT Track Rig
TOC ELEVATION
GROUND ELEVATION NA
NOTES bgs= Below ground surface; SAA= Same as above; groundwater encountered at 7 feet bgs.

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0.0	60/48		0.21	SB-3 (0-0.5)		0-10" ASPHALT.	
			0.00			10-44" Brown, very fine to medium SAND, trace Silt, brick observed at 20". Moist.	
				SB-3 (1-2)			
			0.03				
2.5				SB-3 (2-3)			
			0.02				
				SB-3 (3-5)		44-48" Dark brown/black, fine to coarse SAND, little Silt, trace Glass, trace Brick (fill). Moist.	
			0.01				
5.0	60/53		0.07			0-14" SAA.	
				SB-3 (5-7)-1			
			0.25	SB-3 (5-7)-2		14-53" Brown, very fine to fine SAND, some Silt. Moist (wet at 7' bgs).	
			0.44				
7.5							
			0.91				
			0.12				
10.0						End of boring at 10 feet bgs (no refusal)	
12.5							

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Credere Associates, LLC
776 Main Street
Westbrook, Maine 04092
Phone: 207-828-1272
Fax: 207-887-1051

Boring Log

SB-4
PAGE 1 OF 1

CLIENT MVPC
PROJECT NAME Tombarello
PROJECT # 17001426
PROJECT LOCATION Lawrence, MA
DATE STARTED 9/4/19
LOGGED BY Samantha Foote
DEPTH TO WATER 7.08
DIAMETER NA
CONTRACTOR Geosearch, Inc./Brian Houle
WELL MATERIALS NA
DRILLING METHOD Direct Push
ANNULUS MATERIALS NA
DRILLING EQUIPMENT Geoprobe 6610 DT Track Rig
TOC ELEVATION
GROUND ELEVATION NA
NOTES bgs= Below ground surface; SAA= Same as above; groundwater encountered at 7.08 feet bgs.

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0.0	60/36		0.00	SB-4 (0-0.5)		0-10" ASPHALT.	
			0.00			10-12" Brown/dark brown, very fine to medium SAND, little Silt. Moist.	
				SB-4 (1-2)		12-20" Gray, crushed fine to coarse GRAVEL/CONCRETE. Dry.	
			0.03			20-28" Dark brown/black, fine to coarse SAND, trace Silt. Moist.	
2.5				SB-4 (2-3)		28-32" Blue/black fine GRAVEL, some crushed fine to coarse Gravel. Dry.	
			0.00			32-36" Light gray/tan, fine to coarse SAND, little Silt, fill materials throughout including glass/brick. Moist.	
			0.00	SB-4 (3-5)			
5.0	60/45		0.00			0-25" Same as above.	
				SB-4 (5-7)-1			
			0.00	SB-4 (5-7)-2			
			0.00			25-30" Brown with orange staining, very fine to medium SAND, trace Silt. Wet.	
7.5						30-33" Light brown, fine to coarse SAND. Wet.	
			0.00			33-45" Dark gray very fine to fine SAND, some Silt. Wet.	
			0.00				
10.0						End of boring at 10 feet bgs (no refusal)	
12.5							

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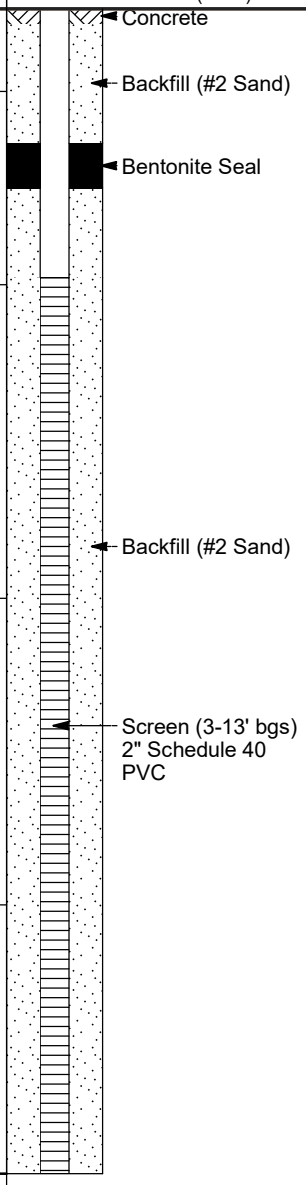
Credere Associates, LLC
776 Main Street
Westbrook, Maine 04092
Phone: 207-828-1272
Fax: 207-887-1051

Boring Log

SB-5

CLIENT MVPC **PROJECT NAME** Tombarello
PROJECT # 17001426 **PROJECT LOCATION** Lawrence, MA
DATE STARTED 12/23/19 **LOGGED BY** Christopher Beahm **DEPTH TO WATER** 6.58 **DIAMETER** 2
CONTRACTOR Technical Drilling Services/Darwin Neuton **WELL MATERIALS** PVC, 0.010" slotted screen, solid riser
DRILLING METHOD Direct Push **ANNULUS MATERIALS** #2 Silica Sand Bentonite Grout
DRILLING EQUIPMENT Geoprobe 6610 DT Track Rig **TOC ELEVATION** **GROUND ELEVATION** NA
NOTES bgs= Below ground surface; SAA= Same as above; groundwater encountered at 6.58 feet bgs.

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY
0.0	60/48		<1.0			0-11" ASPHALT.
						11-30" Dark Brown/gray, fine to coarse SAND, some Silt, trace fine Gravel. Moist.
2.5						30-37" BRICK (fill). Dry.
						37-48" Dark brown very fine to fine SAND, some Silt, trace fine Gravel (fill). Moist.
5.0	36/27		<1.0			0-19" SAA.
						19-27" Light brown, very fine to fine SAND, some Silt, little fine Gravel. Wet.
7.5						
10.0						0-36" SAA.
12.5						End of boring at 13 feet bgs (no refusal)



CREDERE ENV 2015 - GINT STD US LAB.GDT - 2/4/20 16:33 - P:\17001426 MVPC ASSESSMENT\WORK\TOMBARELLO SITE-LAWRENCE\FIELD\TOMBARELLO_LOGS.GPJ

Credere Associates, LLC
776 Main Street
Westbrook, Maine 04092
Phone: 207-828-1272
Fax: 207-887-1051

Boring Log

SB-6

CLIENT MVPC **PROJECT NAME** Tombarello
PROJECT # 17001426 **PROJECT LOCATION** Lawrence, MA
DATE STARTED 12/23/19 **LOGGED BY** Christopher Beahm **DEPTH TO WATER** 5.58 **DIAMETER** NA
CONTRACTOR Technical Drilling Services/Darwin Neuton **WELL MATERIALS** NA
DRILLING METHOD Direct Push **ANNULUS MATERIALS** NA
DRILLING EQUIPMENT Geoprobe 6610 DT Track Rig **TOC ELEVATION** **GROUND ELEVATION** NA
NOTES bgs= Below ground surface; SAA= Same as above; groundwater encountered at 5.58 feet bgs.

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0.0	60/37		<1.0			0-4" ASPHALT.	
						4-19" Dark brown, very fine to fine SAND, some Silt, trace fine Gravel (fill). Moist. Coal observed in sample.	
						19-29" Black, very fine to fine SAND, some Silt. Dry. Coal observed in sample.	
2.5						29-37" Light brown, fine SAND and SILT.	
5.0	48/40		<1.0	SB-6		0-9" Dark brown, very fine to fine SAND, some Silt, trace fine Gravel, trace Brick (fill). Moist. Coal Ash observed in sample.	
						9-30" Light brown, very fine to fine SAND, some Silt, trace fine Gravel (fill). Wet. Coal and Coal Ash observed in sample.	
7.5						30-40" Dark brown, very fine to fine SAND, some Silt. Wet.	
						End of Boring at 9 feet bgs (no refusal)	
10.0							
12.5							

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Phone: 207-828-1272
Fax: 207-887-1051

Boring Log

SB-7

CLIENT MVPC **PROJECT NAME** Tombarello
PROJECT # 17001426 **PROJECT LOCATION** Lawrence, MA
DATE STARTED 12/23/19 **LOGGED BY** Christopher Beahm **DEPTH TO WATER** 3.17 **DIAMETER** NA
CONTRACTOR Technical Drilling Services/Darwin Neuton **WELL MATERIALS** NA
DRILLING METHOD Direct Push **ANNULUS MATERIALS** NA
DRILLING EQUIPMENT Geoprobe 6610 DT Track Rig **TOC ELEVATION** **GROUND ELEVATION** NA
NOTES bgs= Below ground surface; SAA= Same as above; groundwater encountered at 3.17 feet bgs.

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0.0	60/46		<1.0			0-8" ASPHALT.	
						8-24" Dark brown, very fine to fine SAND, some fine Gravel, trace Silt (fill). Moist. Coal and Clinker observed in sample.	
						24-28" Brick. Dry.	
2.5						28-38" Dark brown, very fine to fine SAND, some fine Gravel, trace Silt (fill). Moist. Coal and Coal Ash observed in sample.	
						38-46" Dark brown, very fine to fine SAND (fill). Wet. Coal and Coal Ash observed in sample.	
5.0	24/14		<1.0	SB-7		0-6" SAA.	
						6-14" Light Brown, fine SAND and SILT. Wet.	
						End of boring at 7 feet bgs (no refusal)	
7.5							
10.0							
12.5							

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Fax: 207-887-1051

Boring Log

SB-8

CLIENT MVPC **PROJECT NAME** Tombarello
PROJECT # 17001426 **PROJECT LOCATION** Lawrence, MA
DATE STARTED 12/23/19 **LOGGED BY** Christopher Beahm **DEPTH TO WATER** 5.75 **DIAMETER** NA
CONTRACTOR Technical Drilling Services/Darwin Neuton **WELL MATERIALS** NA
DRILLING METHOD Direct Push **ANNULUS MATERIALS** NA
DRILLING EQUIPMENT Geoprobe 6610 DT Track Rig **TOC ELEVATION** **GROUND ELEVATION** NA
NOTES bgs= Below ground surface; SAA= Same as above; groundwater encountered at 5.75 feet bgs.

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0.0	60/37		<1.0			0-5" TOPSOIL.	
						5-11" ASPHALT.	
						11-18" Tan, very fine to fine SAND, little Silt. Moist.	
						18-37" Dark brown, very fine to fine SAND, some Silt, trace fine Gravel, trace Brick (fill). Moist. Coal observed in sample.	
2.5							
5.0	48/48		<1.0	SB-8		0-9" SAA.	
						9-29" Light brown, very fine to fine SAND, some Silt (fill). Wet. Coal observed in Samples.	
7.5						29-43" Tan, fine to coarse, SAND, some Silt. Wet.	
						End of boring at 9 feet bgs (no refusal)	
10.0							
12.5							

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Westbrook, Maine 04092
Phone: 207-828-1272
Fax: 207-887-1051

Boring Log

SB-9

CLIENT MVPC **PROJECT NAME** Tombarello
PROJECT # 17001426 **PROJECT LOCATION** Lawrence, MA
DATE STARTED 12/23/19 **LOGGED BY** Christopher Beahm **DEPTH TO WATER** 5.75 **DIAMETER** NA
CONTRACTOR Technical Drilling Services/Darwin Neuton **WELL MATERIALS** NA
DRILLING METHOD Direct Push **ANNULUS MATERIALS** NA
DRILLING EQUIPMENT Geoprobe 6610 DT Track Rig **TOC ELEVATION** **GROUND ELEVATION** NA
NOTES bgs= Below ground surface; SAA= Same as above; groundwater encountered at 5.75 feet bgs.

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0.0	60/41		<1.0			0-4" ASPHALT.	
						4-10" Gray, fine GRAVEL, some tan fine Sand, trace Silt. Dry.	
						10-33" Dark brown very fine to fine SAND, little Silt, trace Gravel. Moist.	
2.5						33-35" SAA.	
						35-41" Dark brown, very fine to fine SAND, little Silt, trace fine Gravel (fill). Moist. Coal and Ash observed in sample.	
5.0	24/24		<.10	SB-9		0-9" Dark brown/gray, very fine to fine SAND, some Silt, little fine Gravel (fill). Wet. Coal and Ash observed in sample.	
						9-24" Light brown, very fine to fine SAND, some Silt. Wet.	
7.5						End of boring at 7 feet bgs (no refusal)	
10.0							
12.5							

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Boring Log

SB-10

CLIENT MVPC **PROJECT NAME** Tombarello
PROJECT # 17001426 **PROJECT LOCATION** Lawrence, MA
DATE STARTED 12/23/19 **LOGGED BY** Christopher Beahm **DEPTH TO WATER** 6.33 **DIAMETER** NA
CONTRACTOR Technical Drilling Services/Darwin Neuton **WELL MATERIALS** NA
DRILLING METHOD Direct Push **ANNULUS MATERIALS** NA
DRILLING EQUIPMENT Geoprobe 6610 DT Track Rig **TOC ELEVATION** **GROUND ELEVATION** NA
NOTES bgs= Below ground surface; SAA= Same as above; groundwater encountered at 6.33 feet bgs.

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0.0	60/42		<1.0			0-7" ASPHALT.	
						7-17" Dark brown, very fine to fine SAND. Moist.	
						17-37" Tan, very fine to fine SAND, some Silt, trace fine gravel (fill). Moist. Coal, Ash, and Clinker observed in sample.	
2.5						37-42" BRICK.	
5.0	48/43		<1.0	SB-10		0-16" Dark brown, very fine to fine SAND, some Silt, little fine Gravel. Moist.	
						16-43" Dark brown/tan fine SAND (fill). Wet. Coal and Ash observed in sample.	
7.5							
						End of boring at 9 feet bgs (no refusal)	
10.0							
12.5							

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776 Main Street
Westbrook, Maine 04092
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Fax: 207-887-1051

Boring Log

SB-11

CLIENT MVPC **PROJECT NAME** Tombarello
PROJECT # 17001426 **PROJECT LOCATION** Lawrence, MA
DATE STARTED 12/23/19 **LOGGED BY** Christopher Beahm **DEPTH TO WATER** 6.17 **DIAMETER** NA
CONTRACTOR Technical Drilling Services/Darwin Neuton **WELL MATERIALS** NA
DRILLING METHOD Direct Push **ANNULUS MATERIALS** NA
DRILLING EQUIPMENT Geoprobe 6610 DT Track Rig **TOC ELEVATION** **GROUND ELEVATION** NA
NOTES bgs= Below ground surface; SAA= Same as above; groundwater encountered at 6.17 feet bgs.

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0.0	60/43		<1.0			0-6" ASPHALT.	
				SB-11 (1-1.5)		6-20" Dark brown, very fine to fine SAND, little fine Gravel (fill). Moist. Coal and Ash observed in sample.	
						20-23" QUARTZ.	
				SB-11 (2-3)		23-33" Dark brown, very fine to fine SAND, some Silt, little fine Gravel. Moist.	
2.5				SB-11(3-4)		33-43" Tan, very fine to medium SAND, little Silt. Moist.	
				SB-11(4-5)			
5.0	36/31		<1.0			0-10" Dark brown, very fine to fine SAND, some fine Gravel, little Silt. Moist.	
				SB-11(5-7)		10-14" Dark brown, very fine to fine SAND, some fine Gravel. Moist. 14-24" Light brown, fine SAND, little Silt, trace fine Gravel. Wet.	
7.5						24-31" Light brown, coarse SAND, little Silt. Wet.	
						End of boring at 8 feet bgs (no refusal)	
10.0							
12.5							

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Boring Log

SB-12

CLIENT MVPC **PROJECT NAME** Tombarello
PROJECT # 17001426 **PROJECT LOCATION** Lawrence, MA
DATE STARTED 12/23/19 **LOGGED BY** Christopher Beahm **DEPTH TO WATER** 5.5 **DIAMETER** NA
CONTRACTOR Technical Drilling Services/Darwin Neuton **WELL MATERIALS** NA
DRILLING METHOD Direct Push **ANNULUS MATERIALS** NA
DRILLING EQUIPMENT Geoprobe 6610 DT Track Rig **TOC ELEVATION** **GROUND ELEVATION** NA
NOTES bgs= Below ground surface; SAA= Same as above; groundwater encountered at 5.5 feet bgs.

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0.0	60/40		<1.0			0-3" TOPSOIL.	Well Finish:
						3-7" ASPHALT.	
						7-17" Dark brown, very fine to fine SAND, some Silt, little fine Gravel. Moist.	
				SB-12 (1-1.5)		17-19" Tan, very fine SAND and SILT. Moist.	
						19-35" Dark brown, very fine to fine SAND and SILT (fill). Moist. Coal and Ash observed in sample.	
2.5				SB-12 (2-3)			
						35-40" Light brown, very fine to fine SAND, some Silt (fill). Moist. Coal and Ash observed in sample.	No well installed
				SB-12 (3-5)			
				SB-12 (4-5)			
5.0	24/22		<1.0			0-6" Dark brown, very fine to fine SAND and SILT (fill). Moist. Coal and Ash observed in sample.	
				SB-12 (5-7)		6-22" Dark brown, fine to coarse SAND and SILT, some fine gravel. Wet.	
						End of boring 7 feet bgs (no refusal)	
7.5							
10.0							
12.5							

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Boring Log

SB-13

CLIENT MVPC **PROJECT NAME** Tombarello
PROJECT # 17001426 **PROJECT LOCATION** Lawrence, MA
DATE STARTED 12/23/19 **LOGGED BY** Christopher Beahm **DEPTH TO WATER** 5.25 **DIAMETER** NA
CONTRACTOR Technical Drilling Services/Darwin Neuton **WELL MATERIALS** NA
DRILLING METHOD Direct Push **ANNULUS MATERIALS** NA
DRILLING EQUIPMENT Geoprobe 6610 DT Track Rig **TOC ELEVATION** **GROUND ELEVATION** NA
NOTES bgs= Below ground surface; SAA= Same as above; groundwater encountered at 5.25 feet bgs.

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0.0	60/36		<1.0			0-5" ASPHALT.	Well Finish:
						5-14" Dark brown, fine to coarse SAND, some Silt, trace fine Gavel. Dry.	
				SB-13 (1-1.5)		14-16" Tan, very fine to medium SAND, little Silt. Moist.	
						16-19" Dark brown, fine to medium SAND, some Silt. Moist.	
						19-21" BRICK.	
						21-36" Dark brown, coarse to medium SAND, little Silt. Moist.	
2.5				SB-13 (2-3)			
				SB-13 (3-4)			No Well Installed
				SB-13 (4-5)			
5.0	24/11		<1.0			0-3" SAA (except wet).	
						3-11" Dark brown, very fine to fine SAND, some Silt, little fine Gravel. Wet.	
				SB-13 (5-7)			
						End of boring at 7 feet bgs (no refusal)	
7.5							
10.0							
12.5							

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Boring Log

SB-14

CLIENT MVPC **PROJECT NAME** Tombarello
PROJECT # 17001426 **PROJECT LOCATION** Lawrence, MA
DATE STARTED 12/23/19 **LOGGED BY** Christopher Beahm **DEPTH TO WATER** 5 **DIAMETER** NA
CONTRACTOR Technical Drilling Services/Darwin Neuton **WELL MATERIALS** NA
DRILLING METHOD Direct Push **ANNULUS MATERIALS** NA
DRILLING EQUIPMENT Geoprobe 6610 DT Track Rig **TOC ELEVATION** **GROUND ELEVATION** NA
NOTES bgs= Below ground surface; SAA= Same as above; groundwater encountered at 5 feet bgs.

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0.0	60/48		<1.0			0-6" ASPHALT.	Well Finish:
				SB-14 (1-1.5)		6-24" Dark brown/brown, fine to coarse SAND, some fine Gravel (fill). Dry.	
						24-30" Tan fine SAND, some Silt (fill). Dry.	
2.5				SB-14 (2-3)		30-48" Dark brown, fine SAND, trace Silt, fine Gravel. Moist.	
				SB-14 (3-4)			
				SB-14 (4-5)			No well installed
5.0	24/19		<1.0			0-19" Dark brown fine SAND, some Silt, trace fine Gravel (fill). Wet. Coal and Ash observed in sample.	
				SB-14 (5-7)			
						End of boring at 7 feet bgs (no refusal)	
7.5							
10.0							
12.5							

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Boring Log

SB-15

CLIENT MVPC **PROJECT NAME** Tombarello
PROJECT # 17001426 **PROJECT LOCATION** Lawrence, MA
DATE STARTED 12/23/19 **LOGGED BY** Christopher Beahm **DEPTH TO WATER** 5.75 **DIAMETER** NA
CONTRACTOR Technical Drilling Services/Darwin Neuton **WELL MATERIALS** NA
DRILLING METHOD Direct Push **ANNULUS MATERIALS** NA
DRILLING EQUIPMENT Geoprobe 6610 DT Track Rig **TOC ELEVATION** **GROUND ELEVATION** NA
NOTES bgs= Below ground surface; SAA= Same as above; groundwater encountered at 5.75 feet bgs.

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0.0	60/41		<1.0			0-2" ASPHALT.	Well Finish:
				SB-15 (1-1.5)		2-23" Dark brown very fine to fine SAND, little fine Gravel (fill). Moist. Coal and Ash observed in sample.	
						23-25" BRICK.	
2.5				SB-15 (2-3)		25-35" Tan, fine to coarse SAND, little Silt. Moist.	
				SB-15 (3-4)		35-41" Dark brown, very fine to fine SAND, some Silt. Moist.	No well installed
				SB-15 (4-5)			
5.0	24/15		<1.0			0-9" Dark brown, very fine to fine SAND, some Silt. Moist.	
				SB-15 (5-7)		9-15" Light brown, fine SAND, some Silt. Wet.	
						End of boring at 7 feet bgs (no refusal)	
7.5							
10.0							
12.5							

CREDERE ENV 2015 - GINT STD US LAB.GDT - 2/4/20 16:33 - P:\17001426 MVPC ASSESSMENT\WORK\TOMBARELLO SITE-LAWRENCE\FIELD\TOMBARELLO_LOGS.GPJ

BORING INFORMATION

LOCATION: 12.5 feet east of EW-07E

GROUND SURFACE EL. (ft): NA | **DATE START/END:** 3/12/2020 - 3/12/2020

VERTICAL DATUM: NA | **DRILLING COMPANY:** Northern Drill Service, Inc.

TOTAL DEPTH (ft): 5.0 | **DRILLER NAME:** C. Devillers

LOGGED BY: B.Lee | **RIG TYPE:** Geoprobe 6620DT

BORING

EW-07ER

DRILLING INFORMATION

HAMMER TYPE: Automatic | **CASING I.D./O.D.:** 2.125 inch / 2.25 inch | **CORE BARREL TYPE:** Macrocore

AUGER I.D./O.D.: NA / NA | **DRILL ROD O.D.:** NM | **CORE BARREL I.D./O.D.** NA / NA

DRILLING METHOD: Geoprobe

ABBREVIATIONS:

Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation
= Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer

S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger

Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter

NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 5	60/41	NA		FILL	S1: (0-15"): WIDELY GRADED SAND WITH GRAVEL (SW); ~80% fine to coarse sand, ~15% subangular gravel (0-0.5"), ~5% non-plastic fines, loose, dark brown to black. Contains plastic and glass fragments, burnt odor.
								S1: (15-21"): BRICK FRAGMENTS
							SAND	SI: (21-41"): SILTY SAND (SM); ~85% fine to medium sand, ~15% non-plastic fines, medium dense, dark gray to tan.
	5							Bottom of boring at depth 5 ft.
	10							
	15							
	20							

NOTES:

PROJECT NAME: Former Tombarello Site

CITY/STATE: Lawrence, Massachussetts

GEI PROJECT NUMBER: 1802441

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME BORING LOGS 2020.GPJ 4/1/20

BORING INFORMATION

LOCATION: 10 feet east of EW-07S
GROUND SURFACE EL. (ft): NA
VERTICAL DATUM: NA
TOTAL DEPTH (ft): 5.0
LOGGED BY: B.Lee
DATE START/END: 3/13/2020 - 3/13/2020
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: Justin,Drew
RIG TYPE: Geoprobe 6620DT

BORING

EW-07SE

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Geoprobe
CASING I.D./O.D.: 3.125 inch / 3.25 inch
DRILL ROD O.D.: NM
CORE BARREL TYPE: Macrocore
CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 3	36/27	NA		FILL	S1: (0-10"): WIDELY GRADED SAND WITH GRAVEL (SW); ~75% fine to coarse sand, ~20% subangular gravel (0-0.5"), ~5% non-plastic fines, loose, dark brown. Contains brick and metal fragments.
							SAND	S1: (10-17"): SILTY SAND (SM); ~75% fine to medium sand, ~25% non-plastic fines, medium dense, dark brown.
		S2	3 to 5	24/20	NA			S1: (17-27"): SILTY SAND (SM); ~75% fine to medium sand, ~25% non-plastic fines, medium dense, gray to tan.
								S2: (0-20"): SILTY SAND (SM); Similar to S1(17-27").
	5							Bottom of boring at depth 5 ft.
	10							
	15							
	20							

NOTES:

PROJECT NAME: Former Tombarello Site
CITY/STATE: Lawrence, Massachussetts
GEI PROJECT NUMBER: 1802441

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME BORING LOGS 2020.GPJ 4/1/20

BORING INFORMATION

LOCATION: 10 feet east of EW-07SE
GROUND SURFACE EL. (ft): NA
VERTICAL DATUM: NA
TOTAL DEPTH (ft): 5.0
LOGGED BY: B.Lee
DATE START/END: 3/12/2020 - 3/12/2020
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: C. Devillers
RIG TYPE: Geoprobe 6620DT

BORING

EW-07SEE

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Geoprobe
CASING I.D./O.D.: 2.125 inch / 2.25 inch
DRILL ROD O.D.: NM
CORE BARREL TYPE: Macrocore
CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation
= Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 5	60/44	NA		FILL	S1: (0-17"): WIDELY GRADED SAND WITH GRAVEL (SW); ~75% fine to coarse sand, ~20% subangular gravel (0-1"), ~5% non-plastic fines, loose, brown to black. Contains glass, brick, and plastic framgents, slight chemical odor.
							SAND	S1: (17-24"): SILTY SAND (SM); ~85% fine to medium sand, ~15% non-plastic fines, black. Strong chemical odor. S1: (24-44"): SILTY SAND (SM); ~85% fine to medium sand, ~15% non-plastic fines, gray-tan.
	5							Bottom of boring at depth 5 ft.
	10							
	15							
	20							

NOTES:

PROJECT NAME: Former Tombarello Site
CITY/STATE: Lawrence, Massachussetts
GEI PROJECT NUMBER: 1802441

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME BORING LOGS 2020.GPJ 4/1/20

BORING INFORMATION

LOCATION: 10 feet east of EW-07SS
GROUND SURFACE EL. (ft): NA
VERTICAL DATUM: NA
TOTAL DEPTH (ft): 5.0
LOGGED BY: B.Lee
DATE START/END: 3/12/2020 - 3/12/2020
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: C. Devillers
RIG TYPE: Geoprobe 6620DT

BORING

EW-07SSE

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Geoprobe
CASING I.D./O.D.: 2.125 inch / 2.25 inch
DRILL ROD O.D.: NM
CORE BARREL TYPE: Macrocore
CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 5	60/36	NA		FILL	S1: (0-17"): WIDELY GRADED SAND WITH GRAVEL (SW); ~70% fine to coarse sand, ~20% subangular gravel (0-1"), ~5% non-plastic fines, loose, dark brown to black. Contains metal, glass, and plastic fragments.
							SAND	S1: (17-21"): SILTY SAND (SM); ~85% fine to medium sand, ~15% non-plastic fines, medium dense, black. S1: (21-36"): SILTY SAND (SM); ~85% fine to medium sand, ~15% non-plastic fines, medium dense, tan.
	5							Bottom of boring at depth 5 ft.
	10							
	15							
	20							

NOTES:

PROJECT NAME: Former Tombarello Site
CITY/STATE: Lawrence, Massachussetts
GEI PROJECT NUMBER: 1802441

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME BORING LOGS 2020.GPJ 4/1/20

BORING INFORMATION

LOCATION: 10 feet south of EW-07SS
GROUND SURFACE EL. (ft): NA
VERTICAL DATUM: NA
TOTAL DEPTH (ft): 5.0
LOGGED BY: B.Lee
DATE START/END: 3/12/2020 - 3/12/2020
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: C. Devillers
RIG TYPE: Geoprobe 6620DT

BORING

EW-07SSS

PAGE 1 of 1

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Geoprobe
CASING I.D./O.D.: 2.125 inch / 2.25 inch
DRILL ROD O.D.: NM
CORE BARREL TYPE: Macrocore
CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 5	60/49	NA		FILL	S1: (0-18"): WIDELY GRADED SAND WITH GRAVEL (SW); 75% fine to coarse sand, 20% subangular gravel (0-1"), 5% non-plastic fines, loose, dark brown to black. Contains glass and brick fragments.
							SAND	S1: (18-20"): SILTY SAND (SM); 85% fine to medium sand, 15% non-plastic fines, dense, black.
								S1: (20-44"): SILTY SAND (SM); Similar to S1 (18-20") except tan to brown.
	5							Bottom of boring at depth 5 ft.
	10							
	15							
	20							

NOTES:

PROJECT NAME: Former Tombarello Site
CITY/STATE: Lawrence, Massachussetts
GEI PROJECT NUMBER: 1802441

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME BORING LOGS 2020.GPJ 4/1/20

BORING INFORMATION

LOCATION: 10 feet west of EW-07SS
GROUND SURFACE EL. (ft): NA
VERTICAL DATUM: NA
TOTAL DEPTH (ft): 5.0
LOGGED BY: B.Lee
DATE START/END: 3/12/2020 - 3/12/2020
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: C. Devillers
RIG TYPE: Geoprobe 6620DT

BORING

EW-07SSW

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Geoprobe
CASING I.D./O.D.: 2.125 inch / 2.25 inch
DRILL ROD O.D.: NM
CORE BARREL TYPE: Macrocore
CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:

Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation
= Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer

S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger

Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter

NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 5	60/43	NA		FILL	S1: (0-11"): WIDELY GRADED SAND WITH GRAVEL (SW); ~75% fine to coarse sand, ~20% subangular gravel (0-0.5"), ~5% non-plastic fines, loose, dark brown to black. Contains glass and brick fragments.
							SAND	S1: (11-12"): SILTY SAND (SM); ~85% fine to medium sand, ~15% non-plastic fines, medium dense, black.
								S1: (12-43"): SILTY SAND (SM); ~85% fine to medium sand, ~15% non-plastic fines, medium dense, tan to brown.
	5							Bottom of boring at depth 5 ft.
	10							
	15							
	20							

NOTES:

PROJECT NAME: Former Tombarello Site
CITY/STATE: Lawrence, Massachussetts
GEI PROJECT NUMBER: 1802441

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME BORING LOGS 2020.GPJ 4/1/20

BORING INFORMATION

LOCATION: Lot 2

GROUND SURFACE EL. (ft): NA

VERTICAL DATUM: NA

TOTAL DEPTH (ft): 3.0

LOGGED BY: B.Lee

DATE START/END: 3/13/2020 - 3/13/2020

DRILLING COMPANY: Northern Drill Service, Inc.

DRILLER NAME: Justin,Drew

RIG TYPE: Geoprobe 6620DT

BORING

Lot 2 Disp-01

DRILLING INFORMATION

HAMMER TYPE: Automatic

AUGER I.D./O.D.: NA / NA

DRILLING METHOD: Geoprobe

CASING I.D./O.D.: 2.125 inch / 2.25 inch

DRILL ROD O.D.: NM

CORE BARREL TYPE: Macrocore

CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:

Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation
= Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer

S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger

Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter

NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 3	36/30	NA	0.1 ppm	FILL	S1: (0-3"): WIDLEY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% fine to coarse sand, ~15% subangular gravel (0-0.5"), ~10% non-plastic fines, loose, light brown. Contains organic material. TOPSOIL.
								S1: (3-30"): WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); 75% fine to coarse sand, ~15% subangular gravel (0-0.75"), ~ 10% non-plastic fines, loose, dark brown-black.
								Bottom of boring at depth 3 ft.
	5							
	10							
	15							
	20							

NOTES:

PROJECT NAME: Former Tombarello Site

CITY/STATE: Lawrence, Massachussetts

GEI PROJECT NUMBER: 1802441

GEI Consultants

BORING INFORMATION

LOCATION: Lot 2

GROUND SURFACE EL. (ft): NA

VERTICAL DATUM: NA

TOTAL DEPTH (ft): 3.0

LOGGED BY: B.Lee

DATE START/END: 3/12/2020 - 3/12/2020

DRILLING COMPANY: Northern Drill Service, Inc.

DRILLER NAME: C. Devillers

RIG TYPE: Geoprobe 6620DT

BORING

Lot 2 Disp-03

DRILLING INFORMATION

HAMMER TYPE: Automatic

AUGER I.D./O.D.: NA / NA

DRILLING METHOD: Geoprobe

CASING I.D./O.D.: 2.125 inch / 2.25 inch

DRILL ROD O.D.: NM

CORE BARREL TYPE: Macrocore

CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:

Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation
= Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer

S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger

Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter

NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 3	36/32	NA	0.3 ppm	FILL	S1: (0-14"): WIDELY GRADED SAND WITH GRAVEL (SW); ~75% fine to coarse sand, ~20% subangular gravel (0-0.5"), ~5% non-plastic fines, loose, brown to black. Contains brick, metal, and glass fragments, slight chemical odor.
							SAND	S1: (14-20"): SILTY SAND (SM); ~85% fine to medium sand, ~15% non-plastic fines, dense, dark brown. Slight chemical odor.
								S1: (20-32"): SILTY SAND (SM); ~85% fine to medium sand, ~15% non-plastic fines, dense, tan to brown.
								Bottom of boring at depth 3 ft.
	5							
	10							
	15							
	20							

NOTES:

PROJECT NAME: Former Tombarello Site

CITY/STATE: Lawrence, Massachussetts

GEI PROJECT NUMBER: 1802441

GEI Consultants

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Tombarello Facility TBA

Location: 207 Marston Street, Lawrence, MA

Nobis Project No.: 80108.04

Boring No.: **M-7E**

Boring Location: See Site Plan

Checked by:

Date Start: June 7, 2016

Date Finish: June 7, 2016

Contractor: Technical Drilling Services

Driller: T. Newton

Nobis Rep.: E. Johnson

Rig Type / Model: Geoprobe 6620DT

Hammer Type: N/A

Hammer Hoist: N/A

Ground Surface Elev.:

Datum:

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)		1.75 x 60
Advancement	Direct Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	SAMPLE INFORMATION: Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	Ground Water	LITHOLOGY: Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
1	S-1	10	0-1		0.4				Brown, fine to medium SAND, little Gravel, some glass fragments, little ceramic/metal/coal fragments. dry.	
2	S-2	21	1-3		77.1			FILL	Black, fine to coarse SAND, little coal, little ash, little slag, little metal, little glass fragments, trace Gravel. moist. Petroleum odor noted.	
3								/ 3.0		
4									Boring terminated at 3 feet.	
5										
6										
7										
8										
9										
10										

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) S-1 Sample collected at 1325 (PCBs)
2) S-2 Sample collected at 1330 (PCBs, Metals & VOCs)

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

DRAFT

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 8/8/16 10:51 - R:\80000 TASK ORDERS\80108 BROWNFIELDS MULTI-SITE\TECHNICAL\LAWRENCE\BORING LOGS\80108.04 BORING LOGS.GPJ

BORING INFORMATION

LOCATION: East of large shear pad
GROUND SURFACE EL. (ft): NA
VERTICAL DATUM: NA
TOTAL DEPTH (ft): 7.0
LOGGED BY: B.Lee
DATE START/END: 8/6/2019 - 8/6/2019
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: C. Devillers
RIG TYPE: Geoprobe 6620DT

BORING

W-07-GEI

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Geoprobe
CASING I.D./O.D.: 3.125 inch/ 3.25 inch
DRILL ROD O.D.: NM
CORE BARREL TYPE: Macrocore
CORE BARREL I.D./O.D. NA / NA
WATER LEVEL DEPTHS (ft): Not measured

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 5	60/NM	NA	0.2 ppm	FILL	S1: (0-3.6"): WIDELY GRADED SAND WITH GRAVEL (SW); 85% sand with 10% subangular gravel (0-0.5") 5% fines. Brown, loose, dry. Organic material. TOPSOIL.
								S1: (3.6-60"): WIDELY GRADED SAND WITH GRAVEL (SW); 75% sand with 20% subangular gravel (0-1.5") 5% fines. Brown, dry and loose. Brick, glass, charcoal, concrete and wood fragments.
	5	S2	5 to 7	24/NM	NA	0.5 ppm		S2: (0-24"): Similar to S1 (3.6-60").
						1.2 ppm		Bottom of boring at depth 7 ft.
	10							
	15							
	20							

NOTES:
W-07(0-3) @ 0750, W-07(5-7) @ 0820

PROJECT NAME: Former Tombarello Site
CITY/STATE: Lawrence, Massachussetts
GEI PROJECT NUMBER: 1802441

GEI Consultants

GEI WOBURN STD 1-LOG-LYR NAME-GWDEPTH BORING LOGS 2019.GPJ 2/11/20

BORING INFORMATION

LOCATION: 10 feet east of W-07E
GROUND SURFACE EL. (ft): NA
VERTICAL DATUM: NA
TOTAL DEPTH (ft): 5.0
LOGGED BY: B.Lee
DATE START/END: 3/13/2020 - 3/13/2020
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: Drew
RIG TYPE: Geoprobe 6620DT

BORING

W-07EE

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Geoprobe
CASING I.D./O.D.: 2.125 inch / 2.25 inch
DRILL ROD O.D.: NM
CORE BARREL TYPE: Macrocore
CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
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SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 3	36/28	NA		FILL	S1: (0-28"): WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% fine to coarse sand, ~15% subangular gravel (0-1"), ~10% non-plastic fines, loose, dark brown. Contains concrete and brick fragments.
		S2	3 to 5	24/14	NA			S2: (0-14"): WIDELY GRADED SAND WITH SILT AND GRAVEL; Similar to S1 (0-28") except light brown.
	5							Bottom of boring at depth 5 ft.
	10							
	15							
	20							

NOTES:

PROJECT NAME: Former Tombarello Site
CITY/STATE: Lawrence, Massachussetts
GEI PROJECT NUMBER: 1802441

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME BORING LOGS 2020.GPJ 4/1/20

BORING INFORMATION

LOCATION: 10 feet east of W-07S
GROUND SURFACE EL. (ft): NA
VERTICAL DATUM: NA
TOTAL DEPTH (ft): 5.0
LOGGED BY: B.Lee
DATE START/END: 3/13/2020 - 3/13/2020
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: Justin,Drew
RIG TYPE: Geoprobe 6620DT

BORING

W-07SE

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Geoprobe
CASING I.D./O.D.: 2.125 inch / 2.25 inch
DRILL ROD O.D.: NM
CORE BARREL TYPE: Macrocore
CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:
Pen. = Penetration Length
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= Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
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SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 3	36/27	NA		FILL	S1: (0-2"): WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~80% fine to coarse sand, ~10% subrounded gravel (0-0.25"), ~10% non-plastic fines, loose, dark brown. Contains organic material. TOPSOIL
		S2	3 to 5	24/24	NA		SAND	S1: (2-22"): WIDELY GRADED SAND WITH GRAVEL (SW); ~70% fine to coarse sand, ~25% subangular gravel (0-0.5"), ~5% non-plastic fines, loose, dark brown to black. Contains brick, plastic, and glass fragments. S1: (22-27"): SILTY SAND (SM); ~70% fine to medium sand, ~20% non-plastic fines, medium dense, dark gray. S2: (0-24"): SILTY SAND (SM); Similar to S1 (22-27").
	5							Bottom of boring at depth 5 ft.
	10							
	15							
	20							

NOTES:

PROJECT NAME: Former Tombarello Site
CITY/STATE: Lawrence, Massachussetts
GEI PROJECT NUMBER: 1802441

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME BORING LOGS 2020.GPJ 4/1/20

BORING INFORMATION

LOCATION: 10 feet south of W-07S
GROUND SURFACE EL. (ft): NA
VERTICAL DATUM: NA
TOTAL DEPTH (ft): 5.0
LOGGED BY: B.Lee
DATE START/END: 3/13/2020 - 3/13/2020
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: Justin,Drew
RIG TYPE: Geoprobe 6620DT

BORING

W-07SS

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Geoprobe
CASING I.D./O.D.: 2.125 inch / 2.25 inch
DRILL ROD O.D.: NM
CORE BARREL TYPE: Macrocore
CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation
= Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 3	36/28	NA		FILL	S1: (0-4"): WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM): ~80% fine to coarse sand, ~10% subrounded gravel (0-0.5"), ~10% non-plastic fines, loose, dark brown. Contains organic material. TOPSOIL S1: (4-6"): WIDELY GRADED SAND WITH GRAVEL (SW); ~60% fine to coarse sand, ~35% subangular gravel (0-0.5"), ~5% non-plastic fines, loose, gray. S1: (6-28"): WIDELY GRADED SAND WITH GRAVEL (SW); ~70% fine to coarse sand, ~25% subangular gravel (0-0.75"), ~5% non-plastic fines, loose, dark brown to red. Contains glass and brick fragments. S2: (0-12"): WIDELY GRADED SAND WITH GRAVEL (SW); Similar to S1 (6-28"). Bottom of boring at depth 5 ft.
		S2	3 to 5	24/12	NA			
	5							
	10							
	15							
	20							

NOTES:

PROJECT NAME: Former Tombarello Site
CITY/STATE: Lawrence, Massachussetts
GEI PROJECT NUMBER: 1802441

GEI Consultants

BORING INFORMATION

LOCATION: 10 feet west of W-07S
GROUND SURFACE EL. (ft): NA
VERTICAL DATUM: NA
TOTAL DEPTH (ft): 5.0
LOGGED BY: B.Lee
DATE START/END: 3/13/2020 - 3/13/2020
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: Justin,Drew
RIG TYPE: Geoprobe 6620DT

BORING
W-07SW

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Geoprobe
CASING I.D./O.D.: 2.125 inch / 2.25 inch
DRILL ROD O.D.: NM
CORE BARREL TYPE: Macrocore
CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 3	36/28	NA		FILL	S1: (0-2"): WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% fine to coarse sand, 15% subrounded gravel (0-0.25"), ~10% non-plastic fines, loose, brown. Contains organic material. TOPSOIL. S1: (2-6"): WIDELY GRADED SAND WITH GRAVEL (SW); ~60% fine to coarse sand, ~35% subangular gravel (0-0.5"), ~5% non-plastic fines, loose, gray.
		S2	3 to 5	24/15	NA			S1: (6-28"): WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% fine to coarse sand, ~15% subangular gravel (0-1"), ~10% non-plastic fines, loose, dark brown to black. Fine to coarse sand lens from 15-18". Contains brick and wood fragments. S2: (0-15"): WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% fine to coarse sand, ~15% subangular gravel (0-1"), ~10% non-plastic fines, loose, dark brown to black. Contains brick and wood fragments.
	5							Bottom of boring at depth 5 ft.
	10							
	15							
	20							

NOTES:

PROJECT NAME: Former Tombarello Site
CITY/STATE: Lawrence, Massachussetts
GEI PROJECT NUMBER: 1802441

GEI Consultants

Appendix E

Boring Logs

BORING INFORMATION

LOCATION: NE corner of NW portion of Lot 1
GROUND SURFACE EL. (ft): NA
VERTICAL DATUM: NA
TOTAL DEPTH (ft): 7.0
LOGGED BY: B.Lee
DATE START/END: 3/12/2020 - 3/12/2020
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: C. Devillers
RIG TYPE: Geoprobe 6620DT

BORING

Lot 1 Disp-01

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Geoprobe
CASING I.D./O.D.: 2.125 inch / 2.25 inch
DRILL ROD O.D.: NM
CORE BARREL TYPE: Macrocore
CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation
= Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 5	60/23	NA	0.0 ppm	FILL	S1: (0-3"): ASPHALT S1: (3-5"): WIDELY GRADED SAND WITH GRAVEL (SW); ~55% fine to coarse sand, ~ 40% subrounded gravel (0-0.25"), ~5% non-plastic fines, dark gray, loose. S1: (5-23"): WIDELY GRADED SAND WITH GRAVEL (SW); ~65% fine to coarse sand, ~30% subrounded gravel (0-1.5"), ~5% non-plastic fines, loose, black to brown. Contains brick and slag fragments
	5	S2	5 to 7	24/7	NA	0.1 ppm	SAND	S2: (0-7"): SILTY SAND (SM); ~70% fine to medium sand, ~30% sligtly plastic fines, medium dense, light brown.
								Bottom of boring at depth 7 ft.
	10							
	15							
	20							

NOTES: ppm = parts per million

PROJECT NAME: Former Tombarello Site
CITY/STATE: Lawrence, Massachussetts
GEI PROJECT NUMBER: 1802441

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME BORING LOGS 2020 - COPY.GPJ 3/31/20

BORING INFORMATION

LOCATION: Near south boundary of NW portion of Lot 1
GROUND SURFACE EL. (ft): NA
VERTICAL DATUM: NA
TOTAL DEPTH (ft): 3.0
LOGGED BY: B.Lee
DATE START/END: 3/12/2020 - 3/12/2020
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: C. Devillers
RIG TYPE: Geoprobe 6620DT

BORING

Lot 1 Disp-02A

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Geoprobe
CASING I.D./O.D.: 2.125 inch / 2.25 inch
DRILL ROD O.D.: NM
CORE BARREL TYPE: Macrocore
CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 3	36/27	NA	0.0 ppm	FILL	S1: (0-3"): ASPHALT S1: (3-7"): NARROWLY GRADED SAND WITH GRAVEL (SP); ~50% mostly fine sand, ~45% subangular gravel (0-0.5"), ~5% non-plastic fines, loose. S1: (7-15"): WIDELY GRADED SAND WITH GRAVEL (SW); ~65% fine to coarse sand, ~30% subangular gravel (0-0.75"), ~5% non-plastic fines, black, loose. Burnt odor. S1: (15-27"): WIDELY GRADED SAND (SW); ~90% fine to coarse sand, ~5% subrounded gravel (0-0.25"), ~5% non-plastic fines, tan to brown, loose. Bottom of boring at depth 3 ft.
	5							
	10							
	15							
	20							

NOTES: ppm = parts per million

PROJECT NAME: Former Tombarello Site
CITY/STATE: Lawrence, Massachussetts
GEI PROJECT NUMBER: 1802441

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME BORING LOGS 2020 - COPY.GPJ 3/31/20

BORING INFORMATION

LOCATION: Near south boundary of NW portion of Lot 1

GROUND SURFACE EL. (ft): NA | **DATE START/END:** 3/12/2020 - 3/12/2020

VERTICAL DATUM: NA | **DRILLING COMPANY:** Northern Drill Service, Inc.

TOTAL DEPTH (ft): 3.0 | **DRILLER NAME:** C. Devillers

LOGGED BY: B.Lee | **RIG TYPE:** Geoprobe 6620DT

BORING

Lot 1 Disp-02B

DRILLING INFORMATION

HAMMER TYPE: Automatic | **CASING I.D./O.D.:** 2.125 inch / 2.25 inch | **CORE BARREL TYPE:** Macrocore

AUGER I.D./O.D.: NA / NA | **DRILL ROD O.D.:** NM | **CORE BARREL I.D./O.D.** NA / NA

DRILLING METHOD: Geoprobe

ABBREVIATIONS:

Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer

S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger

Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter

NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 3	36/30	NA	0.3 ppm	FILL	S1: (0-3"): ASPHALT S1: (3-6"): WIDELY GRADED SAND WITH GRAVEL (SW); ~50% fine to coarse sand, ~45% subangular gravel (0-0.5"), ~5% non-plastic fines, loose, gray. S1: 6-30"): NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% mostly fine sand, ~10% non-plastic fines, ~5% subrounded gravel (0-0.25"), medium dense, dark brown. Bottom of boring at depth 3 ft.
	5							
	10							
	15							
	20							

NOTES: ppm = parts per million

PROJECT NAME: Former Tombarello Site

CITY/STATE: Lawrence, Massachussetts

GEI PROJECT NUMBER: 1802441

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME BORING LOGS 2020 - COPY.GPJ 3/31/20

BORING INFORMATION

LOCATION: Near south boundary of NW portion of Lot 1
GROUND SURFACE EL. (ft): NA
VERTICAL DATUM: NA
TOTAL DEPTH (ft): 3.0
LOGGED BY: B.Lee
DATE START/END: 3/12/2020 - 3/12/2020
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: C. Devillers
RIG TYPE: Geoprobe 6620DT

BORING

Lot 1 Disp-02C

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Geoprobe
CASING I.D./O.D.: 2.125 inch / 2.25 inch
DRILL ROD O.D.: NM
CORE BARREL TYPE: Macrocore
CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 3	36/27	NA	0.0 ppm	FILL	S1: (0-3"): ASPHALT S1: (3-5"): NARROWLY GRADED SAND WITH GRAVEL (SP); ~50% mostly fine sand, ~45% subangular gravel (0-0.5"), ~5% non-plastic fines, loose, light gray. S1: (5-23"): WIDELY GRADED SAND WITH GRAVEL (SW); ~70% fine to coarse sand, ~25% subangular gravel, ~5% non-plastic fines, loose, brown to black. S1: (23-27"): DRIED PAINT/CAULKING; No visible grains, white. Bottom of boring at depth 3 ft.

NOTES: ppm = parts per million

PROJECT NAME: Former Tombarello Site
CITY/STATE: Lawrence, Massachussetts
GEI PROJECT NUMBER: 1802441

GEI Consultants

BORING INFORMATION

LOCATION: Lot 2

GROUND SURFACE EL. (ft): NA

VERTICAL DATUM: NA

TOTAL DEPTH (ft): 3.0

LOGGED BY: B.Lee

DATE START/END: 3/13/2020 - 3/13/2020

DRILLING COMPANY: Northern Drill Service, Inc.

DRILLER NAME: Justin,Drew

RIG TYPE: Geoprobe 6620DT

BORING

Lot 2 Disp-01

DRILLING INFORMATION

HAMMER TYPE: Automatic

AUGER I.D./O.D.: NA / NA

DRILLING METHOD: Geoprobe

CASING I.D./O.D.: 2.125 inch / 2.25 inch

DRILL ROD O.D.: NM

CORE BARREL TYPE: Macrocore

CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:

Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation
= Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer

S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger

Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter

NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 3	36/30	NA	0.1 ppm	FILL	S1: (0-3"): WIDLEY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% fine to coarse sand, ~15% subangular gravel (0-0.5"), ~10% non-plastic fines, loose, light brown. Contains organic material. TOPSOIL.
								S1: (3-30"): WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); 75% fine to coarse sand, ~15% subangular gravel (0-0.75"), ~ 10% non-plastic fines, loose, dark brown-black.
								Bottom of boring at depth 3 ft.
	5							
	10							
	15							
	20							

NOTES:

PROJECT NAME: Former Tombarello Site

CITY/STATE: Lawrence, Massachussetts

GEI PROJECT NUMBER: 1802441

GEI Consultants

BORING INFORMATION

LOCATION: Lot 2

GROUND SURFACE EL. (ft): NA

VERTICAL DATUM: NA

TOTAL DEPTH (ft): 3.0

LOGGED BY: B.Lee

DATE START/END: 3/12/2020 - 3/12/2020

DRILLING COMPANY: Northern Drill Service, Inc.

DRILLER NAME: C. Devillers

RIG TYPE: Geoprobe 6620DT

BORING

Lot 2 Disp-03

DRILLING INFORMATION

HAMMER TYPE: Automatic

AUGER I.D./O.D.: NA / NA

DRILLING METHOD: Geoprobe

CASING I.D./O.D.: 2.125 inch / 2.25 inch

DRILL ROD O.D.: NM

CORE BARREL TYPE: Macrocore

CORE BARREL I.D./O.D. NA / NA

ABBREVIATIONS:

Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation
= Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer

S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger

Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter

NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 3	36/32	NA	0.3 ppm	FILL	S1: (0-14"): WIDELY GRADED SAND WITH GRAVEL (SW); ~75% fine to coarse sand, ~20% subangular gravel (0-0.5"), ~5% non-plastic fines, loose, brown to black. Contains brick, metal, and glass fragments, slight chemical odor.
							SAND	S1: (14-20"): SILTY SAND (SM); ~85% fine to medium sand, ~15% non-plastic fines, dense, dark brown. Slight chemical odor.
								S1: (20-32"): SILTY SAND (SM); ~85% fine to medium sand, ~15% non-plastic fines, dense, tan to brown.
								Bottom of boring at depth 3 ft.
	5							
	10							
	15							
	20							

NOTES:

PROJECT NAME: Former Tombarello Site

CITY/STATE: Lawrence, Massachussetts

GEI PROJECT NUMBER: 1802441

GEI Consultants

Appendix F

Laboratory Data Reports

CERTIFICATE OF ANALYSIS

Leslie Lombardo
GEI Consultants, Inc.
400 Unicorn Park Drive
Woburn, MA 01801

RE: Tombarello Site Investigation (1802441)
ESS Laboratory Work Order Number: 20C0466

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 1:52 pm, Apr 17, 2020

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0466

SAMPLE RECEIPT

The following samples were received on March 13, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Low Level VOA vials were frozen by ESS Laboratory on March 13, 2020 at 20:29.

Question I: All samples for Metals were analyzed for a subset of the required MCP list per the client's request.

Revision 1 April 1, 2020: This report has been revised to include TPH results for samples 20C0466-01 and 20C0466-03 per the client's request.

Revision 2 April 16, 2020: This report has been revised to include Pyridine for samples 20C0466-01 and 20C0466-03 per the client's request.

Lab Number	Sample Name	Matrix	Analysis
20C0466-01	1802441-Lot1-DISP01	Soil	1010, 1311, 1311/6010C, 6010C, 7.3.3.2, 7.3.4.1, 7471B, 8082A, 8100M, 8260B Low, 8270D, 9045
20C0466-02	1802441-Lot1-DISP02-Grab	Soil	8260B Low
20C0466-03	1802441-Lot1-DISP02-Comp	Soil	1010, 1311, 1311/6010C, 6010C, 7.3.3.2, 7.3.4.1, 7471B, 8082A, 8100M, 8270D, 9045

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation ESS Laboratory Work Order: 20C0466

PROJECT NARRATIVE

5035/8260B Volatile Organic Compounds / Low Level

D0C0330-CCV1	**Continuing Calibration %Diff/Drift is below control limit (CD-).** Acetone (21% @ 20%), Chloroethane (21% @ 20%), Chloromethane (22% @ 20%), Tetrahydrofuran (22% @ 20%), Vinyl Chloride (22% @ 20%)
D0C0358-CCV1	**Continuing Calibration %Diff/Drift is above control limit (CD+).** Bromomethane (22% @ 20%)
DC01838-BSD1	**Relative percent difference for duplicate is outside of criteria (D+).** Acetone (21% @ 20%), Bromomethane (21% @ 20%)

8270D Semi-Volatile Organic Compounds

20C0466-01	**Elevated Method Reporting Limits due to sample matrix (EL).**
20C0466-03	**Elevated Method Reporting Limits due to sample matrix (EL).**
D0C0313-CCV1	**Calibration required quadratic regression (Q).** 2,4-Dinitrophenol (129% @ 80-120%), Pentachlorophenol (109% @ 80-120%)
D0C0313-CCV1	**Continuing Calibration %Diff/Drift is above control limit (CD+).** 2,4-Dinitrophenol (29% @ 20%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0466

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH
MADEP 18-2.1 - VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035A - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0466

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20C0466-01 through 20C0466-03**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

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

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?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) 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?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) 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)?	Yes (X) 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 protocols(s)? ***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.***	Yes ( ) No (X)*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes ( ) No (X)*

All 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, accurate and complete.

Signature: Laurel Stoddard Date: March 20, 2020

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP01
Date Sampled: 03/12/20 08:40
Percent Solids: 88

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-01
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	**6.61** (2.20)		6010C		1	KJK	03/17/20 20:54	2.57	100	DC01642
Barium	**171** (2.20)		6010C		1	KJK	03/17/20 20:54	2.57	100	DC01642
Cadmium	**1.17** (0.44)		6010C		1	KJK	03/17/20 20:54	2.57	100	DC01642
Chromium	**33.9** (0.88)		6010C		1	KJK	03/17/20 20:54	2.57	100	DC01642
Lead	**392** (4.41)		6010C		1	KJK	03/17/20 20:54	2.57	100	DC01642
Mercury	**0.559** (0.033)		7471B		1	MKS	03/17/20 8:33	0.68	40	DC01643
Selenium	ND (4.41)		6010C		1	KJK	03/17/20 20:54	2.57	100	DC01642
Silver	ND (0.44)		6010C		1	KJK	03/17/20 20:54	2.57	100	DC01642

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP01
Date Sampled: 03/12/20 08:40
Percent Solids: 88

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-01
Sample Matrix: Soil
Units: mg/L

Extraction Method: 3005A TCLP

1311 TCLP Metals

Analyte	Results (MRL)	MDL	Method	TCLP Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Lead	**0.281** (0.050)		1311/6010C		1	KJK	03/19/20 20:36	50	50	DC01937

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP01
Date Sampled: 03/12/20 08:40
Percent Solids: 88
Initial Volume: 8.3
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,1,1-Trichloroethane	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,1,2,2-Tetrachloroethane	**0.0059** (0.0014)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,1,2-Trichloroethane	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,1-Dichloroethane	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,1-Dichloroethene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,1-Dichloropropene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,2,3-Trichlorobenzene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,2,3-Trichloropropane	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,2,4-Trichlorobenzene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,2,4-Trimethylbenzene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,2-Dibromo-3-Chloropropane	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,2-Dibromoethane	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,2-Dichlorobenzene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,2-Dichloroethane	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,2-Dichloropropane	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,3,5-Trimethylbenzene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,3-Dichlorobenzene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,3-Dichloropropane	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,4-Dichlorobenzene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
1,4-Dioxane	ND (0.0682)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
2,2-Dichloropropane	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
2-Butanone	ND (0.0068)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
2-Chlorotoluene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
2-Hexanone	ND (0.0068)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
4-Chlorotoluene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
4-Isopropyltoluene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
4-Methyl-2-Pentanone	ND (0.0068)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Acetone	ND (0.0068)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Benzene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Bromobenzene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Bromochloromethane	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP01
Date Sampled: 03/12/20 08:40
Percent Solids: 88
Initial Volume: 8.3
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Bromoform	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Bromomethane	ND (0.0068)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Carbon Disulfide	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Carbon Tetrachloride	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Chlorobenzene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Chloroethane	ND (0.0068)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Chloroform	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Chloromethane	ND (0.0068)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
cis-1,2-Dichloroethene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
cis-1,3-Dichloropropene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Dibromochloromethane	ND (0.0014)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Dibromomethane	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Dichlorodifluoromethane	ND (0.0068)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Diethyl Ether	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Di-isopropyl ether	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Ethyl tertiary-butyl ether	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Ethylbenzene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Hexachlorobutadiene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Isopropylbenzene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Methyl tert-Butyl Ether	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Methylene Chloride	ND (0.0068)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Naphthalene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
n-Butylbenzene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
n-Propylbenzene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
sec-Butylbenzene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Styrene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
tert-Butylbenzene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Tertiary-amyl methyl ether	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Tetrachloroethene	**0.0089** (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Tetrahydrofuran	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Toluene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP01
Date Sampled: 03/12/20 08:40
Percent Solids: 88
Initial Volume: 8.3
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
trans-1,3-Dichloropropene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Trichloroethene	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Trichlorofluoromethane	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Vinyl Chloride	ND (0.0068)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Xylene O	ND (0.0034)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Xylene P,M	ND (0.0068)		8260B Low		1	03/18/20 20:39	D0C0330	DC01838
Xylenes (Total)	ND (0.00682)		8260B Low		1	03/18/20 20:39		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichloroethane-d4	*89 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*77 %*		*70-130*
Surrogate: Dibromofluoromethane	*94 %*		*70-130*
Surrogate: Toluene-d8	*108 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP01
Date Sampled: 03/12/20 08:40
Percent Solids: 88
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 3/17/20 14:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	03/18/20 21:32		DC01701
Aroclor 1221	ND (0.06)		8082A		1	03/18/20 21:32		DC01701
Aroclor 1232	ND (0.06)		8082A		1	03/18/20 21:32		DC01701
Aroclor 1242	ND (0.06)		8082A		1	03/18/20 21:32		DC01701
Aroclor 1248	ND (0.06)		8082A		1	03/18/20 21:32		DC01701
Aroclor 1254	ND (0.06)		8082A		1	03/18/20 21:32		DC01701
Aroclor 1260	ND (0.06)		8082A		1	03/18/20 21:32		DC01701
Aroclor 1262	ND (0.06)		8082A		1	03/18/20 21:32		DC01701
Aroclor 1268	ND (0.06)		8082A		1	03/18/20 21:32		DC01701

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*65 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*67 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*71 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*89 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP01
Date Sampled: 03/12/20 08:40
Percent Solids: 88
Initial Volume: 19.4
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 3/24/20 14:49

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons	**352** (58.4)		8100M		5	03/25/20 23:09	D0C0445	DC02311

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*88 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP01
Date Sampled: 03/12/20 08:40
Percent Solids: 88
Initial Volume: 15.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/16/20 10:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
1,2-Dichlorobenzene	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
1,3-Dichlorobenzene	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
1,4-Dichlorobenzene	ND (0.378)		8270D		2	03/19/20 2:54	D0C0313	DC01609
2,4,5-Trichlorophenol	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
2,4,6-Trichlorophenol	ND (0.369)		8270D		2	03/19/20 2:54	D0C0313	DC01609
2,4-Dichlorophenol	ND (0.374)		8270D		2	03/19/20 2:54	D0C0313	DC01609
2,4-Dimethylphenol	ND (0.338)		8270D		2	03/19/20 2:54	D0C0313	DC01609
2,4-Dinitrophenol	ND (2.51)		8270D		2	03/19/20 2:54	D0C0313	DC01609
2,4-Dinitrotoluene	ND (0.482)		8270D		2	03/19/20 2:54	D0C0313	DC01609
2,6-Dinitrotoluene	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
2-Chloronaphthalene	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
2-Chlorophenol	ND (0.423)		8270D		2	03/19/20 2:54	D0C0313	DC01609
2-Methylnaphthalene	ND (0.324)		8270D		2	03/19/20 2:54	D0C0313	DC01609
2-Methylphenol	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
2-Nitrophenol	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
3,3′-Dichlorobenzidine	ND (0.752)		8270D		2	03/19/20 2:54	D0C0313	DC01609
3+4-Methylphenol	ND (3.00)		8270D		2	03/19/20 2:54	D0C0313	DC01609
4-Bromophenyl-phenylether	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
4-Chloroaniline	ND (0.752)		8270D		2	03/19/20 2:54	D0C0313	DC01609
4-Nitrophenol	ND (7.52)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Acenaphthene	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Acenaphthylene	ND (0.752)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Acetophenone	ND (3.00)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Aniline	ND (7.52)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Anthracene	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Azobenzene	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Benzo(a)anthracene	**2.28** (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Benzo(a)pyrene	**2.52** (0.752)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Benzo(b)fluoranthene	**2.42** (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Benzo(g,h,i)perylene	**1.75** (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Benzo(k)fluoranthene	**1.72** (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP01
Date Sampled: 03/12/20 08:40
Percent Solids: 88
Initial Volume: 15.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/16/20 10:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
bis(2-Chloroethoxy)methane	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
bis(2-Chloroethyl)ether	ND (0.405)		8270D		2	03/19/20 2:54	D0C0313	DC01609
bis(2-chloroisopropyl)Ether	ND (0.401)		8270D		2	03/19/20 2:54	D0C0313	DC01609
bis(2-Ethylhexyl)phthalate	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Butylbenzylphthalate	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Chrysene	**2.30** (0.752)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Dibenzo(a,h)Anthracene	**0.575** (0.230)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Dibenzofuran	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Diethylphthalate	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Dimethylphthalate	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Di-n-butylphthalate	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Di-n-octylphthalate	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Fluoranthene	**4.54** (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Fluorene	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Hexachlorobenzene	ND (0.252)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Hexachlorobutadiene	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Hexachloroethane	ND (0.378)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Indeno(1,2,3-cd)Pyrene	**1.50** (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Isophorone	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Naphthalene	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Nitrobenzene	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
N-Nitrosodimethylamine	ND (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Pentachlorophenol	ND (7.52)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Phenanthrene	**2.43** (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Phenol	ND (0.365)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Pyrene	**4.39** (1.50)		8270D		2	03/19/20 2:54	D0C0313	DC01609
Pyridine	ND (7.52)		8270D		2	03/19/20 2:54	D0C0313	DC01609

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*56 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*77 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*62 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP01
Date Sampled: 03/12/20 08:40
Percent Solids: 88
Initial Volume: 15.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/16/20 10:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Fluorobiphenyl		*65 %*		*30-130*				
Surrogate: 2-Fluorophenol		*54 %*		*30-130*				
Surrogate: Nitrobenzene-d5		*59 %*		*30-130*				
Surrogate: Phenol-d6		*62 %*		*30-130*				
Surrogate: p-Terphenyl-d14		*83 %*		*30-130*				

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP01
Date Sampled: 03/12/20 08:40
Percent Solids: 88

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-01
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Corrosivity (pH)	**7.75** (N/A)		9045		1	DEL	03/13/20 20:45	S.U.	DC01326
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 19.6 ºC.**								
Flashpoint	**> 200** (N/A)		1010		1	CCP	03/16/20 13:30	°F	DC01620
Reactive Cyanide	ND (2.0)		7.3.3.2		1	EEM	03/16/20 10:58	mg/kg	DC01613
Reactive Sulfide	ND (2.0)		7.3.4.1		1	EEM	03/16/20 10:58	mg/kg	DC01613

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP01
Date Sampled: 03/12/20 08:40
Percent Solids: 88
Initial Volume: 100
Final Volume: 2000
Extraction Method: 1311

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-01
Sample Matrix: Soil
Units: °C
Analyst: MKS
Prepared: 3/18/20 20:15

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**19.8** (N/A)		1311		1	MKS	03/19/20 12:20	DC01824
Temperature (Max C)	**21.4** (N/A)		1311		1	MKS	03/19/20 12:20	DC01824
Temperature (Range)	**Temperature is not within 23 +/-2 ºC.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP02-Grab
Date Sampled: 03/12/20 08:50
Percent Solids: 93
Initial Volume: 8.4
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,1,1-Trichloroethane	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,1,2,2-Tetrachloroethane	ND (0.0013)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,1,2-Trichloroethane	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,1-Dichloroethane	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,1-Dichloroethene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,1-Dichloropropene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,2,3-Trichlorobenzene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,2,3-Trichloropropane	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,2,4-Trichlorobenzene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,2,4-Trimethylbenzene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,2-Dibromo-3-Chloropropane	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,2-Dibromoethane	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,2-Dichlorobenzene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,2-Dichloroethane	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,2-Dichloropropane	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,3,5-Trimethylbenzene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,3-Dichlorobenzene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,3-Dichloropropane	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,4-Dichlorobenzene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
1,4-Dioxane	ND (0.0642)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
2,2-Dichloropropane	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
2-Butanone	**0.0154** (0.0064)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
2-Chlorotoluene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
2-Hexanone	ND (0.0064)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
4-Chlorotoluene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
4-Isopropyltoluene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
4-Methyl-2-Pentanone	ND (0.0064)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Acetone	**0.123** (0.0064)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Benzene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Bromobenzene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Bromochloromethane	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP02-Grab
Date Sampled: 03/12/20 08:50
Percent Solids: 93
Initial Volume: 8.4
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Bromoform	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Bromomethane	ND (0.0064)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Carbon Disulfide	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Carbon Tetrachloride	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Chlorobenzene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Chloroethane	ND (0.0064)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Chloroform	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Chloromethane	ND (0.0064)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
cis-1,2-Dichloroethene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
cis-1,3-Dichloropropene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Dibromochloromethane	ND (0.0013)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Dibromomethane	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Dichlorodifluoromethane	ND (0.0064)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Diethyl Ether	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Di-isopropyl ether	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Ethyl tertiary-butyl ether	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Ethylbenzene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Hexachlorobutadiene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Isopropylbenzene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Methyl tert-Butyl Ether	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Methylene Chloride	ND (0.0064)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Naphthalene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
n-Butylbenzene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
n-Propylbenzene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
sec-Butylbenzene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Styrene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
tert-Butylbenzene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Tertiary-amyl methyl ether	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Tetrachloroethene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Tetrahydrofuran	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Toluene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP02-Grab
Date Sampled: 03/12/20 08:50
Percent Solids: 93
Initial Volume: 8.4
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
trans-1,3-Dichloropropene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Trichloroethene	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Trichlorofluoromethane	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Vinyl Chloride	ND (0.0064)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Xylene O	ND (0.0032)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Xylene P,M	ND (0.0064)		8260B Low		1	03/19/20 16:58	D0C0358	DC01938
Xylenes (Total)	ND (0.00642)		8260B Low		1	03/19/20 16:58		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*109 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*82 %*		*70-130*
Surrogate: Dibromofluoromethane	*106 %*		*70-130*
Surrogate: Toluene-d8	*112 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP02-Comp
Date Sampled: 03/12/20 11:30
Percent Solids: 93

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-03
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	**4.93** (2.24)		6010C		1	KJK	03/17/20 21:13	2.41	100	DC01642
Barium	**57.3** (2.24)		6010C		1	KJK	03/17/20 21:13	2.41	100	DC01642
Cadmium	ND (0.45)		6010C		1	KJK	03/17/20 21:13	2.41	100	DC01642
Chromium	**15.6** (0.90)		6010C		1	KJK	03/17/20 21:13	2.41	100	DC01642
Lead	**185** (4.48)		6010C		1	KJK	03/17/20 21:13	2.41	100	DC01642
Mercury	**0.059** (0.027)		7471B		1	MKS	03/17/20 8:35	0.8	40	DC01643
Selenium	ND (4.48)		6010C		1	KJK	03/17/20 21:13	2.41	100	DC01642
Silver	ND (0.45)		6010C		1	KJK	03/17/20 21:13	2.41	100	DC01642

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP02-Comp
Date Sampled: 03/12/20 11:30
Percent Solids: 93

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-03
Sample Matrix: Soil
Units: mg/L

Extraction Method: 3005A TCLP

1311 TCLP Metals

Analyte	Results (MRL)	MDL	Method	TCLP Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Lead	**1.26** (0.050)		1311/6010C		1	KJK	03/19/20 21:08	50	50	DC01937

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP02-Comp
Date Sampled: 03/12/20 11:30
Percent Solids: 93
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 3/17/20 14:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	03/19/20 13:03		DC01930
Aroclor 1221	ND (0.05)		8082A		1	03/19/20 13:03		DC01930
Aroclor 1232	ND (0.05)		8082A		1	03/19/20 13:03		DC01930
Aroclor 1242	**0.1** (0.05)		8082A		1	03/19/20 13:03		DC01930
Aroclor 1248	ND (0.05)		8082A		1	03/19/20 13:03		DC01930
Aroclor 1254	ND (0.05)		8082A		1	03/19/20 13:03		DC01930
Aroclor 1260	**0.06** (0.05)		8082A		1	03/19/20 13:03		DC01930
Aroclor 1262	ND (0.05)		8082A		1	03/19/20 13:03		DC01930
Aroclor 1268	ND (0.05)		8082A		1	03/19/20 13:03		DC01930

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*70 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*75 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*66 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*86 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP02-Comp
Date Sampled: 03/12/20 11:30
Percent Solids: 93
Initial Volume: 19.4
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 3/24/20 14:49

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons	**876** (111)		8100M		10	03/25/20 23:42	D0C0445	DC02311

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*107 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP02-Comp
Date Sampled: 03/12/20 11:30
Percent Solids: 93
Initial Volume: 15.7
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/16/20 10:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
1,2-Dichlorobenzene	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
1,3-Dichlorobenzene	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
1,4-Dichlorobenzene	ND (0.173)		8270D		2	03/19/20 3:20	D0C0313	DC01609
2,4,5-Trichlorophenol	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
2,4,6-Trichlorophenol	ND (0.169)		8270D		2	03/19/20 3:20	D0C0313	DC01609
2,4-Dichlorophenol	ND (0.171)		8270D		2	03/19/20 3:20	D0C0313	DC01609
2,4-Dimethylphenol	ND (0.155)		8270D		2	03/19/20 3:20	D0C0313	DC01609
2,4-Dinitrophenol	ND (1.15)		8270D		2	03/19/20 3:20	D0C0313	DC01609
2,4-Dinitrotoluene	ND (0.221)		8270D		2	03/19/20 3:20	D0C0313	DC01609
2,6-Dinitrotoluene	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
2-Chloronaphthalene	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
2-Chlorophenol	ND (0.194)		8270D		2	03/19/20 3:20	D0C0313	DC01609
2-Methylnaphthalene	**0.298** (0.148)		8270D		2	03/19/20 3:20	D0C0313	DC01609
2-Methylphenol	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
2-Nitrophenol	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
3,3′-Dichlorobenzidine	ND (0.344)		8270D		2	03/19/20 3:20	D0C0313	DC01609
3+4-Methylphenol	ND (1.38)		8270D		2	03/19/20 3:20	D0C0313	DC01609
4-Bromophenyl-phenylether	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
4-Chloroaniline	ND (0.344)		8270D		2	03/19/20 3:20	D0C0313	DC01609
4-Nitrophenol	ND (3.44)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Acenaphthene	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Acenaphthylene	**1.40** (0.344)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Acetophenone	ND (1.38)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Aniline	ND (3.44)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Anthracene	**2.30** (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Azobenzene	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Benzo(a)anthracene	**5.58** (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Benzo(a)pyrene	**5.77** (0.344)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Benzo(b)fluoranthene	**4.97** (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Benzo(g,h,i)perylene	**3.21** (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Benzo(k)fluoranthene	**4.00** (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP02-Comp
Date Sampled: 03/12/20 11:30
Percent Solids: 93
Initial Volume: 15.7
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/16/20 10:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
bis(2-Chloroethoxy)methane	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
bis(2-Chloroethyl)ether	ND (0.186)		8270D		2	03/19/20 3:20	D0C0313	DC01609
bis(2-chloroisopropyl)Ether	ND (0.184)		8270D		2	03/19/20 3:20	D0C0313	DC01609
bis(2-Ethylhexyl)phthalate	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Butylbenzylphthalate	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Chrysene	**5.41** (0.344)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Dibenzo(a,h)Anthracene	**1.16** (0.105)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Dibenzofuran	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Diethylphthalate	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Dimethylphthalate	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Di-n-butylphthalate	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Di-n-octylphthalate	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Fluoranthene	**11.1** (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Fluorene	**0.826** (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Hexachlorobenzene	ND (0.115)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Hexachlorobutadiene	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Hexachloroethane	ND (0.173)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Indeno(1,2,3-cd)Pyrene	**3.07** (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Isophorone	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Naphthalene	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Nitrobenzene	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
N-Nitrosodimethylamine	ND (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Pentachlorophenol	ND (3.44)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Phenanthrene	**8.30** (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Phenol	ND (0.167)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Pyrene	**10.8** (0.687)		8270D		2	03/19/20 3:20	D0C0313	DC01609
Pyridine	ND (3.44)		8270D		2	03/19/20 3:20	D0C0313	DC01609

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*49 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*73 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*54 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP02-Comp
Date Sampled: 03/12/20 11:30
Percent Solids: 93
Initial Volume: 15.7
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/16/20 10:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Fluorobiphenyl		*57 %*		*30-130*				
Surrogate: 2-Fluorophenol		*47 %*		*30-130*				
Surrogate: Nitrobenzene-d5		*51 %*		*30-130*				
Surrogate: Phenol-d6		*53 %*		*30-130*				
Surrogate: p-Terphenyl-d14		*78 %*		*30-130*				

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP02-Comp
Date Sampled: 03/12/20 11:30
Percent Solids: 93

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-03
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Corrosivity (pH)	**7.15** (N/A)		9045		1	DEL	03/13/20 20:45	S.U.	DC01326
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 19.3 ºC.**								
Flashpoint	**> 200** (N/A)		1010		1	CCP	03/16/20 13:30	°F	DC01620
Reactive Cyanide	ND (2.0)		7.3.3.2		1	EEM	03/16/20 10:58	mg/kg	DC01613
Reactive Sulfide	ND (2.0)		7.3.4.1		1	EEM	03/16/20 10:58	mg/kg	DC01613

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot1-DISP02-Comp
Date Sampled: 03/12/20 11:30
Percent Solids: 93
Initial Volume: 100
Final Volume: 2000
Extraction Method: 1311

ESS Laboratory Work Order: 20C0466
ESS Laboratory Sample ID: 20C0466-03
Sample Matrix: Soil
Units: °C
Analyst: MKS
Prepared: 3/18/20 20:15

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**19.8** (N/A)		1311		1	MKS	03/19/20 12:20	DC01824
Temperature (Max C)	**21.4** (N/A)		1311		1	MKS	03/19/20 12:20	DC01824
Temperature (Range)	**Temperature is not within 23 +/-2 ºC.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0466

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch DC01642 - 3050B										
Blank										
Arsenic	ND	2.50	mg/kg wet							
Barium	ND	2.50	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							
Chromium	ND	1.00	mg/kg wet							
Lead	ND	5.00	mg/kg wet							
Selenium	ND	5.00	mg/kg wet							
Silver	ND	0.50	mg/kg wet							
LCS										
Arsenic	187	7.69	mg/kg wet	202.0		93	80-120			
Barium	320	7.69	mg/kg wet	343.0		93	80-120			
Cadmium	128	1.54	mg/kg wet	149.0		86	80-120			
Chromium	170	3.08	mg/kg wet	182.0		94	80-120			
Lead	318	15.4	mg/kg wet	333.0		95	80-120			
Selenium	158	15.4	mg/kg wet	169.0		93	80-120			
Silver	45.2	1.54	mg/kg wet	48.90		92	80-120			
LCS Dup										
Arsenic	194	8.20	mg/kg wet	202.0		96	80-120	4	20	
Barium	341	8.20	mg/kg wet	343.0		100	80-120	7	20	
Cadmium	135	1.64	mg/kg wet	149.0		91	80-120	6	20	
Chromium	176	3.28	mg/kg wet	182.0		97	80-120	3	20	
Lead	333	16.4	mg/kg wet	333.0		100	80-120	5	20	
Selenium	162	16.4	mg/kg wet	169.0		96	80-120	2	20	
Silver	45.2	1.64	mg/kg wet	48.90		92	80-120	0.1	20	
Batch DC01643 - 7471B										
Blank										
Mercury	ND	0.033	mg/kg wet							
LCS										
Mercury	9.60	0.550	mg/kg wet	7.760		124	71-125			
LCS Dup										
Mercury	9.15	0.574	mg/kg wet	7.760		118	71-125	5	20	
1311 TCLP Metals										
Batch DC01937 - 3005A_TCLP										
Blank										
Lead	ND	0.050	mg/L							
LCS										
Lead	0.469	0.050	mg/L	0.5000		94	80-120			
LCS Dup										
Lead	0.472	0.050	mg/L	0.5000		94	80-120	0.7	20	
5035/8260B Volatile Organic Compounds / Low Level										

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0466

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01838 - 5035										
Blank										
1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet							
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0020	mg/kg wet							
1,1,2-Trichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethene	ND	0.0050	mg/kg wet							
1,1-Dichloropropene	ND	0.0050	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,3-Trichloropropane	ND	0.0050	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/kg wet							
1,2-Dibromoethane	ND	0.0050	mg/kg wet							
1,2-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,2-Dichloroethane	ND	0.0050	mg/kg wet							
1,2-Dichloropropane	ND	0.0050	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,3-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,3-Dichloropropane	ND	0.0050	mg/kg wet							
1,4-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,4-Dioxane	ND	0.100	mg/kg wet							
2,2-Dichloropropane	ND	0.0050	mg/kg wet							
2-Butanone	ND	0.0100	mg/kg wet							
2-Chlorotoluene	ND	0.0050	mg/kg wet							
2-Hexanone	ND	0.0100	mg/kg wet							
4-Chlorotoluene	ND	0.0050	mg/kg wet							
4-Isopropyltoluene	ND	0.0050	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.0100	mg/kg wet							
Acetone	0.0292	0.0100	mg/kg wet							
Benzene	ND	0.0050	mg/kg wet							
Bromobenzene	ND	0.0050	mg/kg wet							
Bromochloromethane	ND	0.0050	mg/kg wet							
Bromodichloromethane	ND	0.0050	mg/kg wet							
Bromoform	ND	0.0050	mg/kg wet							
Bromomethane	ND	0.0100	mg/kg wet							
Carbon Disulfide	ND	0.0050	mg/kg wet							
Carbon Tetrachloride	ND	0.0050	mg/kg wet							
Chlorobenzene	ND	0.0050	mg/kg wet							
Chloroethane	ND	0.0100	mg/kg wet							
Chloroform	ND	0.0050	mg/kg wet							
Chloromethane	ND	0.0100	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
cis-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Dibromochloromethane	ND	0.0020	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0466

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01838 - 5035										
Dibromomethane	ND	0.0050	mg/kg wet							
Dichlorodifluoromethane	ND	0.0100	mg/kg wet							
Diethyl Ether	ND	0.0050	mg/kg wet							
Di-isopropyl ether	ND	0.0050	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.0050	mg/kg wet							
Ethylbenzene	ND	0.0050	mg/kg wet							
Hexachlorobutadiene	ND	0.0050	mg/kg wet							
Isopropylbenzene	ND	0.0050	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.0050	mg/kg wet							
Methylene Chloride	ND	0.0100	mg/kg wet							
Naphthalene	ND	0.0050	mg/kg wet							
n-Butylbenzene	ND	0.0050	mg/kg wet							
n-Propylbenzene	ND	0.0050	mg/kg wet							
sec-Butylbenzene	ND	0.0050	mg/kg wet							
Styrene	ND	0.0050	mg/kg wet							
tert-Butylbenzene	ND	0.0050	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0050	mg/kg wet							
Tetrachloroethene	ND	0.0050	mg/kg wet							
Tetrahydrofuran	ND	0.0050	mg/kg wet							
Toluene	ND	0.0050	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Trichloroethene	ND	0.0050	mg/kg wet							
Trichlorofluoromethane	ND	0.0050	mg/kg wet							
Vinyl Chloride	ND	0.0100	mg/kg wet							
Xylene O	ND	0.0050	mg/kg wet							
Xylene P,M	ND	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	*0.0481*		mg/kg wet	*0.05000*		*96*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0448*		mg/kg wet	*0.05000*		*90*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0463*		mg/kg wet	*0.05000*		*93*	*70-130*			
Surrogate: Toluene-d8	*0.0499*		mg/kg wet	*0.05000*		*100*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
1,1,1-Trichloroethane	0.0440	0.0050	mg/kg wet	0.05000		88	70-130			
1,1,2,2-Tetrachloroethane	0.0459	0.0020	mg/kg wet	0.05000		92	70-130			
1,1,2-Trichloroethane	0.0425	0.0050	mg/kg wet	0.05000		85	70-130			
1,1-Dichloroethane	0.0414	0.0050	mg/kg wet	0.05000		83	70-130			
1,1-Dichloroethene	0.0446	0.0050	mg/kg wet	0.05000		89	70-130			
1,1-Dichloropropene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
1,2,3-Trichlorobenzene	0.0452	0.0050	mg/kg wet	0.05000		90	70-130			
1,2,3-Trichloropropane	0.0421	0.0050	mg/kg wet	0.05000		84	70-130			
1,2,4-Trichlorobenzene	0.0458	0.0050	mg/kg wet	0.05000		92	70-130			
1,2,4-Trimethylbenzene	0.0476	0.0050	mg/kg wet	0.05000		95	70-130			
1,2-Dibromo-3-Chloropropane	0.0402	0.0050	mg/kg wet	0.05000		80	70-130			
1,2-Dibromoethane	0.0466	0.0050	mg/kg wet	0.05000		93	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0466

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01838 - 5035										
1,2-Dichlorobenzene	0.0490	0.0050	mg/kg wet	0.05000		98	70-130			
1,2-Dichloroethane	0.0449	0.0050	mg/kg wet	0.05000		90	70-130			
1,2-Dichloropropane	0.0419	0.0050	mg/kg wet	0.05000		84	70-130			
1,3,5-Trimethylbenzene	0.0465	0.0050	mg/kg wet	0.05000		93	70-130			
1,3-Dichlorobenzene	0.0491	0.0050	mg/kg wet	0.05000		98	70-130			
1,3-Dichloropropane	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			
1,4-Dichlorobenzene	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			
1,4-Dioxane	0.858	0.100	mg/kg wet	1.000		86	70-130			
2,2-Dichloropropane	0.0489	0.0050	mg/kg wet	0.05000		98	70-130			
2-Butanone	0.201	0.0100	mg/kg wet	0.2500		80	70-130			
2-Chlorotoluene	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			
2-Hexanone	0.214	0.0100	mg/kg wet	0.2500		86	70-130			
4-Chlorotoluene	0.0455	0.0050	mg/kg wet	0.05000		91	70-130			
4-Isopropyltoluene	0.0465	0.0050	mg/kg wet	0.05000		93	70-130			
4-Methyl-2-Pentanone	0.208	0.0100	mg/kg wet	0.2500		83	70-130			
Acetone	0.174	0.0100	mg/kg wet	0.2500		70	70-130			
Benzene	0.0433	0.0050	mg/kg wet	0.05000		87	70-130			
Bromobenzene	0.0473	0.0050	mg/kg wet	0.05000		95	70-130			
Bromochloromethane	0.0472	0.0050	mg/kg wet	0.05000		94	70-130			
Bromodichloromethane	0.0439	0.0050	mg/kg wet	0.05000		88	70-130			
Bromoform	0.0446	0.0050	mg/kg wet	0.05000		89	70-130			
Bromomethane	0.0398	0.0100	mg/kg wet	0.05000		80	70-130			
Carbon Disulfide	0.0442	0.0050	mg/kg wet	0.05000		88	70-130			
Carbon Tetrachloride	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
Chlorobenzene	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
Chloroethane	0.0373	0.0100	mg/kg wet	0.05000		75	70-130			
Chloroform	0.0443	0.0050	mg/kg wet	0.05000		89	70-130			
Chloromethane	0.0369	0.0100	mg/kg wet	0.05000		74	70-130			
cis-1,2-Dichloroethene	0.0464	0.0050	mg/kg wet	0.05000		93	70-130			
cis-1,3-Dichloropropene	0.0453	0.0050	mg/kg wet	0.05000		91	70-130			
Dibromochloromethane	0.0452	0.0020	mg/kg wet	0.05000		90	70-130			
Dibromomethane	0.0447	0.0050	mg/kg wet	0.05000		89	70-130			
Dichlorodifluoromethane	0.0454	0.0100	mg/kg wet	0.05000		91	70-130			
Diethyl Ether	0.0412	0.0050	mg/kg wet	0.05000		82	70-130			
Di-isopropyl ether	0.0402	0.0050	mg/kg wet	0.05000		80	70-130			
Ethyl tertiary-butyl ether	0.0514	0.0050	mg/kg wet	0.05000		103	70-130			
Ethylbenzene	0.0466	0.0050	mg/kg wet	0.05000		93	70-130			
Hexachlorobutadiene	0.0530	0.0050	mg/kg wet	0.05000		106	70-130			
Isopropylbenzene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
Methyl tert-Butyl Ether	0.0511	0.0050	mg/kg wet	0.05000		102	70-130			
Methylene Chloride	0.0463	0.0100	mg/kg wet	0.05000		93	70-130			
Naphthalene	0.0440	0.0050	mg/kg wet	0.05000		88	70-130			
n-Butylbenzene	0.0398	0.0050	mg/kg wet	0.05000		80	70-130			
n-Propylbenzene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
sec-Butylbenzene	0.0462	0.0050	mg/kg wet	0.05000		92	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0466

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01838 - 5035										
Styrene	0.0457	0.0050	mg/kg wet	0.05000		91	70-130			
tert-Butylbenzene	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
Tertiary-amyl methyl ether	0.0551	0.0050	mg/kg wet	0.05000		110	70-130			
Tetrachloroethene	0.0450	0.0050	mg/kg wet	0.05000		90	70-130			
Tetrahydrofuran	0.0374	0.0050	mg/kg wet	0.05000		75	70-130			
Toluene	0.0447	0.0050	mg/kg wet	0.05000		89	70-130			
trans-1,2-Dichloroethene	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			
trans-1,3-Dichloropropene	0.0424	0.0050	mg/kg wet	0.05000		85	70-130			
Trichloroethene	0.0442	0.0050	mg/kg wet	0.05000		88	70-130			
Trichlorofluoromethane	0.0511	0.0050	mg/kg wet	0.05000		102	70-130			
Vinyl Chloride	0.0368	0.0100	mg/kg wet	0.05000		74	70-130			
Xylene O	0.0475	0.0050	mg/kg wet	0.05000		95	70-130			
Xylene P,M	0.0946	0.0100	mg/kg wet	0.1000		95	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0472*		mg/kg wet	*0.05000*		*94*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0484*		mg/kg wet	*0.05000*		*97*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0482*		mg/kg wet	*0.05000*		*96*	*70-130*			
Surrogate: Toluene-d8	*0.0469*		mg/kg wet	*0.05000*		*94*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	0.0526	0.0050	mg/kg wet	0.05000		105	70-130	11	20	
1,1,1-Trichloroethane	0.0493	0.0050	mg/kg wet	0.05000		99	70-130	11	20	
1,1,2,2-Tetrachloroethane	0.0495	0.0020	mg/kg wet	0.05000		99	70-130	8	20	
1,1,2-Trichloroethane	0.0460	0.0050	mg/kg wet	0.05000		92	70-130	8	20	
1,1-Dichloroethane	0.0457	0.0050	mg/kg wet	0.05000		91	70-130	10	20	
1,1-Dichloroethene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130	9	20	
1,1-Dichloropropene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	10	20	
1,2,3-Trichlorobenzene	0.0509	0.0050	mg/kg wet	0.05000		102	70-130	12	20	
1,2,3-Trichloropropane	0.0459	0.0050	mg/kg wet	0.05000		92	70-130	9	20	
1,2,4-Trichlorobenzene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	10	20	
1,2,4-Trimethylbenzene	0.0523	0.0050	mg/kg wet	0.05000		105	70-130	9	20	
1,2-Dibromo-3-Chloropropane	0.0436	0.0050	mg/kg wet	0.05000		87	70-130	8	20	
1,2-Dibromoethane	0.0527	0.0050	mg/kg wet	0.05000		105	70-130	12	20	
1,2-Dichlorobenzene	0.0520	0.0050	mg/kg wet	0.05000		104	70-130	6	20	
1,2-Dichloroethane	0.0490	0.0050	mg/kg wet	0.05000		98	70-130	9	20	
1,2-Dichloropropane	0.0457	0.0050	mg/kg wet	0.05000		91	70-130	8	20	
1,3,5-Trimethylbenzene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	8	20	
1,3-Dichlorobenzene	0.0523	0.0050	mg/kg wet	0.05000		105	70-130	6	20	
1,3-Dichloropropane	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	12	20	
1,4-Dichlorobenzene	0.0530	0.0050	mg/kg wet	0.05000		106	70-130	7	20	
1,4-Dioxane	0.904	0.100	mg/kg wet	1.000		90	70-130	5	20	
2,2-Dichloropropane	0.0528	0.0050	mg/kg wet	0.05000		106	70-130	8	20	
2-Butanone	0.222	0.0100	mg/kg wet	0.2500		89	70-130	10	20	
2-Chlorotoluene	0.0483	0.0050	mg/kg wet	0.05000		97	70-130	6	20	
2-Hexanone	0.249	0.0100	mg/kg wet	0.2500		100	70-130	15	20	
4-Chlorotoluene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	7	20	
4-Isopropyltoluene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130	9	20	

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0466

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01838 - 5035										
4-Methyl-2-Pentanone	0.230	0.0100	mg/kg wet	0.2500		92	70-130	10	20	
Acetone	0.216	0.0100	mg/kg wet	0.2500		86	70-130	21	20	D+
Benzene	0.0476	0.0050	mg/kg wet	0.05000		95	70-130	9	20	
Bromobenzene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	7	20	
Bromochloromethane	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	8	20	
Bromodichloromethane	0.0479	0.0050	mg/kg wet	0.05000		96	70-130	9	20	
Bromoform	0.0497	0.0050	mg/kg wet	0.05000		99	70-130	11	20	
Bromomethane	0.0492	0.0100	mg/kg wet	0.05000		98	70-130	21	20	D+
Carbon Disulfide	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	10	20	
Carbon Tetrachloride	0.0517	0.0050	mg/kg wet	0.05000		103	70-130	9	20	
Chlorobenzene	0.0524	0.0050	mg/kg wet	0.05000		105	70-130	11	20	
Chloroethane	0.0413	0.0100	mg/kg wet	0.05000		83	70-130	10	20	
Chloroform	0.0488	0.0050	mg/kg wet	0.05000		98	70-130	10	20	
Chloromethane	0.0412	0.0100	mg/kg wet	0.05000		82	70-130	11	20	
cis-1,2-Dichloroethene	0.0506	0.0050	mg/kg wet	0.05000		101	70-130	9	20	
cis-1,3-Dichloropropene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	8	20	
Dibromochloromethane	0.0509	0.0020	mg/kg wet	0.05000		102	70-130	12	20	
Dibromomethane	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	8	20	
Dichlorodifluoromethane	0.0506	0.0100	mg/kg wet	0.05000		101	70-130	11	20	
Diethyl Ether	0.0445	0.0050	mg/kg wet	0.05000		89	70-130	8	20	
Di-isopropyl ether	0.0445	0.0050	mg/kg wet	0.05000		89	70-130	10	20	
Ethyl tertiary-butyl ether	0.0559	0.0050	mg/kg wet	0.05000		112	70-130	9	20	
Ethylbenzene	0.0517	0.0050	mg/kg wet	0.05000		103	70-130	10	20	
Hexachlorobutadiene	0.0559	0.0050	mg/kg wet	0.05000		112	70-130	5	20	
Isopropylbenzene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130	7	20	
Methyl tert-Butyl Ether	0.0546	0.0050	mg/kg wet	0.05000		109	70-130	7	20	
Methylene Chloride	0.0483	0.0100	mg/kg wet	0.05000		97	70-130	4	20	
Naphthalene	0.0513	0.0050	mg/kg wet	0.05000		103	70-130	15	20	
n-Butylbenzene	0.0451	0.0050	mg/kg wet	0.05000		90	70-130	13	20	
n-Propylbenzene	0.0495	0.0050	mg/kg wet	0.05000		99	70-130	8	20	
sec-Butylbenzene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130	8	20	
Styrene	0.0516	0.0050	mg/kg wet	0.05000		103	70-130	12	20	
tert-Butylbenzene	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	8	20	
Tertiary-amyl methyl ether	0.0600	0.0050	mg/kg wet	0.05000		120	70-130	8	20	
Tetrachloroethene	0.0511	0.0050	mg/kg wet	0.05000		102	70-130	13	20	
Tetrahydrofuran	0.0425	0.0050	mg/kg wet	0.05000		85	70-130	13	20	
Toluene	0.0483	0.0050	mg/kg wet	0.05000		97	70-130	8	20	
trans-1,2-Dichloroethene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130	10	20	
trans-1,3-Dichloropropene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130	8	20	
Trichloroethene	0.0494	0.0050	mg/kg wet	0.05000		99	70-130	11	20	
Trichlorofluoromethane	0.0554	0.0050	mg/kg wet	0.05000		111	70-130	8	20	
Vinyl Chloride	0.0415	0.0100	mg/kg wet	0.05000		83	70-130	12	20	
Xylene O	0.0525	0.0050	mg/kg wet	0.05000		105	70-130	10	20	
Xylene P,M	0.105	0.0100	mg/kg wet	0.1000		105	70-130	10	20	
Surrogate: 1,2-Dichloroethane-d4	*0.0471*		mg/kg wet	*0.05000*		*94*	*70-130*			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0466

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01838 - 5035										
Surrogate: 4-Bromofluorobenzene	*0.0493*		mg/kg wet	*0.05000*		*99*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0481*		mg/kg wet	*0.05000*		*96*	*70-130*			
Surrogate: Toluene-d8	*0.0485*		mg/kg wet	*0.05000*		*97*	*70-130*			
Batch DC01938 - 5035										
Blank										
1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet							
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0020	mg/kg wet							
1,1,2-Trichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethene	ND	0.0050	mg/kg wet							
1,1-Dichloropropene	ND	0.0050	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,3-Trichloropropane	ND	0.0050	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/kg wet							
1,2-Dibromoethane	ND	0.0050	mg/kg wet							
1,2-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,2-Dichloroethane	ND	0.0050	mg/kg wet							
1,2-Dichloropropane	ND	0.0050	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,3-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,3-Dichloropropane	ND	0.0050	mg/kg wet							
1,4-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,4-Dioxane	ND	0.100	mg/kg wet							
2,2-Dichloropropane	ND	0.0050	mg/kg wet							
2-Butanone	ND	0.0100	mg/kg wet							
2-Chlorotoluene	ND	0.0050	mg/kg wet							
2-Hexanone	ND	0.0100	mg/kg wet							
4-Chlorotoluene	ND	0.0050	mg/kg wet							
4-Isopropyltoluene	ND	0.0050	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.0100	mg/kg wet							
Acetone	ND	0.0100	mg/kg wet							
Benzene	ND	0.0050	mg/kg wet							
Bromobenzene	ND	0.0050	mg/kg wet							
Bromochloromethane	ND	0.0050	mg/kg wet							
Bromodichloromethane	ND	0.0050	mg/kg wet							
Bromoform	ND	0.0050	mg/kg wet							
Bromomethane	ND	0.0100	mg/kg wet							
Carbon Disulfide	ND	0.0050	mg/kg wet							
Carbon Tetrachloride	ND	0.0050	mg/kg wet							
Chlorobenzene	ND	0.0050	mg/kg wet							
Chloroethane	ND	0.0100	mg/kg wet							

CERTIFICATE OF ANALYSIS

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01938 - 5035										
Chloroform	ND	0.0050	mg/kg wet							
Chloromethane	ND	0.0100	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
cis-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Dibromochloromethane	ND	0.0020	mg/kg wet							
Dibromomethane	ND	0.0050	mg/kg wet							
Dichlorodifluoromethane	ND	0.0100	mg/kg wet							
Diethyl Ether	ND	0.0050	mg/kg wet							
Di-isopropyl ether	ND	0.0050	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.0050	mg/kg wet							
Ethylbenzene	ND	0.0050	mg/kg wet							
Hexachlorobutadiene	ND	0.0050	mg/kg wet							
Isopropylbenzene	ND	0.0050	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.0050	mg/kg wet							
Methylene Chloride	ND	0.0100	mg/kg wet							
Naphthalene	ND	0.0050	mg/kg wet							
n-Butylbenzene	ND	0.0050	mg/kg wet							
n-Propylbenzene	ND	0.0050	mg/kg wet							
sec-Butylbenzene	ND	0.0050	mg/kg wet							
Styrene	ND	0.0050	mg/kg wet							
tert-Butylbenzene	ND	0.0050	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0050	mg/kg wet							
Tetrachloroethene	ND	0.0050	mg/kg wet							
Tetrahydrofuran	ND	0.0050	mg/kg wet							
Toluene	ND	0.0050	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Trichloroethene	ND	0.0050	mg/kg wet							
Trichlorofluoromethane	ND	0.0050	mg/kg wet							
Vinyl Chloride	ND	0.0100	mg/kg wet							
Xylene O	ND	0.0050	mg/kg wet							
Xylene P,M	ND	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	*0.0551*		mg/kg wet	*0.05000*		*110*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0492*		mg/kg wet	*0.05000*		*98*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0531*		mg/kg wet	*0.05000*		*106*	*70-130*			
Surrogate: Toluene-d8	*0.0486*		mg/kg wet	*0.05000*		*97*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	0.0457	0.0050	mg/kg wet	0.05000		91	70-130			
1,1,1-Trichloroethane	0.0500	0.0050	mg/kg wet	0.05000		100	70-130			
1,1,2,2-Tetrachloroethane	0.0478	0.0020	mg/kg wet	0.05000		96	70-130			
1,1,2-Trichloroethane	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
1,1-Dichloroethane	0.0505	0.0050	mg/kg wet	0.05000		101	70-130			
1,1-Dichloroethene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130			
1,1-Dichloropropene	0.0531	0.0050	mg/kg wet	0.05000		106	70-130			
1,2,3-Trichlorobenzene	0.0442	0.0050	mg/kg wet	0.05000		88	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
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ESS Laboratory Work Order: 20C0466

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01938 - 5035										
1,2,3-Trichloropropane	0.0422	0.0050	mg/kg wet	0.05000		84	70-130			
1,2,4-Trichlorobenzene	0.0431	0.0050	mg/kg wet	0.05000		86	70-130			
1,2,4-Trimethylbenzene	0.0492	0.0050	mg/kg wet	0.05000		98	70-130			
1,2-Dibromo-3-Chloropropane	0.0387	0.0050	mg/kg wet	0.05000		77	70-130			
1,2-Dibromoethane	0.0458	0.0050	mg/kg wet	0.05000		92	70-130			
1,2-Dichlorobenzene	0.0461	0.0050	mg/kg wet	0.05000		92	70-130			
1,2-Dichloroethane	0.0511	0.0050	mg/kg wet	0.05000		102	70-130			
1,2-Dichloropropane	0.0514	0.0050	mg/kg wet	0.05000		103	70-130			
1,3,5-Trimethylbenzene	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			
1,3-Dichlorobenzene	0.0469	0.0050	mg/kg wet	0.05000		94	70-130			
1,3-Dichloropropane	0.0488	0.0050	mg/kg wet	0.05000		98	70-130			
1,4-Dichlorobenzene	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
1,4-Dioxane	0.850	0.100	mg/kg wet	1.000		85	70-130			
2,2-Dichloropropane	0.0480	0.0050	mg/kg wet	0.05000		96	70-130			
2-Butanone	0.249	0.0100	mg/kg wet	0.2500		100	70-130			
2-Chlorotoluene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130			
2-Hexanone	0.221	0.0100	mg/kg wet	0.2500		88	70-130			
4-Chlorotoluene	0.0486	0.0050	mg/kg wet	0.05000		97	70-130			
4-Isopropyltoluene	0.0475	0.0050	mg/kg wet	0.05000		95	70-130			
4-Methyl-2-Pentanone	0.236	0.0100	mg/kg wet	0.2500		95	70-130			
Acetone	0.244	0.0100	mg/kg wet	0.2500		97	70-130			
Benzene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130			
Bromobenzene	0.0455	0.0050	mg/kg wet	0.05000		91	70-130			
Bromochloromethane	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
Bromodichloromethane	0.0535	0.0050	mg/kg wet	0.05000		107	70-130			
Bromoform	0.0379	0.0050	mg/kg wet	0.05000		76	70-130			
Bromomethane	0.0578	0.0100	mg/kg wet	0.05000		116	70-130			
Carbon Disulfide	0.0531	0.0050	mg/kg wet	0.05000		106	70-130			
Carbon Tetrachloride	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			
Chlorobenzene	0.0467	0.0050	mg/kg wet	0.05000		93	70-130			
Chloroethane	0.0494	0.0100	mg/kg wet	0.05000		99	70-130			
Chloroform	0.0517	0.0050	mg/kg wet	0.05000		103	70-130			
Chloromethane	0.0472	0.0100	mg/kg wet	0.05000		94	70-130			
cis-1,2-Dichloroethene	0.0509	0.0050	mg/kg wet	0.05000		102	70-130			
cis-1,3-Dichloropropene	0.0523	0.0050	mg/kg wet	0.05000		105	70-130			
Dibromochloromethane	0.0440	0.0020	mg/kg wet	0.05000		88	70-130			
Dibromomethane	0.0483	0.0050	mg/kg wet	0.05000		97	70-130			
Dichlorodifluoromethane	0.0504	0.0100	mg/kg wet	0.05000		101	70-130			
Diethyl Ether	0.0491	0.0050	mg/kg wet	0.05000		98	70-130			
Di-isopropyl ether	0.0513	0.0050	mg/kg wet	0.05000		103	70-130			
Ethyl tertiary-butyl ether	0.0467	0.0050	mg/kg wet	0.05000		93	70-130			
Ethylbenzene	0.0482	0.0050	mg/kg wet	0.05000		96	70-130			
Hexachlorobutadiene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130			
Isopropylbenzene	0.0490	0.0050	mg/kg wet	0.05000		98	70-130			
Methyl tert-Butyl Ether	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0466

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01938 - 5035										
Methylene Chloride	0.0472	0.0100	mg/kg wet	0.05000		94	70-130			
Naphthalene	0.0440	0.0050	mg/kg wet	0.05000		88	70-130			
n-Butylbenzene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130			
n-Propylbenzene	0.0497	0.0050	mg/kg wet	0.05000		99	70-130			
sec-Butylbenzene	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			
Styrene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130			
tert-Butylbenzene	0.0481	0.0050	mg/kg wet	0.05000		96	70-130			
Tertiary-amyl methyl ether	0.0482	0.0050	mg/kg wet	0.05000		96	70-130			
Tetrachloroethene	0.0464	0.0050	mg/kg wet	0.05000		93	70-130			
Tetrahydrofuran	0.0434	0.0050	mg/kg wet	0.05000		87	70-130			
Toluene	0.0495	0.0050	mg/kg wet	0.05000		99	70-130			
trans-1,2-Dichloroethene	0.0504	0.0050	mg/kg wet	0.05000		101	70-130			
trans-1,3-Dichloropropene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130			
Trichloroethene	0.0511	0.0050	mg/kg wet	0.05000		102	70-130			
Trichlorofluoromethane	0.0541	0.0050	mg/kg wet	0.05000		108	70-130			
Vinyl Chloride	0.0521	0.0100	mg/kg wet	0.05000		104	70-130			
Xylene O	0.0487	0.0050	mg/kg wet	0.05000		97	70-130			
Xylene P,M	0.0971	0.0100	mg/kg wet	0.1000		97	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0514*		mg/kg wet	*0.05000*		*103*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0499*		mg/kg wet	*0.05000*		*100*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0512*		mg/kg wet	*0.05000*		*102*	*70-130*			
Surrogate: Toluene-d8	*0.0496*		mg/kg wet	*0.05000*		*99*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	0.0477	0.0050	mg/kg wet	0.05000		95	70-130	4	20	
1,1,1-Trichloroethane	0.0507	0.0050	mg/kg wet	0.05000		101	70-130	1	20	
1,1,2,2-Tetrachloroethane	0.0505	0.0020	mg/kg wet	0.05000		101	70-130	5	20	
1,1,2-Trichloroethane	0.0503	0.0050	mg/kg wet	0.05000		101	70-130	6	20	
1,1-Dichloroethane	0.0520	0.0050	mg/kg wet	0.05000		104	70-130	3	20	
1,1-Dichloroethene	0.0522	0.0050	mg/kg wet	0.05000		104	70-130	3	20	
1,1-Dichloropropene	0.0546	0.0050	mg/kg wet	0.05000		109	70-130	3	20	
1,2,3-Trichlorobenzene	0.0473	0.0050	mg/kg wet	0.05000		95	70-130	7	20	
1,2,3-Trichloropropane	0.0450	0.0050	mg/kg wet	0.05000		90	70-130	6	20	
1,2,4-Trichlorobenzene	0.0464	0.0050	mg/kg wet	0.05000		93	70-130	7	20	
1,2,4-Trimethylbenzene	0.0514	0.0050	mg/kg wet	0.05000		103	70-130	4	20	
1,2-Dibromo-3-Chloropropane	0.0416	0.0050	mg/kg wet	0.05000		83	70-130	7	20	
1,2-Dibromoethane	0.0483	0.0050	mg/kg wet	0.05000		97	70-130	5	20	
1,2-Dichlorobenzene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	6	20	
1,2-Dichloroethane	0.0530	0.0050	mg/kg wet	0.05000		106	70-130	4	20	
1,2-Dichloropropane	0.0526	0.0050	mg/kg wet	0.05000		105	70-130	2	20	
1,3,5-Trimethylbenzene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130	5	20	
1,3-Dichlorobenzene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	4	20	
1,3-Dichloropropane	0.0513	0.0050	mg/kg wet	0.05000		103	70-130	5	20	
1,4-Dichlorobenzene	0.0502	0.0050	mg/kg wet	0.05000		100	70-130	6	20	
1,4-Dioxane	0.942	0.100	mg/kg wet	1.000		94	70-130	10	20	
2,2-Dichloropropane	0.0495	0.0050	mg/kg wet	0.05000		99	70-130	3	20	

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0466

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01938 - 5035										
2-Butanone	0.259	0.0100	mg/kg wet	0.2500		104	70-130	4	20	
2-Chlorotoluene	0.0504	0.0050	mg/kg wet	0.05000		101	70-130	3	20	
2-Hexanone	0.227	0.0100	mg/kg wet	0.2500		91	70-130	3	20	
4-Chlorotoluene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130	4	20	
4-Isopropyltoluene	0.0491	0.0050	mg/kg wet	0.05000		98	70-130	3	20	
4-Methyl-2-Pentanone	0.246	0.0100	mg/kg wet	0.2500		98	70-130	4	20	
Acetone	0.240	0.0100	mg/kg wet	0.2500		96	70-130	1	20	
Benzene	0.0522	0.0050	mg/kg wet	0.05000		104	70-130	3	20	
Bromobenzene	0.0482	0.0050	mg/kg wet	0.05000		96	70-130	6	20	
Bromochloromethane	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	6	20	
Bromodichloromethane	0.0562	0.0050	mg/kg wet	0.05000		112	70-130	5	20	
Bromoform	0.0401	0.0050	mg/kg wet	0.05000		80	70-130	6	20	
Bromomethane	0.0605	0.0100	mg/kg wet	0.05000		121	70-130	5	20	
Carbon Disulfide	0.0541	0.0050	mg/kg wet	0.05000		108	70-130	2	20	
Carbon Tetrachloride	0.0504	0.0050	mg/kg wet	0.05000		101	70-130	2	20	
Chlorobenzene	0.0487	0.0050	mg/kg wet	0.05000		97	70-130	4	20	
Chloroethane	0.0505	0.0100	mg/kg wet	0.05000		101	70-130	2	20	
Chloroform	0.0533	0.0050	mg/kg wet	0.05000		107	70-130	3	20	
Chloromethane	0.0484	0.0100	mg/kg wet	0.05000		97	70-130	2	20	
cis-1,2-Dichloroethene	0.0529	0.0050	mg/kg wet	0.05000		106	70-130	4	20	
cis-1,3-Dichloropropene	0.0546	0.0050	mg/kg wet	0.05000		109	70-130	4	20	
Dibromochloromethane	0.0466	0.0020	mg/kg wet	0.05000		93	70-130	6	20	
Dibromomethane	0.0515	0.0050	mg/kg wet	0.05000		103	70-130	6	20	
Dichlorodifluoromethane	0.0512	0.0100	mg/kg wet	0.05000		102	70-130	2	20	
Diethyl Ether	0.0514	0.0050	mg/kg wet	0.05000		103	70-130	5	20	
Di-isopropyl ether	0.0534	0.0050	mg/kg wet	0.05000		107	70-130	4	20	
Ethyl tertiary-butyl ether	0.0490	0.0050	mg/kg wet	0.05000		98	70-130	5	20	
Ethylbenzene	0.0494	0.0050	mg/kg wet	0.05000		99	70-130	2	20	
Hexachlorobutadiene	0.0487	0.0050	mg/kg wet	0.05000		97	70-130	3	20	
Isopropylbenzene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130	3	20	
Methyl tert-Butyl Ether	0.0496	0.0050	mg/kg wet	0.05000		99	70-130	5	20	
Methylene Chloride	0.0492	0.0100	mg/kg wet	0.05000		98	70-130	4	20	
Naphthalene	0.0475	0.0050	mg/kg wet	0.05000		95	70-130	8	20	
n-Butylbenzene	0.0510	0.0050	mg/kg wet	0.05000		102	70-130	4	20	
n-Propylbenzene	0.0514	0.0050	mg/kg wet	0.05000		103	70-130	3	20	
sec-Butylbenzene	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	3	20	
Styrene	0.0486	0.0050	mg/kg wet	0.05000		97	70-130	3	20	
tert-Butylbenzene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130	4	20	
Tertiary-amyl methyl ether	0.0504	0.0050	mg/kg wet	0.05000		101	70-130	5	20	
Tetrachloroethene	0.0481	0.0050	mg/kg wet	0.05000		96	70-130	4	20	
Tetrahydrofuran	0.0452	0.0050	mg/kg wet	0.05000		90	70-130	4	20	
Toluene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130	2	20	
trans-1,2-Dichloroethene	0.0518	0.0050	mg/kg wet	0.05000		104	70-130	3	20	
trans-1,3-Dichloropropene	0.0497	0.0050	mg/kg wet	0.05000		99	70-130	6	20	
Trichloroethene	0.0522	0.0050	mg/kg wet	0.05000		104	70-130	2	20	

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0466

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01938 - 5035										
Trichlorofluoromethane	0.0547	0.0050	mg/kg wet	0.05000		109	70-130	1	20	
Vinyl Chloride	0.0525	0.0100	mg/kg wet	0.05000		105	70-130	0.8	20	
Xylene O	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	2	20	
Xylene P,M	0.101	0.0100	mg/kg wet	0.1000		101	70-130	4	20	
Surrogate: 1,2-Dichloroethane-d4	*0.0501*		mg/kg wet	*0.05000*		*100*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0497*		mg/kg wet	*0.05000*		*99*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0507*		mg/kg wet	*0.05000*		*101*	*70-130*			
Surrogate: Toluene-d8	*0.0496*		mg/kg wet	*0.05000*		*99*	*70-130*			
8082A Polychlorinated Biphenyls (PCB)										
Batch DC01701 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0192*		mg/kg wet	*0.02500*		*77*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0184*		mg/kg wet	*0.02500*		*74*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0169*		mg/kg wet	*0.02500*		*68*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0194*		mg/kg wet	*0.02500*		*78*	*30-150*			
LCS										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		86	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		87	40-140			
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		89	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		87	40-140			
Surrogate: Decachlorobiphenyl	*0.0225*		mg/kg wet	*0.02500*		*90*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0216*		mg/kg wet	*0.02500*		*86*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0207*		mg/kg wet	*0.02500*		*83*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0223*		mg/kg wet	*0.02500*		*89*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0466

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DC01701 - 3540C										
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		82	40-140	5	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		85	40-140	1	30	
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		87	40-140	2	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		83	40-140	4	30	
Surrogate: Decachlorobiphenyl	*0.0220*		mg/kg wet	*0.02500*		*88*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0209*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0203*		mg/kg wet	*0.02500*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0222*		mg/kg wet	*0.02500*		*89*	*30-150*			
Batch DC01930 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0198*		mg/kg wet	*0.02500*		*79*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0195*		mg/kg wet	*0.02500*		*78*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0179*		mg/kg wet	*0.02500*		*72*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0208*		mg/kg wet	*0.02500*		*83*	*30-150*			
LCS										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		89	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		91	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		93	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		90	40-140			
Surrogate: Decachlorobiphenyl	*0.0227*		mg/kg wet	*0.02500*		*91*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0221*		mg/kg wet	*0.02500*		*88*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0217*		mg/kg wet	*0.02500*		*87*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0236*		mg/kg wet	*0.02500*		*94*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0466

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DC01930 - 3540C										
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		86	40-140	3	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		88	40-140	3	30	
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		89	40-140	4	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		86	40-140	4	30	
Surrogate: Decachlorobiphenyl	*0.0219*		mg/kg wet	*0.02500*		*87*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0211*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0209*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0230*		mg/kg wet	*0.02500*		*92*	*30-150*			
8100M Total Petroleum Hydrocarbons										
Batch DC02311 - 3546										
Blank										
Decane (C10)	ND	0.2	mg/kg wet							
Docosane (C22)	ND	0.2	mg/kg wet							
Dodecane (C12)	ND	0.2	mg/kg wet							
Eicosane (C20)	ND	0.2	mg/kg wet							
Hexacosane (C26)	ND	0.2	mg/kg wet							
Hexadecane (C16)	ND	0.2	mg/kg wet							
Hexatriacontane (C36)	ND	0.2	mg/kg wet							
Nonadecane (C19)	ND	0.2	mg/kg wet							
Nonane (C9)	ND	0.2	mg/kg wet							
Octacosane (C28)	ND	0.2	mg/kg wet							
Octadecane (C18)	ND	0.2	mg/kg wet							
Tetracosane (C24)	ND	0.2	mg/kg wet							
Tetradecane (C14)	ND	0.2	mg/kg wet							
Total Petroleum Hydrocarbons	ND	10.0	mg/kg wet							
Triacontane (C30)	ND	0.2	mg/kg wet							
Surrogate: O-Terphenyl	*5.11*		mg/kg wet	*5.000*		*102*	*40-140*			
LCS										
Decane (C10)	1.9	0.2	mg/kg wet	2.500		77	40-140			
Docosane (C22)	2.4	0.2	mg/kg wet	2.500		97	40-140			
Dodecane (C12)	2.1	0.2	mg/kg wet	2.500		83	40-140			
Eicosane (C20)	2.4	0.2	mg/kg wet	2.500		96	40-140			
Hexacosane (C26)	2.5	0.2	mg/kg wet	2.500		99	40-140			
Hexadecane (C16)	2.3	0.2	mg/kg wet	2.500		91	40-140			
Hexatriacontane (C36)	2.4	0.2	mg/kg wet	2.500		97	40-140			
Nonadecane (C19)	2.4	0.2	mg/kg wet	2.500		96	40-140			
Nonane (C9)	1.7	0.2	mg/kg wet	2.500		69	30-140			
Octacosane (C28)	2.5	0.2	mg/kg wet	2.500		99	40-140			
Octadecane (C18)	2.3	0.2	mg/kg wet	2.500		93	40-140			
Tetracosane (C24)	2.5	0.2	mg/kg wet	2.500		98	40-140			
Tetradecane (C14)	2.1	0.2	mg/kg wet	2.500		85	40-140			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0466

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8100M Total Petroleum Hydrocarbons										
Batch DC02311 - 3546										
Total Petroleum Hydrocarbons	32.0	10.0	mg/kg wet	35.00		91	40-140			
Triacontane (C30)	2.4	0.2	mg/kg wet	2.500		97	40-140			
Surrogate: O-Terphenyl	*5.00*		mg/kg wet	*5.000*		*100*	*40-140*			
LCS Dup										
Decane (C10)	2.0	0.2	mg/kg wet	2.500		82	40-140	6	25	
Docosane (C22)	2.5	0.2	mg/kg wet	2.500		101	40-140	3	25	
Dodecane (C12)	2.2	0.2	mg/kg wet	2.500		87	40-140	5	25	
Eicosane (C20)	2.5	0.2	mg/kg wet	2.500		100	40-140	3	25	
Hexacosane (C26)	2.5	0.2	mg/kg wet	2.500		101	40-140	3	25	
Hexadecane (C16)	2.3	0.2	mg/kg wet	2.500		94	40-140	3	25	
Hexatriacontane (C36)	2.5	0.2	mg/kg wet	2.500		100	40-140	3	25	
Nonadecane (C19)	2.5	0.2	mg/kg wet	2.500		100	40-140	4	25	
Nonane (C9)	1.8	0.2	mg/kg wet	2.500		74	30-140	6	25	
Octacosane (C28)	2.6	0.2	mg/kg wet	2.500		103	40-140	4	25	
Octadecane (C18)	2.4	0.2	mg/kg wet	2.500		96	40-140	3	25	
Tetracosane (C24)	2.5	0.2	mg/kg wet	2.500		101	40-140	3	25	
Tetradecane (C14)	2.2	0.2	mg/kg wet	2.500		89	40-140	4	25	
Total Petroleum Hydrocarbons	33.2	10.0	mg/kg wet	35.00		95	40-140	4	25	
Triacontane (C30)	2.5	0.2	mg/kg wet	2.500		100	40-140	3	25	
Surrogate: O-Terphenyl	*5.07*		mg/kg wet	*5.000*		*101*	*40-140*			
8270D Semi-Volatile Organic Compounds										
Batch DC01609 - 3546										
Blank										
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.080	mg/kg wet							
1,4-Dichlorobenzene	ND	0.084	mg/kg wet							
2,4,5-Trichlorophenol	ND	0.333	mg/kg wet							
2,4,6-Trichlorophenol	ND	0.082	mg/kg wet							
2,4-Dichlorophenol	ND	0.083	mg/kg wet							
2,4-Dimethylphenol	ND	0.075	mg/kg wet							
2,4-Dinitrophenol	ND	0.557	mg/kg wet							
2,4-Dinitrotoluene	ND	0.107	mg/kg wet							
2,6-Dinitrotoluene	ND	0.333	mg/kg wet							
2-Chloronaphthalene	ND	0.333	mg/kg wet							
2-Chlorophenol	ND	0.094	mg/kg wet							
2-Methylnaphthalene	ND	0.072	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
2-Nitrophenol	ND	0.333	mg/kg wet							
3,3´-Dichlorobenzidine	ND	0.167	mg/kg wet							
3+4-Methylphenol	ND	0.667	mg/kg wet							
4-Bromophenyl-phenylether	ND	0.333	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0466

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DC01609 - 3546										
4-Chloroaniline	ND	0.167	mg/kg wet							
4-Nitrophenol	ND	1.67	mg/kg wet							
Acenaphthene	ND	0.333	mg/kg wet							
Acenaphthylene	ND	0.167	mg/kg wet							
Acetophenone	ND	0.667	mg/kg wet							
Aniline	ND	1.67	mg/kg wet							
Anthracene	ND	0.333	mg/kg wet							
Azobenzene	ND	0.333	mg/kg wet							
Benzo(a)anthracene	ND	0.333	mg/kg wet							
Benzo(a)pyrene	ND	0.167	mg/kg wet							
Benzo(b)fluoranthene	ND	0.333	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.333	mg/kg wet							
Benzo(k)fluoranthene	ND	0.333	mg/kg wet							
bis(2-Chloroethoxy)methane	ND	0.333	mg/kg wet							
bis(2-Chloroethyl)ether	ND	0.090	mg/kg wet							
bis(2-chloroisopropyl)Ether	ND	0.089	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Chrysene	ND	0.167	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.051	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Fluoranthene	ND	0.333	mg/kg wet							
Fluorene	ND	0.333	mg/kg wet							
Hexachlorobenzene	ND	0.056	mg/kg wet							
Hexachlorobutadiene	ND	0.333	mg/kg wet							
Hexachloroethane	ND	0.084	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet							
Isophorone	ND	0.333	mg/kg wet							
Naphthalene	ND	0.333	mg/kg wet							
Nitrobenzene	ND	0.333	mg/kg wet							
N-Nitrosodimethylamine	ND	0.333	mg/kg wet							
Pentachlorophenol	ND	0.667	mg/kg wet							
Phenanthrene	ND	0.333	mg/kg wet							
Phenol	ND	0.081	mg/kg wet							
Pyrene	ND	0.333	mg/kg wet							
Pyridine	ND	1.67	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*2.46*		mg/kg wet	*3.333*		*74*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.47*		mg/kg wet	*5.000*		*89*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.83*		mg/kg wet	*5.000*		*77*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.50*		mg/kg wet	*3.333*		*75*	*30-130*			
Surrogate: 2-Fluorophenol	*3.66*		mg/kg wet	*5.000*		*73*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.63*		mg/kg wet	*3.333*		*79*	*30-130*			

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DC01609 - 3546										
Surrogate: Phenol-d6	*3.82*		mg/kg wet	*5.000*		*76*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.49*		mg/kg wet	*3.333*		*105*	*30-130*			
LCS										
1,2,4-Trichlorobenzene	2.47	0.333	mg/kg wet	3.333		74	40-140			
1,2-Dichlorobenzene	2.40	0.333	mg/kg wet	3.333		72	40-140			
1,3-Dichlorobenzene	2.39	0.080	mg/kg wet	3.333		72	40-140			
1,4-Dichlorobenzene	2.37	0.084	mg/kg wet	3.333		71	40-140			
2,4,5-Trichlorophenol	3.19	0.333	mg/kg wet	3.333		96	30-130			
2,4,6-Trichlorophenol	3.06	0.082	mg/kg wet	3.333		92	30-130			
2,4-Dichlorophenol	2.78	0.083	mg/kg wet	3.333		84	30-130			
2,4-Dimethylphenol	2.79	0.075	mg/kg wet	3.333		84	30-130			
2,4-Dinitrophenol	4.22	0.557	mg/kg wet	3.333		126	30-130			
2,4-Dinitrotoluene	3.59	0.107	mg/kg wet	3.333		108	40-140			
2,6-Dinitrotoluene	3.08	0.333	mg/kg wet	3.333		92	40-140			
2-Chloronaphthalene	2.53	0.333	mg/kg wet	3.333		76	40-140			
2-Chlorophenol	2.55	0.094	mg/kg wet	3.333		77	30-130			
2-Methylnaphthalene	2.52	0.072	mg/kg wet	3.333		76	40-140			
2-Methylphenol	2.58	0.333	mg/kg wet	3.333		77	30-130			
2-Nitrophenol	2.67	0.333	mg/kg wet	3.333		80	30-130			
3,3´-Dichlorobenzidine	2.71	0.167	mg/kg wet	3.333		81	40-140			
3+4-Methylphenol	5.37	0.667	mg/kg wet	6.667		80	30-130			
4-Bromophenyl-phenylether	3.18	0.333	mg/kg wet	3.333		95	40-140			
4-Chloroaniline	1.46	0.167	mg/kg wet	3.333		44	40-140			
4-Nitrophenol	3.44	1.67	mg/kg wet	3.333		103	30-130			
Acenaphthene	2.70	0.333	mg/kg wet	3.333		81	40-140			
Acenaphthylene	2.48	0.167	mg/kg wet	3.333		75	40-140			
Acetophenone	2.41	0.667	mg/kg wet	3.333		72	40-140			
Aniline	1.74	1.67	mg/kg wet	3.333		52	40-140			
Anthracene	3.17	0.333	mg/kg wet	3.333		95	40-140			
Azobenzene	3.04	0.333	mg/kg wet	3.333		91	40-140			
Benzo(a)anthracene	3.35	0.333	mg/kg wet	3.333		100	40-140			
Benzo(a)pyrene	3.58	0.167	mg/kg wet	3.333		107	40-140			
Benzo(b)fluoranthene	3.89	0.333	mg/kg wet	3.333		117	40-140			
Benzo(g,h,i)perylene	3.45	0.333	mg/kg wet	3.333		104	40-140			
Benzo(k)fluoranthene	2.94	0.333	mg/kg wet	3.333		88	40-140			
bis(2-Chloroethoxy)methane	2.57	0.333	mg/kg wet	3.333		77	40-140			
bis(2-Chloroethyl)ether	2.55	0.090	mg/kg wet	3.333		77	40-140			
bis(2-chloroisopropyl)Ether	2.47	0.089	mg/kg wet	3.333		74	40-140			
bis(2-Ethylhexyl)phthalate	3.62	0.333	mg/kg wet	3.333		109	40-140			
Butylbenzylphthalate	3.60	0.333	mg/kg wet	3.333		108	40-140			
Chrysene	3.32	0.167	mg/kg wet	3.333		100	40-140			
Dibenzo(a,h)Anthracene	3.70	0.051	mg/kg wet	3.333		111	40-140			
Dibenzofuran	2.77	0.333	mg/kg wet	3.333		83	40-140			
Diethylphthalate	3.18	0.333	mg/kg wet	3.333		95	40-140			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
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ESS Laboratory Work Order: 20C0466

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DC01609 - 3546										
Dimethylphthalate	3.05	0.333	mg/kg wet	3.333		91	40-140			
Di-n-butylphthalate	3.41	0.333	mg/kg wet	3.333		102	40-140			
Di-n-octylphthalate	3.48	0.333	mg/kg wet	3.333		104	40-140			
Fluoranthene	3.30	0.333	mg/kg wet	3.333		99	40-140			
Fluorene	3.09	0.333	mg/kg wet	3.333		93	40-140			
Hexachlorobenzene	3.15	0.056	mg/kg wet	3.333		95	40-140			
Hexachlorobutadiene	2.62	0.333	mg/kg wet	3.333		79	40-140			
Hexachloroethane	2.41	0.084	mg/kg wet	3.333		72	40-140			
Indeno(1,2,3-cd)Pyrene	3.61	0.333	mg/kg wet	3.333		108	40-140			
Isophorone	2.25	0.333	mg/kg wet	3.333		67	40-140			
Naphthalene	2.47	0.333	mg/kg wet	3.333		74	40-140			
Nitrobenzene	2.54	0.333	mg/kg wet	3.333		76	40-140			
N-Nitrosodimethylamine	2.22	0.333	mg/kg wet	3.333		67	40-140			
Pentachlorophenol	3.76	0.667	mg/kg wet	3.333		113	30-130			
Phenanthrene	3.09	0.333	mg/kg wet	3.333		93	40-140			
Phenol	2.76	0.081	mg/kg wet	3.333		83	30-130			
Pyrene	3.29	0.333	mg/kg wet	3.333		99	40-140			
Pyridine	1.94	1.67	mg/kg wet	3.333		58	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*2.49*		mg/kg wet	*3.333*		*75*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*5.39*		mg/kg wet	*5.000*		*108*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.94*		mg/kg wet	*5.000*		*79*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.67*		mg/kg wet	*3.333*		*80*	*30-130*			
Surrogate: 2-Fluorophenol	*3.78*		mg/kg wet	*5.000*		*76*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.71*		mg/kg wet	*3.333*		*81*	*30-130*			
Surrogate: Phenol-d6	*3.98*		mg/kg wet	*5.000*		*80*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.51*		mg/kg wet	*3.333*		*105*	*30-130*			
LCS Dup										
1,2,4-Trichlorobenzene	2.26	0.333	mg/kg wet	3.333		68	40-140	9	30	
1,2-Dichlorobenzene	2.14	0.333	mg/kg wet	3.333		64	40-140	11	30	
1,3-Dichlorobenzene	2.12	0.080	mg/kg wet	3.333		64	40-140	12	30	
1,4-Dichlorobenzene	2.12	0.084	mg/kg wet	3.333		64	40-140	11	30	
2,4,5-Trichlorophenol	3.11	0.333	mg/kg wet	3.333		93	30-130	2	30	
2,4,6-Trichlorophenol	3.00	0.082	mg/kg wet	3.333		90	30-130	2	30	
2,4-Dichlorophenol	2.67	0.083	mg/kg wet	3.333		80	30-130	4	30	
2,4-Dimethylphenol	2.69	0.075	mg/kg wet	3.333		81	30-130	4	30	
2,4-Dinitrophenol	4.14	0.557	mg/kg wet	3.333		124	30-130	2	30	
2,4-Dinitrotoluene	3.52	0.107	mg/kg wet	3.333		106	40-140	2	30	
2,6-Dinitrotoluene	3.06	0.333	mg/kg wet	3.333		92	40-140	0.6	30	
2-Chloronaphthalene	2.46	0.333	mg/kg wet	3.333		74	40-140	3	30	
2-Chlorophenol	2.33	0.094	mg/kg wet	3.333		70	30-130	9	30	
2-Methylnaphthalene	2.42	0.072	mg/kg wet	3.333		73	40-140	4	30	
2-Methylphenol	2.41	0.333	mg/kg wet	3.333		72	30-130	7	30	
2-Nitrophenol	2.49	0.333	mg/kg wet	3.333		75	30-130	7	30	
3,3´-Dichlorobenzidine	2.83	0.167	mg/kg wet	3.333		85	40-140	4	30	
3+4-Methylphenol	5.18	0.667	mg/kg wet	6.667		78	30-130	4	30	

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DC01609 - 3546										
4-Bromophenyl-phenylether	3.13	0.333	mg/kg wet	3.333		94	40-140	2	30	
4-Chloroaniline	1.61	0.167	mg/kg wet	3.333		48	40-140	10	30	
4-Nitrophenol	3.37	1.67	mg/kg wet	3.333		101	30-130	2	30	
Acenaphthene	2.66	0.333	mg/kg wet	3.333		80	40-140	1	30	
Acenaphthylene	2.43	0.167	mg/kg wet	3.333		73	40-140	2	30	
Acetophenone	2.26	0.667	mg/kg wet	3.333		68	40-140	6	30	
Aniline	1.68	1.67	mg/kg wet	3.333		50	40-140	4	30	
Anthracene	3.12	0.333	mg/kg wet	3.333		94	40-140	2	30	
Azobenzene	2.98	0.333	mg/kg wet	3.333		89	40-140	2	30	
Benzo(a)anthracene	3.25	0.333	mg/kg wet	3.333		97	40-140	3	30	
Benzo(a)pyrene	3.55	0.167	mg/kg wet	3.333		106	40-140	1	30	
Benzo(b)fluoranthene	3.44	0.333	mg/kg wet	3.333		103	40-140	12	30	
Benzo(g,h,i)perylene	3.40	0.333	mg/kg wet	3.333		102	40-140	2	30	
Benzo(k)fluoranthene	3.34	0.333	mg/kg wet	3.333		100	40-140	13	30	
bis(2-Chloroethoxy)methane	2.44	0.333	mg/kg wet	3.333		73	40-140	5	30	
bis(2-Chloroethyl)ether	2.29	0.090	mg/kg wet	3.333		69	40-140	11	30	
bis(2-chloroisopropyl)Ether	2.23	0.089	mg/kg wet	3.333		67	40-140	10	30	
bis(2-Ethylhexyl)phthalate	3.56	0.333	mg/kg wet	3.333		107	40-140	2	30	
Butylbenzylphthalate	3.51	0.333	mg/kg wet	3.333		105	40-140	3	30	
Chrysene	3.23	0.167	mg/kg wet	3.333		97	40-140	3	30	
Dibenzo(a,h)Anthracene	3.63	0.051	mg/kg wet	3.333		109	40-140	2	30	
Dibenzofuran	2.74	0.333	mg/kg wet	3.333		82	40-140	1	30	
Diethylphthalate	3.16	0.333	mg/kg wet	3.333		95	40-140	0.6	30	
Dimethylphthalate	3.02	0.333	mg/kg wet	3.333		91	40-140	0.9	30	
Di-n-butylphthalate	3.35	0.333	mg/kg wet	3.333		101	40-140	2	30	
Di-n-octylphthalate	3.50	0.333	mg/kg wet	3.333		105	40-140	0.6	30	
Fluoranthene	3.20	0.333	mg/kg wet	3.333		96	40-140	3	30	
Fluorene	3.06	0.333	mg/kg wet	3.333		92	40-140	0.9	30	
Hexachlorobenzene	3.11	0.056	mg/kg wet	3.333		93	40-140	1	30	
Hexachlorobutadiene	2.36	0.333	mg/kg wet	3.333		71	40-140	11	30	
Hexachloroethane	2.14	0.084	mg/kg wet	3.333		64	40-140	12	30	
Indeno(1,2,3-cd)Pyrene	3.56	0.333	mg/kg wet	3.333		107	40-140	1	30	
Isophorone	2.16	0.333	mg/kg wet	3.333		65	40-140	4	30	
Naphthalene	2.30	0.333	mg/kg wet	3.333		69	40-140	7	30	
Nitrobenzene	2.33	0.333	mg/kg wet	3.333		70	40-140	8	30	
N-Nitrosodimethylamine	2.02	0.333	mg/kg wet	3.333		61	40-140	9	30	
Pentachlorophenol	3.67	0.667	mg/kg wet	3.333		110	30-130	2	30	
Phenanthrene	3.04	0.333	mg/kg wet	3.333		91	40-140	2	30	
Phenol	2.55	0.081	mg/kg wet	3.333		77	30-130	8	30	
Pyrene	3.21	0.333	mg/kg wet	3.333		96	40-140	2	30	
Pyridine	1.65	1.67	mg/kg wet	3.333		49	40-140	16	30	
Surrogate: 1,2-Dichlorobenzene-d4	*2.22*		mg/kg wet	*3.333*		*67*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*5.31*		mg/kg wet	*5.000*		*106*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.61*		mg/kg wet	*5.000*		*72*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.62*		mg/kg wet	*3.333*		*79*	*30-130*			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0466

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DC01609 - 3546										
Surrogate: 2-Fluorophenol	*3.44*		mg/kg wet	*5.000*		*69*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.50*		mg/kg wet	*3.333*		*75*	*30-130*			
Surrogate: Phenol-d6	*3.71*		mg/kg wet	*5.000*		*74*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.46*		mg/kg wet	*3.333*		*104*	*30-130*			
Classical Chemistry										
Batch DC01613 - General Preparation										
Blank										
Reactive Cyanide	ND	2.0	mg/kg							
Reactive Sulfide	ND	2.0	mg/kg							
LCS										
Reactive Cyanide	3.8	2.0	mg/kg	100.3		4	0.68-5.41			
Reactive Sulfide	ND	2.0	mg/kg	10.00		0	0-44			
Batch DC01620 - General Preparation										
Reference										
Flashpoint	81		°F	81.00		100	97.9-102.1			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation ESS Laboratory Work Order: 20C0466

Notes and Definitions

Z18	Temperature is not within 23 +/-2 ºC.
Z-10a	Soil pH measured in water at 19.6 ºC.
Z-10	Soil pH measured in water at 19.3 ºC.
U	Analyte included in the analysis, but not detected
Q	Calibration required quadratic regression (Q).
EL	Elevated Method Reporting Limits due to sample matrix (EL).
D+	Relative percent difference for duplicate is outside of criteria (D+).
D	Diluted.
CD+	Continuing Calibration %Diff/Drift is above control limit (CD+).
CD-	Continuing Calibration %Diff/Drift is below control limit (CD-).
>	Greater than.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0466

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: GEI Consultants, Inc. - TB

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20C0466
Date Received: 3/13/2020
Project Due Date: 3/20/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 3.6 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? No
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** Yes / No / NA
10. Were any analyses received outside of hold time? Yes (No)

11. Any Subcontracting needed? Yes / No
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? Yes / No
    a. Air bubbles in aqueous VOAs? Yes / No
    b. Does methanol cover soil completely? Yes / No / NA
13. Are the samples properly preserved? Yes / No
    a. If metals preserved upon receipt: Date: Time: By:
    b. Low Level VOA vials frozen: Date: 3/13/20 Time: 1029 By:

Sample Receiving Notes:

Lot1-DISP02-grab collection time coc=0850, Label=1130; Lot1-DISP02-Comp collection time coc=1130, label=0850

14. Was there a need to contact Project Manager? Yes / No
    a. Was there a need to contact the client? Yes / No
    Who was contacted: Date: Time: By:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
1	23707	Yes	N/A	Yes	VOA Vial	MeOH	
1	23709	Yes	N/A	Yes	VOA Vial	DI Water	
1	23710	Yes	N/A	Yes	VOA Vial	DI Water	
1	23713	Yes	N/A	Yes	8 oz jar	NP	
1	23714	Yes	N/A	Yes	8 oz jar	NP	
2	23708	Yes	N/A	Yes	VOA Vial	MeOH	
2	23711	Yes	N/A	Yes	VOA Vial	DI Water	
2	23712	Yes	N/A	Yes	VOA Vial	DI Water	
3	23717	Yes	N/A	Yes	8 oz jar	NP	
3	23718	Yes	N/A	Yes	8 oz jar	NP	

2nd Review
Were all containers scanned into storage/lab? Initials
Are barcode labels on correct containers? Yes / No
Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA
Are all Hex Chrome stickers attached? Yes / No / NA
Are all QC stickers attached? Yes / No / NA
Are VOA stickers attached if bubbles noted? Yes / No / NA

ESS Laboratory Sample and Cooler Receipt Checklist

Client: GEI Consultants, Inc. - TB

ESS Project ID: 20C0466

Date Received: 3/13/2020

Completed By: _____ Date & Time: 3/13/20 2012

Reviewed By: _____ Date & Time: 3/13/20 2027

Delivered By: _____ 3/13/20 2027

Chain-of-Custody Record

Laboratory: ESS

Laboratory Job # (Lab use only) 20C0466

GEI Consultants
400 Unicorn Park Drive
Woburn, MA 01801
PH: 781.721.4000
FX: 781.721.4073

Project Information

Project Name: Former Tombarello

Project Number: 1802441

Project Location: Lawrence MA

Project Manager: L. Lombardo

339.221.3551

Send Report to: Elise Farrington

Send EDD to: labdata@geiconsultants.com

MCP PRESUMPTIVE CERTAINTY REQUIRED: (YES) NO

If Yes, Are MCP Analytical Methods Required? (YES) NO NA

If Yes, Are Drinking Water Samples Submitted? YES (NO) NA

If Yes, Have You Met Minimum Field QC Requirements? YES NO (NA)

Preservative

MeOH	DI H20	None	None						

Analysis

Lab Sample Number	GEI Sample ID	Collection Date	Collection Time	Matrix	No. of Bottles	Sampler(s) Initials	VOC(High Level)	VOC (Low Level)	SVOCs, RCRA 8 Metals**, Ignitability, Corrosivity, RCN/S	PCBs*	TPH (8100M) L.Lombardo 3/24/2020						Sample Specific Remarks
1	1802441-Lot1-DISP01	3/12/2020	8:40	SO	5	BRL	x	x	x	x	X						
2	1802441-Lot1-DISP02-Grab	3/12/2020	8:50	SO	3	BRL	x	x									
3	1802441-Lot1-DISP02-Comp	3/12/2020	11:30	SO	2	BRL			x	x	X						

Sample Handling

Samples Field Filtered: YES NO (NA)

Sampled Shipped With Ice: (YES) NO

MCP Level Needed: GEI requires the most stringent Method 1 MCP standard be met for all analytes whenever possible.

	Date :	Time:	
Relinquished by sampler: (signature) 1.	3/13/	1400	Received by: (signature) 1.
Relinquished by: (signature) 2.	3/13/20	1904	Received by: (signature) 2. 3/13/20
Relinquished by: (signature) 3.	Date :	Time:	Received by: (signature) 3.
Relinquished by: (signature) 4.	Date :	Time:	Received by: (signature) 4.

3.6

Turnaround Time (Business days):

Normal ____ Other ____

10-Day ____ 7-Day ____

5-Day __X__ 3-Day ____

Before submitting rush turnaround samples, you **must** notify the laboratory to confirm that the TAT can be achieved.

Additional Requirements/Comments/Remarks:

* Manual Soxhlet Extraction for PCBs. Analysis must be performed in accordance with GEI's Site Specific QAPP.

**Run TCLP if 20x Rule Exceeded

Chain-of-Custody Record

Laboratory: ESS

Laboratory Job # (Lab use only) 20C0466

GEI Consultants
400 Unicorn Park Drive
Woburn, MA 01801
PH: 781.721.4000
FX: 781.721.4073

Project Information

Project Name: Former Tombarello

Project Number: 1802441

Project Location: Lawrence MA

Project Manager: L. Lombardo

339.221.3551

Send Report to: Elise Farrington

Send EDD to: labdata@geiconsultants.com

MCP PRESUMPTIVE CERTAINTY REQUIRED: (YES) NO

If Yes, Are MCP Analytical Methods Required? (YES) NO NA

If Yes, Are Drinking Water Samples Submitted? YES (NO) NA

If Yes, Have You Met Minimum Field QC Requirements? YES NO (NA)

Preservative

MeOH	DI H20	None	None						

Analysis

Lab Sample Number	GEI Sample ID	Collection Date	Collection Time	Matrix	No. of Bottles	Sampler(s) Initials	VOC(High Level)	VOC (Low Level)	SVOCs, RCRA 8 Metals**, Ignitability, Corrosivity, RCN/S	PCBs*							Sample Specific Remarks
1	1802441-Lot1-DISP01	3/12/2020	8:40	SO	5	BRL	x	x	x	x							
2	1802441-Lot1-DISP02-Grab	3/12/2020	8:50	SO	3	BRL	x	x									
3	1802441-Lot1-DISP02-Comp	3/12/2020	11:30	SO	2	BRL			x	x							

Sample Handling

Samples Field Filtered: YES NO (NA)

Sampled Shipped With Ice: (YES) NO

MCP Level Needed: GEI requires the most stringent Method 1 MCP standard be met for all analytes whenever possible.

	Date :	Time:	
Relinquished by sampler: (signature) 1.	3/13/	1400	Received by: (signature) 1.
Relinquished by: (signature) 2.	3/13/20	1904	Received by: (signature) 2. 3/13/20
Relinquished by: (signature) 3.	Date :	Time:	Received by: (signature) 3.
Relinquished by: (signature) 4.	Date :	Time:	Received by: (signature) 4.

3.6

Turnaround Time (Business days):

Normal ____ Other ____

10-Day ____ 7-Day ____

5-Day __X__ 3-Day ____

Before submitting rush turnaround samples, you **must** notify the laboratory to confirm that the TAT can be achieved.

Additional Requirements/Comments/Remarks:

* Manual Soxhlet Extraction for PCBs. Analysis must be performed in accordance with GEI's Site Specific QAPP.

**Run TCLP if 20x Rule Exceeded

CERTIFICATE OF ANALYSIS

Leslie Lombardo
GEI Consultants, Inc.
400 Unicorn Park Drive
Woburn, MA 01801

RE: Tombarello Site Investigation (1802441)
ESS Laboratory Work Order Number: 20C0467

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 1:56 pm, Apr 17, 2020

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0467

SAMPLE RECEIPT

The following samples were received on March 13, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Low Level VOA vials were frozen by ESS Laboratory on March 13, 2020 at 2035.

Question I: All samples for Metals were analyzed for a subset of the required MCP list per the client's request.

Revision 1 April 17, 2020: This report has been revised to include Pyridine to all samples per the client's request.

Lab Number	Sample Name	Matrix	Analysis
~~20C0467-01~~	~~1802441-Lot2-DISP05~~	~~Soil~~	~~1010, 1311, 1311/6010C, 6010C, 7.3.3.2, 7.3.4.1, 7471B, 8082A, 8260B, 8260B Low, 8270D, 9045~~
~~20C0467-02~~	~~1802441-Lot2-DISP06~~	~~Soil~~	~~1010, 1311, 1311/6010C, 6010C, 7.3.3.2, 7.3.4.1, 7471B, 8082A, 8260B Low, 8270D, 9045~~
~~20C0467-03~~	~~1802441-Lot2-DISP04~~	~~Soil~~	~~1010, 1311, 1311/6010C, 6010C, 7.3.3.2, 7.3.4.1, 7471B, 8082A, 8260B Low, 8270D, 9045~~
20C0467-04	1802441-Lot2-DISP03	Soil	1010, 1311, 1311/6010C, 6010C, 7.3.3.2, 7.3.4.1, 7471B, 8082A, 8260B Low, 8270D, 9045

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation ESS Laboratory Work Order: 20C0467

PROJECT NARRATIVE

5035/8260B Volatile Organic Compounds / Low Level

20C0467-01 **Reported above the quantitation limit; Estimated value (E).**
Naphthalene

D0C0330-CCV1 **Continuing Calibration %Diff/Drift is below control limit (CD-).**
Acetone (21% @ 20%), Chloroethane (21% @ 20%), Chloromethane (22% @ 20%), Tetrahydrofuran (22% @ 20%), Vinyl Chloride (22% @ 20%)

D0C0358-CCV1 **Continuing Calibration %Diff/Drift is above control limit (CD+).**
Bromomethane (22% @ 20%)

DC01838-BSD1 **Relative percent difference for duplicate is outside of criteria (D+).**
Acetone (21% @ 20%), Bromomethane (21% @ 20%)

8082A Polychlorinated Biphenyls (PCB)

20C0467-02 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20C0467-03 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20C0467-04 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

8270D Semi-Volatile Organic Compounds

20C0467-01 **Elevated Method Reporting Limits due to sample matrix (EL).**

20C0467-02 **Elevated Method Reporting Limits due to sample matrix (EL).**

20C0467-03 **Elevated Method Reporting Limits due to sample matrix (EL).**

20C0467-04 **Elevated Method Reporting Limits due to sample matrix (EL).**

D0C0312-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (120% @ 80-120%), Pentachlorophenol (116% @ 80-120%)

D0C0313-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (129% @ 80-120%), Pentachlorophenol (109% @ 80-120%)

D0C0313-CCV1 **Continuing Calibration %Diff/Drift is above control limit (CD+).**
2,4-Dinitrophenol (29% @ 20%)

Total Metals

20C0467-03 **Elevated Method Reporting Limits due to sample matrix (EL).**
Silver

No other observations noted.

End of Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation ESS Laboratory Work Order: 20C0467

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH
MADEP 18-2.1 - VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035A - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0467

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20C0467-01 through 20C0467-04**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

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

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?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) 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?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) 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)?	Yes (X) 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 protocols(s)?	Yes ( ) No (X)*
	***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?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes ( ) No (X)*

All 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, accurate and complete.

Signature: Laurel Stoddard Date: March 20, 2020

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP05
Date Sampled: 03/12/20 09:40
Percent Solids: 91

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-01
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	**7.15** (2.14)		6010C		1	KJK	03/17/20 21:17	2.56	100	DC01642
Barium	**88.6** (2.14)		6010C		1	KJK	03/17/20 21:17	2.56	100	DC01642
Cadmium	**1.24** (0.43)		6010C		1	KJK	03/17/20 21:17	2.56	100	DC01642
Chromium	**34.4** (0.85)		6010C		1	KJK	03/17/20 21:17	2.56	100	DC01642
Lead	**260** (4.27)		6010C		1	KJK	03/17/20 21:17	2.56	100	DC01642
Mercury	**0.376** (0.026)		7471B		1	MKS	03/17/20 8:37	0.83	40	DC01643
Selenium	ND (4.27)		6010C		1	KJK	03/17/20 21:17	2.56	100	DC01642
Silver	ND (0.43)		6010C		1	KJK	03/17/20 21:17	2.56	100	DC01642

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP05
Date Sampled: 03/12/20 09:40
Percent Solids: 91

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-01
Sample Matrix: Soil
Units: mg/L

Extraction Method: 3005A TCLP

1311 TCLP Metals

Analyte	Results (MRL)	MDL	Method	TCLP Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Lead	**2.78** (0.050)		1311/6010C		1	KJK	03/19/20 21:28	50	50	DC01937

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP05
Date Sampled: 03/12/20 09:40
Percent Solids: 91
Initial Volume: 5.4
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
1,1,1-Trichloroethane	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
1,1,2,2-Tetrachloroethane	ND (0.0020)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
1,1,2-Trichloroethane	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
1,1-Dichloroethane	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
1,1-Dichloroethene	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
1,1-Dichloropropene	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
1,2,3-Trichlorobenzene	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
1,2,3-Trichloropropane	ND (0.0051)				1	03/18/20 22:48	D0C0330	DC01838
1,2,4-Trichlorobenzene	ND (0.0051)				1	03/18/20 22:48	D0C0330	DC01838
1,2,4-Trimethylbenzene	**0.0068** (0.0051)				1	03/18/20 22:48	D0C0330	DC01838
1,2-Dibromo-3-Chloropropane	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
1,2-Dibromoethane	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
1,2-Dichlorobenzene	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
1,2-Dichloroethane	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
1,2-Dichloropropane	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
1,3,5-Trimethylbenzene	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
1,3-Dichlorobenzene	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
1,3-Dichloropropane	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
1,4-Dichlorobenzene	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
1,4-Dioxane	ND (0.101)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
2,2-Dichloropropane	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
2-Butanone	ND (0.0101)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
2-Chlorotoluene	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
2-Hexanone	ND (0.0101)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
4-Chlorotoluene	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
4-Isopropyltoluene	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
4-Methyl-2-Pentanone	ND (0.0101)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Acetone	**0.0360** (0.0101)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Benzene	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Bromobenzene	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Bromochloromethane	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP05
Date Sampled: 03/12/20 09:40
Percent Solids: 91
Initial Volume: 5.4
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Bromoform	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Bromomethane	ND (0.0101)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Carbon Disulfide	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Carbon Tetrachloride	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Chlorobenzene	**0.0783** (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Chloroethane	ND (0.0101)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Chloroform	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Chloromethane	ND (0.0101)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
cis-1,2-Dichloroethene	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
cis-1,3-Dichloropropene	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Dibromochloromethane	ND (0.0020)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Dibromomethane	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Dichlorodifluoromethane	ND (0.0101)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Diethyl Ether	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Di-isopropyl ether	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Ethyl tertiary-butyl ether	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Ethylbenzene	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Hexachlorobutadiene	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Isopropylbenzene	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Methyl tert-Butyl Ether	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Methylene Chloride	ND (0.0101)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Naphthalene	**E 0.455** (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
n-Butylbenzene	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
n-Propylbenzene	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
sec-Butylbenzene	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Styrene	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
tert-Butylbenzene	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Tertiary-amyl methyl ether	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Tetrachloroethene	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Tetrahydrofuran	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Toluene	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP05
Date Sampled: 03/12/20 09:40
Percent Solids: 91
Initial Volume: 5.4
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
trans-1,3-Dichloropropene	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Trichloroethene	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Trichlorofluoromethane	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Vinyl Chloride	ND (0.0101)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Xylene O	ND (0.0051)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Xylene P,M	ND (0.0101)		8260B Low		1	03/18/20 22:48	D0C0330	DC01838
Xylenes (Total)	ND (0.0101)		8260B Low		1	03/18/20 22:48		[CALC]

	%Recov	Limits
Surrogate: 1,2-Dichloroethane-d4	*90*	*70-130*
Surrogate: 4-Bromofluorobenzene	*79 %*	*70-130*
Surrogate: Dibromofluoromethane	*96 %*	*70-130*
Surrogate: Toluene-d8	*107 %*	*70-130*

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP05
Date Sampled: 03/12/20 09:40
Percent Solids: 91
Initial Volume: 8.2
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
1,1,1-Trichloroethane	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
1,1,2,2-Tetrachloroethane	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
1,1,2-Trichloroethane	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
1,1-Dichloroethane	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
1,1-Dichloroethene	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
1,1-Dichloropropene	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
1,2,3-Trichlorobenzene	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
1,2,3-Trichloropropane	ND (0.419)				1	03/20/20 13:24	D0C0376	DC02018
1,2,4-Trichlorobenzene	ND (0.419)				1	03/20/20 13:24	D0C0376	DC02018
1,2,4-Trimethylbenzene	ND (0.419)				1	03/20/20 13:24	D0C0376	DC02018
1,2-Dibromo-3-Chloropropane	ND (2.09)		8260B		1	03/20/20 13:24	D0C0376	DC02018
1,2-Dibromoethane	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
1,2-Dichlorobenzene	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
1,2-Dichloroethane	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
1,2-Dichloropropane	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
1,3,5-Trimethylbenzene	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
1,3-Dichlorobenzene	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
1,3-Dichloropropane	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
1,4-Dichlorobenzene	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
1,4-Dioxane - Screen	ND (83.7)		8260B		1	03/20/20 13:24	D0C0376	DC02018
2,2-Dichloropropane	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
2-Butanone	ND (2.09)		8260B		1	03/20/20 13:24	D0C0376	DC02018
2-Chlorotoluene	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
2-Hexanone	ND (2.09)		8260B		1	03/20/20 13:24	D0C0376	DC02018
4-Chlorotoluene	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
4-Isopropyltoluene	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
4-Methyl-2-Pentanone	ND (2.09)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Acetone	ND (2.09)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Benzene	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Bromobenzene	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Bromochloromethane	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP05
Date Sampled: 03/12/20 09:40
Percent Solids: 91
Initial Volume: 8.2
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Bromoform	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Bromomethane	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Carbon Disulfide	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Carbon Tetrachloride	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Chlorobenzene	**3.34** (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Chloroethane	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Chloroform	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Chloromethane	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
cis-1,2-Dichloroethene	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
cis-1,3-Dichloropropene	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Dibromochloromethane	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Dibromomethane	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Dichlorodifluoromethane	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Diethyl Ether	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Di-isopropyl ether	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Ethyl tertiary-butyl ether	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Ethylbenzene	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Hexachlorobutadiene	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Isopropylbenzene	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Methyl tert-Butyl Ether	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Methylene Chloride	ND (0.837)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Naphthalene	**53.6** (4.19)		8260B		10	03/20/20 14:44	D0C0376	DC02018
n-Butylbenzene	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
n-Propylbenzene	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
sec-Butylbenzene	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Styrene	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
tert-Butylbenzene	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Tertiary-amyl methyl ether	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Tetrachloroethene	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Tetrahydrofuran	ND (2.09)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Toluene	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP05
Date Sampled: 03/12/20 09:40
Percent Solids: 91
Initial Volume: 8.2
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
trans-1,3-Dichloropropene	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Trichloroethene	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Trichlorofluoromethane	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Vinyl Chloride	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Xylene O	ND (0.419)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Xylene P,M	ND (0.837)		8260B		1	03/20/20 13:24	D0C0376	DC02018
Xylenes (Total)	ND (0.837)		8260B		1	03/20/20 13:24		[CALC]

	%Recov	Limits
Surrogate: 1,2-Dichloroethane-d4	*115*	*70-130*
Surrogate: 4-Bromofluorobenzene	*111 %*	*70-130*
Surrogate: Dibromofluoromethane	*111 %*	*70-130*
Surrogate: Toluene-d8	*109 %*	*70-130*

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP05
Date Sampled: 03/12/20 09:40
Percent Solids: 91
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 3/17/20 14:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	03/19/20 13:22		DC01930
Aroclor 1221	ND (0.06)		8082A		1	03/19/20 13:22		DC01930
Aroclor 1232	ND (0.06)		8082A		1	03/19/20 13:22		DC01930
Aroclor 1242	**0.4** (0.06)		8082A		1	03/19/20 13:22		DC01930
Aroclor 1248	ND (0.06)		8082A		1	03/19/20 13:22		DC01930
Aroclor 1254	ND (0.06)		8082A		1	03/19/20 13:22		DC01930
Aroclor 1260	**9.0** (0.6)		8082A		10	03/20/20 2:27		DC01930
Aroclor 1262	ND (0.06)		8082A		1	03/19/20 13:22		DC01930
Aroclor 1268	ND (0.06)		8082A		1	03/19/20 13:22		DC01930

NA

	%Recov	Limits
Surrogate: Decachlorobiphenyl	*66 %*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*74 %*	*30-150*
Surrogate: Tetrachloro-m-xylene	*33 %*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*41 %*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP05
Date Sampled: 03/12/20 09:40
Percent Solids: 91
Initial Volume: 14.5
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/16/20 10:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (1.51)		8270D		2	03/19/20 3:46	D0C0313	DC01609
1,2-Dichlorobenzene	ND (1.51)		8270D		2	03/19/20 3:46	D0C0313	DC01609
1,3-Dichlorobenzene	ND (0.362)		8270D		2	03/19/20 3:46	D0C0313	DC01609
1,4-Dichlorobenzene	ND (0.380)		8270D		2	03/19/20 3:46	D0C0313	DC01609
2,4,5-Trichlorophenol	ND (1.51)		8270D		2	03/19/20 3:46	D0C0313	DC01609
2,4,6-Trichlorophenol	ND (0.371)		8270D		2	03/19/20 3:46	D0C0313	DC01609
2,4-Dichlorophenol	ND (0.375)		8270D		2	03/19/20 3:46	D0C0313	DC01609
2,4-Dimethylphenol	ND (0.339)		8270D		2	03/19/20 3:46	D0C0313	DC01609
2,4-Dinitrophenol	ND (2.52)				2	03/19/20 3:46	D0C0313	DC01609
2,4-Dinitrotoluene	ND (0.484)				2	03/19/20 3:46	D0C0313	DC01609
2,6-Dinitrotoluene	ND (1.51)				2	03/19/20 3:46	D0C0313	DC01609
2-Chloronaphthalene	ND (1.51)		8270D		2	03/19/20 3:46	D0C0313	DC01609
2-Chlorophenol	ND (0.425)		8270D		2	03/19/20 3:46	D0C0313	DC01609
2-Methylnaphthalene	**0.961** (0.326)		8270D		2	03/19/20 3:46	D0C0313	DC01609
2-Methylphenol	ND (1.51)		8270D		2	03/19/20 3:46	D0C0313	DC01609
2-Nitrophenol	ND (1.51)		8270D		2	03/19/20 3:46	D0C0313	DC01609
3,3′-Dichlorobenzidine	ND (0.755)		8270D		2	03/19/20 3:46	D0C0313	DC01609
3+4-Methylphenol	ND (3.02)		8270D		2	03/19/20 3:46	D0C0313	DC01609
4-Bromophenyl-phenylether	ND (1.51)		8270D		2	03/19/20 3:46	D0C0313	DC01609
4-Chloroaniline	ND (0.755)		8270D		2	03/19/20 3:46	D0C0313	DC01609
4-Nitrophenol	ND (7.55)		8270D		2	03/19/20 3:46	D0C0313	DC01609
Acenaphthene	**9.68** (1.51)		8270D		2	03/19/20 3:46	D0C0313	DC01609
Acenaphthylene	ND (0.755)		8270D		2	03/19/20 3:46	D0C0313	DC01609
Acetophenone	ND (3.02)		8270D		2	03/19/20 3:46	D0C0313	DC01609
Aniline	ND (7.55)		8270D		2	03/19/20 3:46	D0C0313	DC01609
Anthracene	**22.3** (1.51)		8270D		2	03/19/20 3:46	D0C0313	DC01609
Azobenzene	ND (1.51)		8270D		2	03/19/20 3:46	D0C0313	DC01609
Benzo(a)anthracene	**43.9** (15.1)		8270D		20	03/19/20 18:38	D0C0313	DC01609
Benzo(a)pyrene	**42.0** (7.55)		8270D		20	03/19/20 18:38	D0C0313	DC01609
Benzo(b)fluoranthene	**40.4** (15.1)		8270D		20	03/19/20 18:38	D0C0313	DC01609
Benzo(g,h,i)perylene	**23.7** (1.51)		8270D		2	03/19/20 3:46	D0C0313	DC01609
Benzo(k)fluoranthene	**24.2** (15.1)		8270D		20	03/19/20 18:38	D0C0313	DC01609

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP05
Date Sampled: 03/12/20 09:40
Percent Solids: 91
Initial Volume: 14.5
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/16/20 10:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
bis(2-Chloroethoxy)methane	ND (1.51)		8270D		2	03/19/20 3:46	D0C0313	DC01609
bis(2-Chloroethyl)ether	ND (0.407)		8270D		2	03/19/20 3:46	D0C0313	DC01609
bis(2-chloroisopropyl)Ether	ND (0.403)		8270D		2	03/19/20 3:46	D0C0313	DC01609
bis(2-Ethylhexyl)phthalate	ND (1.51)		8270D		2	03/19/20 3:46	D0C0313	DC01609
Butylbenzylphthalate	ND (1.51)		8270D		2	03/19/20 3:46	D0C0313	DC01609
Chrysene	**43.9** (7.55)		8270D		20	03/19/20 18:38	D0C0313	DC01609
Dibenzo(a,h)Anthracene	**11.3** (0.755)		8270D		2	03/19/20 3:46	D0C0313	DC01609
Dibenzofuran	**9.79** (1.51)		8270D		2	03/19/20 3:46	D0C0313	DC01609
Diethylphthalate	ND (1.51)		8270D		2	03/19/20 3:46	D0C0313	DC01609
Dimethylphthalate	ND (1.51)		8270D		2	03/19/20 3:46	D0C0313	DC01609
Di-n-butylphthalate	ND (1.51)		8270D		2	03/19/20 3:46	D0C0313	DC01609
Di-n-octylphthalate	ND (1.51)		8270D		2	03/19/20 3:46	D0C0313	DC01609
Fluoranthene	**117** (15.1)		8270D		20	03/19/20 18:38	D0C0313	DC01609
Fluorene	**16.2** (1.51)		8270D		2	03/19/20 3:46	D0C0313	DC01609
Hexachlorobenzene	ND (0.253)		8270D		2	03/19/20 3:46	D0C0313	DC01609
Hexachlorobutadiene	ND (1.51)		8270D		2	03/19/20 3:46	D0C0313	DC01609
Hexachloroethane	ND (0.380)		8270D		2	03/19/20 3:46	D0C0313	DC01609
Indeno(1,2,3-cd)Pyrene	**22.5** (1.51)		8270D		2	03/19/20 3:46	D0C0313	DC01609
Isophorone	ND (1.51)		8270D		2	03/19/20 3:46	D0C0313	DC01609
Naphthalene	**4.05** (1.51)		8270D		2	03/19/20 3:46	D0C0313	DC01609
Nitrobenzene	ND (1.51)		8270D		2	03/19/20 3:46	D0C0313	DC01609
N-Nitrosodimethylamine	ND (1.51)		8270D		2	03/19/20 3:46	D0C0313	DC01609
Pentachlorophenol	ND (3.02)		8270D		2	03/19/20 3:46	D0C0313	DC01609
Phenanthrene	**106** (15.1)		8270D		20	03/19/20 18:38	D0C0313	DC01609
Phenol	ND (0.366)		8270D		2	03/19/20 3:46	D0C0313	DC01609
Pyrene	**86.0** (15.1)		8270D		20	03/19/20 18:38	D0C0313	DC01609
Pyridine	ND (7.55)		8270D		2	03/19/20 3:46	D0C0313	DC01609

NA

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*64 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*90 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*72 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP05
Date Sampled: 03/12/20 09:40
Percent Solids: 91
Initial Volume: 14.5
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/16/20 10:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Fluorobiphenyl		*72 %*		*30-130*				
Surrogate: 2-Fluorophenol		*62 %*		*30-130*				
Surrogate: Nitrobenzene-d5		*63 %*		*30-130*				
Surrogate: Phenol-d6		*72 %*		*30-130*				
Surrogate: p-Terphenyl-d14		*98 %*		*30-130*				

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP05
Date Sampled: 03/12/20 09:40
Percent Solids: 91

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-01
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Corrosivity (pH)	**7.05** (N/A)		9045		1	DEL	03/13/20 20:45	S.U.	DC01326
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 19.4 °C.**								
Flashpoint	**> 200** (N/A)		1010		1	CCP	03/16/20 13:30	°F	DC01631
Reactive Cyanide	ND (2.0)		7.3.3.2		1	EEM	03/16/20 10:58	mg/kg	DC01613
Reactive Sulfide	ND (2.0)		7.3.4.1		1	EEM	03/16/20 10:58	mg/kg	DC01613

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP05
Date Sampled: 03/12/20 09:40
Percent Solids: 91
Initial Volume: 100
Final Volume: 2000
Extraction Method: 1311

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-01
Sample Matrix: Soil
Units: °C
Analyst: MKS
Prepared: 3/18/20 20:15

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**19.8** (N/A)		1311		1	MKS	03/19/20 12:20	DC01824
Temperature (Max C)	**21.4** (N/A)		1311		1	MKS	03/19/20 12:20	DC01824
Temperature (Range)	**Temperature is not within 23 +/-2 °C.** (N/A)							

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP06
Date Sampled: 03/12/20 10:30
Percent Solids: 86

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-02
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	**13.4** (2.60)		6010C		1	KJK	03/17/20 21:21	2.24	100	DC01642
Barium	**236** (2.60)		6010C		1	KJK	03/17/20 21:21	2.24	100	DC01642
Cadmium	**7.41** (0.52)		6010C		1	KJK	03/17/20 21:21	2.24	100	DC01642
Chromium	**53.3** (1.04)		6010C		1	KJK	03/17/20 21:21	2.24	100	DC01642
Lead	**1200** (5.21)		6010C		1	KJK	03/17/20 21:21	2.24	100	DC01642
Mercury	**3.05** (0.750)		7471B		25	MKS	03/17/20 9:00	0.77	40	DC01643
Selenium	ND (5.21)		6010C		1	KJK	03/17/20 21:21	2.24	100	DC01642
Silver	ND (1.04)		6010C		2	KJK	03/18/20 9:14	2.24	100	DC01642

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP06
Date Sampled: 03/12/20 10:30
Percent Solids: 86

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-02
Sample Matrix: Soil
Units: mg/L

Extraction Method: 3005A TCLP

1311 TCLP Metals

Analyte	Results (MRL)	MDL	Method	TCLP Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Lead	**14.0** (0.050)		1311/6010C		1	KJK	03/19/20 21:32	50	50	DC01937

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP06
Date Sampled: 03/12/20 10:30
Percent Solids: 86
Initial Volume: 8.6
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
1,1,1-Trichloroethane	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
1,1,2,2-Tetrachloroethane	ND (0.0014)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
1,1,2-Trichloroethane	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
1,1-Dichloroethane	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
1,1-Dichloroethene	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
1,1-Dichloropropene	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
1,2,3-Trichlorobenzene	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
1,2,3-Trichloropropane	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
1,2,4-Trichlorobenzene	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
1,2,4-Trimethylbenzene	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
1,2-Dibromo-3-Chloropropane	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
1,2-Dibromoethane	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
1,2-Dichlorobenzene	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
1,2-Dichloroethane	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
1,2-Dichloropropane	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
1,3,5-Trimethylbenzene	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
1,3-Dichlorobenzene	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
1,3-Dichloropropane	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
1,4-Dichlorobenzene	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
1,4-Dioxane	ND (0.0678)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
2,2-Dichloropropane	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
2-Butanone	**0.0108** (0.0068)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
2-Chlorotoluene	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
2-Hexanone	ND (0.0068)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
4-Chlorotoluene	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
4-Isopropyltoluene	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
4-Methyl-2-Pentanone	ND (0.0068)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Acetone	**0.117** (0.0068)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Benzene	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Bromobenzene	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Bromochloromethane	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP06
Date Sampled: 03/12/20 10:30
Percent Solids: 86
Initial Volume: 8.6
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Bromoform	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Bromomethane	ND (0.0068)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Carbon Disulfide	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Carbon Tetrachloride	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Chlorobenzene	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Chloroethane	ND (0.0068)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Chloroform	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Chloromethane	ND (0.0068)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
cis-1,2-Dichloroethene	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
cis-1,3-Dichloropropene	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Dibromochloromethane	ND (0.0014)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Dibromomethane	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Dichlorodifluoromethane	ND (0.0068)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Diethyl Ether	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Di-isopropyl ether	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Ethyl tertiary-butyl ether	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Ethylbenzene	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Hexachlorobutadiene	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Isopropylbenzene	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Methyl tert-Butyl Ether	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Methylene Chloride	ND (0.0068)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Naphthalene	**0.0054** (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
n-Butylbenzene	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
n-Propylbenzene	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
sec-Butylbenzene	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Styrene	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
tert-Butylbenzene	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Tertiary-amyl methyl ether	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Tetrachloroethene	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Tetrahydrofuran	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Toluene	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP06
Date Sampled: 03/12/20 10:30
Percent Solids: 86
Initial Volume: 8.6
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
trans-1,3-Dichloropropene	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Trichloroethene	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Trichlorofluoromethane	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Vinyl Chloride	ND (0.0068)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Xylene O	ND (0.0034)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Xylene P,M	ND (0.0068)		8260B Low		1	03/19/20 21:39	D0C0358	DC01938
Xylenes (Total)	ND (0.00678)		8260B Low		1	03/19/20 21:39		[CALC]

	%Reco	Limits
Surrogate: 1,2-Dichloroethane-d4	*124*	*70-130*
Surrogate: 4-Bromofluorobenzene	*95 %*	*70-130*
Surrogate: Dibromofluoromethane	*113 %*	*70-130*
Surrogate: Toluene-d8	*100 %*	*70-130*

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP06
Date Sampled: 03/12/20 10:30
Percent Solids: 86
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 3/17/20 14:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.2)		8082A		20	03/19/20 14:01		DC01930
Aroclor 1221	ND (1.2)		8082A		20	03/19/20 14:01		DC01930
Aroclor 1232	ND (1.2)		8082A		20	03/19/20 14:01		DC01930
Aroclor 1242	ND (1.2)		8082A		20	03/19/20 14:01		DC01930
Aroclor 1248	ND (1.2)		8082A		20	03/19/20 14:01		DC01930
Aroclor 1254 [2C]	**21.3** (1.2)		8082A		20	03/19/20 14:01		DC01930
Aroclor 1260	**7.7** (1.2)		8082A		20	03/19/20 14:01		DC01930
Aroclor 1262	ND (1.2)		8082A		20	03/19/20 14:01		DC01930
Aroclor 1268	ND (1.2)		8082A		20	03/19/20 14:01		DC01930

NA

	%Reco		Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP06
Date Sampled: 03/12/20 10:30
Percent Solids: 86
Initial Volume: 14.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/16/20 10:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (1.65)		8270D		2	03/18/20 23:27	D0C0312	DC01609
1,2-Dichlorobenzene	ND (1.65)		8270D		2	03/18/20 23:27	D0C0312	DC01609
1,3-Dichlorobenzene	ND (0.397)		8270D		2	03/18/20 23:27	D0C0312	DC01609
1,4-Dichlorobenzene	ND (0.417)		8270D		2	03/18/20 23:27	D0C0312	DC01609
2,4,5-Trichlorophenol	ND (1.65)		8270D		2	03/18/20 23:27	D0C0312	DC01609
2,4,6-Trichlorophenol	ND (0.407)		8270D		2	03/18/20 23:27	D0C0312	DC01609
2,4-Dichlorophenol	ND (0.412)		8270D		2	03/18/20 23:27	D0C0312	DC01609
2,4-Dimethylphenol	ND (0.372)		8270D		2	03/18/20 23:27	D0C0312	DC01609
2,4-Dinitrophenol	ND (2.76)				2	03/18/20 23:27	D0C0312	DC01609
2,4-Dinitrotoluene	ND (0.531)				2	03/18/20 23:27	D0C0312	DC01609
2,6-Dinitrotoluene	ND (1.65)				2	03/18/20 23:27	D0C0312	DC01609
2-Chloronaphthalene	ND (1.65)		8270D		2	03/18/20 23:27	D0C0312	DC01609
2-Chlorophenol	ND (0.467)		8270D		2	03/18/20 23:27	D0C0312	DC01609
2-Methylnaphthalene	**0.774** (0.357)		8270D		2	03/18/20 23:27	D0C0312	DC01609
2-Methylphenol	ND (1.65)		8270D		2	03/18/20 23:27	D0C0312	DC01609
2-Nitrophenol	ND (1.65)		8270D		2	03/18/20 23:27	D0C0312	DC01609
3,3′-Dichlorobenzidine	ND (0.829)		8270D		2	03/18/20 23:27	D0C0312	DC01609
3+4-Methylphenol	ND (3.31)		8270D		2	03/18/20 23:27	D0C0312	DC01609
4-Bromophenyl-phenylether	ND (1.65)		8270D		2	03/18/20 23:27	D0C0312	DC01609
4-Chloroaniline	ND (0.829)		8270D		2	03/18/20 23:27	D0C0312	DC01609
4-Nitrophenol	ND (8.29)		8270D		2	03/18/20 23:27	D0C0312	DC01609
Acenaphthene	**2.20** (1.65)		8270D		2	03/18/20 23:27	D0C0312	DC01609
Acenaphthylene	ND (0.829)		8270D		2	03/18/20 23:27	D0C0312	DC01609
Acetophenone	ND (3.31)		8270D		2	03/18/20 23:27	D0C0312	DC01609
Aniline	ND (8.29)		8270D		2	03/18/20 23:27	D0C0312	DC01609
Anthracene	**5.84** (1.65)		8270D		2	03/18/20 23:27	D0C0312	DC01609
Azobenzene	ND (1.65)		8270D		2	03/18/20 23:27	D0C0312	DC01609
Benzo(a)anthracene	**9.56** (1.65)		8270D		2	03/18/20 23:27	D0C0312	DC01609
Benzo(a)pyrene	**8.92** (0.829)		8270D		2	03/18/20 23:27	D0C0312	DC01609
Benzo(b)fluoranthene	**7.26** (1.65)		8270D		2	03/18/20 23:27	D0C0312	DC01609
Benzo(g,h,i)perylene	**4.77** (1.65)		8270D		2	03/18/20 23:27	D0C0312	DC01609
Benzo(k)fluoranthene	**6.81** (1.65)		8270D		2	03/18/20 23:27	D0C0312	DC01609

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP06
Date Sampled: 03/12/20 10:30
Percent Solids: 86
Initial Volume: 14.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/16/20 10:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
bis(2-Chloroethoxy)methane	ND (1.65)		8270D		2	03/18/20 23:27	D0C0312	DC01609
bis(2-Chloroethyl)ether	ND (0.447)		8270D		2	03/18/20 23:27	D0C0312	DC01609
bis(2-chloroisopropyl)Ether	ND (0.442)		8270D		2	03/18/20 23:27	D0C0312	DC01609
bis(2-Ethylhexyl)phthalate	**2.14** (1.65)		8270D		2	03/18/20 23:27	D0C0312	DC01609
Butylbenzylphthalate	ND (1.65)		8270D		2	03/18/20 23:27	D0C0312	DC01609
Chrysene	**9.00** (0.829)		8270D		2	03/18/20 23:27	D0C0312	DC01609
Dibenzo(a,h)Anthracene	**1.65** (0.829)		8270D		2	03/18/20 23:27	D0C0312	DC01609
Dibenzofuran	**1.72** (1.65)		8270D		2	03/18/20 23:27	D0C0312	DC01609
Diethylphthalate	ND (1.65)		8270D		2	03/18/20 23:27	D0C0312	DC01609
Dimethylphthalate	ND (1.65)		8270D		2	03/18/20 23:27	D0C0312	DC01609
Di-n-butylphthalate	ND (1.65)		8270D		2	03/18/20 23:27	D0C0312	DC01609
Di-n-octylphthalate	ND (1.65)		8270D		2	03/18/20 23:27	D0C0312	DC01609
Fluoranthene	**21.7** (1.65)		8270D		2	03/18/20 23:27	D0C0312	DC01609
Fluorene	**3.04** (1.65)		8270D		2	03/18/20 23:27	D0C0312	DC01609
Hexachlorobenzene	ND (0.278)		8270D		2	03/18/20 23:27	D0C0312	DC01609
Hexachlorobutadiene	ND (1.65)		8270D		2	03/18/20 23:27	D0C0312	DC01609
Hexachloroethane	ND (0.417)		8270D		2	03/18/20 23:27	D0C0312	DC01609
Indeno(1,2,3-cd)Pyrene	**4.64** (1.65)		8270D		2	03/18/20 23:27	D0C0312	DC01609
Isophorone	ND (1.65)		8270D		2	03/18/20 23:27	D0C0312	DC01609
Naphthalene	ND (1.65)		8270D		2	03/18/20 23:27	D0C0312	DC01609
Nitrobenzene	ND (1.65)		8270D		2	03/18/20 23:27	D0C0312	DC01609
N-Nitrosodimethylamine	ND (1.65)		8270D		2	03/18/20 23:27	D0C0312	DC01609
Pentachlorophenol	ND (3.31)		8270D		2	03/18/20 23:27	D0C0312	DC01609
Phenanthrene	**18.7** (1.65)		8270D		2	03/18/20 23:27	D0C0312	DC01609
Phenol	ND (0.402)		8270D		2	03/18/20 23:27	D0C0312	DC01609
Pyrene	**20.1** (1.65)		8270D		2	03/18/20 23:27	D0C0312	DC01609
Pyridine	ND (8.29)		8270D		2	03/18/20 23:27	D0C0312	DC01609

NA

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*52 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*65 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*55 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP06
Date Sampled: 03/12/20 10:30
Percent Solids: 86
Initial Volume: 14.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/16/20 10:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Fluorobiphenyl		*67 %*		*30-130*				
Surrogate: 2-Fluorophenol		*53 %*		*30-130*				
Surrogate: Nitrobenzene-d5		*52 %*		*30-130*				
Surrogate: Phenol-d6		*55 %*		*30-130*				
Surrogate: p-Terphenyl-d14		*77 %*		*30-130*				

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP06
Date Sampled: 03/12/20 10:30
Percent Solids: 86

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-02
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Corrosivity (pH)	**7.93** (N/A)		9045		1	DEL	03/13/20 20:45	S.U.	DC01326
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 19.2 °C.**								
Flashpoint	**> 200** (N/A)		1010		1	CCP	03/16/20 13:30	°F	DC01631
Reactive Cyanide	ND (2.0)		7.3.3.2		1	EEM	03/16/20 10:58	mg/kg	DC01613
Reactive Sulfide	ND (2.0)		7.3.4.1		1	EEM	03/16/20 10:58	mg/kg	DC01613

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP06
Date Sampled: 03/12/20 10:30
Percent Solids: 86
Initial Volume: 100
Final Volume: 2000
Extraction Method: 1311

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-02
Sample Matrix: Soil
Units: °C
Analyst: MKS
Prepared: 3/18/20 20:15

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**19.8** (N/A)		1311		1	MKS	03/19/20 12:20	DC01824
Temperature (Max C)	**21.4** (N/A)		1311		1	MKS	03/19/20 12:20	DC01824
Temperature (Range)	**Temperature is not within 23 +/-2 °C.** (N/A)							

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP04
Date Sampled: 03/12/20 12:15
Percent Solids: 93

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-03
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	**10.1** (2.26)		6010C		1	KJK	03/17/20 21:45	2.38	100	DC01642
Barium	**153** (2.26)		6010C		1	KJK	03/17/20 21:45	2.38	100	DC01642
Cadmium	**1.17** (0.45)		6010C		1	KJK	03/17/20 21:45	2.38	100	DC01642
Chromium	**30.0** (0.90)		6010C		1	KJK	03/17/20 21:45	2.38	100	DC01642
Lead	**446** (4.52)		6010C		1	KJK	03/17/20 21:45	2.38	100	DC01642
Mercury	**0.419** (0.025)		7471B		1	MKS	03/17/20 8:41	0.85	40	DC01643
Selenium	ND (4.52)		6010C		1	KJK	03/17/20 21:45	2.38	100	DC01642
Silver	**EL** ND (4.52)		6010C		10	KJK	03/18/20 13:32	2.38	100	DC01642

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP04
Date Sampled: 03/12/20 12:15
Percent Solids: 93

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-03
Sample Matrix: Soil
Units: mg/L

Extraction Method: 3005A TCLP

1311 TCLP Metals

Analyte	Results (MRL)	MDL	Method	TCLP Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Lead	**0.626** (0.050)		1311/6010C		1	KJK	03/19/20 21:37	50	50	DC01937

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP04
Date Sampled: 03/12/20 12:15
Percent Solids: 93
Initial Volume: 8.6
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
1,1,1-Trichloroethane	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
1,1,2,2-Tetrachloroethane	ND (0.0013)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
1,1,2-Trichloroethane	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
1,1-Dichloroethane	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
1,1-Dichloroethene	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
1,1-Dichloropropene	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
1,2,3-Trichlorobenzene	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
1,2,3-Trichloropropane	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
1,2,4-Trichlorobenzene	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
1,2,4-Trimethylbenzene	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
1,2-Dibromo-3-Chloropropane	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
1,2-Dibromoethane	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
1,2-Dichlorobenzene	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
1,2-Dichloroethane	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
1,2-Dichloropropane	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
1,3,5-Trimethylbenzene	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
1,3-Dichlorobenzene	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
1,3-Dichloropropane	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
1,4-Dichlorobenzene	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
1,4-Dioxane	ND (0.0625)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
2,2-Dichloropropane	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
2-Butanone	ND (0.0063)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
2-Chlorotoluene	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
2-Hexanone	ND (0.0063)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
4-Chlorotoluene	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
4-Isopropyltoluene	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
4-Methyl-2-Pentanone	ND (0.0063)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Acetone	ND (0.0063)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Benzene	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Bromobenzene	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Bromochloromethane	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP04
Date Sampled: 03/12/20 12:15
Percent Solids: 93
Initial Volume: 8.6
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Bromoform	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Bromomethane	ND (0.0063)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Carbon Disulfide	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Carbon Tetrachloride	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Chlorobenzene	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Chloroethane	ND (0.0063)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Chloroform	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Chloromethane	ND (0.0063)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
cis-1,2-Dichloroethene	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
cis-1,3-Dichloropropene	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Dibromochloromethane	ND (0.0013)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Dibromomethane	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Dichlorodifluoromethane	ND (0.0063)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Diethyl Ether	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Di-isopropyl ether	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Ethyl tertiary-butyl ether	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Ethylbenzene	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Hexachlorobutadiene	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Isopropylbenzene	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Methyl tert-Butyl Ether	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Methylene Chloride	ND (0.0063)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Naphthalene	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
n-Butylbenzene	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
n-Propylbenzene	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
sec-Butylbenzene	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Styrene	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
tert-Butylbenzene	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Tertiary-amyl methyl ether	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Tetrachloroethene	**0.0048** (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Tetrahydrofuran	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Toluene	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP04
Date Sampled: 03/12/20 12:15
Percent Solids: 93
Initial Volume: 8.6
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
trans-1,3-Dichloropropene	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Trichloroethene	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Trichlorofluoromethane	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Vinyl Chloride	ND (0.0063)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Xylene O	ND (0.0031)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Xylene P,M	ND (0.0063)		8260B Low		1	03/18/20 22:22	D0C0330	DC01838
Xylenes (Total)	ND (0.00625)		8260B Low		1	03/18/20 22:22		[CALC]

	%Recov	Limits
Surrogate: 1,2-Dichloroethane-d4	*85 %*	*70-130*
Surrogate: 4-Bromofluorobenzene	*75 %*	*70-130*
Surrogate: Dibromofluoromethane	*93 %*	*70-130*
Surrogate: Toluene-d8	*118 %*	*70-130*

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP04
Date Sampled: 03/12/20 12:15
Percent Solids: 93
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 3/17/20 14:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (5.6)		8082A		100	03/19/20 14:20		DC01701
Aroclor 1221	ND (5.6)		8082A		100	03/19/20 14:20		DC01701
Aroclor 1232	ND (5.6)		8082A		100	03/19/20 14:20		DC01701
Aroclor 1242	ND (5.6)		8082A		100	03/19/20 14:20		DC01701
Aroclor 1248	ND (5.6)		8082A		100	03/19/20 14:20		DC01701
Aroclor 1254	ND (5.6)		8082A		100	03/19/20 14:20		DC01701
Aroclor 1260	**48.7** (5.6)		8082A		100	03/19/20 14:20		DC01701
Aroclor 1262	ND (5.6)		8082A		100	03/19/20 14:20		DC01701
Aroclor 1268	ND (5.6)		8082A		100	03/19/20 14:20		DC01701

NA

	%Recove		Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP04
Date Sampled: 03/12/20 12:15
Percent Solids: 93
Initial Volume: 15.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/16/20 10:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.688)		8270D		2	03/18/20 23:56	D0C0312	DC01609
1,2-Dichlorobenzene	ND (0.688)		8270D		2	03/18/20 23:56	D0C0312	DC01609
1,3-Dichlorobenzene	ND (0.165)		8270D		2	03/18/20 23:56	D0C0312	DC01609
1,4-Dichlorobenzene	ND (0.174)		8270D		2	03/18/20 23:56	D0C0312	DC01609
2,4,5-Trichlorophenol	ND (0.688)		8270D		2	03/18/20 23:56	D0C0312	DC01609
2,4,6-Trichlorophenol	ND (0.170)		8270D		2	03/18/20 23:56	D0C0312	DC01609
2,4-Dichlorophenol	ND (0.172)		8270D		2	03/18/20 23:56	D0C0312	DC01609
2,4-Dimethylphenol	ND (0.155)		8270D		2	03/18/20 23:56	D0C0312	DC01609
2,4-Dinitrophenol	ND (1.15)		8270D		2	03/18/20 23:56	D0C0312	DC01609
2,4-Dinitrotoluene	ND (0.221)		8270D		2	03/18/20 23:56	D0C0312	DC01609
2,6-Dinitrotoluene	ND (0.688)		8270D		2	03/18/20 23:56	D0C0312	DC01609
2-Chloronaphthalene	ND (0.688)		8270D		2	03/18/20 23:56	D0C0312	DC01609
2-Chlorophenol	ND (0.194)		8270D		2	03/18/20 23:56	D0C0312	DC01609
2-Methylnaphthalene	ND (0.149)		8270D		2	03/18/20 23:56	D0C0312	DC01609
2-Methylphenol	ND (0.688)		8270D		2	03/18/20 23:56	D0C0312	DC01609
2-Nitrophenol	ND (0.688)		8270D		2	03/18/20 23:56	D0C0312	DC01609
3,3′-Dichlorobenzidine	ND (0.345)		8270D		2	03/18/20 23:56	D0C0312	DC01609
3+4-Methylphenol	ND (1.38)		8270D		2	03/18/20 23:56	D0C0312	DC01609
4-Bromophenyl-phenylether	ND (0.688)		8270D		2	03/18/20 23:56	D0C0312	DC01609
4-Chloroaniline	ND (0.345)		8270D		2	03/18/20 23:56	D0C0312	DC01609
4-Nitrophenol	ND (3.45)		8270D		2	03/18/20 23:56	D0C0312	DC01609
Acenaphthene	ND (0.688)		8270D		2	03/18/20 23:56	D0C0312	DC01609
Acenaphthylene	ND (0.345)		8270D		2	03/18/20 23:56	D0C0312	DC01609
Acetophenone	ND (1.38)		8270D		2	03/18/20 23:56	D0C0312	DC01609
Aniline	ND (3.45)		8270D		2	03/18/20 23:56	D0C0312	DC01609
Anthracene	**0.857** (0.688)		8270D		2	03/18/20 23:56	D0C0312	DC01609
Azobenzene	ND (0.688)		8270D		2	03/18/20 23:56	D0C0312	DC01609
Benzo(a)anthracene	**3.14** (0.688)		8270D		2	03/18/20 23:56	D0C0312	DC01609
Benzo(a)pyrene	**3.69** (0.345)		8270D		2	03/18/20 23:56	D0C0312	DC01609
Benzo(b)fluoranthene	**3.33** (0.688)		8270D		2	03/18/20 23:56	D0C0312	DC01609
Benzo(g,h,i)perylene	**2.65** (0.688)		8270D		2	03/18/20 23:56	D0C0312	DC01609
Benzo(k)fluoranthene	**2.67** (0.688)		8270D		2	03/18/20 23:56	D0C0312	DC01609

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP04
Date Sampled: 03/12/20 12:15
Percent Solids: 93
Initial Volume: 15.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/16/20 10:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
bis(2-Chloroethoxy)methane	ND (0.688)		8270D		2	03/18/20 23:56	D0C0312	DC01609
bis(2-Chloroethyl)ether	ND (0.186)		8270D		2	03/18/20 23:56	D0C0312	DC01609
bis(2-chloroisopropyl)Ether	ND (0.184)		8270D		2	03/18/20 23:56	D0C0312	DC01609
bis(2-Ethylhexyl)phthalate	ND (0.688)		8270D		2	03/18/20 23:56	D0C0312	DC01609
Butylbenzylphthalate	ND (0.688)		8270D		2	03/18/20 23:56	D0C0312	DC01609
Chrysene	**3.09** (0.345)		8270D		2	03/18/20 23:56	D0C0312	DC01609
Dibenzo(a,h)Anthracene	**0.848** (0.345)		8270D		2	03/18/20 23:56	D0C0312	DC01609
Dibenzofuran	ND (0.688)		8270D		2	03/18/20 23:56	D0C0312	DC01609
Diethylphthalate	ND (0.688)		8270D		2	03/18/20 23:56	D0C0312	DC01609
Dimethylphthalate	ND (0.688)		8270D		2	03/18/20 23:56	D0C0312	DC01609
Di-n-butylphthalate	ND (0.688)		8270D		2	03/18/20 23:56	D0C0312	DC01609
Di-n-octylphthalate	ND (0.688)		8270D		2	03/18/20 23:56	D0C0312	DC01609
Fluoranthene	**5.37** (0.688)		8270D		2	03/18/20 23:56	D0C0312	DC01609
Fluorene	ND (0.688)		8270D		2	03/18/20 23:56	D0C0312	DC01609
Hexachlorobenzene	ND (0.116)		8270D		2	03/18/20 23:56	D0C0312	DC01609
Hexachlorobutadiene	ND (0.688)		8270D		2	03/18/20 23:56	D0C0312	DC01609
Hexachloroethane	ND (0.174)		8270D		2	03/18/20 23:56	D0C0312	DC01609
Indeno(1,2,3-cd)Pyrene	**2.35** (0.688)		8270D		2	03/18/20 23:56	D0C0312	DC01609
Isophorone	ND (0.688)		8270D		2	03/18/20 23:56	D0C0312	DC01609
Naphthalene	ND (0.688)		8270D		2	03/18/20 23:56	D0C0312	DC01609
Nitrobenzene	ND (0.688)		8270D		2	03/18/20 23:56	D0C0312	DC01609
N-Nitrosodimethylamine	ND (0.688)		8270D		2	03/18/20 23:56	D0C0312	DC01609
Pentachlorophenol	ND (1.38)		8270D		2	03/18/20 23:56	D0C0312	DC01609
Phenanthrene	**3.40** (0.688)		8270D		2	03/18/20 23:56	D0C0312	DC01609
Phenol	ND (0.167)		8270D		2	03/18/20 23:56	D0C0312	DC01609
Pyrene	**5.17** (0.688)		8270D		2	03/18/20 23:56	D0C0312	DC01609
Pyridine	ND (3.45)		8270D		2	03/18/20 23:56	D0C0312	DC01609

NA

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*55 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*68 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*63 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP04
Date Sampled: 03/12/20 12:15
Percent Solids: 93
Initial Volume: 15.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/16/20 10:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Fluorobiphenyl		*68 %*		*30-130*				
Surrogate: 2-Fluorophenol		*62 %*		*30-130*				
Surrogate: Nitrobenzene-d5		*59 %*		*30-130*				
Surrogate: Phenol-d6		*65 %*		*30-130*				
Surrogate: p-Terphenyl-d14		*80 %*		*30-130*				

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP04
Date Sampled: 03/12/20 12:15
Percent Solids: 93

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-03
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Corrosivity (pH)	**7.91** (N/A)		9045		1	DEL	03/13/20 20:45	S.U.	DC01326
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 19.4 °C.**								
Flashpoint	**> 200** (N/A)		1010		1	CCP	03/16/20 13:30	°F	DC01631
Reactive Cyanide	ND (2.0)		7.3.3.2		1	EEM	03/16/20 10:58	mg/kg	DC01613
Reactive Sulfide	ND (2.0)		7.3.4.1		1	EEM	03/16/20 10:58	mg/kg	DC01613

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP04
Date Sampled: 03/12/20 12:15
Percent Solids: 93
Initial Volume: 100
Final Volume: 2000
Extraction Method: 1311

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-03
Sample Matrix: Soil
Units: °C
Analyst: MKS
Prepared: 3/18/20 20:15

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**19.8** (N/A)		1311		1	MKS	03/19/20 12:20	DC01824
Temperature (Max C)	**21.4** (N/A)		1311		1	MKS	03/19/20 12:20	DC01824
Temperature (Range)	**Temperature is not within 23 +/-2 °C.** (N/A)							

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP03
Date Sampled: 03/12/20 14:10
Percent Solids: 74

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-04
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	**11.1** (2.65)		6010C		1	KJK	03/17/20 21:50	2.56	100	DC01642
Barium	**457** (2.65)		6010C		1	KJK	03/17/20 21:50	2.56	100	DC01642
Cadmium	**63.7** (0.53)		6010C		1	KJK	03/17/20 21:50	2.56	100	DC01642
Chromium	**49.2** (1.06)		6010C		1	KJK	03/17/20 21:50	2.56	100	DC01642
Lead	**1330** (5.31)		6010C		1	KJK	03/17/20 21:50	2.56	100	DC01642
Mercury	**0.746** (0.038)		7471B		1	MKS	03/17/20 8:43	0.7	40	DC01643
Selenium	ND (5.31)		6010C		1	KJK	03/17/20 21:50	2.56	100	DC01642
Silver	**3.12** (0.53)		6010C		1	KJK	03/17/20 21:50	2.56	100	DC01642

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP03
Date Sampled: 03/12/20 14:10
Percent Solids: 74

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-04
Sample Matrix: Soil
Units: mg/L

Extraction Method: 3005A TCLP

1311 TCLP Metals

Analyte	Results (MRL)	MDL	Method	TCLP Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Cadmium	**0.353** (0.0100)		1311/6010C		1	KJK	03/19/20 21:53	50	50	DC01937
Lead	**0.746** (0.050)		1311/6010C		1	KJK	03/19/20 21:53	50	50	DC01937

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP03
Date Sampled: 03/12/20 14:10
Percent Solids: 74
Initial Volume: 9.2
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
1,1,1-Trichloroethane	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
1,1,2,2-Tetrachloroethane	ND (0.0015)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
1,1,2-Trichloroethane	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
1,1-Dichloroethane	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
1,1-Dichloroethene	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
1,1-Dichloropropene	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
1,2,3-Trichlorobenzene	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
1,2,3-Trichloropropane	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
1,2,4-Trichlorobenzene	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
1,2,4-Trimethylbenzene	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
1,2-Dibromo-3-Chloropropane	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
1,2-Dibromoethane	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
1,2-Dichlorobenzene	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
1,2-Dichloroethane	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
1,2-Dichloropropane	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
1,3,5-Trimethylbenzene	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
1,3-Dichlorobenzene	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
1,3-Dichloropropane	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
1,4-Dichlorobenzene	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
1,4-Dioxane	ND (0.0738)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
2,2-Dichloropropane	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
2-Butanone	ND (0.0074)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
2-Chlorotoluene	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
2-Hexanone	ND (0.0074)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
4-Chlorotoluene	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
4-Isopropyltoluene	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
4-Methyl-2-Pentanone	**0.0248** (0.0074)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Acetone	**0.0389** (0.0074)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Benzene	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Bromobenzene	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Bromochloromethane	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP03
Date Sampled: 03/12/20 14:10
Percent Solids: 74
Initial Volume: 9.2
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Bromoform	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Bromomethane	ND (0.0074)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Carbon Disulfide	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Carbon Tetrachloride	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Chlorobenzene	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Chloroethane	ND (0.0074)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Chloroform	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Chloromethane	ND (0.0074)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
cis-1,2-Dichloroethene	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
cis-1,3-Dichloropropene	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Dibromochloromethane	ND (0.0015)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Dibromomethane	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Dichlorodifluoromethane	ND (0.0074)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Diethyl Ether	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Di-isopropyl ether	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Ethyl tertiary-butyl ether	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Ethylbenzene	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Hexachlorobutadiene	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Isopropylbenzene	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Methyl tert-Butyl Ether	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Methylene Chloride	ND (0.0074)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Naphthalene	**0.0701** (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
n-Butylbenzene	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
n-Propylbenzene	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
sec-Butylbenzene	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Styrene	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
tert-Butylbenzene	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Tertiary-amyl methyl ether	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Tetrachloroethene	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Tetrahydrofuran	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Toluene	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP03
Date Sampled: 03/12/20 14:10
Percent Solids: 74
Initial Volume: 9.2
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
trans-1,3-Dichloropropene	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Trichloroethene	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Trichlorofluoromethane	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Vinyl Chloride	ND (0.0074)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Xylene O	ND (0.0037)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Xylene P,M	ND (0.0074)		8260B Low		1	03/19/20 22:56	D0C0358	DC01938
Xylenes (Total)	ND (0.00738)		8260B Low		1	03/19/20 22:56		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*112 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*97 %*		*70-130*
Surrogate: Dibromofluoromethane	*103 %*		*70-130*
Surrogate: Toluene-d8	*97 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP03
Date Sampled: 03/12/20 14:10
Percent Solids: 74
Initial Volume: 20
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 3/17/20 14:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.7)		8082A		40	03/20/20 9:16		DC01930
Aroclor 1221	ND (2.7)		8082A		40	03/20/20 9:16		DC01930
Aroclor 1232	ND (2.7)		8082A		40	03/20/20 9:16		DC01930
Aroclor 1242	**5.3** (2.7)		8082A		40	03/20/20 9:16		DC01930
Aroclor 1248	ND (2.7)		8082A		40	03/20/20 9:16		DC01930
Aroclor 1254	ND (2.7)		8082A		40	03/20/20 9:16		DC01930
Aroclor 1260	**31.0** (2.7)		8082A		40	03/20/20 9:16		DC01930
Aroclor 1262	ND (2.7)		8082A		40	03/20/20 9:16		DC01930
Aroclor 1268	ND (2.7)		8082A		40	03/20/20 9:16		DC01930

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP03
Date Sampled: 03/12/20 14:10
Percent Solids: 74
Initial Volume: 14.9
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/16/20 10:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.911)		8270D		2	03/19/20 0:25	D0C0312	DC01609
1,2-Dichlorobenzene	ND (0.911)		8270D		2	03/19/20 0:25	D0C0312	DC01609
1,3-Dichlorobenzene	ND (0.219)		8270D		2	03/19/20 0:25	D0C0312	DC01609
1,4-Dichlorobenzene	ND (0.230)		8270D		2	03/19/20 0:25	D0C0312	DC01609
2,4,5-Trichlorophenol	ND (0.911)		8270D		2	03/19/20 0:25	D0C0312	DC01609
2,4,6-Trichlorophenol	ND (0.224)		8270D		2	03/19/20 0:25	D0C0312	DC01609
2,4-Dichlorophenol	ND (0.227)		8270D		2	03/19/20 0:25	D0C0312	DC01609
2,4-Dimethylphenol	ND (0.205)		8270D		2	03/19/20 0:25	D0C0312	DC01609
2,4-Dinitrophenol	ND (1.52)		8270D		2	03/19/20 0:25	D0C0312	DC01609
2,4-Dinitrotoluene	ND (0.293)		8270D		2	03/19/20 0:25	D0C0312	DC01609
2,6-Dinitrotoluene	ND (0.911)		8270D		2	03/19/20 0:25	D0C0312	DC01609
2-Chloronaphthalene	ND (0.911)		8270D		2	03/19/20 0:25	D0C0312	DC01609
2-Chlorophenol	ND (0.257)		8270D		2	03/19/20 0:25	D0C0312	DC01609
2-Methylnaphthalene	**1.37** (0.197)		8270D		2	03/19/20 0:25	D0C0312	DC01609
2-Methylphenol	ND (0.911)		8270D		2	03/19/20 0:25	D0C0312	DC01609
2-Nitrophenol	ND (0.911)		8270D		2	03/19/20 0:25	D0C0312	DC01609
3,3′-Dichlorobenzidine	ND (0.457)		8270D		2	03/19/20 0:25	D0C0312	DC01609
3+4-Methylphenol	ND (1.82)		8270D		2	03/19/20 0:25	D0C0312	DC01609
4-Bromophenyl-phenylether	ND (0.911)		8270D		2	03/19/20 0:25	D0C0312	DC01609
4-Chloroaniline	ND (0.457)		8270D		2	03/19/20 0:25	D0C0312	DC01609
4-Nitrophenol	ND (4.57)		8270D		2	03/19/20 0:25	D0C0312	DC01609
Acenaphthene	**5.98** (0.911)		8270D		2	03/19/20 0:25	D0C0312	DC01609
Acenaphthylene	ND (0.457)		8270D		2	03/19/20 0:25	D0C0312	DC01609
Acetophenone	ND (1.82)		8270D		2	03/19/20 0:25	D0C0312	DC01609
Aniline	ND (4.57)		8270D		2	03/19/20 0:25	D0C0312	DC01609
Anthracene	**10.9** (0.911)		8270D		2	03/19/20 0:25	D0C0312	DC01609
Azobenzene	ND (0.911)		8270D		2	03/19/20 0:25	D0C0312	DC01609
Benzo(a)anthracene	**19.1** (0.911)		8270D		2	03/19/20 0:25	D0C0312	DC01609
Benzo(a)pyrene	**18.2** (0.457)		8270D		2	03/19/20 0:25	D0C0312	DC01609
Benzo(b)fluoranthene	**17.3** (0.911)		8270D		2	03/19/20 0:25	D0C0312	DC01609
Benzo(g,h,i)perylene	**8.86** (0.911)		8270D		2	03/19/20 0:25	D0C0312	DC01609
Benzo(k)fluoranthene	**11.4** (0.911)		8270D		2	03/19/20 0:25	D0C0312	DC01609

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP03
Date Sampled: 03/12/20 14:10
Percent Solids: 74
Initial Volume: 14.9
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/16/20 10:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
bis(2-Chloroethoxy)methane	ND (0.911)		8270D		2	03/19/20 0:25	D0C0312	DC01609
bis(2-Chloroethyl)ether	ND (0.246)		8270D		2	03/19/20 0:25	D0C0312	DC01609
bis(2-chloroisopropyl)Ether	ND (0.243)		8270D		2	03/19/20 0:25	D0C0312	DC01609
bis(2-Ethylhexyl)phthalate	ND (0.911)		8270D		2	03/19/20 0:25	D0C0312	DC01609
Butylbenzylphthalate	ND (0.911)		8270D		2	03/19/20 0:25	D0C0312	DC01609
Chrysene	**17.5** (0.457)		8270D		2	03/19/20 0:25	D0C0312	DC01609
Dibenzo(a,h)Anthracene	**3.51** (0.457)		8270D		2	03/19/20 0:25	D0C0312	DC01609
Dibenzofuran	**3.52** (0.911)		8270D		2	03/19/20 0:25	D0C0312	DC01609
Diethylphthalate	ND (0.911)		8270D		2	03/19/20 0:25	D0C0312	DC01609
Dimethylphthalate	ND (0.911)		8270D		2	03/19/20 0:25	D0C0312	DC01609
Di-n-butylphthalate	ND (0.911)		8270D		2	03/19/20 0:25	D0C0312	DC01609
Di-n-octylphthalate	ND (0.911)		8270D		2	03/19/20 0:25	D0C0312	DC01609
Fluoranthene	**43.0** (9.11)		8270D		20	03/19/20 19:04	D0C0312	DC01609
Fluorene	**5.82** (0.911)		8270D		2	03/19/20 0:25	D0C0312	DC01609
Hexachlorobenzene	ND (0.153)		8270D		2	03/19/20 0:25	D0C0312	DC01609
Hexachlorobutadiene	ND (0.911)		8270D		2	03/19/20 0:25	D0C0312	DC01609
Hexachloroethane	ND (0.230)		8270D		2	03/19/20 0:25	D0C0312	DC01609
Indeno(1,2,3-cd)Pyrene	**8.90** (0.911)		8270D		2	03/19/20 0:25	D0C0312	DC01609
Isophorone	ND (0.911)		8270D		2	03/19/20 0:25	D0C0312	DC01609
Naphthalene	**3.71** (0.911)		8270D		2	03/19/20 0:25	D0C0312	DC01609
Nitrobenzene	ND (0.911)		8270D		2	03/19/20 0:25	D0C0312	DC01609
N-Nitrosodimethylamine	ND (0.911)		8270D		2	03/19/20 0:25	D0C0312	DC01609
Pentachlorophenol	ND (1.82)		8270D		2	03/19/20 0:25	D0C0312	DC01609
Phenanthrene	**38.3** (9.11)		8270D		20	03/19/20 19:04	D0C0312	DC01609
Phenol	**1.28** (0.222)		8270D		2	03/19/20 0:25	D0C0312	DC01609
Pyrene	**32.5** (9.11)		8270D		20	03/19/20 19:04	D0C0312	DC01609
Pyridine	ND (4.57)		8270D		2	03/19/20 0:25	D0C0312	DC01609

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*41 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*54 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*45 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP03
Date Sampled: 03/12/20 14:10
Percent Solids: 74
Initial Volume: 14.9
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/16/20 10:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Fluorobiphenyl		*53 %*		*30-130*				
Surrogate: 2-Fluorophenol		*44 %*		*30-130*				
Surrogate: Nitrobenzene-d5		*46 %*		*30-130*				
Surrogate: Phenol-d6		*47 %*		*30-130*				
Surrogate: p-Terphenyl-d14		*64 %*		*30-130*				

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP03
Date Sampled: 03/12/20 14:10
Percent Solids: 74

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-04
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Corrosivity (pH)	**7.61** (N/A)		9045		1	DEL	03/13/20 20:45	S.U.	DC01326
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 19.2 ºC.**								
Flashpoint	**> 200** (N/A)		1010		1	CCP	03/16/20 13:30	°F	DC01631
Reactive Cyanide	ND (2.0)		7.3.3.2		1	EEM	03/18/20 11:11	mg/kg	DC01819
Reactive Sulfide	ND (2.0)		7.3.4.1		1	EEM	03/18/20 11:11	mg/kg	DC01819

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP03
Date Sampled: 03/12/20 14:10
Percent Solids: 74
Initial Volume: 100
Final Volume: 2000
Extraction Method: 1311

ESS Laboratory Work Order: 20C0467
ESS Laboratory Sample ID: 20C0467-04
Sample Matrix: Soil
Units: °C
Analyst: MKS
Prepared: 3/18/20 20:15

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**19.8** (N/A)		1311		1	MKS	03/19/20 12:20	DC01824
Temperature (Max C)	**21.4** (N/A)		1311		1	MKS	03/19/20 12:20	DC01824
Temperature (Range)	**Temperature is not within 23 +/-2 ºC.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0467

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch DC01642 - 3050B										
Blank										
Arsenic	ND	2.50	mg/kg wet							
Barium	ND	2.50	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							
Chromium	ND	1.00	mg/kg wet							
Lead	ND	5.00	mg/kg wet							
Selenium	ND	5.00	mg/kg wet							
Silver	ND	0.50	mg/kg wet							
LCS										
Arsenic	187	7.69	mg/kg wet	202.0		93	80-120			
Barium	320	7.69	mg/kg wet	343.0		93	80-120			
Cadmium	128	1.54	mg/kg wet	149.0		86	80-120			
Chromium	170	3.08	mg/kg wet	182.0		94	80-120			
Lead	318	15.4	mg/kg wet	333.0		95	80-120			
Selenium	158	15.4	mg/kg wet	169.0		93	80-120			
Silver	45.2	1.54	mg/kg wet	48.90		92	80-120			
LCS Dup										
Arsenic	194	8.20	mg/kg wet	202.0		96	80-120	4	20	
Barium	341	8.20	mg/kg wet	343.0		100	80-120	7	20	
Cadmium	135	1.64	mg/kg wet	149.0		91	80-120	6	20	
Chromium	176	3.28	mg/kg wet	182.0		97	80-120	3	20	
Lead	333	16.4	mg/kg wet	333.0		100	80-120	5	20	
Selenium	162	16.4	mg/kg wet	169.0		96	80-120	2	20	
Silver	45.2	1.64	mg/kg wet	48.90		92	80-120	0.1	20	
Batch DC01643 - 7471B										
Blank										
Mercury	ND	0.033	mg/kg wet							
LCS										
Mercury	9.60	0.550	mg/kg wet	7.760		124	71-125			
LCS Dup										
Mercury	9.15	0.574	mg/kg wet	7.760		118	71-125	5	20	
1311 TCLP Metals										
Batch DC01937 - 3005A_TCLP										
Blank										
Cadmium	ND	0.0100	mg/L							
Lead	ND	0.050	mg/L							
LCS										
Cadmium	0.241	0.0100	mg/L	0.2500		97	80-120			
Lead	0.469	0.050	mg/L	0.5000		94	80-120			
LCS Dup										
Cadmium	0.242	0.0100	mg/L	0.2500		97	80-120	0.07	20	
Lead	0.472	0.050	mg/L	0.5000		94	80-120	0.7	20	

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0467

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier

5035/8260B Volatile Organic Compounds / Low Level

Batch DC01838 - 5035

Blank

1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet
1,1,2,2-Tetrachloroethane	ND	0.0020	mg/kg wet
1,1,2-Trichloroethane	ND	0.0050	mg/kg wet
1,1-Dichloroethane	ND	0.0050	mg/kg wet
1,1-Dichloroethene	ND	0.0050	mg/kg wet
1,1-Dichloropropene	ND	0.0050	mg/kg wet
1,2,3-Trichlorobenzene	ND	0.0050	mg/kg wet
1,2,3-Trichloropropane	ND	0.0050	mg/kg wet
1,2,4-Trichlorobenzene	ND	0.0050	mg/kg wet
1,2,4-Trimethylbenzene	ND	0.0050	mg/kg wet
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/kg wet
1,2-Dibromoethane	ND	0.0050	mg/kg wet
1,2-Dichlorobenzene	ND	0.0050	mg/kg wet
1,2-Dichloroethane	ND	0.0050	mg/kg wet
1,2-Dichloropropane	ND	0.0050	mg/kg wet
1,3,5-Trimethylbenzene	ND	0.0050	mg/kg wet
1,3-Dichlorobenzene	ND	0.0050	mg/kg wet
1,3-Dichloropropane	ND	0.0050	mg/kg wet
1,4-Dichlorobenzene	ND	0.0050	mg/kg wet
1,4-Dioxane	ND	0.100	mg/kg wet
2,2-Dichloropropane	ND	0.0050	mg/kg wet
2-Butanone	ND	0.0100	mg/kg wet
2-Chlorotoluene	ND	0.0050	mg/kg wet
2-Hexanone	ND	0.0100	mg/kg wet
4-Chlorotoluene	ND	0.0050	mg/kg wet
4-Isopropyltoluene	ND	0.0050	mg/kg wet
4-Methyl-2-Pentanone	ND	0.0100	mg/kg wet
Acetone	0.0292	0.0100	mg/kg wet
Benzene	ND	0.0050	mg/kg wet
Bromobenzene	ND	0.0050	mg/kg wet
Bromochloromethane	ND	0.0050	mg/kg wet
Bromodichloromethane	ND	0.0050	mg/kg wet
Bromoform	ND	0.0050	mg/kg wet
Bromomethane	ND	0.0100	mg/kg wet
Carbon Disulfide	ND	0.0050	mg/kg wet
Carbon Tetrachloride	ND	0.0050	mg/kg wet
Chlorobenzene	ND	0.0050	mg/kg wet
Chloroethane	ND	0.0100	mg/kg wet
Chloroform	ND	0.0050	mg/kg wet
Chloromethane	ND	0.0100	mg/kg wet
cis-1,2-Dichloroethene	ND	0.0050	mg/kg wet
cis-1,3-Dichloropropene	ND	0.0050	mg/kg wet
Dibromochloromethane	ND	0.0020	mg/kg wet

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0467

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01838 - 5035										
Dibromomethane	ND	0.0050	mg/kg wet							
Dichlorodifluoromethane	ND	0.0100	mg/kg wet							
Diethyl Ether	ND	0.0050	mg/kg wet							
Di-isopropyl ether	ND	0.0050	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.0050	mg/kg wet							
Ethylbenzene	ND	0.0050	mg/kg wet							
Hexachlorobutadiene	ND	0.0050	mg/kg wet							
Isopropylbenzene	ND	0.0050	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.0050	mg/kg wet							
Methylene Chloride	ND	0.0100	mg/kg wet							
Naphthalene	ND	0.0050	mg/kg wet							
n-Butylbenzene	ND	0.0050	mg/kg wet							
n-Propylbenzene	ND	0.0050	mg/kg wet							
sec-Butylbenzene	ND	0.0050	mg/kg wet							
Styrene	ND	0.0050	mg/kg wet							
tert-Butylbenzene	ND	0.0050	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0050	mg/kg wet							
Tetrachloroethene	ND	0.0050	mg/kg wet							
Tetrahydrofuran	ND	0.0050	mg/kg wet							
Toluene	ND	0.0050	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Trichloroethene	ND	0.0050	mg/kg wet							
Trichlorofluoromethane	ND	0.0050	mg/kg wet							
Vinyl Chloride	ND	0.0100	mg/kg wet							
Xylene O	ND	0.0050	mg/kg wet							
Xylene P,M	ND	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	*0.0481*		mg/kg wet	*0.05000*		*96*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0448*		mg/kg wet	*0.05000*		*90*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0463*		mg/kg wet	*0.05000*		*93*	*70-130*			
Surrogate: Toluene-d8	*0.0499*		mg/kg wet	*0.05000*		*100*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
1,1,1-Trichloroethane	0.0440	0.0050	mg/kg wet	0.05000		88	70-130			
1,1,2,2-Tetrachloroethane	0.0459	0.0020	mg/kg wet	0.05000		92	70-130			
1,1,2-Trichloroethane	0.0425	0.0050	mg/kg wet	0.05000		85	70-130			
1,1-Dichloroethane	0.0414	0.0050	mg/kg wet	0.05000		83	70-130			
1,1-Dichloroethene	0.0446	0.0050	mg/kg wet	0.05000		89	70-130			
1,1-Dichloropropene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
1,2,3-Trichlorobenzene	0.0452	0.0050	mg/kg wet	0.05000		90	70-130			
1,2,3-Trichloropropane	0.0421	0.0050	mg/kg wet	0.05000		84	70-130			
1,2,4-Trichlorobenzene	0.0458	0.0050	mg/kg wet	0.05000		92	70-130			
1,2,4-Trimethylbenzene	0.0476	0.0050	mg/kg wet	0.05000		95	70-130			
1,2-Dibromo-3-Chloropropane	0.0402	0.0050	mg/kg wet	0.05000		80	70-130			
1,2-Dibromoethane	0.0466	0.0050	mg/kg wet	0.05000		93	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0467

Quality Control Data

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch DC01838 - 5035										
1,2-Dichlorobenzene	0.0490	0.0050	mg/kg wet	0.05000		98	70-130			
1,2-Dichloroethane	0.0449	0.0050	mg/kg wet	0.05000		90	70-130			
1,2-Dichloropropane	0.0419	0.0050	mg/kg wet	0.05000		84	70-130			
1,3,5-Trimethylbenzene	0.0465	0.0050	mg/kg wet	0.05000		93	70-130			
1,3-Dichlorobenzene	0.0491	0.0050	mg/kg wet	0.05000		98	70-130			
1,3-Dichloropropane	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			
1,4-Dichlorobenzene	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			
1,4-Dioxane	0.858	0.100	mg/kg wet	1.000		86	70-130			
2,2-Dichloropropane	0.0489	0.0050	mg/kg wet	0.05000		98	70-130			
2-Butanone	0.201	0.0100	mg/kg wet	0.2500		80	70-130			
2-Chlorotoluene	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			
2-Hexanone	0.214	0.0100	mg/kg wet	0.2500		86	70-130			
4-Chlorotoluene	0.0455	0.0050	mg/kg wet	0.05000		91	70-130			
4-Isopropyltoluene	0.0465	0.0050	mg/kg wet	0.05000		93	70-130			
4-Methyl-2-Pentanone	0.208	0.0100	mg/kg wet	0.2500		83	70-130			
Acetone	0.174	0.0100	mg/kg wet	0.2500		70	70-130			
Benzene	0.0433	0.0050	mg/kg wet	0.05000		87	70-130			
Bromobenzene	0.0473	0.0050	mg/kg wet	0.05000		95	70-130			
Bromochloromethane	0.0472	0.0050	mg/kg wet	0.05000		94	70-130			
Bromodichloromethane	0.0439	0.0050	mg/kg wet	0.05000		88	70-130			
Bromoform	0.0446	0.0050	mg/kg wet	0.05000		89	70-130			
Bromomethane	0.0398	0.0100	mg/kg wet	0.05000		80	70-130			
Carbon Disulfide	0.0442	0.0050	mg/kg wet	0.05000		88	70-130			
Carbon Tetrachloride	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
Chlorobenzene	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
Chloroethane	0.0373	0.0100	mg/kg wet	0.05000		75	70-130			
Chloroform	0.0443	0.0050	mg/kg wet	0.05000		89	70-130			
Chloromethane	0.0369	0.0100	mg/kg wet	0.05000		74	70-130			
cis-1,2-Dichloroethene	0.0464	0.0050	mg/kg wet	0.05000		93	70-130			
cis-1,3-Dichloropropene	0.0453	0.0050	mg/kg wet	0.05000		91	70-130			
Dibromochloromethane	0.0452	0.0020	mg/kg wet	0.05000		90	70-130			
Dibromomethane	0.0447	0.0050	mg/kg wet	0.05000		89	70-130			
Dichlorodifluoromethane	0.0454	0.0100	mg/kg wet	0.05000		91	70-130			
Diethyl Ether	0.0412	0.0050	mg/kg wet	0.05000		82	70-130			
Di-isopropyl ether	0.0402	0.0050	mg/kg wet	0.05000		80	70-130			
Ethyl tertiary-butyl ether	0.0514	0.0050	mg/kg wet	0.05000		103	70-130			
Ethylbenzene	0.0466	0.0050	mg/kg wet	0.05000		93	70-130			
Hexachlorobutadiene	0.0530	0.0050	mg/kg wet	0.05000		106	70-130			
Isopropylbenzene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
Methyl tert-Butyl Ether	0.0511	0.0050	mg/kg wet	0.05000		102	70-130			
Methylene Chloride	0.0463	0.0100	mg/kg wet	0.05000		93	70-130			
Naphthalene	0.0440	0.0050	mg/kg wet	0.05000		88	70-130			
n-Butylbenzene	0.0398	0.0050	mg/kg wet	0.05000		80	70-130			
n-Propylbenzene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
sec-Butylbenzene	0.0462	0.0050	mg/kg wet	0.05000		92	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0467

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01838 - 5035										
Styrene	0.0457	0.0050	mg/kg wet	0.05000		91	70-130			
tert-Butylbenzene	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
Tertiary-amyl methyl ether	0.0551	0.0050	mg/kg wet	0.05000		110	70-130			
Tetrachloroethene	0.0450	0.0050	mg/kg wet	0.05000		90	70-130			
Tetrahydrofuran	0.0374	0.0050	mg/kg wet	0.05000		75	70-130			
Toluene	0.0447	0.0050	mg/kg wet	0.05000		89	70-130			
trans-1,2-Dichloroethene	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			
trans-1,3-Dichloropropene	0.0424	0.0050	mg/kg wet	0.05000		85	70-130			
Trichloroethene	0.0442	0.0050	mg/kg wet	0.05000		88	70-130			
Trichlorofluoromethane	0.0511	0.0050	mg/kg wet	0.05000		102	70-130			
Vinyl Chloride	0.0368	0.0100	mg/kg wet	0.05000		74	70-130			
Xylene O	0.0475	0.0050	mg/kg wet	0.05000		95	70-130			
Xylene P,M	0.0946	0.0100	mg/kg wet	0.1000		95	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0472*		mg/kg wet	*0.05000*		*94*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0484*		mg/kg wet	*0.05000*		*97*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0482*		mg/kg wet	*0.05000*		*96*	*70-130*			
Surrogate: Toluene-d8	*0.0469*		mg/kg wet	*0.05000*		*94*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	0.0526	0.0050	mg/kg wet	0.05000		105	70-130	11	20	
1,1,1-Trichloroethane	0.0493	0.0050	mg/kg wet	0.05000		99	70-130	11	20	
1,1,2,2-Tetrachloroethane	0.0495	0.0020	mg/kg wet	0.05000		99	70-130	8	20	
1,1,2-Trichloroethane	0.0460	0.0050	mg/kg wet	0.05000		92	70-130	8	20	
1,1-Dichloroethane	0.0457	0.0050	mg/kg wet	0.05000		91	70-130	10	20	
1,1-Dichloroethene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130	9	20	
1,1-Dichloropropene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	10	20	
1,2,3-Trichlorobenzene	0.0509	0.0050	mg/kg wet	0.05000		102	70-130	12	20	
1,2,3-Trichloropropane	0.0459	0.0050	mg/kg wet	0.05000		92	70-130	9	20	
1,2,4-Trichlorobenzene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	10	20	
1,2,4-Trimethylbenzene	0.0523	0.0050	mg/kg wet	0.05000		105	70-130	9	20	
1,2-Dibromo-3-Chloropropane	0.0436	0.0050	mg/kg wet	0.05000		87	70-130	8	20	
1,2-Dibromoethane	0.0527	0.0050	mg/kg wet	0.05000		105	70-130	12	20	
1,2-Dichlorobenzene	0.0520	0.0050	mg/kg wet	0.05000		104	70-130	6	20	
1,2-Dichloroethane	0.0490	0.0050	mg/kg wet	0.05000		98	70-130	9	20	
1,2-Dichloropropane	0.0457	0.0050	mg/kg wet	0.05000		91	70-130	8	20	
1,3,5-Trimethylbenzene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	8	20	
1,3-Dichlorobenzene	0.0523	0.0050	mg/kg wet	0.05000		105	70-130	6	20	
1,3-Dichloropropane	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	12	20	
1,4-Dichlorobenzene	0.0530	0.0050	mg/kg wet	0.05000		106	70-130	7	20	
1,4-Dioxane	0.904	0.100	mg/kg wet	1.000		90	70-130	5	20	
2,2-Dichloropropane	0.0528	0.0050	mg/kg wet	0.05000		106	70-130	8	20	
2-Butanone	0.222	0.0100	mg/kg wet	0.2500		89	70-130	10	20	
2-Chlorotoluene	0.0483	0.0050	mg/kg wet	0.05000		97	70-130	6	20	
2-Hexanone	0.249	0.0100	mg/kg wet	0.2500		100	70-130	15	20	
4-Chlorotoluene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	7	20	
4-Isopropyltoluene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130	9	20	

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0467

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01838 - 5035										
4-Methyl-2-Pentanone	0.230	0.0100	mg/kg wet	0.2500		92	70-130	10	20	
Acetone	0.216	0.0100	mg/kg wet	0.2500		86	70-130	21	20	D+
Benzene	0.0476	0.0050	mg/kg wet	0.05000		95	70-130	9	20	
Bromobenzene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	7	20	
Bromochloromethane	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	8	20	
Bromodichloromethane	0.0479	0.0050	mg/kg wet	0.05000		96	70-130	9	20	
Bromoform	0.0497	0.0050	mg/kg wet	0.05000		99	70-130	11	20	
Bromomethane	0.0492	0.0100	mg/kg wet	0.05000		98	70-130	21	20	D+
Carbon Disulfide	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	10	20	
Carbon Tetrachloride	0.0517	0.0050	mg/kg wet	0.05000		103	70-130	9	20	
Chlorobenzene	0.0524	0.0050	mg/kg wet	0.05000		105	70-130	11	20	
Chloroethane	0.0413	0.0100	mg/kg wet	0.05000		83	70-130	10	20	
Chloroform	0.0488	0.0050	mg/kg wet	0.05000		98	70-130	10	20	
Chloromethane	0.0412	0.0100	mg/kg wet	0.05000		82	70-130	11	20	
cis-1,2-Dichloroethene	0.0506	0.0050	mg/kg wet	0.05000		101	70-130	9	20	
cis-1,3-Dichloropropene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	8	20	
Dibromochloromethane	0.0509	0.0020	mg/kg wet	0.05000		102	70-130	12	20	
Dibromomethane	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	8	20	
Dichlorodifluoromethane	0.0506	0.0100	mg/kg wet	0.05000		101	70-130	11	20	
Diethyl Ether	0.0445	0.0050	mg/kg wet	0.05000		89	70-130	8	20	
Di-isopropyl ether	0.0445	0.0050	mg/kg wet	0.05000		89	70-130	10	20	
Ethyl tertiary-butyl ether	0.0559	0.0050	mg/kg wet	0.05000		112	70-130	9	20	
Ethylbenzene	0.0517	0.0050	mg/kg wet	0.05000		103	70-130	10	20	
Hexachlorobutadiene	0.0559	0.0050	mg/kg wet	0.05000		112	70-130	5	20	
Isopropylbenzene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130	7	20	
Methyl tert-Butyl Ether	0.0546	0.0050	mg/kg wet	0.05000		109	70-130	7	20	
Methylene Chloride	0.0483	0.0100	mg/kg wet	0.05000		97	70-130	4	20	
Naphthalene	0.0513	0.0050	mg/kg wet	0.05000		103	70-130	15	20	
n-Butylbenzene	0.0451	0.0050	mg/kg wet	0.05000		90	70-130	13	20	
n-Propylbenzene	0.0495	0.0050	mg/kg wet	0.05000		99	70-130	8	20	
sec-Butylbenzene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130	8	20	
Styrene	0.0516	0.0050	mg/kg wet	0.05000		103	70-130	12	20	
tert-Butylbenzene	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	8	20	
Tertiary-amyl methyl ether	0.0600	0.0050	mg/kg wet	0.05000		120	70-130	8	20	
Tetrachloroethene	0.0511	0.0050	mg/kg wet	0.05000		102	70-130	13	20	
Tetrahydrofuran	0.0425	0.0050	mg/kg wet	0.05000		85	70-130	13	20	
Toluene	0.0483	0.0050	mg/kg wet	0.05000		97	70-130	8	20	
trans-1,2-Dichloroethene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130	10	20	
trans-1,3-Dichloropropene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130	8	20	
Trichloroethene	0.0494	0.0050	mg/kg wet	0.05000		99	70-130	11	20	
Trichlorofluoromethane	0.0554	0.0050	mg/kg wet	0.05000		111	70-130	8	20	
Vinyl Chloride	0.0415	0.0100	mg/kg wet	0.05000		83	70-130	12	20	
Xylene O	0.0525	0.0050	mg/kg wet	0.05000		105	70-130	10	20	
Xylene P,M	0.105	0.0100	mg/kg wet	0.1000		105	70-130	10	20	
Surrogate: 1,2-Dichloroethane-d4	*0.0471*		mg/kg wet	*0.05000*		*94*	*70-130*			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0467

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01838 - 5035										
Surrogate: 4-Bromofluorobenzene	*0.0493*		mg/kg wet	*0.05000*		*99*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0481*		mg/kg wet	*0.05000*		*96*	*70-130*			
Surrogate: Toluene-d8	*0.0485*		mg/kg wet	*0.05000*		*97*	*70-130*			
Batch DC01938 - 5035										
Blank										
1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet							
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0020	mg/kg wet							
1,1,2-Trichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethene	ND	0.0050	mg/kg wet							
1,1-Dichloropropene	ND	0.0050	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,3-Trichloropropane	ND	0.0050	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/kg wet							
1,2-Dibromoethane	ND	0.0050	mg/kg wet							
1,2-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,2-Dichloroethane	ND	0.0050	mg/kg wet							
1,2-Dichloropropane	ND	0.0050	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,3-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,3-Dichloropropane	ND	0.0050	mg/kg wet							
1,4-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,4-Dioxane	ND	0.100	mg/kg wet							
2,2-Dichloropropane	ND	0.0050	mg/kg wet							
2-Butanone	ND	0.0100	mg/kg wet							
2-Chlorotoluene	ND	0.0050	mg/kg wet							
2-Hexanone	ND	0.0100	mg/kg wet							
4-Chlorotoluene	ND	0.0050	mg/kg wet							
4-Isopropyltoluene	ND	0.0050	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.0100	mg/kg wet							
Acetone	ND	0.0100	mg/kg wet							
Benzene	ND	0.0050	mg/kg wet							
Bromobenzene	ND	0.0050	mg/kg wet							
Bromochloromethane	ND	0.0050	mg/kg wet							
Bromodichloromethane	ND	0.0050	mg/kg wet							
Bromoform	ND	0.0050	mg/kg wet							
Bromomethane	ND	0.0100	mg/kg wet							
Carbon Disulfide	ND	0.0050	mg/kg wet							
Carbon Tetrachloride	ND	0.0050	mg/kg wet							
Chlorobenzene	ND	0.0050	mg/kg wet							
Chloroethane	ND	0.0100	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0467

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01938 - 5035										
Chloroform	ND	0.0050	mg/kg wet							
Chloromethane	ND	0.0100	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
cis-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Dibromochloromethane	ND	0.0020	mg/kg wet							
Dibromomethane	ND	0.0050	mg/kg wet							
Dichlorodifluoromethane	ND	0.0100	mg/kg wet							
Diethyl Ether	ND	0.0050	mg/kg wet							
Di-isopropyl ether	ND	0.0050	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.0050	mg/kg wet							
Ethylbenzene	ND	0.0050	mg/kg wet							
Hexachlorobutadiene	ND	0.0050	mg/kg wet							
Isopropylbenzene	ND	0.0050	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.0050	mg/kg wet							
Methylene Chloride	ND	0.0100	mg/kg wet							
Naphthalene	ND	0.0050	mg/kg wet							
n-Butylbenzene	ND	0.0050	mg/kg wet							
n-Propylbenzene	ND	0.0050	mg/kg wet							
sec-Butylbenzene	ND	0.0050	mg/kg wet							
Styrene	ND	0.0050	mg/kg wet							
tert-Butylbenzene	ND	0.0050	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0050	mg/kg wet							
Tetrachloroethene	ND	0.0050	mg/kg wet							
Tetrahydrofuran	ND	0.0050	mg/kg wet							
Toluene	ND	0.0050	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Trichloroethene	ND	0.0050	mg/kg wet							
Trichlorofluoromethane	ND	0.0050	mg/kg wet							
Vinyl Chloride	ND	0.0100	mg/kg wet							
Xylene O	ND	0.0050	mg/kg wet							
Xylene P,M	ND	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	*0.0551*		mg/kg wet	*0.05000*		*110*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0492*		mg/kg wet	*0.05000*		*98*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0531*		mg/kg wet	*0.05000*		*106*	*70-130*			
Surrogate: Toluene-d8	*0.0486*		mg/kg wet	*0.05000*		*97*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	0.0457	0.0050	mg/kg wet	0.05000		91	70-130			
1,1,1-Trichloroethane	0.0500	0.0050	mg/kg wet	0.05000		100	70-130			
1,1,2,2-Tetrachloroethane	0.0478	0.0020	mg/kg wet	0.05000		96	70-130			
1,1,2-Trichloroethane	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
1,1-Dichloroethane	0.0505	0.0050	mg/kg wet	0.05000		101	70-130			
1,1-Dichloroethene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130			
1,1-Dichloropropene	0.0531	0.0050	mg/kg wet	0.05000		106	70-130			
1,2,3-Trichlorobenzene	0.0442	0.0050	mg/kg wet	0.05000		88	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0467

Quality Control Data

5035/8260B Volatile Organic Compounds / Low Level

Batch DC01938 - 5035

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
1,2,3-Trichloropropane	0.0422	0.0050	mg/kg wet	0.05000		84	70-130			
1,2,4-Trichlorobenzene	0.0431	0.0050	mg/kg wet	0.05000		86	70-130			
1,2,4-Trimethylbenzene	0.0492	0.0050	mg/kg wet	0.05000		98	70-130			
1,2-Dibromo-3-Chloropropane	0.0387	0.0050	mg/kg wet	0.05000		77	70-130			
1,2-Dibromoethane	0.0458	0.0050	mg/kg wet	0.05000		92	70-130			
1,2-Dichlorobenzene	0.0461	0.0050	mg/kg wet	0.05000		92	70-130			
1,2-Dichloroethane	0.0511	0.0050	mg/kg wet	0.05000		102	70-130			
1,2-Dichloropropane	0.0514	0.0050	mg/kg wet	0.05000		103	70-130			
1,3,5-Trimethylbenzene	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			
1,3-Dichlorobenzene	0.0469	0.0050	mg/kg wet	0.05000		94	70-130			
1,3-Dichloropropane	0.0488	0.0050	mg/kg wet	0.05000		98	70-130			
1,4-Dichlorobenzene	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
1,4-Dioxane	0.850	0.100	mg/kg wet	1.000		85	70-130			
2,2-Dichloropropane	0.0480	0.0050	mg/kg wet	0.05000		96	70-130			
2-Butanone	0.249	0.0100	mg/kg wet	0.2500		100	70-130			
2-Chlorotoluene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130			
2-Hexanone	0.221	0.0100	mg/kg wet	0.2500		88	70-130			
4-Chlorotoluene	0.0486	0.0050	mg/kg wet	0.05000		97	70-130			
4-Isopropyltoluene	0.0475	0.0050	mg/kg wet	0.05000		95	70-130			
4-Methyl-2-Pentanone	0.236	0.0100	mg/kg wet	0.2500		95	70-130			
Acetone	0.244	0.0100	mg/kg wet	0.2500		97	70-130			
Benzene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130			
Bromobenzene	0.0455	0.0050	mg/kg wet	0.05000		91	70-130			
Bromochloromethane	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
Bromodichloromethane	0.0535	0.0050	mg/kg wet	0.05000		107	70-130			
Bromoform	0.0379	0.0050	mg/kg wet	0.05000		76	70-130			
Bromomethane	0.0578	0.0100	mg/kg wet	0.05000		116	70-130			
Carbon Disulfide	0.0531	0.0050	mg/kg wet	0.05000		106	70-130			
Carbon Tetrachloride	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			
Chlorobenzene	0.0467	0.0050	mg/kg wet	0.05000		93	70-130			
Chloroethane	0.0494	0.0100	mg/kg wet	0.05000		99	70-130			
Chloroform	0.0517	0.0050	mg/kg wet	0.05000		103	70-130			
Chloromethane	0.0472	0.0100	mg/kg wet	0.05000		94	70-130			
cis-1,2-Dichloroethene	0.0509	0.0050	mg/kg wet	0.05000		102	70-130			
cis-1,3-Dichloropropene	0.0523	0.0050	mg/kg wet	0.05000		105	70-130			
Dibromochloromethane	0.0440	0.0020	mg/kg wet	0.05000		88	70-130			
Dibromomethane	0.0483	0.0050	mg/kg wet	0.05000		97	70-130			
Dichlorodifluoromethane	0.0504	0.0100	mg/kg wet	0.05000		101	70-130			
Diethyl Ether	0.0491	0.0050	mg/kg wet	0.05000		98	70-130			
Di-isopropyl ether	0.0513	0.0050	mg/kg wet	0.05000		103	70-130			
Ethyl tertiary-butyl ether	0.0467	0.0050	mg/kg wet	0.05000		93	70-130			
Ethylbenzene	0.0482	0.0050	mg/kg wet	0.05000		96	70-130			
Hexachlorobutadiene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130			
Isopropylbenzene	0.0490	0.0050	mg/kg wet	0.05000		98	70-130			
Methyl tert-Butyl Ether	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0467

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01938 - 5035										
Methylene Chloride	0.0472	0.0100	mg/kg wet	0.05000		94	70-130			
Naphthalene	0.0440	0.0050	mg/kg wet	0.05000		88	70-130			
n-Butylbenzene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130			
n-Propylbenzene	0.0497	0.0050	mg/kg wet	0.05000		99	70-130			
sec-Butylbenzene	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			
Styrene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130			
tert-Butylbenzene	0.0481	0.0050	mg/kg wet	0.05000		96	70-130			
Tertiary-amyl methyl ether	0.0482	0.0050	mg/kg wet	0.05000		96	70-130			
Tetrachloroethene	0.0464	0.0050	mg/kg wet	0.05000		93	70-130			
Tetrahydrofuran	0.0434	0.0050	mg/kg wet	0.05000		87	70-130			
Toluene	0.0495	0.0050	mg/kg wet	0.05000		99	70-130			
trans-1,2-Dichloroethene	0.0504	0.0050	mg/kg wet	0.05000		101	70-130			
trans-1,3-Dichloropropene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130			
Trichloroethene	0.0511	0.0050	mg/kg wet	0.05000		102	70-130			
Trichlorofluoromethane	0.0541	0.0050	mg/kg wet	0.05000		108	70-130			
Vinyl Chloride	0.0521	0.0100	mg/kg wet	0.05000		104	70-130			
Xylene O	0.0487	0.0050	mg/kg wet	0.05000		97	70-130			
Xylene P,M	0.0971	0.0100	mg/kg wet	0.1000		97	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0514*		mg/kg wet	*0.05000*		*103*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0499*		mg/kg wet	*0.05000*		*100*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0512*		mg/kg wet	*0.05000*		*102*	*70-130*			
Surrogate: Toluene-d8	*0.0496*		mg/kg wet	*0.05000*		*99*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	0.0477	0.0050	mg/kg wet	0.05000		95	70-130	4	20	
1,1,1-Trichloroethane	0.0507	0.0050	mg/kg wet	0.05000		101	70-130	1	20	
1,1,2,2-Tetrachloroethane	0.0505	0.0020	mg/kg wet	0.05000		101	70-130	5	20	
1,1,2-Trichloroethane	0.0503	0.0050	mg/kg wet	0.05000		101	70-130	6	20	
1,1-Dichloroethane	0.0520	0.0050	mg/kg wet	0.05000		104	70-130	3	20	
1,1-Dichloroethene	0.0522	0.0050	mg/kg wet	0.05000		104	70-130	3	20	
1,1-Dichloropropene	0.0546	0.0050	mg/kg wet	0.05000		109	70-130	3	20	
1,2,3-Trichlorobenzene	0.0473	0.0050	mg/kg wet	0.05000		95	70-130	7	20	
1,2,3-Trichloropropane	0.0450	0.0050	mg/kg wet	0.05000		90	70-130	6	20	
1,2,4-Trichlorobenzene	0.0464	0.0050	mg/kg wet	0.05000		93	70-130	7	20	
1,2,4-Trimethylbenzene	0.0514	0.0050	mg/kg wet	0.05000		103	70-130	4	20	
1,2-Dibromo-3-Chloropropane	0.0416	0.0050	mg/kg wet	0.05000		83	70-130	7	20	
1,2-Dibromoethane	0.0483	0.0050	mg/kg wet	0.05000		97	70-130	5	20	
1,2-Dichlorobenzene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	6	20	
1,2-Dichloroethane	0.0530	0.0050	mg/kg wet	0.05000		106	70-130	4	20	
1,2-Dichloropropane	0.0526	0.0050	mg/kg wet	0.05000		105	70-130	2	20	
1,3,5-Trimethylbenzene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130	5	20	
1,3-Dichlorobenzene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	4	20	
1,3-Dichloropropane	0.0513	0.0050	mg/kg wet	0.05000		103	70-130	5	20	
1,4-Dichlorobenzene	0.0502	0.0050	mg/kg wet	0.05000		100	70-130	6	20	
1,4-Dioxane	0.942	0.100	mg/kg wet	1.000		94	70-130	10	20	
2,2-Dichloropropane	0.0495	0.0050	mg/kg wet	0.05000		99	70-130	3	20	

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0467

Quality Control Data

5035/8260B Volatile Organic Compounds / Low Level

Batch DC01938 - 5035

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
2-Butanone	0.259	0.0100	mg/kg wet	0.2500		104	70-130	4	20	
2-Chlorotoluene	0.0504	0.0050	mg/kg wet	0.05000		101	70-130	3	20	
2-Hexanone	0.227	0.0100	mg/kg wet	0.2500		91	70-130	3	20	
4-Chlorotoluene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130	4	20	
4-Isopropyltoluene	0.0491	0.0050	mg/kg wet	0.05000		98	70-130	3	20	
4-Methyl-2-Pentanone	0.246	0.0100	mg/kg wet	0.2500		98	70-130	4	20	
Acetone	0.240	0.0100	mg/kg wet	0.2500		96	70-130	1	20	
Benzene	0.0522	0.0050	mg/kg wet	0.05000		104	70-130	3	20	
Bromobenzene	0.0482	0.0050	mg/kg wet	0.05000		96	70-130	6	20	
Bromochloromethane	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	6	20	
Bromodichloromethane	0.0562	0.0050	mg/kg wet	0.05000		112	70-130	5	20	
Bromoform	0.0401	0.0050	mg/kg wet	0.05000		80	70-130	6	20	
Bromomethane	0.0605	0.0100	mg/kg wet	0.05000		121	70-130	5	20	
Carbon Disulfide	0.0541	0.0050	mg/kg wet	0.05000		108	70-130	2	20	
Carbon Tetrachloride	0.0504	0.0050	mg/kg wet	0.05000		101	70-130	2	20	
Chlorobenzene	0.0487	0.0050	mg/kg wet	0.05000		97	70-130	4	20	
Chloroethane	0.0505	0.0100	mg/kg wet	0.05000		101	70-130	2	20	
Chloroform	0.0533	0.0050	mg/kg wet	0.05000		107	70-130	3	20	
Chloromethane	0.0484	0.0100	mg/kg wet	0.05000		97	70-130	2	20	
cis-1,2-Dichloroethene	0.0529	0.0050	mg/kg wet	0.05000		106	70-130	4	20	
cis-1,3-Dichloropropene	0.0546	0.0050	mg/kg wet	0.05000		109	70-130	4	20	
Dibromochloromethane	0.0466	0.0020	mg/kg wet	0.05000		93	70-130	6	20	
Dibromomethane	0.0515	0.0050	mg/kg wet	0.05000		103	70-130	6	20	
Dichlorodifluoromethane	0.0512	0.0100	mg/kg wet	0.05000		102	70-130	2	20	
Diethyl Ether	0.0514	0.0050	mg/kg wet	0.05000		103	70-130	5	20	
Di-isopropyl ether	0.0534	0.0050	mg/kg wet	0.05000		107	70-130	4	20	
Ethyl tertiary-butyl ether	0.0490	0.0050	mg/kg wet	0.05000		98	70-130	5	20	
Ethylbenzene	0.0494	0.0050	mg/kg wet	0.05000		99	70-130	2	20	
Hexachlorobutadiene	0.0487	0.0050	mg/kg wet	0.05000		97	70-130	3	20	
Isopropylbenzene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130	3	20	
Methyl tert-Butyl Ether	0.0496	0.0050	mg/kg wet	0.05000		99	70-130	5	20	
Methylene Chloride	0.0492	0.0100	mg/kg wet	0.05000		98	70-130	4	20	
Naphthalene	0.0475	0.0050	mg/kg wet	0.05000		95	70-130	8	20	
n-Butylbenzene	0.0510	0.0050	mg/kg wet	0.05000		102	70-130	4	20	
n-Propylbenzene	0.0514	0.0050	mg/kg wet	0.05000		103	70-130	3	20	
sec-Butylbenzene	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	3	20	
Styrene	0.0486	0.0050	mg/kg wet	0.05000		97	70-130	3	20	
tert-Butylbenzene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130	4	20	
Tertiary-amyl methyl ether	0.0504	0.0050	mg/kg wet	0.05000		101	70-130	5	20	
Tetrachloroethene	0.0481	0.0050	mg/kg wet	0.05000		96	70-130	4	20	
Tetrahydrofuran	0.0452	0.0050	mg/kg wet	0.05000		90	70-130	4	20	
Toluene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130	2	20	
trans-1,2-Dichloroethene	0.0518	0.0050	mg/kg wet	0.05000		104	70-130	3	20	
trans-1,3-Dichloropropene	0.0497	0.0050	mg/kg wet	0.05000		99	70-130	6	20	
Trichloroethene	0.0522	0.0050	mg/kg wet	0.05000		104	70-130	2	20	

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0467

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01938 - 5035										
Trichlorofluoromethane	0.0547	0.0050	mg/kg wet	0.05000		109	70-130	1	20	
Vinyl Chloride	0.0525	0.0100	mg/kg wet	0.05000		105	70-130	0.8	20	
Xylene O	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	2	20	
Xylene P,M	0.101	0.0100	mg/kg wet	0.1000		101	70-130	4	20	
Surrogate: 1,2-Dichloroethane-d4	*0.0501*		mg/kg wet	*0.05000*		*100*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0497*		mg/kg wet	*0.05000*		*99*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0507*		mg/kg wet	*0.05000*		*101*	*70-130*			
Surrogate: Toluene-d8	*0.0496*		mg/kg wet	*0.05000*		*99*	*70-130*			
5035/8260B Volatile Organic Compounds / Methanol										
Batch DC02018 - 5035										
Blank										
1,1,1,2-Tetrachloroethane	ND	0.200	mg/kg wet							
1,1,1-Trichloroethane	ND	0.200	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.200	mg/kg wet							
1,1,2-Trichloroethane	ND	0.200	mg/kg wet							
1,1-Dichloroethane	ND	0.200	mg/kg wet							
1,1-Dichloroethene	ND	0.200	mg/kg wet							
1,1-Dichloropropene	ND	0.200	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.200	mg/kg wet							
1,2,3-Trichloropropane	ND	0.200	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.200	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.200	mg/kg wet							
1,2-Dibromo-3-Chloropropane	ND	1.00	mg/kg wet							
1,2-Dibromoethane	ND	0.200	mg/kg wet							
1,2-Dichlorobenzene	ND	0.200	mg/kg wet							
1,2-Dichloroethane	ND	0.200	mg/kg wet							
1,2-Dichloropropane	ND	0.200	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.200	mg/kg wet							
1,3-Dichlorobenzene	ND	0.200	mg/kg wet							
1,3-Dichloropropane	ND	0.200	mg/kg wet							
1,4-Dichlorobenzene	ND	0.200	mg/kg wet							
1,4-Dioxane - Screen	ND	40.0	mg/kg wet							
2,2-Dichloropropane	ND	0.200	mg/kg wet							
2-Butanone	ND	1.00	mg/kg wet							
2-Chlorotoluene	ND	0.200	mg/kg wet							
2-Hexanone	ND	1.00	mg/kg wet							
4-Chlorotoluene	ND	0.200	mg/kg wet							
4-Isopropyltoluene	ND	0.200	mg/kg wet							
4-Methyl-2-Pentanone	ND	1.00	mg/kg wet							
Acetone	ND	1.00	mg/kg wet							
Benzene	ND	0.200	mg/kg wet							
Bromobenzene	ND	0.200	mg/kg wet							
Bromochloromethane	ND	0.200	mg/kg wet							
Bromodichloromethane	ND	0.200	mg/kg wet							

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Client Name: GEI Consultants, Inc.
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ESS Laboratory Work Order: 20C0467

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch DC02018 - 5035										
Bromoform	ND	0.200	mg/kg wet							
Bromomethane	ND	0.200	mg/kg wet							
Carbon Disulfide	ND	0.200	mg/kg wet							
Carbon Tetrachloride	ND	0.200	mg/kg wet							
Chlorobenzene	ND	0.200	mg/kg wet							
Chloroethane	ND	0.200	mg/kg wet							
Chloroform	ND	0.200	mg/kg wet							
Chloromethane	ND	0.200	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.200	mg/kg wet							
cis-1,3-Dichloropropene	ND	0.200	mg/kg wet							
Dibromochloromethane	ND	0.200	mg/kg wet							
Dibromomethane	ND	0.200	mg/kg wet							
Dichlorodifluoromethane	ND	0.200	mg/kg wet							
Diethyl Ether	ND	0.200	mg/kg wet							
Di-isopropyl ether	ND	0.200	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.200	mg/kg wet							
Ethylbenzene	ND	0.200	mg/kg wet							
Hexachlorobutadiene	ND	0.200	mg/kg wet							
Isopropylbenzene	ND	0.200	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.200	mg/kg wet							
Methylene Chloride	ND	0.400	mg/kg wet							
Naphthalene	ND	0.200	mg/kg wet							
n-Butylbenzene	ND	0.200	mg/kg wet							
n-Propylbenzene	ND	0.200	mg/kg wet							
sec-Butylbenzene	ND	0.200	mg/kg wet							
Styrene	ND	0.200	mg/kg wet							
tert-Butylbenzene	ND	0.200	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.200	mg/kg wet							
Tetrachloroethene	ND	0.200	mg/kg wet							
Tetrahydrofuran	ND	1.00	mg/kg wet							
Toluene	ND	0.200	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.200	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.200	mg/kg wet							
Trichloroethene	ND	0.200	mg/kg wet							
Trichlorofluoromethane	ND	0.200	mg/kg wet							
Vinyl Chloride	ND	0.200	mg/kg wet							
Xylene O	ND	0.200	mg/kg wet							
Xylene P,M	ND	0.400	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	*4.93*		mg/kg wet	*5.000*		*99*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*4.53*		mg/kg wet	*5.000*		*91*	*70-130*			
Surrogate: Dibromofluoromethane	*4.73*		mg/kg wet	*5.000*		*95*	*70-130*			
Surrogate: Toluene-d8	*4.73*		mg/kg wet	*5.000*		*95*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	1.88	0.200	mg/kg wet	2.000		94	70-130			
1,1,1-Trichloroethane	1.84	0.200	mg/kg wet	2.000		92	70-130			

CERTIFICATE OF ANALYSIS

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ESS Laboratory Work Order: 20C0467

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch DC02018 - 5035										
1,1,2,2-Tetrachloroethane	1.88	0.200	mg/kg wet	2.000		94	70-130			
1,1,2-Trichloroethane	1.82	0.200	mg/kg wet	2.000		91	70-130			
1,1-Dichloroethane	1.75	0.200	mg/kg wet	2.000		87	70-130			
1,1-Dichloroethene	1.71	0.200	mg/kg wet	2.000		86	70-130			
1,1-Dichloropropene	1.87	0.200	mg/kg wet	2.000		93	70-130			
1,2,3-Trichlorobenzene	1.98	0.200	mg/kg wet	2.000		99	70-130			
1,2,3-Trichloropropane	1.95	0.200	mg/kg wet	2.000		97	70-130			
1,2,4-Trichlorobenzene	1.97	0.200	mg/kg wet	2.000		99	70-130			
1,2,4-Trimethylbenzene	1.98	0.200	mg/kg wet	2.000		99	70-130			
1,2-Dibromo-3-Chloropropane	1.62	1.00	mg/kg wet	2.000		81	70-130			
1,2-Dibromoethane	2.02	0.200	mg/kg wet	2.000		101	70-130			
1,2-Dichlorobenzene	1.94	0.200	mg/kg wet	2.000		97	70-130			
1,2-Dichloroethane	1.88	0.200	mg/kg wet	2.000		94	70-130			
1,2-Dichloropropane	1.79	0.200	mg/kg wet	2.000		90	70-130			
1,3,5-Trimethylbenzene	1.91	0.200	mg/kg wet	2.000		95	70-130			
1,3-Dichlorobenzene	1.95	0.200	mg/kg wet	2.000		98	70-130			
1,3-Dichloropropane	2.06	0.200	mg/kg wet	2.000		103	70-130			
1,4-Dichlorobenzene	2.01	0.200	mg/kg wet	2.000		101	70-130			
1,4-Dioxane - Screen	56.0	40.0	mg/kg wet	40.00		140	44-241			
2,2-Dichloropropane	1.83	0.200	mg/kg wet	2.000		92	70-130			
2-Butanone	9.52	1.00	mg/kg wet	10.00		95	70-130			
2-Chlorotoluene	1.91	0.200	mg/kg wet	2.000		96	70-130			
2-Hexanone	8.95	1.00	mg/kg wet	10.00		90	70-130			
4-Chlorotoluene	1.94	0.200	mg/kg wet	2.000		97	70-130			
4-Isopropyltoluene	1.94	0.200	mg/kg wet	2.000		97	70-130			
4-Methyl-2-Pentanone	9.26	1.00	mg/kg wet	10.00		93	70-130			
Acetone	9.55	1.00	mg/kg wet	10.00		95	70-130			
Benzene	1.84	0.200	mg/kg wet	2.000		92	70-130			
Bromobenzene	2.00	0.200	mg/kg wet	2.000		100	70-130			
Bromochloromethane	1.87	0.200	mg/kg wet	2.000		93	70-130			
Bromodichloromethane	1.80	0.200	mg/kg wet	2.000		90	70-130			
Bromoform	1.54	0.200	mg/kg wet	2.000		77	70-130			
Bromomethane	1.87	0.200	mg/kg wet	2.000		94	70-130			
Carbon Disulfide	1.88	0.200	mg/kg wet	2.000		94	70-130			
Carbon Tetrachloride	1.94	0.200	mg/kg wet	2.000		97	70-130			
Chlorobenzene	1.97	0.200	mg/kg wet	2.000		98	70-130			
Chloroethane	1.74	0.200	mg/kg wet	2.000		87	70-130			
Chloroform	1.82	0.200	mg/kg wet	2.000		91	70-130			
Chloromethane	1.87	0.200	mg/kg wet	2.000		94	70-130			
cis-1,2-Dichloroethene	1.76	0.200	mg/kg wet	2.000		88	70-130			
cis-1,3-Dichloropropene	1.93	0.200	mg/kg wet	2.000		96	70-130			
Dibromochloromethane	1.66	0.200	mg/kg wet	2.000		83	70-130			
Dibromomethane	1.75	0.200	mg/kg wet	2.000		88	70-130			
Dichlorodifluoromethane	1.85	0.200	mg/kg wet	2.000		92	70-130			
Diethyl Ether	1.80	0.200	mg/kg wet	2.000		90	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0467

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch DC02018 - 5035										
Di-isopropyl ether	1.79	0.200	mg/kg wet	2.000		90	70-130			
Ethyl tertiary-butyl ether	1.71	0.200	mg/kg wet	2.000		85	70-130			
Ethylbenzene	1.93	0.200	mg/kg wet	2.000		97	70-130			
Hexachlorobutadiene	2.44	0.200	mg/kg wet	2.000		122	70-130			
Isopropylbenzene	1.90	0.200	mg/kg wet	2.000		95	70-130			
Methyl tert-Butyl Ether	1.79	0.200	mg/kg wet	2.000		90	70-130			
Methylene Chloride	1.87	0.400	mg/kg wet	2.000		93	70-130			
Naphthalene	1.95	0.200	mg/kg wet	2.000		97	70-130			
n-Butylbenzene	1.90	0.200	mg/kg wet	2.000		95	70-130			
n-Propylbenzene	1.93	0.200	mg/kg wet	2.000		96	70-130			
sec-Butylbenzene	1.89	0.200	mg/kg wet	2.000		94	70-130			
Styrene	1.88	0.200	mg/kg wet	2.000		94	70-130			
tert-Butylbenzene	2.00	0.200	mg/kg wet	2.000		100	70-130			
Tertiary-amyl methyl ether	1.87	0.200	mg/kg wet	2.000		94	70-130			
Tetrachloroethene	1.94	0.200	mg/kg wet	2.000		97	70-130			
Tetrahydrofuran	1.59	1.00	mg/kg wet	2.000		79	70-130			
Toluene	1.76	0.200	mg/kg wet	2.000		88	70-130			
trans-1,2-Dichloroethene	1.86	0.200	mg/kg wet	2.000		93	70-130			
trans-1,3-Dichloropropene	1.60	0.200	mg/kg wet	2.000		80	70-130			
Trichloroethene	1.89	0.200	mg/kg wet	2.000		94	70-130			
Trichlorofluoromethane	2.09	0.200	mg/kg wet	2.000		105	70-130			
Vinyl Chloride	1.73	0.200	mg/kg wet	2.000		87	70-130			
Xylene O	1.92	0.200	mg/kg wet	2.000		96	70-130			
Xylene P,M	3.81	0.400	mg/kg wet	4.000		95	70-130			
Surrogate: 1,2-Dichloroethane-d4	*4.93*		mg/kg wet	*5.000*		*99*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*4.94*		mg/kg wet	*5.000*		*99*	*70-130*			
Surrogate: Dibromofluoromethane	*5.01*		mg/kg wet	*5.000*		*100*	*70-130*			
Surrogate: Toluene-d8	*4.95*		mg/kg wet	*5.000*		*99*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	1.80	0.200	mg/kg wet	2.000		90	70-130	4	20	
1,1,1-Trichloroethane	1.75	0.200	mg/kg wet	2.000		88	70-130	5	20	
1,1,2,2-Tetrachloroethane	1.83	0.200	mg/kg wet	2.000		92	70-130	3	20	
1,1,2-Trichloroethane	1.78	0.200	mg/kg wet	2.000		89	70-130	2	20	
1,1-Dichloroethane	1.76	0.200	mg/kg wet	2.000		88	70-130	0.5	20	
1,1-Dichloroethene	1.75	0.200	mg/kg wet	2.000		88	70-130	2	20	
1,1-Dichloropropene	1.83	0.200	mg/kg wet	2.000		92	70-130	2	20	
1,2,3-Trichlorobenzene	1.88	0.200	mg/kg wet	2.000		94	70-130	5	20	
1,2,3-Trichloropropane	1.85	0.200	mg/kg wet	2.000		93	70-130	5	20	
1,2,4-Trichlorobenzene	1.87	0.200	mg/kg wet	2.000		93	70-130	6	20	
1,2,4-Trimethylbenzene	1.95	0.200	mg/kg wet	2.000		98	70-130	1	20	
1,2-Dibromo-3-Chloropropane	1.53	1.00	mg/kg wet	2.000		76	70-130	6	20	
1,2-Dibromoethane	1.86	0.200	mg/kg wet	2.000		93	70-130	8	20	
1,2-Dichlorobenzene	2.00	0.200	mg/kg wet	2.000		100	70-130	3	20	
1,2-Dichloroethane	1.85	0.200	mg/kg wet	2.000		92	70-130	2	20	
1,2-Dichloropropane	1.74	0.200	mg/kg wet	2.000		87	70-130	3	20	

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch DC02018 - 5035										
1,3,5-Trimethylbenzene	1.86	0.200	mg/kg wet	2.000		93	70-130	2	20	
1,3-Dichlorobenzene	2.01	0.200	mg/kg wet	2.000		100	70-130	3	20	
1,3-Dichloropropane	1.94	0.200	mg/kg wet	2.000		97	70-130	6	20	
1,4-Dichlorobenzene	1.99	0.200	mg/kg wet	2.000		100	70-130	1	20	
1,4-Dioxane - Screen	42.9	40.0	mg/kg wet	40.00		107	44-241	26	200	
2,2-Dichloropropane	1.83	0.200	mg/kg wet	2.000		91	70-130	0.3	20	
2-Butanone	9.10	1.00	mg/kg wet	10.00		91	70-130	5	20	
2-Chlorotoluene	2.01	0.200	mg/kg wet	2.000		101	70-130	5	20	
2-Hexanone	8.59	1.00	mg/kg wet	10.00		86	70-130	4	20	
4-Chlorotoluene	1.98	0.200	mg/kg wet	2.000		99	70-130	2	20	
4-Isopropyltoluene	1.89	0.200	mg/kg wet	2.000		94	70-130	3	20	
4-Methyl-2-Pentanone	8.55	1.00	mg/kg wet	10.00		86	70-130	8	20	
Acetone	8.00	1.00	mg/kg wet	10.00		80	70-130	18	20	
Benzene	1.90	0.200	mg/kg wet	2.000		95	70-130	3	20	
Bromobenzene	2.00	0.200	mg/kg wet	2.000		100	70-130	0	20	
Bromochloromethane	1.86	0.200	mg/kg wet	2.000		93	70-130	0.3	20	
Bromodichloromethane	1.79	0.200	mg/kg wet	2.000		89	70-130	0.6	20	
Bromoform	1.40	0.200	mg/kg wet	2.000		70	70-130	9	20	
Bromomethane	1.97	0.200	mg/kg wet	2.000		98	70-130	5	20	
Carbon Disulfide	1.87	0.200	mg/kg wet	2.000		93	70-130	0.4	20	
Carbon Tetrachloride	1.85	0.200	mg/kg wet	2.000		92	70-130	5	20	
Chlorobenzene	1.96	0.200	mg/kg wet	2.000		98	70-130	0.5	20	
Chloroethane	1.90	0.200	mg/kg wet	2.000		95	70-130	8	20	
Chloroform	1.91	0.200	mg/kg wet	2.000		96	70-130	5	20	
Chloromethane	1.83	0.200	mg/kg wet	2.000		92	70-130	2	20	
cis-1,2-Dichloroethene	1.76	0.200	mg/kg wet	2.000		88	70-130	0.1	20	
cis-1,3-Dichloropropene	1.98	0.200	mg/kg wet	2.000		99	70-130	3	20	
Dibromochloromethane	1.73	0.200	mg/kg wet	2.000		87	70-130	4	20	
Dibromomethane	1.74	0.200	mg/kg wet	2.000		87	70-130	0.9	20	
Dichlorodifluoromethane	1.87	0.200	mg/kg wet	2.000		94	70-130	1	20	
Diethyl Ether	1.87	0.200	mg/kg wet	2.000		93	70-130	3	20	
Di-isopropyl ether	1.82	0.200	mg/kg wet	2.000		91	70-130	1	20	
Ethyl tertiary-butyl ether	1.67	0.200	mg/kg wet	2.000		84	70-130	2	20	
Ethylbenzene	1.89	0.200	mg/kg wet	2.000		94	70-130	2	20	
Hexachlorobutadiene	2.17	0.200	mg/kg wet	2.000		108	70-130	12	20	
Isopropylbenzene	1.95	0.200	mg/kg wet	2.000		97	70-130	2	20	
Methyl tert-Butyl Ether	1.71	0.200	mg/kg wet	2.000		86	70-130	4	20	
Methylene Chloride	1.88	0.400	mg/kg wet	2.000		94	70-130	0.6	20	
Naphthalene	1.81	0.200	mg/kg wet	2.000		90	70-130	7	20	
n-Butylbenzene	1.88	0.200	mg/kg wet	2.000		94	70-130	1	20	
n-Propylbenzene	1.95	0.200	mg/kg wet	2.000		97	70-130	1	20	
sec-Butylbenzene	1.90	0.200	mg/kg wet	2.000		95	70-130	0.5	20	
Styrene	1.91	0.200	mg/kg wet	2.000		95	70-130	2	20	
tert-Butylbenzene	1.97	0.200	mg/kg wet	2.000		98	70-130	1	20	
Tertiary-amyl methyl ether	1.73	0.200	mg/kg wet	2.000		87	70-130	8	20	

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Client Name: GEI Consultants, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch DC02018 - 5035										
Tetrachloroethene	1.96	0.200	mg/kg wet	2.000		98	70-130	0.8	20	
Tetrahydrofuran	1.74	1.00	mg/kg wet	2.000		87	70-130	9	20	
Toluene	1.83	0.200	mg/kg wet	2.000		92	70-130	4	20	
trans-1,2-Dichloroethene	1.85	0.200	mg/kg wet	2.000		92	70-130	0.5	20	
trans-1,3-Dichloropropene	1.55	0.200	mg/kg wet	2.000		77	70-130	4	20	
Trichloroethene	1.82	0.200	mg/kg wet	2.000		91	70-130	4	20	
Trichlorofluoromethane	1.95	0.200	mg/kg wet	2.000		97	70-130	7	20	
Vinyl Chloride	1.70	0.200	mg/kg wet	2.000		85	70-130	2	20	
Xylene O	1.96	0.200	mg/kg wet	2.000		98	70-130	2	20	
Xylene P,M	3.88	0.400	mg/kg wet	4.000		97	70-130	2	20	
Surrogate: 1,2-Dichloroethane-d4	*4.95*		mg/kg wet	*5.000*		*99*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*4.68*		mg/kg wet	*5.000*		*94*	*70-130*			
Surrogate: Dibromofluoromethane	*4.97*		mg/kg wet	*5.000*		*99*	*70-130*			
Surrogate: Toluene-d8	*4.98*		mg/kg wet	*5.000*		*100*	*70-130*			
8082A Polychlorinated Biphenyls (PCB)										
Batch DC01701 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0192*		mg/kg wet	*0.02500*		*77*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0184*		mg/kg wet	*0.02500*		*74*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0169*		mg/kg wet	*0.02500*		*68*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0194*		mg/kg wet	*0.02500*		*78*	*30-150*			
LCS										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		86	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		87	40-140			
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		89	40-140			

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8082A Polychlorinated Biphenyls (PCB)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch DC01701 - 3540C										
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		87	40-140			
Surrogate: Decachlorobiphenyl	*0.0225*		mg/kg wet	*0.02500*		*90*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0216*		mg/kg wet	*0.02500*		*86*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0207*		mg/kg wet	*0.02500*		*83*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0223*		mg/kg wet	*0.02500*		*89*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		82	40-140	5	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		85	40-140	1	30	
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		87	40-140	2	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		83	40-140	4	30	
Surrogate: Decachlorobiphenyl	*0.0220*		mg/kg wet	*0.02500*		*88*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0209*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0203*		mg/kg wet	*0.02500*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0222*		mg/kg wet	*0.02500*		*89*	*30-150*			
Batch DC01930 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0198*		mg/kg wet	*0.02500*		*79*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0195*		mg/kg wet	*0.02500*		*78*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0179*		mg/kg wet	*0.02500*		*72*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0208*		mg/kg wet	*0.02500*		*83*	*30-150*			
LCS										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		89	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		91	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		93	40-140			

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DC01930 - 3540C										
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		90	40-140			
Surrogate: Decachlorobiphenyl	*0.0227*		mg/kg wet	*0.02500*		*91*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0221*		mg/kg wet	*0.02500*		*88*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0217*		mg/kg wet	*0.02500*		*87*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0236*		mg/kg wet	*0.02500*		*94*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		86	40-140	3	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		88	40-140	3	30	
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		89	40-140	4	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		86	40-140	4	30	
Surrogate: Decachlorobiphenyl	*0.0219*		mg/kg wet	*0.02500*		*87*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0211*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0209*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0230*		mg/kg wet	*0.02500*		*92*	*30-150*			
8270D Semi-Volatile Organic Compounds										
Batch DC01609 - 3546										
Blank										
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.080	mg/kg wet							
1,4-Dichlorobenzene	ND	0.084	mg/kg wet							
2,4,5-Trichlorophenol	ND	0.333	mg/kg wet							
2,4,6-Trichlorophenol	ND	0.082	mg/kg wet							
2,4-Dichlorophenol	ND	0.083	mg/kg wet							
2,4-Dimethylphenol	ND	0.075	mg/kg wet							
2,4-Dinitrophenol	ND	0.557	mg/kg wet							
2,4-Dinitrotoluene	ND	0.107	mg/kg wet							
2,6-Dinitrotoluene	ND	0.333	mg/kg wet							
2-Chloronaphthalene	ND	0.333	mg/kg wet							
2-Chlorophenol	ND	0.094	mg/kg wet							
2-Methylnaphthalene	ND	0.072	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
2-Nitrophenol	ND	0.333	mg/kg wet							
3,3´-Dichlorobenzidine	ND	0.167	mg/kg wet							
3+4-Methylphenol	ND	0.667	mg/kg wet							
4-Bromophenyl-phenylether	ND	0.333	mg/kg wet							
4-Chloroaniline	ND	0.167	mg/kg wet							
4-Nitrophenol	ND	1.67	mg/kg wet							
Acenaphthene	ND	0.333	mg/kg wet							
Acenaphthylene	ND	0.167	mg/kg wet							
Acetophenone	ND	0.667	mg/kg wet							
Aniline	ND	1.67	mg/kg wet							

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DC01609 - 3546										
Anthracene	ND	0.333	mg/kg wet							
Azobenzene	ND	0.333	mg/kg wet							
Benzo(a)anthracene	ND	0.333	mg/kg wet							
Benzo(a)pyrene	ND	0.167	mg/kg wet							
Benzo(b)fluoranthene	ND	0.333	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.333	mg/kg wet							
Benzo(k)fluoranthene	ND	0.333	mg/kg wet							
bis(2-Chloroethoxy)methane	ND	0.333	mg/kg wet							
bis(2-Chloroethyl)ether	ND	0.090	mg/kg wet							
bis(2-chloroisopropyl)Ether	ND	0.089	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Chrysene	ND	0.167	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.051	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Fluoranthene	ND	0.333	mg/kg wet							
Fluorene	ND	0.333	mg/kg wet							
Hexachlorobenzene	ND	0.056	mg/kg wet							
Hexachlorobutadiene	ND	0.333	mg/kg wet							
Hexachloroethane	ND	0.084	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet							
Isophorone	ND	0.333	mg/kg wet							
Naphthalene	ND	0.333	mg/kg wet							
Nitrobenzene	ND	0.333	mg/kg wet							
N-Nitrosodimethylamine	ND	0.333	mg/kg wet							
Pentachlorophenol	ND	0.667	mg/kg wet							
Phenanthrene	ND	0.333	mg/kg wet							
Phenol	ND	0.081	mg/kg wet							
Pyrene	ND	0.333	mg/kg wet							
Pyridine	ND	1.67	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*2.46*		mg/kg wet	*3.333*		*74*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.47*		mg/kg wet	*5.000*		*89*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.83*		mg/kg wet	*5.000*		*77*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.50*		mg/kg wet	*3.333*		*75*	*30-130*			
Surrogate: 2-Fluorophenol	*3.66*		mg/kg wet	*5.000*		*73*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.63*		mg/kg wet	*3.333*		*79*	*30-130*			
Surrogate: Phenol-d6	*3.82*		mg/kg wet	*5.000*		*76*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.49*		mg/kg wet	*3.333*		*105*	*30-130*			
LCS										
1,2,4-Trichlorobenzene	2.47	0.333	mg/kg wet	3.333		74	40-140			
1,2-Dichlorobenzene	2.40	0.333	mg/kg wet	3.333		72	40-140			

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DC01609 - 3546										
1,3-Dichlorobenzene	2.39	0.080	mg/kg wet	3.333		72	40-140			
1,4-Dichlorobenzene	2.37	0.084	mg/kg wet	3.333		71	40-140			
2,4,5-Trichlorophenol	3.19	0.333	mg/kg wet	3.333		96	30-130			
2,4,6-Trichlorophenol	3.06	0.082	mg/kg wet	3.333		92	30-130			
2,4-Dichlorophenol	2.78	0.083	mg/kg wet	3.333		84	30-130			
2,4-Dimethylphenol	2.79	0.075	mg/kg wet	3.333		84	30-130			
2,4-Dinitrophenol	4.22	0.557	mg/kg wet	3.333		126	30-130			
2,4-Dinitrotoluene	3.59	0.107	mg/kg wet	3.333		108	40-140			
2,6-Dinitrotoluene	3.08	0.333	mg/kg wet	3.333		92	40-140			
2-Chloronaphthalene	2.53	0.333	mg/kg wet	3.333		76	40-140			
2-Chlorophenol	2.55	0.094	mg/kg wet	3.333		77	30-130			
2-Methylnaphthalene	2.52	0.072	mg/kg wet	3.333		76	40-140			
2-Methylphenol	2.58	0.333	mg/kg wet	3.333		77	30-130			
2-Nitrophenol	2.67	0.333	mg/kg wet	3.333		80	30-130			
3,3´-Dichlorobenzidine	2.71	0.167	mg/kg wet	3.333		81	40-140			
3+4-Methylphenol	5.37	0.667	mg/kg wet	6.667		80	30-130			
4-Bromophenyl-phenylether	3.18	0.333	mg/kg wet	3.333		95	40-140			
4-Chloroaniline	1.46	0.167	mg/kg wet	3.333		44	40-140			
4-Nitrophenol	3.44	1.67	mg/kg wet	3.333		103	30-130			
Acenaphthene	2.70	0.333	mg/kg wet	3.333		81	40-140			
Acenaphthylene	2.48	0.167	mg/kg wet	3.333		75	40-140			
Acetophenone	2.41	0.667	mg/kg wet	3.333		72	40-140			
Aniline	1.74	1.67	mg/kg wet	3.333		52	40-140			
Anthracene	3.17	0.333	mg/kg wet	3.333		95	40-140			
Azobenzene	3.04	0.333	mg/kg wet	3.333		91	40-140			
Benzo(a)anthracene	3.35	0.333	mg/kg wet	3.333		100	40-140			
Benzo(a)pyrene	3.58	0.167	mg/kg wet	3.333		107	40-140			
Benzo(b)fluoranthene	3.89	0.333	mg/kg wet	3.333		117	40-140			
Benzo(g,h,i)perylene	3.45	0.333	mg/kg wet	3.333		104	40-140			
Benzo(k)fluoranthene	2.94	0.333	mg/kg wet	3.333		88	40-140			
bis(2-Chloroethoxy)methane	2.57	0.333	mg/kg wet	3.333		77	40-140			
bis(2-Chloroethyl)ether	2.55	0.090	mg/kg wet	3.333		77	40-140			
bis(2-chloroisopropyl)Ether	2.47	0.089	mg/kg wet	3.333		74	40-140			
bis(2-Ethylhexyl)phthalate	3.62	0.333	mg/kg wet	3.333		109	40-140			
Butylbenzylphthalate	3.60	0.333	mg/kg wet	3.333		108	40-140			
Chrysene	3.32	0.167	mg/kg wet	3.333		100	40-140			
Dibenzo(a,h)Anthracene	3.70	0.051	mg/kg wet	3.333		111	40-140			
Dibenzofuran	2.77	0.333	mg/kg wet	3.333		83	40-140			
Diethylphthalate	3.18	0.333	mg/kg wet	3.333		95	40-140			
Dimethylphthalate	3.05	0.333	mg/kg wet	3.333		91	40-140			
Di-n-butylphthalate	3.41	0.333	mg/kg wet	3.333		102	40-140			
Di-n-octylphthalate	3.48	0.333	mg/kg wet	3.333		104	40-140			
Fluoranthene	3.30	0.333	mg/kg wet	3.333		99	40-140			
Fluorene	3.09	0.333	mg/kg wet	3.333		93	40-140			
Hexachlorobenzene	3.15	0.056	mg/kg wet	3.333		95	40-140			

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DC01609 - 3546										
Hexachlorobutadiene	2.62	0.333	mg/kg wet	3.333		79	40-140			
Hexachloroethane	2.41	0.084	mg/kg wet	3.333		72	40-140			
Indeno(1,2,3-cd)Pyrene	3.61	0.333	mg/kg wet	3.333		108	40-140			
Isophorone	2.25	0.333	mg/kg wet	3.333		67	40-140			
Naphthalene	2.47	0.333	mg/kg wet	3.333		74	40-140			
Nitrobenzene	2.54	0.333	mg/kg wet	3.333		76	40-140			
N-Nitrosodimethylamine	2.22	0.333	mg/kg wet	3.333		67	40-140			
Pentachlorophenol	3.76	0.667	mg/kg wet	3.333		113	30-130			
Phenanthrene	3.09	0.333	mg/kg wet	3.333		93	40-140			
Phenol	2.76	0.081	mg/kg wet	3.333		83	30-130			
Pyrene	3.29	0.333	mg/kg wet	3.333		99	40-140			
Pyridine	1.94	1.67	mg/kg wet	3.333		58	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*2.49*		mg/kg wet	*3.333*		*75*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*5.39*		mg/kg wet	*5.000*		*108*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.94*		mg/kg wet	*5.000*		*79*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.67*		mg/kg wet	*3.333*		*80*	*30-130*			
Surrogate: 2-Fluorophenol	*3.78*		mg/kg wet	*5.000*		*76*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.71*		mg/kg wet	*3.333*		*81*	*30-130*			
Surrogate: Phenol-d6	*3.98*		mg/kg wet	*5.000*		*80*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.51*		mg/kg wet	*3.333*		*105*	*30-130*			
LCS Dup										
1,2,4-Trichlorobenzene	2.26	0.333	mg/kg wet	3.333		68	40-140	9	30	
1,2-Dichlorobenzene	2.14	0.333	mg/kg wet	3.333		64	40-140	11	30	
1,3-Dichlorobenzene	2.12	0.080	mg/kg wet	3.333		64	40-140	12	30	
1,4-Dichlorobenzene	2.12	0.084	mg/kg wet	3.333		64	40-140	11	30	
2,4,5-Trichlorophenol	3.11	0.333	mg/kg wet	3.333		93	30-130	2	30	
2,4,6-Trichlorophenol	3.00	0.082	mg/kg wet	3.333		90	30-130	2	30	
2,4-Dichlorophenol	2.67	0.083	mg/kg wet	3.333		80	30-130	4	30	
2,4-Dimethylphenol	2.69	0.075	mg/kg wet	3.333		81	30-130	4	30	
2,4-Dinitrophenol	4.14	0.557	mg/kg wet	3.333		124	30-130	2	30	
2,4-Dinitrotoluene	3.52	0.107	mg/kg wet	3.333		106	40-140	2	30	
2,6-Dinitrotoluene	3.06	0.333	mg/kg wet	3.333		92	40-140	0.6	30	
2-Chloronaphthalene	2.46	0.333	mg/kg wet	3.333		74	40-140	3	30	
2-Chlorophenol	2.33	0.094	mg/kg wet	3.333		70	30-130	9	30	
2-Methylnaphthalene	2.42	0.072	mg/kg wet	3.333		73	40-140	4	30	
2-Methylphenol	2.41	0.333	mg/kg wet	3.333		72	30-130	7	30	
2-Nitrophenol	2.49	0.333	mg/kg wet	3.333		75	30-130	7	30	
3,3´-Dichlorobenzidine	2.83	0.167	mg/kg wet	3.333		85	40-140	4	30	
3+4-Methylphenol	5.18	0.667	mg/kg wet	6.667		78	30-130	4	30	
4-Bromophenyl-phenylether	3.13	0.333	mg/kg wet	3.333		94	40-140	2	30	
4-Chloroaniline	1.61	0.167	mg/kg wet	3.333		48	40-140	10	30	
4-Nitrophenol	3.37	1.67	mg/kg wet	3.333		101	30-130	2	30	
Acenaphthene	2.66	0.333	mg/kg wet	3.333		80	40-140	1	30	
Acenaphthylene	2.43	0.167	mg/kg wet	3.333		73	40-140	2	30	
Acetophenone	2.26	0.667	mg/kg wet	3.333		68	40-140	6	30	

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0467

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DC01609 - 3546										
Aniline	1.68	1.67	mg/kg wet	3.333		50	40-140	4	30	
Anthracene	3.12	0.333	mg/kg wet	3.333		94	40-140	2	30	
Azobenzene	2.98	0.333	mg/kg wet	3.333		89	40-140	2	30	
Benzo(a)anthracene	3.25	0.333	mg/kg wet	3.333		97	40-140	3	30	
Benzo(a)pyrene	3.55	0.167	mg/kg wet	3.333		106	40-140	1	30	
Benzo(b)fluoranthene	3.44	0.333	mg/kg wet	3.333		103	40-140	12	30	
Benzo(g,h,i)perylene	3.40	0.333	mg/kg wet	3.333		102	40-140	2	30	
Benzo(k)fluoranthene	3.34	0.333	mg/kg wet	3.333		100	40-140	13	30	
bis(2-Chloroethoxy)methane	2.44	0.333	mg/kg wet	3.333		73	40-140	5	30	
bis(2-Chloroethyl)ether	2.29	0.090	mg/kg wet	3.333		69	40-140	11	30	
bis(2-chloroisopropyl)Ether	2.23	0.089	mg/kg wet	3.333		67	40-140	10	30	
bis(2-Ethylhexyl)phthalate	3.56	0.333	mg/kg wet	3.333		107	40-140	2	30	
Butylbenzylphthalate	3.51	0.333	mg/kg wet	3.333		105	40-140	3	30	
Chrysene	3.23	0.167	mg/kg wet	3.333		97	40-140	3	30	
Dibenzo(a,h)Anthracene	3.63	0.051	mg/kg wet	3.333		109	40-140	2	30	
Dibenzofuran	2.74	0.333	mg/kg wet	3.333		82	40-140	1	30	
Diethylphthalate	3.16	0.333	mg/kg wet	3.333		95	40-140	0.6	30	
Dimethylphthalate	3.02	0.333	mg/kg wet	3.333		91	40-140	0.9	30	
Di-n-butylphthalate	3.35	0.333	mg/kg wet	3.333		101	40-140	2	30	
Di-n-octylphthalate	3.50	0.333	mg/kg wet	3.333		105	40-140	0.6	30	
Fluoranthene	3.20	0.333	mg/kg wet	3.333		96	40-140	3	30	
Fluorene	3.06	0.333	mg/kg wet	3.333		92	40-140	0.9	30	
Hexachlorobenzene	3.11	0.056	mg/kg wet	3.333		93	40-140	1	30	
Hexachlorobutadiene	2.36	0.333	mg/kg wet	3.333		71	40-140	11	30	
Hexachloroethane	2.14	0.084	mg/kg wet	3.333		64	40-140	12	30	
Indeno(1,2,3-cd)Pyrene	3.56	0.333	mg/kg wet	3.333		107	40-140	1	30	
Isophorone	2.16	0.333	mg/kg wet	3.333		65	40-140	4	30	
Naphthalene	2.30	0.333	mg/kg wet	3.333		69	40-140	7	30	
Nitrobenzene	2.33	0.333	mg/kg wet	3.333		70	40-140	8	30	
N-Nitrosodimethylamine	2.02	0.333	mg/kg wet	3.333		61	40-140	9	30	
Pentachlorophenol	3.67	0.667	mg/kg wet	3.333		110	30-130	2	30	
Phenanthrene	3.04	0.333	mg/kg wet	3.333		91	40-140	2	30	
Phenol	2.55	0.081	mg/kg wet	3.333		77	30-130	8	30	
Pyrene	3.21	0.333	mg/kg wet	3.333		96	40-140	2	30	
Pyridine	1.65	1.67	mg/kg wet	3.333		49	40-140	16	30	
Surrogate: 1,2-Dichlorobenzene-d4	*2.22*		mg/kg wet	*3.333*		*67*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*5.31*		mg/kg wet	*5.000*		*106*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.61*		mg/kg wet	*5.000*		*72*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.62*		mg/kg wet	*3.333*		*79*	*30-130*			
Surrogate: 2-Fluorophenol	*3.44*		mg/kg wet	*5.000*		*69*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.50*		mg/kg wet	*3.333*		*75*	*30-130*			
Surrogate: Phenol-d6	*3.71*		mg/kg wet	*5.000*		*74*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.46*		mg/kg wet	*3.333*		*104*	*30-130*			
Classical Chemistry										

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0467

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Classical Chemistry										
Batch DC01613 - General Preparation										
Blank										
Reactive Cyanide	ND	2.0	mg/kg							
Reactive Sulfide	ND	2.0	mg/kg							
LCS										
Reactive Cyanide	3.8	2.0	mg/kg	100.3		4	0.68-5.41			
Reactive Sulfide	ND	2.0	mg/kg	10.00		0	0-44			
Batch DC01631 - General Preparation										
Reference										
Flashpoint	81		°F	81.00		100	97.9-102.1			
Batch DC01819 - General Preparation										
Blank										
Reactive Cyanide	ND	2.0	mg/kg							
Reactive Sulfide	ND	2.0	mg/kg							
LCS										
Reactive Cyanide	4.0	2.0	mg/kg	100.3		4	0.68-5.41			
Reactive Sulfide	ND	2.0	mg/kg	10.00		0	0-44			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation ESS Laboratory Work Order: 20C0467

Notes and Definitions

Z18	Temperature is not within 23 +/-2 ºC.
Z-10a	Soil pH measured in water at 19.4 ºC.
Z-10	Soil pH measured in water at 19.2 ºC.
U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
Q	Calibration required quadratic regression (Q).
EL	Elevated Method Reporting Limits due to sample matrix (EL).
E	Reported above the quantitation limit; Estimated value (E).
D+	Relative percent difference for duplicate is outside of criteria (D+).
D	Diluted.
CD+	Continuing Calibration %Diff/Drift is above control limit (CD+).
CD-	Continuing Calibration %Diff/Drift is below control limit (CD-).
>	Greater than.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0467

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: GEI Consultants, Inc. - TB

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20C0467
Date Received: 3/13/2020
Project Due Date: 3/20/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 3.6 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? Yes
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** Yes / No / NA
10. Were any analyses received outside of hold time? Yes / No

11. Any Subcontracting needed? Yes / No
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? Yes / No
    a. Air bubbles in aqueous VOAs? Yes / No
    b. Does methanol cover soil completely? Yes / No / NA
13. Are the samples properly preserved? Yes / No
    a. If metals preserved upon receipt: Date: Time: By:
    b. Low Level VOA vials frozen: Date: 3/13/20 Time: 2035 By: MA

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes / No
    a. Was there a need to contact the client? Yes / No
    Who was contacted? Date: Time: By:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
1	23719	Yes	N/A	Yes	VOA Vial	MeOH	
1	23723	Yes	N/A	Yes	VOA Vial	DI Water	
1	23724	Yes	N/A	Yes	VOA Vial	DI Water	
1	23731	Yes	N/A	Yes	8 oz jar	NP	
1	23732	Yes	N/A	Yes	8 oz jar	NP	
2	23720	Yes	N/A	Yes	VOA Vial	MeOH	
2	23725	Yes	N/A	Yes	VOA Vial	DI Water	
2	23726	Yes	N/A	Yes	VOA Vial	DI Water	
2	23733	Yes	N/A	Yes	8 oz jar	NP	
2	23734	Yes	N/A	Yes	8 oz jar	NP	
3	23721	Yes	N/A	Yes	VOA Vial	MeOH	
3	23727	Yes	N/A	Yes	VOA Vial	DI Water	
3	23728	Yes	N/A	Yes	VOA Vial	DI Water	
3	23735	Yes	N/A	Yes	8 oz jar	NP	
3	23736	Yes	N/A	Yes	8 oz jar	NP	
4	23722	Yes	N/A	Yes	VOA Vial	MeOH	
4	23729	Yes	N/A	Yes	VOA Vial	DI Water	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: GEI Consultants, Inc. - TB

ESS Project ID: 20C0467
Date Received: 3/13/2020

4	23730	Yes	N/A	Yes	VOA Vial	DI Water
4	23737	Yes	N/A	Yes	8 oz jar	NP
4	23738	Yes	N/A	Yes	8 oz jar	NP

2nd Review

Initials

Were all containers scanned into storage/lab? Yes / No
Are barcode labels on correct containers? Yes / No / NA
Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA
Are all Hex Chrome stickers attached? Yes / No / NA
Are all QC stickers attached? Yes / No / NA
Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By:

Date & Time: 3/13/20 2006

Reviewed By:

Date & Time: 3/13/20 2036

Delivered By:

3/13/20 2036

Chain-of-Custody Record

Laboratory: ESS

Laboratory Job # (Lab use only) 2004167

GEI Consultants
400 Unicorn Park Drive
Woburn, MA 01801
PH: 781.721.4000
FX: 781.721.4073

Project Information

Project Name: Former Tombarello
Project Number: 1802441
Project Location: Lawrence MA
Project Manager: L. Lombardo
339.221.3551
Send Report to: Elise Farrington
Send EDD to: labdata@geiconsultants.com

MCP PRESUMPTIVE CERTAINTY REQUIRED: (YES) NO

If Yes, Are MCP Analytical Methods Required? (YES) NO NA
If Yes, Are Drinking Water Samples Submitted? YES (NO) NA
If Yes, Have You Met Minimum Field QC Requirements? YES NO (NA)

Preservative

MeOH	DI H20	None	None						

Sample Handling

Samples Field Filtered: YES NO (NA)

Sampled Shipped With Ice: (YES) NO

Lab Sample Number	GEI Sample ID	Collection Date	Collection Time	Matrix	No. of Bottles	Sampler(s) Initials	VOC(High Level)	VOC (Low Level)	SVOCs, RCRA 8 Metals**, Ignitability, Corrosivity, RCN/S	PCBs*	Pyridine	ML 4/17/20					Sample Specific Remarks
1	1802441-Lot2-DISP05	3/12/2020	9:40	SO	5	BRL	x	x	x	x	x						
2	1802441-Lot2-DISP06	3/12/2020	10:30	SO	5	BRL	x	x	x	x	x						
3	1802441-Lot2-DISP04	3/12/2020	12:15	SO	5	BRL	x	x	x	x	x						
4	1802441-Lot2-DISP03	3/12/2020	14:10	SO	5	BRL	x	x	x	x	x						

MCP Level Needed: GEI requires the most stringent Method 1 MCP standard be met for all analytes whenever possible.

	Date :	Time:	
Relinquished by sampler: (signature)	3/13/20	1400	Received by: (signature) 1.
Relinquished by: (signature) 2.	3/13/20	1905	Received by: (signature) 2.
Relinquished by: (signature) 3.	Date :	Time:	Received by: (signature) 3.
Relinquished by: (signature) 4.	Date :	Time:	Received by: (signature) 4.

3.6

Turnaround Time (Business days):

Normal ____ Other ____
10-Day ____ 7-Day ____
5-Day __X__ 3-Day ____

Before submitting rush turnaround samples, you **must** notify the laboratory to confirm that the TAT can be achieved.

Additional Requirements/Comments/Remarks:

* Manual Soxhlet Extraction for PCBs. Analysis must be performed in accordance with GEI's Site Specific QAPP.

**Run TCLP if 20x Rule Exceeded

Chain-of-Custody Record

Laboratory: ESS

Laboratory Job # (Lab use only) 2004167

GEI Consultants
400 Unicorn Park Drive
Woburn, MA 01801
PH: 781.721.4000
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Project Information

Project Name: Former Tombarello
Project Number: 1802441
Project Location: Lawrence MA
Project Manager: L. Lombardo
339.221.3551
Send Report to: Elise Farrington
Send EDD to: labdata@geiconsultants.com

MCP PRESUMPTIVE CERTAINTY REQUIRED: (YES) NO

If Yes, Are MCP Analytical Methods Required? (YES) NO NA
If Yes, Are Drinking Water Samples Submitted? YES (NO) NA
If Yes, Have You Met Minimum Field QC Requirements? YES NO (NA)

Preservative

MeOH	DI H20	None	None						

Sample Handling

Samples Field Filtered: YES NO (NA)

Sampled Shipped With Ice: (YES) NO

Lab Sample Number	GEI Sample ID	Collection Date	Collection Time	Matrix	No. of Bottles	Sampler(s) Initials	VOC(High Level)	VOC (Low Level)	SVOCs, RCRA 8 Metals**, Ignitability, Corrosivity, RCN/S	PCBs*	Sample Specific Remarks
1	1802441-Lot2-DISP05	3/12/2020	9:40	SO	5	BRL	x	x	x	x	
2	1802441-Lot2-DISP06	3/12/2020	10:30	SO	5	BRL	x	x	x	x	
3	1802441-Lot2-DISP04	3/12/2020	12:15	SO	5	BRL	x	x	x	x	
4	1802441-Lot2-DISP03	3/12/2020	14:10	SO	5	BRL	x	x	x	x	

MCP Level Needed: GEI requires the most stringent Method 1 MCP standard be met for all analytes whenever possible.

	Relinquished by: (signature)	Date:	Time:	Received by: (signature)
1.		3/13/20	1400	
2.		3/13/20	1905	
3.				
4.				

Turnaround Time (Business days):

Normal ____ Other ____
10-Day ____ 7-Day ____
5-Day __X__ 3-Day ____

Before submitting rush turnaround samples, you **must** notify the laboratory to confirm that the TAT can be achieved.

Additional Requirements/Comments/Remarks:

* Manual Soxhlet Extraction for PCBs. Analysis must be performed in accordance with GEI's Site Specific QAPP.

**Run TCLP if 20x Rule Exceeded

CERTIFICATE OF ANALYSIS

Leslie Lombardo
GEI Consultants, Inc.
400 Unicorn Park Drive
Woburn, MA 01801

RE: Tombarello Site Investigation (1802441)
ESS Laboratory Work Order Number: 20C0468

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 1:57 pm, Apr 17, 2020

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0468

SAMPLE RECEIPT

The following samples were received on March 13, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Low Level VOA vials were frozen by ESS Laboratory on March 13, 2020 at 20:32.

Question I: All samples for Metals were analyzed for a subset of the required MCP list per the client's request.

Revision 1 April 16, 2020: This report has been revised to include Pyridine to all samples per the client's request.

Lab Number	Sample Name	Matrix	Analysis
20C0468-01	1802441-Lot2-DISP01	Soil	1010, 1311, 1311/6010C, 6010C, 7.3.3.2, 7.3.4.1, 7471B, 8082A, 8260B, 8260B Low, 8270D, 9045
~~20C0468-02~~	~~1802441-Lot2-DISP02~~	~~Soil~~	~~1010, 1311, 1311/6010C, 6010C, 7.3.3.2, 7.3.4.1, 7471B, 8082A, 8260B Low, 8270D, 9045~~

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation ESS Laboratory Work Order: 20C0468

PROJECT NARRATIVE

5035/8260B Volatile Organic Compounds / Low Level

20C0468-01 **Reported above the quantitation limit; Estimated value (E).**
Naphthalene

D0C0330-CCV1 **Continuing Calibration %Diff/Drift is below control limit (CD-).**
Acetone (21% @ 20%), Chloroethane (21% @ 20%), Chloromethane (22% @ 20%), Tetrahydrofuran (22% @ 20%), Vinyl Chloride (22% @ 20%)

DC01838-BSD1 **Relative percent difference for duplicate is outside of criteria (D+).**
Acetone (21% @ 20%), Bromomethane (21% @ 20%)

8082A Polychlorinated Biphenyls (PCB)

20C0468-01 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20C0468-02 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

8270D Semi-Volatile Organic Compounds

20C0468-01 **Elevated Method Reporting Limits due to sample matrix (EL).**

20C0468-02 **Elevated Method Reporting Limits due to sample matrix (EL).**

D0C0257-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (104% @ 80-120%), Pentachlorophenol (99% @ 80-120%)

D0C0312-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (120% @ 80-120%), Pentachlorophenol (116% @ 80-120%)

Total Metals

20C0468-01 **Elevated Method Reporting Limits due to sample matrix (EL).**
Silver

No other observations noted.

End of Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation ESS Laboratory Work Order: 20C0468

DATA USABILITY LINKS

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Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH
MADEP 18-2.1 - VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035A - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0468

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20C0468-01 through 20C0468-02**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

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

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?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) 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?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes (X) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) 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)?	Yes (X) 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 protocols(s)? ***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.***	Yes ( ) No (X)*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes ( ) No (X)*

****All 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, accurate and complete.

Signature: Laurel Stoddard Date: March 25, 2020

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP01
Date Sampled: 03/13/20 08:45
Percent Solids: 85

ESS Laboratory Work Order: 20C0468
ESS Laboratory Sample ID: 20C0468-01
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	**88.2** (2.35)		6010C		1	KJK	03/17/20 18:21	2.49	100	DC01641
Barium	**188** (2.35)		6010C		1	KJK	03/17/20 18:21	2.49	100	DC01641
Cadmium	**0.92** (0.47)		6010C		1	KJK	03/17/20 18:21	2.49	100	DC01641
Chromium	**32.1** (0.94)		6010C		1	KJK	03/17/20 18:21	2.49	100	DC01641
Lead	**617** (4.70)		6010C		1	KJK	03/17/20 18:21	2.49	100	DC01641
Mercury	**0.887** (0.305)		7471B		10	MKS	03/17/20 8:45	0.76	40	DC01643
Selenium	ND (4.70)		6010C		1	KJK	03/17/20 18:21	2.49	100	DC01641
Silver	**EL** ND (47.0)		6010C		100	KJK	03/18/20 13:52	2.49	100	DC01641

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP01
Date Sampled: 03/13/20 08:45
Percent Solids: 85

ESS Laboratory Work Order: 20C0468
ESS Laboratory Sample ID: 20C0468-01
Sample Matrix: Soil
Units: mg/L

Extraction Method: 3005A TCLP

1311 TCLP Metals

Analyte	Results (MRL)	MDL	Method	TCLP Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Lead	**0.284** (0.050)		1311/6010C		1	KJK	03/20/20 17:59	50	50	DC02020

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP01
Date Sampled: 03/13/20 08:45
Percent Solids: 85
Initial Volume: 8.4
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 20C0468
ESS Laboratory Sample ID: 20C0468-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
1,1,1-Trichloroethane	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
1,1,2,2-Tetrachloroethane	ND (0.0014)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
1,1,2-Trichloroethane	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
1,1-Dichloroethane	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
1,1-Dichloroethene	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
1,1-Dichloropropene	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
1,2,3-Trichlorobenzene	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
1,2,3-Trichloropropane	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
1,2,4-Trichlorobenzene	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
1,2,4-Trimethylbenzene	**0.0043** (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
1,2-Dibromo-3-Chloropropane	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
1,2-Dibromoethane	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
1,2-Dichlorobenzene	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
1,2-Dichloroethane	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
1,2-Dichloropropane	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
1,3,5-Trimethylbenzene	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
1,3-Dichlorobenzene	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
1,3-Dichloropropane	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
1,4-Dichlorobenzene	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
1,4-Dioxane	ND (0.0696)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
2,2-Dichloropropane	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
2-Butanone	ND (0.0070)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
2-Chlorotoluene	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
2-Hexanone	ND (0.0070)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
4-Chlorotoluene	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
4-Isopropyltoluene	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
4-Methyl-2-Pentanone	ND (0.0070)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Acetone	ND (0.0070)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Benzene	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Bromobenzene	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Bromochloromethane	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP01
Date Sampled: 03/13/20 08:45
Percent Solids: 85
Initial Volume: 8.4
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 20C0468
ESS Laboratory Sample ID: 20C0468-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Bromoform	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Bromomethane	ND (0.0070)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Carbon Disulfide	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Carbon Tetrachloride	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Chlorobenzene	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Chloroethane	ND (0.0070)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Chloroform	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Chloromethane	ND (0.0070)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
cis-1,2-Dichloroethene	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
cis-1,3-Dichloropropene	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Dibromochloromethane	ND (0.0014)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Dibromomethane	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Dichlorodifluoromethane	ND (0.0070)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Diethyl Ether	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Di-isopropyl ether	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Ethyl tertiary-butyl ether	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Ethylbenzene	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Hexachlorobutadiene	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Isopropylbenzene	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Methyl tert-Butyl Ether	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Methylene Chloride	ND (0.0070)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Naphthalene	**E 0.583** (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
n-Butylbenzene	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
n-Propylbenzene	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
sec-Butylbenzene	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Styrene	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
tert-Butylbenzene	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Tertiary-amyl methyl ether	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Tetrachloroethene	**0.0461** (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Tetrahydrofuran	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Toluene	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP01
Date Sampled: 03/13/20 08:45
Percent Solids: 85
Initial Volume: 8.4
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 20C0468
ESS Laboratory Sample ID: 20C0468-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
trans-1,3-Dichloropropene	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Trichloroethene	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Trichlorofluoromethane	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Vinyl Chloride	ND (0.0070)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Xylene O	ND (0.0035)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Xylene P,M	ND (0.0070)		8260B Low		1	03/18/20 23:14	D0C0330	DC01838
Xylenes (Total)	ND (0.00696)		8260B Low		1	03/18/20 23:14		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichloroethane-d4	*85 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*85 %*		*70-130*
Surrogate: Dibromofluoromethane	*93 %*		*70-130*
Surrogate: Toluene-d8	*107 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP01
Date Sampled: 03/13/20 08:45
Percent Solids: 85
Initial Volume: 12.2
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 20C0468
ESS Laboratory Sample ID: 20C0468-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
1,1,1-Trichloroethane	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
1,1,2,2-Tetrachloroethane	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
1,1,2-Trichloroethane	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
1,1-Dichloroethane	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
1,1-Dichloroethene	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
1,1-Dichloropropene	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
1,2,3-Trichlorobenzene	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
1,2,3-Trichloropropane	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
1,2,4-Trichlorobenzene	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
1,2,4-Trimethylbenzene	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
1,2-Dibromo-3-Chloropropane	ND (1.61)		8260B		1	03/20/20 12:57	D0C0376	DC02018
1,2-Dibromoethane	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
1,2-Dichlorobenzene	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
1,2-Dichloroethane	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
1,2-Dichloropropane	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
1,3,5-Trimethylbenzene	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
1,3-Dichlorobenzene	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
1,3-Dichloropropane	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
1,4-Dichlorobenzene	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
1,4-Dioxane - Screen	ND (64.3)		8260B		1	03/20/20 12:57	D0C0376	DC02018
2,2-Dichloropropane	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
2-Butanone	ND (1.61)		8260B		1	03/20/20 12:57	D0C0376	DC02018
2-Chlorotoluene	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
2-Hexanone	ND (1.61)		8260B		1	03/20/20 12:57	D0C0376	DC02018
4-Chlorotoluene	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
4-Isopropyltoluene	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
4-Methyl-2-Pentanone	ND (1.61)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Acetone	ND (1.61)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Benzene	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Bromobenzene	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Bromochloromethane	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP01
Date Sampled: 03/13/20 08:45
Percent Solids: 85
Initial Volume: 12.2
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 20C0468
ESS Laboratory Sample ID: 20C0468-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Bromoform	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Bromomethane	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Carbon Disulfide	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Carbon Tetrachloride	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Chlorobenzene	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Chloroethane	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Chloroform	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Chloromethane	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
cis-1,2-Dichloroethene	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
cis-1,3-Dichloropropene	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Dibromochloromethane	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Dibromomethane	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Dichlorodifluoromethane	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Diethyl Ether	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Di-isopropyl ether	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Ethyl tertiary-butyl ether	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Ethylbenzene	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Hexachlorobutadiene	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Isopropylbenzene	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Methyl tert-Butyl Ether	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Methylene Chloride	ND (0.643)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Naphthalene	**33.5** (3.22)		8260B		10	03/20/20 14:17	D0C0376	DC02018
n-Butylbenzene	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
n-Propylbenzene	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
sec-Butylbenzene	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Styrene	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
tert-Butylbenzene	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Tertiary-amyl methyl ether	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Tetrachloroethene	**1.77** (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Tetrahydrofuran	ND (1.61)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Toluene	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP01
Date Sampled: 03/13/20 08:45
Percent Solids: 85
Initial Volume: 12.2
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 20C0468
ESS Laboratory Sample ID: 20C0468-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
trans-1,3-Dichloropropene	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Trichloroethene	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Trichlorofluoromethane	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Vinyl Chloride	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Xylene O	ND (0.322)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Xylene P,M	ND (0.643)		8260B		1	03/20/20 12:57	D0C0376	DC02018
Xylenes (Total)	ND (0.643)		8260B		1	03/20/20 12:57		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*114 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*111 %*		*70-130*
Surrogate: Dibromofluoromethane	*111 %*		*70-130*
Surrogate: Toluene-d8	*105 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP01
Date Sampled: 03/13/20 08:45
Percent Solids: 85
Initial Volume: 20
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20C0468
ESS Laboratory Sample ID: 20C0468-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 3/17/20 14:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.9)		8082A		50	03/19/20 14:39		DC01701
Aroclor 1221	ND (2.9)		8082A		50	03/19/20 14:39		DC01701
Aroclor 1232	ND (2.9)		8082A		50	03/19/20 14:39		DC01701
Aroclor 1242	**38.5** (2.9)		8082A		50	03/19/20 14:39		DC01701
Aroclor 1248	ND (2.9)		8082A		50	03/19/20 14:39		DC01701
Aroclor 1254	ND (2.9)		8082A		50	03/19/20 14:39		DC01701
Aroclor 1260	**3.6** (2.9)		8082A		50	03/19/20 14:39		DC01701
Aroclor 1262	ND (2.9)		8082A		50	03/19/20 14:39		DC01701
Aroclor 1268	ND (2.9)		8082A		50	03/19/20 14:39		DC01701

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP01
Date Sampled: 03/13/20 08:45
Percent Solids: 85
Initial Volume: 14.8
Final Volume: 2
Extraction Method: 3546

ESS Laboratory Work Order: 20C0468
ESS Laboratory Sample ID: 20C0468-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/16/20 10:55

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (1.58)		8270D		2	03/19/20 0:54	D0C0312	DC01610
1,2-Dichlorobenzene	ND (1.58)		8270D		2	03/19/20 0:54	D0C0312	DC01610
1,3-Dichlorobenzene	ND (0.759)		8270D		2	03/19/20 0:54	D0C0312	DC01610
1,4-Dichlorobenzene	ND (0.797)		8270D		2	03/19/20 0:54	D0C0312	DC01610
2,4,5-Trichlorophenol	ND (3.16)		8270D		2	03/19/20 0:54	D0C0312	DC01610
2,4,6-Trichlorophenol	ND (0.778)		8270D		2	03/19/20 0:54	D0C0312	DC01610
2,4-Dichlorophenol	ND (0.787)		8270D		2	03/19/20 0:54	D0C0312	DC01610
2,4-Dimethylphenol	**1.34** (0.711)		8270D		2	03/19/20 0:54	D0C0312	DC01610
2,4-Dinitrophenol	ND (5.28)		8270D		2	03/19/20 0:54	D0C0312	DC01610
2,4-Dinitrotoluene	ND (1.01)		8270D		2	03/19/20 0:54	D0C0312	DC01610
2,6-Dinitrotoluene	ND (3.16)		8270D		2	03/19/20 0:54	D0C0312	DC01610
2-Chloronaphthalene	ND (3.16)		8270D		2	03/19/20 0:54	D0C0312	DC01610
2-Chlorophenol	ND (0.892)		8270D		2	03/19/20 0:54	D0C0312	DC01610
2-Methylnaphthalene	**26.6** (0.683)		8270D		2	03/19/20 0:54	D0C0312	DC01610
2-Methylphenol	ND (3.16)		8270D		2	03/19/20 0:54	D0C0312	DC01610
2-Nitrophenol	ND (3.16)		8270D		2	03/19/20 0:54	D0C0312	DC01610
3,3′-Dichlorobenzidine	ND (0.702)		8270D		2	03/19/20 0:54	D0C0312	DC01610
3+4-Methylphenol	ND (6.33)		8270D		2	03/19/20 0:54	D0C0312	DC01610
4-Bromophenyl-phenylether	ND (3.16)		8270D		2	03/19/20 0:54	D0C0312	DC01610
4-Chloroaniline	ND (0.711)		8270D		2	03/19/20 0:54	D0C0312	DC01610
4-Nitrophenol	ND (15.8)		8270D		2	03/19/20 0:54	D0C0312	DC01610
Acenaphthene	**85.5** (7.68)		8270D		20	03/19/20 19:30	D0C0312	DC01610
Acenaphthylene	**11.3** (0.607)		8270D		2	03/19/20 0:54	D0C0312	DC01610
Acetophenone	ND (6.33)		8270D		2	03/19/20 0:54	D0C0312	DC01610
Aniline	ND (15.8)		8270D		2	03/19/20 0:54	D0C0312	DC01610
Anthracene	**161** (31.6)		8270D		20	03/19/20 19:30	D0C0312	DC01610
Azobenzene	ND (3.16)		8270D		2	03/19/20 0:54	D0C0312	DC01610
Benzo(a)anthracene	**254** (5.50)		8270D		20	03/19/20 19:30	D0C0312	DC01610
Benzo(a)pyrene	**223** (5.22)		8270D		20	03/19/20 19:30	D0C0312	DC01610
Benzo(b)fluoranthene	**178** (7.02)		8270D		20	03/19/20 19:30	D0C0312	DC01610
Benzo(g,h,i)perylene	**108** (31.6)		8270D		20	03/19/20 19:30	D0C0312	DC01610
Benzo(k)fluoranthene	**155** (31.6)		8270D		20	03/19/20 19:30	D0C0312	DC01610

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP01
Date Sampled: 03/13/20 08:45
Percent Solids: 85
Initial Volume: 14.8
Final Volume: 2
Extraction Method: 3546

ESS Laboratory Work Order: 20C0468
ESS Laboratory Sample ID: 20C0468-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/16/20 10:55

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
bis(2-Chloroethoxy)methane	ND (3.16)		8270D		2	03/19/20 0:54	D0C0312	DC01610
bis(2-Chloroethyl)ether	ND (0.854)		8270D		2	03/19/20 0:54	D0C0312	DC01610
bis(2-chloroisopropyl)Ether	ND (0.844)		8270D		2	03/19/20 0:54	D0C0312	DC01610
bis(2-Ethylhexyl)phthalate	ND (3.16)		8270D		2	03/19/20 0:54	D0C0312	DC01610
Butylbenzylphthalate	ND (3.16)		8270D		2	03/19/20 0:54	D0C0312	DC01610
Chrysene	**223** (15.8)		8270D		20	03/19/20 19:30	D0C0312	DC01610
Dibenzo(a,h)Anthracene	**45.3** (0.484)		8270D		2	03/19/20 0:54	D0C0312	DC01610
Dibenzofuran	**59.8** (3.16)		8270D		2	03/19/20 0:54	D0C0312	DC01610
Diethylphthalate	ND (3.16)		8270D		2	03/19/20 0:54	D0C0312	DC01610
Dimethylphthalate	ND (3.16)		8270D		2	03/19/20 0:54	D0C0312	DC01610
Di-n-butylphthalate	ND (3.16)		8270D		2	03/19/20 0:54	D0C0312	DC01610
Di-n-octylphthalate	ND (3.16)		8270D		2	03/19/20 0:54	D0C0312	DC01610
Fluoranthene	**561** (31.6)		8270D		20	03/19/20 19:30	D0C0312	DC01610
Fluorene	**85.5** (31.6)		8270D		20	03/19/20 19:30	D0C0312	DC01610
Hexachlorobenzene	ND (0.531)		8270D		2	03/19/20 0:54	D0C0312	DC01610
Hexachlorobutadiene	ND (3.16)		8270D		2	03/19/20 0:54	D0C0312	DC01610
Hexachloroethane	ND (0.797)		8270D		2	03/19/20 0:54	D0C0312	DC01610
Indeno(1,2,3-cd)Pyrene	**116** (10.2)		8270D		20	03/19/20 19:30	D0C0312	DC01610
Isophorone	ND (3.16)		8270D		2	03/19/20 0:54	D0C0312	DC01610
Naphthalene	**50.0** (3.16)		8270D		2	03/19/20 0:54	D0C0312	DC01610
Nitrobenzene	ND (3.16)		8270D		2	03/19/20 0:54	D0C0312	DC01610
N-Nitrosodimethylamine	ND (3.16)		8270D		2	03/19/20 0:54	D0C0312	DC01610
Pentachlorophenol	ND (2.73)		8270D		2	03/19/20 0:54	D0C0312	DC01610
Phenanthrene	**507** (7.87)		8270D		20	03/19/20 19:30	D0C0312	DC01610
Phenol	**1.53** (0.768)		8270D		2	03/19/20 0:54	D0C0312	DC01610
Pyrene	**383** (31.6)		8270D		20	03/19/20 19:30	D0C0312	DC01610
Pyridine	ND (15.8)		8270D		2	03/19/20 0:54	D0C0312	DC01610

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*80 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*100 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*90 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP01
Date Sampled: 03/13/20 08:45
Percent Solids: 85
Initial Volume: 14.8
Final Volume: 2
Extraction Method: 3546

ESS Laboratory Work Order: 20C0468
ESS Laboratory Sample ID: 20C0468-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/16/20 10:55

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Fluorobiphenyl		*96 %*		*30-130*				
Surrogate: 2-Fluorophenol		*87 %*		*30-130*				
Surrogate: Nitrobenzene-d5		*90 %*		*30-130*				
Surrogate: Phenol-d6		*90 %*		*30-130*				
Surrogate: p-Terphenyl-d14		*124 %*		*30-130*				

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP01
Date Sampled: 03/13/20 08:45
Percent Solids: 85

ESS Laboratory Work Order: 20C0468
ESS Laboratory Sample ID: 20C0468-01
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Corrosivity (pH)	**7.50** (N/A)		9045		1	DEL	03/13/20 20:45	S.U.	DC01329
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 19.2 ºC.**								
Flashpoint	**> 200** (N/A)		1010		1	CCP	03/16/20 13:30	°F	DC01631
Reactive Cyanide	ND (2.0)		7.3.3.2		1	EEM	03/18/20 11:11	mg/kg	DC01819
Reactive Sulfide	ND (2.0)		7.3.4.1		1	EEM	03/18/20 11:11	mg/kg	DC01819

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP01
Date Sampled: 03/13/20 08:45
Percent Solids: 85
Initial Volume: 100
Final Volume: 2000
Extraction Method: 1311

ESS Laboratory Work Order: 20C0468
ESS Laboratory Sample ID: 20C0468-01
Sample Matrix: Soil
Units: °C
Analyst: MKS
Prepared: 3/19/20 16:45

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**20.3** (N/A)		1311		1	MKS	03/20/20 9:12	DC01952
Temperature (Max C)	**21.1** (N/A)		1311		1	MKS	03/20/20 9:12	DC01952
Temperature (Range)	**Temperature is not within 23 +/-2 ºC.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP02
Date Sampled: 03/13/20 09:55
Percent Solids: 86

ESS Laboratory Work Order: 20C0468
ESS Laboratory Sample ID: 20C0468-02
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	**9.79** (2.04)		6010C		1	KJK	03/17/20 18:54	2.84	100	DC01641
Barium	**153** (2.04)		6010C		1	KJK	03/17/20 18:54	2.84	100	DC01641
Cadmium	**2.14** (0.41)		6010C		1	KJK	03/17/20 18:54	2.84	100	DC01641
Chromium	**29.7** (0.82)		6010C		1	KJK	03/17/20 18:54	2.84	100	DC01641
Lead	**233** (4.09)		6010C		1	KJK	03/17/20 18:54	2.84	100	DC01641
Mercury	**0.561** (0.028)		7471B		1	MKS	03/17/20 8:14	0.82	40	DC01643
Selenium	ND (4.09)		6010C		1	KJK	03/17/20 18:54	2.84	100	DC01641
Silver	**0.71** (0.41)		6010C		1	KJK	03/17/20 18:54	2.84	100	DC01641

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP02
Date Sampled: 03/13/20 09:55
Percent Solids: 86

ESS Laboratory Work Order: 20C0468
ESS Laboratory Sample ID: 20C0468-02
Sample Matrix: Soil
Units: mg/L

Extraction Method: 3005A TCLP

1311 TCLP Metals

Analyte	Results (MRL)	MDL	Method	TCLP Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Lead	**0.476** (0.050)		1311/6010C		1	KJK	03/24/20 15:42	50	50	DC02426

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP02
Date Sampled: 03/13/20 09:55
Percent Solids: 86
Initial Volume: 12.2
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 20C0468
ESS Laboratory Sample ID: 20C0468-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
1,1,1-Trichloroethane	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
1,1,2,2-Tetrachloroethane	ND (0.0010)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
1,1,2-Trichloroethane	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
1,1-Dichloroethane	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
1,1-Dichloroethene	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
1,1-Dichloropropene	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
1,2,3-Trichlorobenzene	**0.0026** (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
1,2,3-Trichloropropane	ND (0.0024)				1	03/18/20 21:31	D0C0330	DC01838
1,2,4-Trichlorobenzene	ND (0.0024)				1	03/18/20 21:31	D0C0330	DC01838
1,2,4-Trimethylbenzene	ND (0.0024)				1	03/18/20 21:31	D0C0330	DC01838
1,2-Dibromo-3-Chloropropane	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
1,2-Dibromoethane	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
1,2-Dichlorobenzene	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
1,2-Dichloroethane	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
1,2-Dichloropropane	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
1,3,5-Trimethylbenzene	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
1,3-Dichlorobenzene	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
1,3-Dichloropropane	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
1,4-Dichlorobenzene	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
1,4-Dioxane	ND (0.0476)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
2,2-Dichloropropane	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
2-Butanone	ND (0.0048)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
2-Chlorotoluene	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
2-Hexanone	ND (0.0048)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
4-Chlorotoluene	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
4-Isopropyltoluene	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
4-Methyl-2-Pentanone	ND (0.0048)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Acetone	ND (0.0048)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Benzene	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Bromobenzene	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Bromochloromethane	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP02
Date Sampled: 03/13/20 09:55
Percent Solids: 86
Initial Volume: 12.2
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 20C0468
ESS Laboratory Sample ID: 20C0468-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Bromoform	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Bromomethane	ND (0.0048)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Carbon Disulfide	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Carbon Tetrachloride	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Chlorobenzene	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Chloroethane	ND (0.0048)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Chloroform	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Chloromethane	ND (0.0048)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
cis-1,2-Dichloroethene	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
cis-1,3-Dichloropropene	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Dibromochloromethane	ND (0.0010)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Dibromomethane	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Dichlorodifluoromethane	ND (0.0048)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Diethyl Ether	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Di-isopropyl ether	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Ethyl tertiary-butyl ether	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Ethylbenzene	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Hexachlorobutadiene	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Isopropylbenzene	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Methyl tert-Butyl Ether	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Methylene Chloride	ND (0.0048)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Naphthalene	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
n-Butylbenzene	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
n-Propylbenzene	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
sec-Butylbenzene	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Styrene	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
tert-Butylbenzene	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Tertiary-amyl methyl ether	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Tetrachloroethene	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Tetrahydrofuran	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Toluene	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP02
Date Sampled: 03/13/20 09:55
Percent Solids: 86
Initial Volume: 12.2
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 20C0468
ESS Laboratory Sample ID: 20C0468-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
trans-1,3-Dichloropropene	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Trichloroethene	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Trichlorofluoromethane	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Vinyl Chloride	ND (0.0048)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Xylene O	ND (0.0024)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Xylene P,M	ND (0.0048)		8260B Low		1	03/18/20 21:31	D0C0330	DC01838
Xylenes (Total)	ND (0.00476)		8260B Low		1	03/18/20 21:31		[CALC]

	%Recov	Limits
Surrogate: 1,2-Dichloroethane-d4	*91 %*	*70-130*
Surrogate: 4-Bromofluorobenzene	*88 %*	*70-130*
Surrogate: Dibromofluoromethane	*92 %*	*70-130*
Surrogate: Toluene-d8	*99 %*	*70-130*

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP02
Date Sampled: 03/13/20 09:55
Percent Solids: 86
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20C0468
ESS Laboratory Sample ID: 20C0468-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 3/17/20 14:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (29.5)		8082A		500	03/20/20 9:35		DC01701
Aroclor 1221	ND (29.5)		8082A		500	03/20/20 9:35		DC01701
Aroclor 1232	ND (29.5)		8082A		500	03/20/20 9:35		DC01701
Aroclor 1242	ND (29.5)		8082A		500	03/20/20 9:35		DC01701
Aroclor 1248	ND (29.5)		8082A		500	03/20/20 9:35		DC01701
Aroclor 1254	ND (29.5)		8082A		500	03/20/20 9:35		DC01701
Aroclor 1260	**192** (29.5)		8082A		500	03/20/20 9:35		DC01701
Aroclor 1262	ND (29.5)		8082A		500	03/20/20 9:35		DC01701
Aroclor 1268	ND (29.5)		8082A		500	03/20/20 9:35		DC01701

NA

	%Recov		Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP02
Date Sampled: 03/13/20 09:55
Percent Solids: 86
Initial Volume: 15.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 20C0468
ESS Laboratory Sample ID: 20C0468-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/16/20 10:55

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	**0.858** (0.771)		8270D		2	03/19/20 2:21	D0C0312	DC01610
1,2-Dichlorobenzene	ND (0.771)		8270D		2	03/19/20 2:21	D0C0312	DC01610
1,3-Dichlorobenzene	ND (0.369)		8270D		2	03/19/20 2:21	D0C0312	DC01610
1,4-Dichlorobenzene	ND (0.388)		8270D		2	03/19/20 2:21	D0C0312	DC01610
2,4,5-Trichlorophenol	ND (1.54)		8270D		2	03/19/20 2:21	D0C0312	DC01610
2,4,6-Trichlorophenol	ND (0.378)		8270D		2	03/19/20 2:21	D0C0312	DC01610
2,4-Dichlorophenol	ND (0.383)		8270D		2	03/19/20 2:21	D0C0312	DC01610
2,4-Dimethylphenol	ND (0.346)		8270D		2	03/19/20 2:21	D0C0312	DC01610
2,4-Dinitrophenol	ND (2.57)				2	03/19/20 2:21	D0C0312	DC01610
2,4-Dinitrotoluene	ND (0.494)				2	03/19/20 2:21	D0C0312	DC01610
2,6-Dinitrotoluene	ND (1.54)				2	03/19/20 2:21	D0C0312	DC01610
2-Chloronaphthalene	ND (1.54)		8270D		2	03/19/20 2:21	D0C0312	DC01610
2-Chlorophenol	ND (0.434)		8270D		2	03/19/20 2:21	D0C0312	DC01610
2-Methylnaphthalene	ND (0.332)		8270D		2	03/19/20 2:21	D0C0312	DC01610
2-Methylphenol	ND (1.54)		8270D		2	03/19/20 2:21	D0C0312	DC01610
2-Nitrophenol	ND (1.54)		8270D		2	03/19/20 2:21	D0C0312	DC01610
3,3′-Dichlorobenzidine	ND (0.341)		8270D		2	03/19/20 2:21	D0C0312	DC01610
3+4-Methylphenol	ND (3.08)		8270D		2	03/19/20 2:21	D0C0312	DC01610
4-Bromophenyl-phenylether	ND (1.54)		8270D		2	03/19/20 2:21	D0C0312	DC01610
4-Chloroaniline	ND (0.346)		8270D		2	03/19/20 2:21	D0C0312	DC01610
4-Nitrophenol	ND (7.71)		8270D		2	03/19/20 2:21	D0C0312	DC01610
Acenaphthene	ND (0.374)		8270D		2	03/19/20 2:21	D0C0312	DC01610
Acenaphthylene	ND (0.295)		8270D		2	03/19/20 2:21	D0C0312	DC01610
Acetophenone	ND (3.08)		8270D		2	03/19/20 2:21	D0C0312	DC01610
Aniline	ND (7.71)		8270D		2	03/19/20 2:21	D0C0312	DC01610
Anthracene	ND (1.54)		8270D		2	03/19/20 2:21	D0C0312	DC01610
Azobenzene	ND (1.54)		8270D		2	03/19/20 2:21	D0C0312	DC01610
Benzo(a)anthracene	**1.43** (0.268)		8270D		2	03/19/20 2:21	D0C0312	DC01610
Benzo(a)pyrene	**1.50** (0.254)		8270D		2	03/19/20 2:21	D0C0312	DC01610
Benzo(b)fluoranthene	**1.32** (0.341)		8270D		2	03/19/20 2:21	D0C0312	DC01610
Benzo(g,h,i)perylene	ND (1.54)		8270D		2	03/19/20 2:21	D0C0312	DC01610
Benzo(k)fluoranthene	ND (1.54)		8270D		2	03/19/20 2:21	D0C0312	DC01610

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP02
Date Sampled: 03/13/20 09:55
Percent Solids: 86
Initial Volume: 15.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 20C0468
ESS Laboratory Sample ID: 20C0468-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/16/20 10:55

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
bis(2-Chloroethoxy)methane	ND (1.54)		8270D		2	03/19/20 2:21	D0C0312	DC01610
bis(2-Chloroethyl)ether	ND (0.415)		8270D		2	03/19/20 2:21	D0C0312	DC01610
bis(2-chloroisopropyl)Ether	ND (0.411)		8270D		2	03/19/20 2:21	D0C0312	DC01610
bis(2-Ethylhexyl)phthalate	ND (1.54)		8270D		2	03/19/20 2:21	D0C0312	DC01610
Butylbenzylphthalate	ND (1.54)		8270D		2	03/19/20 2:21	D0C0312	DC01610
Chrysene	**1.34** (0.771)		8270D		2	03/19/20 2:21	D0C0312	DC01610
Dibenzo(a,h)Anthracene	**0.260** (0.235)		8270D		2	03/19/20 2:21	D0C0312	DC01610
Dibenzofuran	ND (1.54)		8270D		2	03/19/20 2:21	D0C0312	DC01610
Diethylphthalate	ND (1.54)		8270D		2	03/19/20 2:21	D0C0312	DC01610
Dimethylphthalate	ND (1.54)		8270D		2	03/19/20 2:21	D0C0312	DC01610
Di-n-butylphthalate	ND (1.54)		8270D		2	03/19/20 2:21	D0C0312	DC01610
Di-n-octylphthalate	ND (1.54)		8270D		2	03/19/20 2:21	D0C0312	DC01610
Fluoranthene	**2.99** (1.54)		8270D		2	03/19/20 2:21	D0C0312	DC01610
Fluorene	ND (1.54)		8270D		2	03/19/20 2:21	D0C0312	DC01610
Hexachlorobenzene	ND (0.258)		8270D		2	03/19/20 2:21	D0C0312	DC01610
Hexachlorobutadiene	ND (1.54)		8270D		2	03/19/20 2:21	D0C0312	DC01610
Hexachloroethane	ND (0.388)		8270D		2	03/19/20 2:21	D0C0312	DC01610
Indeno(1,2,3-cd)Pyrene	**0.800** (0.498)		8270D		2	03/19/20 2:21	D0C0312	DC01610
Isophorone	ND (1.54)		8270D		2	03/19/20 2:21	D0C0312	DC01610
Naphthalene	ND (1.54)		8270D		2	03/19/20 2:21	D0C0312	DC01610
Nitrobenzene	ND (1.54)		8270D		2	03/19/20 2:21	D0C0312	DC01610
N-Nitrosodimethylamine	ND (1.54)		8270D		2	03/19/20 2:21	D0C0312	DC01610
Pentachlorophenol	ND (1.33)		8270D		2	03/19/20 2:21	D0C0312	DC01610
Phenanthrene	**2.84** (0.383)		8270D		2	03/19/20 2:21	D0C0312	DC01610
Phenol	ND (0.374)		8270D		2	03/19/20 2:21	D0C0312	DC01610
Pyrene	**2.71** (1.54)		8270D		2	03/19/20 2:21	D0C0312	DC01610
Pyridine	ND (7.71)		8270D		2	03/19/20 2:21	D0C0312	DC01610

NA

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*44 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*72 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*52 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP02
Date Sampled: 03/13/20 09:55
Percent Solids: 86
Initial Volume: 15.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 20C0468
ESS Laboratory Sample ID: 20C0468-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/16/20 10:55

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Fluorobiphenyl		*64 %*		*30-130*				
Surrogate: 2-Fluorophenol		*51 %*		*30-130*				
Surrogate: Nitrobenzene-d5		*48 %*		*30-130*				
Surrogate: Phenol-d6		*57 %*		*30-130*				
Surrogate: p-Terphenyl-d14		*83 %*		*30-130*				

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP02
Date Sampled: 03/13/20 09:55
Percent Solids: 86

ESS Laboratory Work Order: 20C0468
ESS Laboratory Sample ID: 20C0468-02
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Corrosivity (pH)	**7.73** (N/A)		9045		1	DEL	03/13/20 20:45	S.U.	DC01329
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 19.1 ºC.**								
Flashpoint	**> 200** (N/A)		1010		1	CCP	03/18/20 16:45	°F	DC01829
Reactive Cyanide	ND (2.0)		7.3.3.2		1	EEM	03/18/20 11:11	mg/kg	DC01819
Reactive Sulfide	ND (2.0)		7.3.4.1		1	EEM	03/18/20 11:11	mg/kg	DC01819

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation
Client Sample ID: 1802441-Lot2-DISP02
Date Sampled: 03/13/20 09:55
Percent Solids: 86
Initial Volume: 100
Final Volume: 2000
Extraction Method: 1311

ESS Laboratory Work Order: 20C0468
ESS Laboratory Sample ID: 20C0468-02
Sample Matrix: Soil
Units: °C
Analyst: MKS
Prepared: 3/19/20 16:45

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**20.3** (N/A)		1311		1	MKS	03/20/20 9:12	DC01952
Temperature (Max C)	**21.1** (N/A)		1311		1	MKS	03/20/20 9:12	DC01952
Temperature (Range)	**Temperature is not within 23 +/-2 °C.** (N/A)							

NA

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0468

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch DC01641 - 3050B										
Blank										
Arsenic	ND	2.50	mg/kg wet							
Barium	ND	2.50	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							
Chromium	ND	1.00	mg/kg wet							
Lead	ND	5.00	mg/kg wet							
Selenium	ND	5.00	mg/kg wet							
Silver	ND	0.50	mg/kg wet							
LCS										
Arsenic	196	6.76	mg/kg wet	202.0		97	80-120			
Barium	345	6.76	mg/kg wet	343.0		101	80-120			
Cadmium	135	1.35	mg/kg wet	149.0		90	80-120			
Chromium	180	2.70	mg/kg wet	182.0		99	80-120			
Lead	334	13.5	mg/kg wet	333.0		100	80-120			
Selenium	165	13.5	mg/kg wet	169.0		98	80-120			
Silver	47.2	1.35	mg/kg wet	48.90		97	80-120			
LCS Dup										
Arsenic	185	7.25	mg/kg wet	202.0		92	80-120	6	20	
Barium	321	7.25	mg/kg wet	343.0		94	80-120	7	20	
Cadmium	128	1.45	mg/kg wet	149.0		86	80-120	5	20	
Chromium	171	2.90	mg/kg wet	182.0		94	80-120	5	20	
Lead	314	14.5	mg/kg wet	333.0		94	80-120	6	20	
Selenium	157	14.5	mg/kg wet	169.0		93	80-120	5	20	
Silver	45.1	1.45	mg/kg wet	48.90		92	80-120	5	20	
Batch DC01643 - 7471B										
Blank										
Mercury	ND	0.033	mg/kg wet							
LCS										
Mercury	9.60	0.550	mg/kg wet	7.760		124	71-125			
LCS Dup										
Mercury	9.15	0.574	mg/kg wet	7.760		118	71-125	5	20	
1311 TCLP Metals										
Batch DC02020 - 3005A_TCLP										
Blank										
Lead	ND	0.050	mg/L							
LCS										
Lead	0.485	0.050	mg/L	0.5000		97	80-120			
LCS Dup										
Lead	0.479	0.050	mg/L	0.5000		96	80-120	1	20	
Batch DC02426 - 3005A_TCLP										
Blank										

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0468

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
1311 TCLP Metals										
Batch DC02426 - 3005A_TCLP										
Lead	ND	0.050	mg/L							
LCS										
Lead	0.478	0.050	mg/L	0.5000		96	80-120			
LCS Dup										
Lead	0.458	0.050	mg/L	0.5000		92	80-120	4	20	
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01838 - 5035										
Blank										
1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet							
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0020	mg/kg wet							
1,1,2-Trichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethene	ND	0.0050	mg/kg wet							
1,1-Dichloropropene	ND	0.0050	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,3-Trichloropropane	ND	0.0050	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/kg wet							
1,2-Dibromoethane	ND	0.0050	mg/kg wet							
1,2-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,2-Dichloroethane	ND	0.0050	mg/kg wet							
1,2-Dichloropropane	ND	0.0050	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,3-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,3-Dichloropropane	ND	0.0050	mg/kg wet							
1,4-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,4-Dioxane	ND	0.100	mg/kg wet							
2,2-Dichloropropane	ND	0.0050	mg/kg wet							
2-Butanone	ND	0.0100	mg/kg wet							
2-Chlorotoluene	ND	0.0050	mg/kg wet							
2-Hexanone	ND	0.0100	mg/kg wet							
4-Chlorotoluene	ND	0.0050	mg/kg wet							
4-Isopropyltoluene	ND	0.0050	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.0100	mg/kg wet							
Acetone	0.0292	0.0100	mg/kg wet							
Benzene	ND	0.0050	mg/kg wet							
Bromobenzene	ND	0.0050	mg/kg wet							
Bromochloromethane	ND	0.0050	mg/kg wet							
Bromodichloromethane	ND	0.0050	mg/kg wet							
Bromoform	ND	0.0050	mg/kg wet							
Bromomethane	ND	0.0100	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01838 - 5035										
Carbon Disulfide	ND	0.0050	mg/kg wet							
Carbon Tetrachloride	ND	0.0050	mg/kg wet							
Chlorobenzene	ND	0.0050	mg/kg wet							
Chloroethane	ND	0.0100	mg/kg wet							
Chloroform	ND	0.0050	mg/kg wet							
Chloromethane	ND	0.0100	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
cis-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Dibromochloromethane	ND	0.0020	mg/kg wet							
Dibromomethane	ND	0.0050	mg/kg wet							
Dichlorodifluoromethane	ND	0.0100	mg/kg wet							
Diethyl Ether	ND	0.0050	mg/kg wet							
Di-isopropyl ether	ND	0.0050	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.0050	mg/kg wet							
Ethylbenzene	ND	0.0050	mg/kg wet							
Hexachlorobutadiene	ND	0.0050	mg/kg wet							
Isopropylbenzene	ND	0.0050	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.0050	mg/kg wet							
Methylene Chloride	ND	0.0100	mg/kg wet							
Naphthalene	ND	0.0050	mg/kg wet							
n-Butylbenzene	ND	0.0050	mg/kg wet							
n-Propylbenzene	ND	0.0050	mg/kg wet							
sec-Butylbenzene	ND	0.0050	mg/kg wet							
Styrene	ND	0.0050	mg/kg wet							
tert-Butylbenzene	ND	0.0050	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0050	mg/kg wet							
Tetrachloroethene	ND	0.0050	mg/kg wet							
Tetrahydrofuran	ND	0.0050	mg/kg wet							
Toluene	ND	0.0050	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Trichloroethene	ND	0.0050	mg/kg wet							
Trichlorofluoromethane	ND	0.0050	mg/kg wet							
Vinyl Chloride	ND	0.0100	mg/kg wet							
Xylene O	ND	0.0050	mg/kg wet							
Xylene P,M	ND	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	*0.0481*		mg/kg wet	*0.05000*		*96*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0448*		mg/kg wet	*0.05000*		*90*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0463*		mg/kg wet	*0.05000*		*93*	*70-130*			
Surrogate: Toluene-d8	*0.0499*		mg/kg wet	*0.05000*		*100*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
1,1,1-Trichloroethane	0.0440	0.0050	mg/kg wet	0.05000		88	70-130			
1,1,2,2-Tetrachloroethane	0.0459	0.0020	mg/kg wet	0.05000		92	70-130			
1,1,2-Trichloroethane	0.0425	0.0050	mg/kg wet	0.05000		85	70-130			

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01838 - 5035										
1,1-Dichloroethane	0.0414	0.0050	mg/kg wet	0.05000		83	70-130			
1,1-Dichloroethene	0.0446	0.0050	mg/kg wet	0.05000		89	70-130			
1,1-Dichloropropene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
1,2,3-Trichlorobenzene	0.0452	0.0050	mg/kg wet	0.05000		90	70-130			
1,2,3-Trichloropropane	0.0421	0.0050	mg/kg wet	0.05000		84	70-130			
1,2,4-Trichlorobenzene	0.0458	0.0050	mg/kg wet	0.05000		92	70-130			
1,2,4-Trimethylbenzene	0.0476	0.0050	mg/kg wet	0.05000		95	70-130			
1,2-Dibromo-3-Chloropropane	0.0402	0.0050	mg/kg wet	0.05000		80	70-130			
1,2-Dibromoethane	0.0466	0.0050	mg/kg wet	0.05000		93	70-130			
1,2-Dichlorobenzene	0.0490	0.0050	mg/kg wet	0.05000		98	70-130			
1,2-Dichloroethane	0.0449	0.0050	mg/kg wet	0.05000		90	70-130			
1,2-Dichloropropane	0.0419	0.0050	mg/kg wet	0.05000		84	70-130			
1,3,5-Trimethylbenzene	0.0465	0.0050	mg/kg wet	0.05000		93	70-130			
1,3-Dichlorobenzene	0.0491	0.0050	mg/kg wet	0.05000		98	70-130			
1,3-Dichloropropane	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			
1,4-Dichlorobenzene	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			
1,4-Dioxane	0.858	0.100	mg/kg wet	1.000		86	70-130			
2,2-Dichloropropane	0.0489	0.0050	mg/kg wet	0.05000		98	70-130			
2-Butanone	0.201	0.0100	mg/kg wet	0.2500		80	70-130			
2-Chlorotoluene	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			
2-Hexanone	0.214	0.0100	mg/kg wet	0.2500		86	70-130			
4-Chlorotoluene	0.0455	0.0050	mg/kg wet	0.05000		91	70-130			
4-Isopropyltoluene	0.0465	0.0050	mg/kg wet	0.05000		93	70-130			
4-Methyl-2-Pentanone	0.208	0.0100	mg/kg wet	0.2500		83	70-130			
Acetone	0.174	0.0100	mg/kg wet	0.2500		70	70-130			
Benzene	0.0433	0.0050	mg/kg wet	0.05000		87	70-130			
Bromobenzene	0.0473	0.0050	mg/kg wet	0.05000		95	70-130			
Bromochloromethane	0.0472	0.0050	mg/kg wet	0.05000		94	70-130			
Bromodichloromethane	0.0439	0.0050	mg/kg wet	0.05000		88	70-130			
Bromoform	0.0446	0.0050	mg/kg wet	0.05000		89	70-130			
Bromomethane	0.0398	0.0100	mg/kg wet	0.05000		80	70-130			
Carbon Disulfide	0.0442	0.0050	mg/kg wet	0.05000		88	70-130			
Carbon Tetrachloride	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
Chlorobenzene	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
Chloroethane	0.0373	0.0100	mg/kg wet	0.05000		75	70-130			
Chloroform	0.0443	0.0050	mg/kg wet	0.05000		89	70-130			
Chloromethane	0.0369	0.0100	mg/kg wet	0.05000		74	70-130			
cis-1,2-Dichloroethene	0.0464	0.0050	mg/kg wet	0.05000		93	70-130			
cis-1,3-Dichloropropene	0.0453	0.0050	mg/kg wet	0.05000		91	70-130			
Dibromochloromethane	0.0452	0.0020	mg/kg wet	0.05000		90	70-130			
Dibromomethane	0.0447	0.0050	mg/kg wet	0.05000		89	70-130			
Dichlorodifluoromethane	0.0454	0.0100	mg/kg wet	0.05000		91	70-130			
Diethyl Ether	0.0412	0.0050	mg/kg wet	0.05000		82	70-130			
Di-isopropyl ether	0.0402	0.0050	mg/kg wet	0.05000		80	70-130			
Ethyl tertiary-butyl ether	0.0514	0.0050	mg/kg wet	0.05000		103	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01838 - 5035										
Ethylbenzene	0.0466	0.0050	mg/kg wet	0.05000		93	70-130			
Hexachlorobutadiene	0.0530	0.0050	mg/kg wet	0.05000		106	70-130			
Isopropylbenzene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
Methyl tert-Butyl Ether	0.0511	0.0050	mg/kg wet	0.05000		102	70-130			
Methylene Chloride	0.0463	0.0100	mg/kg wet	0.05000		93	70-130			
Naphthalene	0.0440	0.0050	mg/kg wet	0.05000		88	70-130			
n-Butylbenzene	0.0398	0.0050	mg/kg wet	0.05000		80	70-130			
n-Propylbenzene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
sec-Butylbenzene	0.0462	0.0050	mg/kg wet	0.05000		92	70-130			
Styrene	0.0457	0.0050	mg/kg wet	0.05000		91	70-130			
tert-Butylbenzene	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
Tertiary-amyl methyl ether	0.0551	0.0050	mg/kg wet	0.05000		110	70-130			
Tetrachloroethene	0.0450	0.0050	mg/kg wet	0.05000		90	70-130			
Tetrahydrofuran	0.0374	0.0050	mg/kg wet	0.05000		75	70-130			
Toluene	0.0447	0.0050	mg/kg wet	0.05000		89	70-130			
trans-1,2-Dichloroethene	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			
trans-1,3-Dichloropropene	0.0424	0.0050	mg/kg wet	0.05000		85	70-130			
Trichloroethene	0.0442	0.0050	mg/kg wet	0.05000		88	70-130			
Trichlorofluoromethane	0.0511	0.0050	mg/kg wet	0.05000		102	70-130			
Vinyl Chloride	0.0368	0.0100	mg/kg wet	0.05000		74	70-130			
Xylene O	0.0475	0.0050	mg/kg wet	0.05000		95	70-130			
Xylene P,M	0.0946	0.0100	mg/kg wet	0.1000		95	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0472*		mg/kg wet	*0.05000*		*94*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0484*		mg/kg wet	*0.05000*		*97*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0482*		mg/kg wet	*0.05000*		*96*	*70-130*			
Surrogate: Toluene-d8	*0.0469*		mg/kg wet	*0.05000*		*94*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	0.0526	0.0050	mg/kg wet	0.05000		105	70-130	11	20	
1,1,1-Trichloroethane	0.0493	0.0050	mg/kg wet	0.05000		99	70-130	11	20	
1,1,2,2-Tetrachloroethane	0.0495	0.0020	mg/kg wet	0.05000		99	70-130	8	20	
1,1,2-Trichloroethane	0.0460	0.0050	mg/kg wet	0.05000		92	70-130	8	20	
1,1-Dichloroethane	0.0457	0.0050	mg/kg wet	0.05000		91	70-130	10	20	
1,1-Dichloroethene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130	9	20	
1,1-Dichloropropene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	10	20	
1,2,3-Trichlorobenzene	0.0509	0.0050	mg/kg wet	0.05000		102	70-130	12	20	
1,2,3-Trichloropropane	0.0459	0.0050	mg/kg wet	0.05000		92	70-130	9	20	
1,2,4-Trichlorobenzene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	10	20	
1,2,4-Trimethylbenzene	0.0523	0.0050	mg/kg wet	0.05000		105	70-130	9	20	
1,2-Dibromo-3-Chloropropane	0.0436	0.0050	mg/kg wet	0.05000		87	70-130	8	20	
1,2-Dibromoethane	0.0527	0.0050	mg/kg wet	0.05000		105	70-130	12	20	
1,2-Dichlorobenzene	0.0520	0.0050	mg/kg wet	0.05000		104	70-130	6	20	
1,2-Dichloroethane	0.0490	0.0050	mg/kg wet	0.05000		98	70-130	9	20	
1,2-Dichloropropane	0.0457	0.0050	mg/kg wet	0.05000		91	70-130	8	20	
1,3,5-Trimethylbenzene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	8	20	
1,3-Dichlorobenzene	0.0523	0.0050	mg/kg wet	0.05000		105	70-130	6	20	

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01838 - 5035										
1,3-Dichloropropane	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	12	20	
1,4-Dichlorobenzene	0.0530	0.0050	mg/kg wet	0.05000		106	70-130	7	20	
1,4-Dioxane	0.904	0.100	mg/kg wet	1.000		90	70-130	5	20	
2,2-Dichloropropane	0.0528	0.0050	mg/kg wet	0.05000		106	70-130	8	20	
2-Butanone	0.222	0.0100	mg/kg wet	0.2500		89	70-130	10	20	
2-Chlorotoluene	0.0483	0.0050	mg/kg wet	0.05000		97	70-130	6	20	
2-Hexanone	0.249	0.0100	mg/kg wet	0.2500		100	70-130	15	20	
4-Chlorotoluene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	7	20	
4-Isopropyltoluene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130	9	20	
4-Methyl-2-Pentanone	0.230	0.0100	mg/kg wet	0.2500		92	70-130	10	20	
Acetone	0.216	0.0100	mg/kg wet	0.2500		86	70-130	21	20	D+
Benzene	0.0476	0.0050	mg/kg wet	0.05000		95	70-130	9	20	
Bromobenzene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	7	20	
Bromochloromethane	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	8	20	
Bromodichloromethane	0.0479	0.0050	mg/kg wet	0.05000		96	70-130	9	20	
Bromoform	0.0497	0.0050	mg/kg wet	0.05000		99	70-130	11	20	
Bromomethane	0.0492	0.0100	mg/kg wet	0.05000		98	70-130	21	20	D+
Carbon Disulfide	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	10	20	
Carbon Tetrachloride	0.0517	0.0050	mg/kg wet	0.05000		103	70-130	9	20	
Chlorobenzene	0.0524	0.0050	mg/kg wet	0.05000		105	70-130	11	20	
Chloroethane	0.0413	0.0100	mg/kg wet	0.05000		83	70-130	10	20	
Chloroform	0.0488	0.0050	mg/kg wet	0.05000		98	70-130	10	20	
Chloromethane	0.0412	0.0100	mg/kg wet	0.05000		82	70-130	11	20	
cis-1,2-Dichloroethene	0.0506	0.0050	mg/kg wet	0.05000		101	70-130	9	20	
cis-1,3-Dichloropropene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	8	20	
Dibromochloromethane	0.0509	0.0020	mg/kg wet	0.05000		102	70-130	12	20	
Dibromomethane	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	8	20	
Dichlorodifluoromethane	0.0506	0.0100	mg/kg wet	0.05000		101	70-130	11	20	
Diethyl Ether	0.0445	0.0050	mg/kg wet	0.05000		89	70-130	8	20	
Di-isopropyl ether	0.0445	0.0050	mg/kg wet	0.05000		89	70-130	10	20	
Ethyl tertiary-butyl ether	0.0559	0.0050	mg/kg wet	0.05000		112	70-130	9	20	
Ethylbenzene	0.0517	0.0050	mg/kg wet	0.05000		103	70-130	10	20	
Hexachlorobutadiene	0.0559	0.0050	mg/kg wet	0.05000		112	70-130	5	20	
Isopropylbenzene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130	7	20	
Methyl tert-Butyl Ether	0.0546	0.0050	mg/kg wet	0.05000		109	70-130	7	20	
Methylene Chloride	0.0483	0.0100	mg/kg wet	0.05000		97	70-130	4	20	
Naphthalene	0.0513	0.0050	mg/kg wet	0.05000		103	70-130	15	20	
n-Butylbenzene	0.0451	0.0050	mg/kg wet	0.05000		90	70-130	13	20	
n-Propylbenzene	0.0495	0.0050	mg/kg wet	0.05000		99	70-130	8	20	
sec-Butylbenzene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130	8	20	
Styrene	0.0516	0.0050	mg/kg wet	0.05000		103	70-130	12	20	
tert-Butylbenzene	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	8	20	
Tertiary-amyl methyl ether	0.0600	0.0050	mg/kg wet	0.05000		120	70-130	8	20	
Tetrachloroethene	0.0511	0.0050	mg/kg wet	0.05000		102	70-130	13	20	
Tetrahydrofuran	0.0425	0.0050	mg/kg wet	0.05000		85	70-130	13	20	

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation ESS Laboratory Work Order: 20C0468

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch DC01838 - 5035										
Toluene	0.0483	0.0050	mg/kg wet	0.05000		97	70-130	8	20	
trans-1,2-Dichloroethene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130	10	20	
trans-1,3-Dichloropropene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130	8	20	
Trichloroethene	0.0494	0.0050	mg/kg wet	0.05000		99	70-130	11	20	
Trichlorofluoromethane	0.0554	0.0050	mg/kg wet	0.05000		111	70-130	8	20	
Vinyl Chloride	0.0415	0.0100	mg/kg wet	0.05000		83	70-130	12	20	
Xylene O	0.0525	0.0050	mg/kg wet	0.05000		105	70-130	10	20	
Xylene P,M	0.105	0.0100	mg/kg wet	0.1000		105	70-130	10	20	
Surrogate: 1,2-Dichloroethane-d4	*0.0471*		mg/kg wet	*0.05000*		*94*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0493*		mg/kg wet	*0.05000*		*99*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0481*		mg/kg wet	*0.05000*		*96*	*70-130*			
Surrogate: Toluene-d8	*0.0485*		mg/kg wet	*0.05000*		*97*	*70-130*			
5035/8260B Volatile Organic Compounds / Methanol										
Batch DC02018 - 5035										
Blank										
1,1,1,2-Tetrachloroethane	ND	0.200	mg/kg wet							
1,1,1-Trichloroethane	ND	0.200	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.200	mg/kg wet							
1,1,2-Trichloroethane	ND	0.200	mg/kg wet							
1,1-Dichloroethane	ND	0.200	mg/kg wet							
1,1-Dichloroethene	ND	0.200	mg/kg wet							
1,1-Dichloropropene	ND	0.200	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.200	mg/kg wet							
1,2,3-Trichloropropane	ND	0.200	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.200	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.200	mg/kg wet							
1,2-Dibromo-3-Chloropropane	ND	1.00	mg/kg wet							
1,2-Dibromoethane	ND	0.200	mg/kg wet							
1,2-Dichlorobenzene	ND	0.200	mg/kg wet							
1,2-Dichloroethane	ND	0.200	mg/kg wet							
1,2-Dichloropropane	ND	0.200	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.200	mg/kg wet							
1,3-Dichlorobenzene	ND	0.200	mg/kg wet							
1,3-Dichloropropane	ND	0.200	mg/kg wet							
1,4-Dichlorobenzene	ND	0.200	mg/kg wet							
1,4-Dioxane - Screen	ND	40.0	mg/kg wet							
2,2-Dichloropropane	ND	0.200	mg/kg wet							
2-Butanone	ND	1.00	mg/kg wet							
2-Chlorotoluene	ND	0.200	mg/kg wet							
2-Hexanone	ND	1.00	mg/kg wet							
4-Chlorotoluene	ND	0.200	mg/kg wet							
4-Isopropyltoluene	ND	0.200	mg/kg wet							
4-Methyl-2-Pentanone	ND	1.00	mg/kg wet							
Acetone	ND	1.00	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0468

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch DC02018 - 5035										
Benzene	ND	0.200	mg/kg wet							
Bromobenzene	ND	0.200	mg/kg wet							
Bromochloromethane	ND	0.200	mg/kg wet							
Bromodichloromethane	ND	0.200	mg/kg wet							
Bromoform	ND	0.200	mg/kg wet							
Bromomethane	ND	0.200	mg/kg wet							
Carbon Disulfide	ND	0.200	mg/kg wet							
Carbon Tetrachloride	ND	0.200	mg/kg wet							
Chlorobenzene	ND	0.200	mg/kg wet							
Chloroethane	ND	0.200	mg/kg wet							
Chloroform	ND	0.200	mg/kg wet							
Chloromethane	ND	0.200	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.200	mg/kg wet							
cis-1,3-Dichloropropene	ND	0.200	mg/kg wet							
Dibromochloromethane	ND	0.200	mg/kg wet							
Dibromomethane	ND	0.200	mg/kg wet							
Dichlorodifluoromethane	ND	0.200	mg/kg wet							
Diethyl Ether	ND	0.200	mg/kg wet							
Di-isopropyl ether	ND	0.200	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.200	mg/kg wet							
Ethylbenzene	ND	0.200	mg/kg wet							
Hexachlorobutadiene	ND	0.200	mg/kg wet							
Isopropylbenzene	ND	0.200	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.200	mg/kg wet							
Methylene Chloride	ND	0.400	mg/kg wet							
Naphthalene	ND	0.200	mg/kg wet							
n-Butylbenzene	ND	0.200	mg/kg wet							
n-Propylbenzene	ND	0.200	mg/kg wet							
sec-Butylbenzene	ND	0.200	mg/kg wet							
Styrene	ND	0.200	mg/kg wet							
tert-Butylbenzene	ND	0.200	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.200	mg/kg wet							
Tetrachloroethene	ND	0.200	mg/kg wet							
Tetrahydrofuran	ND	1.00	mg/kg wet							
Toluene	ND	0.200	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.200	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.200	mg/kg wet							
Trichloroethene	ND	0.200	mg/kg wet							
Trichlorofluoromethane	ND	0.200	mg/kg wet							
Vinyl Chloride	ND	0.200	mg/kg wet							
Xylene O	ND	0.200	mg/kg wet							
Xylene P,M	ND	0.400	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	*4.93*		mg/kg wet	*5.000*		*99*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*4.53*		mg/kg wet	*5.000*		*91*	*70-130*			
Surrogate: Dibromofluoromethane	*4.73*		mg/kg wet	*5.000*		*95*	*70-130*			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0468

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch DC02018 - 5035										
Surrogate: Toluene-d8	*4.73*		mg/kg wet	*5.000*		*95*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	1.88	0.200	mg/kg wet	2.000		94	70-130			
1,1,1-Trichloroethane	1.84	0.200	mg/kg wet	2.000		92	70-130			
1,1,2,2-Tetrachloroethane	1.88	0.200	mg/kg wet	2.000		94	70-130			
1,1,2-Trichloroethane	1.82	0.200	mg/kg wet	2.000		91	70-130			
1,1-Dichloroethane	1.75	0.200	mg/kg wet	2.000		87	70-130			
1,1-Dichloroethene	1.71	0.200	mg/kg wet	2.000		86	70-130			
1,1-Dichloropropene	1.87	0.200	mg/kg wet	2.000		93	70-130			
1,2,3-Trichlorobenzene	1.98	0.200	mg/kg wet	2.000		99	70-130			
1,2,3-Trichloropropane	1.95	0.200	mg/kg wet	2.000		97	70-130			
1,2,4-Trichlorobenzene	1.97	0.200	mg/kg wet	2.000		99	70-130			
1,2,4-Trimethylbenzene	1.98	0.200	mg/kg wet	2.000		99	70-130			
1,2-Dibromo-3-Chloropropane	1.62	1.00	mg/kg wet	2.000		81	70-130			
1,2-Dibromoethane	2.02	0.200	mg/kg wet	2.000		101	70-130			
1,2-Dichlorobenzene	1.94	0.200	mg/kg wet	2.000		97	70-130			
1,2-Dichloroethane	1.88	0.200	mg/kg wet	2.000		94	70-130			
1,2-Dichloropropane	1.79	0.200	mg/kg wet	2.000		90	70-130			
1,3,5-Trimethylbenzene	1.91	0.200	mg/kg wet	2.000		95	70-130			
1,3-Dichlorobenzene	1.95	0.200	mg/kg wet	2.000		98	70-130			
1,3-Dichloropropane	2.06	0.200	mg/kg wet	2.000		103	70-130			
1,4-Dichlorobenzene	2.01	0.200	mg/kg wet	2.000		101	70-130			
1,4-Dioxane - Screen	56.0	40.0	mg/kg wet	40.00		140	44-241			
2,2-Dichloropropane	1.83	0.200	mg/kg wet	2.000		92	70-130			
2-Butanone	9.52	1.00	mg/kg wet	10.00		95	70-130			
2-Chlorotoluene	1.91	0.200	mg/kg wet	2.000		96	70-130			
2-Hexanone	8.95	1.00	mg/kg wet	10.00		90	70-130			
4-Chlorotoluene	1.94	0.200	mg/kg wet	2.000		97	70-130			
4-Isopropyltoluene	1.94	0.200	mg/kg wet	2.000		97	70-130			
4-Methyl-2-Pentanone	9.26	1.00	mg/kg wet	10.00		93	70-130			
Acetone	9.55	1.00	mg/kg wet	10.00		95	70-130			
Benzene	1.84	0.200	mg/kg wet	2.000		92	70-130			
Bromobenzene	2.00	0.200	mg/kg wet	2.000		100	70-130			
Bromochloromethane	1.87	0.200	mg/kg wet	2.000		93	70-130			
Bromodichloromethane	1.80	0.200	mg/kg wet	2.000		90	70-130			
Bromoform	1.54	0.200	mg/kg wet	2.000		77	70-130			
Bromomethane	1.87	0.200	mg/kg wet	2.000		94	70-130			
Carbon Disulfide	1.88	0.200	mg/kg wet	2.000		94	70-130			
Carbon Tetrachloride	1.94	0.200	mg/kg wet	2.000		97	70-130			
Chlorobenzene	1.97	0.200	mg/kg wet	2.000		98	70-130			
Chloroethane	1.74	0.200	mg/kg wet	2.000		87	70-130			
Chloroform	1.82	0.200	mg/kg wet	2.000		91	70-130			
Chloromethane	1.87	0.200	mg/kg wet	2.000		94	70-130			
cis-1,2-Dichloroethene	1.76	0.200	mg/kg wet	2.000		88	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0468

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch DC02018 - 5035										
cis-1,3-Dichloropropene	1.93	0.200	mg/kg wet	2.000		96	70-130			
Dibromochloromethane	1.66	0.200	mg/kg wet	2.000		83	70-130			
Dibromomethane	1.75	0.200	mg/kg wet	2.000		88	70-130			
Dichlorodifluoromethane	1.85	0.200	mg/kg wet	2.000		92	70-130			
Diethyl Ether	1.80	0.200	mg/kg wet	2.000		90	70-130			
Di-isopropyl ether	1.79	0.200	mg/kg wet	2.000		90	70-130			
Ethyl tertiary-butyl ether	1.71	0.200	mg/kg wet	2.000		85	70-130			
Ethylbenzene	1.93	0.200	mg/kg wet	2.000		97	70-130			
Hexachlorobutadiene	2.44	0.200	mg/kg wet	2.000		122	70-130			
Isopropylbenzene	1.90	0.200	mg/kg wet	2.000		95	70-130			
Methyl tert-Butyl Ether	1.79	0.200	mg/kg wet	2.000		90	70-130			
Methylene Chloride	1.87	0.400	mg/kg wet	2.000		93	70-130			
Naphthalene	1.95	0.200	mg/kg wet	2.000		97	70-130			
n-Butylbenzene	1.90	0.200	mg/kg wet	2.000		95	70-130			
n-Propylbenzene	1.93	0.200	mg/kg wet	2.000		96	70-130			
sec-Butylbenzene	1.89	0.200	mg/kg wet	2.000		94	70-130			
Styrene	1.88	0.200	mg/kg wet	2.000		94	70-130			
tert-Butylbenzene	2.00	0.200	mg/kg wet	2.000		100	70-130			
Tertiary-amyl methyl ether	1.87	0.200	mg/kg wet	2.000		94	70-130			
Tetrachloroethene	1.94	0.200	mg/kg wet	2.000		97	70-130			
Tetrahydrofuran	1.59	1.00	mg/kg wet	2.000		79	70-130			
Toluene	1.76	0.200	mg/kg wet	2.000		88	70-130			
trans-1,2-Dichloroethene	1.86	0.200	mg/kg wet	2.000		93	70-130			
trans-1,3-Dichloropropene	1.60	0.200	mg/kg wet	2.000		80	70-130			
Trichloroethene	1.89	0.200	mg/kg wet	2.000		94	70-130			
Trichlorofluoromethane	2.09	0.200	mg/kg wet	2.000		105	70-130			
Vinyl Chloride	1.73	0.200	mg/kg wet	2.000		87	70-130			
Xylene O	1.92	0.200	mg/kg wet	2.000		96	70-130			
Xylene P,M	3.81	0.400	mg/kg wet	4.000		95	70-130			
Surrogate: 1,2-Dichloroethane-d4	*4.93*		mg/kg wet	*5.000*		*99*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*4.94*		mg/kg wet	*5.000*		*99*	*70-130*			
Surrogate: Dibromofluoromethane	*5.01*		mg/kg wet	*5.000*		*100*	*70-130*			
Surrogate: Toluene-d8	*4.95*		mg/kg wet	*5.000*		*99*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	1.80	0.200	mg/kg wet	2.000		90	70-130	4	20	
1,1,1-Trichloroethane	1.75	0.200	mg/kg wet	2.000		88	70-130	5	20	
1,1,2,2-Tetrachloroethane	1.83	0.200	mg/kg wet	2.000		92	70-130	3	20	
1,1,2-Trichloroethane	1.78	0.200	mg/kg wet	2.000		89	70-130	2	20	
1,1-Dichloroethane	1.76	0.200	mg/kg wet	2.000		88	70-130	0.5	20	
1,1-Dichloroethene	1.75	0.200	mg/kg wet	2.000		88	70-130	2	20	
1,1-Dichloropropene	1.83	0.200	mg/kg wet	2.000		92	70-130	2	20	
1,2,3-Trichlorobenzene	1.88	0.200	mg/kg wet	2.000		94	70-130	5	20	
1,2,3-Trichloropropane	1.85	0.200	mg/kg wet	2.000		93	70-130	5	20	
1,2,4-Trichlorobenzene	1.87	0.200	mg/kg wet	2.000		93	70-130	6	20	
1,2,4-Trimethylbenzene	1.95	0.200	mg/kg wet	2.000		98	70-130	1	20	

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0468

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch DC02018 - 5035										
1,2-Dibromo-3-Chloropropane	1.53	1.00	mg/kg wet	2.000		76	70-130	6	20	
1,2-Dibromoethane	1.86	0.200	mg/kg wet	2.000		93	70-130	8	20	
1,2-Dichlorobenzene	2.00	0.200	mg/kg wet	2.000		100	70-130	3	20	
1,2-Dichloroethane	1.85	0.200	mg/kg wet	2.000		92	70-130	2	20	
1,2-Dichloropropane	1.74	0.200	mg/kg wet	2.000		87	70-130	3	20	
1,3,5-Trimethylbenzene	1.86	0.200	mg/kg wet	2.000		93	70-130	2	20	
1,3-Dichlorobenzene	2.01	0.200	mg/kg wet	2.000		100	70-130	3	20	
1,3-Dichloropropane	1.94	0.200	mg/kg wet	2.000		97	70-130	6	20	
1,4-Dichlorobenzene	1.99	0.200	mg/kg wet	2.000		100	70-130	1	20	
1,4-Dioxane - Screen	42.9	40.0	mg/kg wet	40.00		107	44-241	26	200	
2,2-Dichloropropane	1.83	0.200	mg/kg wet	2.000		91	70-130	0.3	20	
2-Butanone	9.10	1.00	mg/kg wet	10.00		91	70-130	5	20	
2-Chlorotoluene	2.01	0.200	mg/kg wet	2.000		101	70-130	5	20	
2-Hexanone	8.59	1.00	mg/kg wet	10.00		86	70-130	4	20	
4-Chlorotoluene	1.98	0.200	mg/kg wet	2.000		99	70-130	2	20	
4-Isopropyltoluene	1.89	0.200	mg/kg wet	2.000		94	70-130	3	20	
4-Methyl-2-Pentanone	8.55	1.00	mg/kg wet	10.00		86	70-130	8	20	
Acetone	8.00	1.00	mg/kg wet	10.00		80	70-130	18	20	
Benzene	1.90	0.200	mg/kg wet	2.000		95	70-130	3	20	
Bromobenzene	2.00	0.200	mg/kg wet	2.000		100	70-130	0	20	
Bromochloromethane	1.86	0.200	mg/kg wet	2.000		93	70-130	0.3	20	
Bromodichloromethane	1.79	0.200	mg/kg wet	2.000		89	70-130	0.6	20	
Bromoform	1.40	0.200	mg/kg wet	2.000		70	70-130	9	20	
Bromomethane	1.97	0.200	mg/kg wet	2.000		98	70-130	5	20	
Carbon Disulfide	1.87	0.200	mg/kg wet	2.000		93	70-130	0.4	20	
Carbon Tetrachloride	1.85	0.200	mg/kg wet	2.000		92	70-130	5	20	
Chlorobenzene	1.96	0.200	mg/kg wet	2.000		98	70-130	0.5	20	
Chloroethane	1.90	0.200	mg/kg wet	2.000		95	70-130	8	20	
Chloroform	1.91	0.200	mg/kg wet	2.000		96	70-130	5	20	
Chloromethane	1.83	0.200	mg/kg wet	2.000		92	70-130	2	20	
cis-1,2-Dichloroethene	1.76	0.200	mg/kg wet	2.000		88	70-130	0.1	20	
cis-1,3-Dichloropropene	1.98	0.200	mg/kg wet	2.000		99	70-130	3	20	
Dibromochloromethane	1.73	0.200	mg/kg wet	2.000		87	70-130	4	20	
Dibromomethane	1.74	0.200	mg/kg wet	2.000		87	70-130	0.9	20	
Dichlorodifluoromethane	1.87	0.200	mg/kg wet	2.000		94	70-130	1	20	
Diethyl Ether	1.87	0.200	mg/kg wet	2.000		93	70-130	3	20	
Di-isopropyl ether	1.82	0.200	mg/kg wet	2.000		91	70-130	1	20	
Ethyl tertiary-butyl ether	1.67	0.200	mg/kg wet	2.000		84	70-130	2	20	
Ethylbenzene	1.89	0.200	mg/kg wet	2.000		94	70-130	2	20	
Hexachlorobutadiene	2.17	0.200	mg/kg wet	2.000		108	70-130	12	20	
Isopropylbenzene	1.95	0.200	mg/kg wet	2.000		97	70-130	2	20	
Methyl tert-Butyl Ether	1.71	0.200	mg/kg wet	2.000		86	70-130	4	20	
Methylene Chloride	1.88	0.400	mg/kg wet	2.000		94	70-130	0.6	20	
Naphthalene	1.81	0.200	mg/kg wet	2.000		90	70-130	7	20	
n-Butylbenzene	1.88	0.200	mg/kg wet	2.000		94	70-130	1	20	

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0468

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch DC02018 - 5035										
n-Propylbenzene	1.95	0.200	mg/kg wet	2.000		97	70-130	1	20	
sec-Butylbenzene	1.90	0.200	mg/kg wet	2.000		95	70-130	0.5	20	
Styrene	1.91	0.200	mg/kg wet	2.000		95	70-130	2	20	
tert-Butylbenzene	1.97	0.200	mg/kg wet	2.000		98	70-130	1	20	
Tertiary-amyl methyl ether	1.73	0.200	mg/kg wet	2.000		87	70-130	8	20	
Tetrachloroethene	1.96	0.200	mg/kg wet	2.000		98	70-130	0.8	20	
Tetrahydrofuran	1.74	1.00	mg/kg wet	2.000		87	70-130	9	20	
Toluene	1.83	0.200	mg/kg wet	2.000		92	70-130	4	20	
trans-1,2-Dichloroethene	1.85	0.200	mg/kg wet	2.000		92	70-130	0.5	20	
trans-1,3-Dichloropropene	1.55	0.200	mg/kg wet	2.000		77	70-130	4	20	
Trichloroethene	1.82	0.200	mg/kg wet	2.000		91	70-130	4	20	
Trichlorofluoromethane	1.95	0.200	mg/kg wet	2.000		97	70-130	7	20	
Vinyl Chloride	1.70	0.200	mg/kg wet	2.000		85	70-130	2	20	
Xylene O	1.96	0.200	mg/kg wet	2.000		98	70-130	2	20	
Xylene P,M	3.88	0.400	mg/kg wet	4.000		97	70-130	2	20	
Surrogate: 1,2-Dichloroethane-d4	*4.95*		mg/kg wet	*5.000*		*99*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*4.68*		mg/kg wet	*5.000*		*94*	*70-130*			
Surrogate: Dibromofluoromethane	*4.97*		mg/kg wet	*5.000*		*99*	*70-130*			
Surrogate: Toluene-d8	*4.98*		mg/kg wet	*5.000*		*100*	*70-130*			
8082A Polychlorinated Biphenyls (PCB)										
Batch DC01701 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0192*		mg/kg wet	*0.02500*		*77*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0184*		mg/kg wet	*0.02500*		*74*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0169*		mg/kg wet	*0.02500*		*68*	*30-150*			

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DC01701 - 3540C										
Surrogate: Tetrachloro-m-xylene [2C]	*0.0194*		mg/kg wet	*0.02500*		*78*	*30-150*			
LCS										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		86	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		87	40-140			
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		89	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		87	40-140			
Surrogate: Decachlorobiphenyl	*0.0225*		mg/kg wet	*0.02500*		*90*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0216*		mg/kg wet	*0.02500*		*86*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0207*		mg/kg wet	*0.02500*		*83*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0223*		mg/kg wet	*0.02500*		*89*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		82	40-140	5	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		85	40-140	1	30	
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		87	40-140	2	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		83	40-140	4	30	
Surrogate: Decachlorobiphenyl	*0.0220*		mg/kg wet	*0.02500*		*88*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0209*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0203*		mg/kg wet	*0.02500*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0222*		mg/kg wet	*0.02500*		*89*	*30-150*			
8270D Semi-Volatile Organic Compounds										
Batch DC01610 - 3546										
Blank										
1,2,4-Trichlorobenzene	ND	0.167	mg/kg wet							
1,2-Dichlorobenzene	ND	0.167	mg/kg wet							
1,3-Dichlorobenzene	ND	0.080	mg/kg wet							
1,4-Dichlorobenzene	ND	0.084	mg/kg wet							
2,4,5-Trichlorophenol	ND	0.333	mg/kg wet							
2,4,6-Trichlorophenol	ND	0.082	mg/kg wet							
2,4-Dichlorophenol	ND	0.083	mg/kg wet							
2,4-Dimethylphenol	ND	0.075	mg/kg wet							
2,4-Dinitrophenol	ND	0.557	mg/kg wet							
2,4-Dinitrotoluene	ND	0.107	mg/kg wet							
2,6-Dinitrotoluene	ND	0.333	mg/kg wet							
2-Chloronaphthalene	ND	0.333	mg/kg wet							
2-Chlorophenol	ND	0.094	mg/kg wet							
2-Methylnaphthalene	ND	0.072	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
2-Nitrophenol	ND	0.333	mg/kg wet							
3,3´-Dichlorobenzidine	ND	0.074	mg/kg wet							
3+4-Methylphenol	ND	0.667	mg/kg wet							
4-Bromophenyl-phenylether	ND	0.333	mg/kg wet							

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Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DC01610 - 3546										
4-Chloroaniline	ND	0.075	mg/kg wet							
4-Nitrophenol	ND	1.67	mg/kg wet							
Acenaphthene	ND	0.081	mg/kg wet							
Acenaphthylene	ND	0.064	mg/kg wet							
Acetophenone	ND	0.667	mg/kg wet							
Aniline	ND	1.67	mg/kg wet							
Anthracene	ND	0.333	mg/kg wet							
Azobenzene	ND	0.333	mg/kg wet							
Benzo(a)anthracene	ND	0.058	mg/kg wet							
Benzo(a)pyrene	ND	0.055	mg/kg wet							
Benzo(b)fluoranthene	ND	0.074	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.333	mg/kg wet							
Benzo(k)fluoranthene	ND	0.333	mg/kg wet							
bis(2-Chloroethoxy)methane	ND	0.333	mg/kg wet							
bis(2-Chloroethyl)ether	ND	0.090	mg/kg wet							
bis(2-chloroisopropyl)Ether	ND	0.089	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Chrysene	ND	0.167	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.051	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Fluoranthene	ND	0.333	mg/kg wet							
Fluorene	ND	0.333	mg/kg wet							
Hexachlorobenzene	ND	0.056	mg/kg wet							
Hexachlorobutadiene	ND	0.333	mg/kg wet							
Hexachloroethane	ND	0.084	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.108	mg/kg wet							
Isophorone	ND	0.333	mg/kg wet							
Naphthalene	ND	0.333	mg/kg wet							
Nitrobenzene	ND	0.333	mg/kg wet							
N-Nitrosodimethylamine	ND	0.333	mg/kg wet							
Pentachlorophenol	ND	0.288	mg/kg wet							
Phenanthrene	ND	0.083	mg/kg wet							
Phenol	ND	0.081	mg/kg wet							
Pyrene	ND	0.333	mg/kg wet							
Pyridine	ND	1.67	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*2.49*		mg/kg wet	*3.333*		*75*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.08*		mg/kg wet	*5.000*		*82*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.85*		mg/kg wet	*5.000*		*77*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.51*		mg/kg wet	*3.333*		*75*	*30-130*			
Surrogate: 2-Fluorophenol	*3.86*		mg/kg wet	*5.000*		*77*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.73*		mg/kg wet	*3.333*		*82*	*30-130*			

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DC01610 - 3546										
Surrogate: Phenol-d6	*3.96*		mg/kg wet	*5.000*		*79*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.32*		mg/kg wet	*3.333*		*99*	*30-130*			
LCS										
1,2,4-Trichlorobenzene	2.08	0.167	mg/kg wet	3.333		62	40-140			
1,2-Dichlorobenzene	2.04	0.167	mg/kg wet	3.333		61	40-140			
1,3-Dichlorobenzene	2.01	0.080	mg/kg wet	3.333		60	40-140			
1,4-Dichlorobenzene	2.03	0.084	mg/kg wet	3.333		61	40-140			
2,4,5-Trichlorophenol	2.78	0.333	mg/kg wet	3.333		84	30-130			
2,4,6-Trichlorophenol	2.64	0.082	mg/kg wet	3.333		79	30-130			
2,4-Dichlorophenol	2.44	0.083	mg/kg wet	3.333		73	30-130			
2,4-Dimethylphenol	2.49	0.075	mg/kg wet	3.333		75	30-130			
2,4-Dinitrophenol	3.46	0.557	mg/kg wet	3.333		104	30-130			
2,4-Dinitrotoluene	3.15	0.107	mg/kg wet	3.333		94	40-140			
2,6-Dinitrotoluene	2.73	0.333	mg/kg wet	3.333		82	40-140			
2-Chloronaphthalene	2.28	0.333	mg/kg wet	3.333		69	40-140			
2-Chlorophenol	2.24	0.094	mg/kg wet	3.333		67	30-130			
2-Methylnaphthalene	2.20	0.072	mg/kg wet	3.333		66	40-140			
2-Methylphenol	2.31	0.333	mg/kg wet	3.333		69	30-130			
2-Nitrophenol	2.29	0.333	mg/kg wet	3.333		69	30-130			
3,3´-Dichlorobenzidine	2.60	0.074	mg/kg wet	3.333		78	40-140			
3+4-Methylphenol	4.59	0.667	mg/kg wet	6.667		69	30-130			
4-Bromophenyl-phenylether	2.74	0.333	mg/kg wet	3.333		82	40-140			
4-Chloroaniline	1.51	0.075	mg/kg wet	3.333		45	40-140			
4-Nitrophenol	3.37	1.67	mg/kg wet	3.333		101	30-130			
Acenaphthene	2.44	0.081	mg/kg wet	3.333		73	40-140			
Acenaphthylene	2.25	0.064	mg/kg wet	3.333		68	40-140			
Acetophenone	2.08	0.667	mg/kg wet	3.333		62	40-140			
Aniline	1.73	1.67	mg/kg wet	3.333		52	40-140			
Anthracene	2.85	0.333	mg/kg wet	3.333		85	40-140			
Azobenzene	2.87	0.333	mg/kg wet	3.333		86	40-140			
Benzo(a)anthracene	3.04	0.058	mg/kg wet	3.333		91	40-140			
Benzo(a)pyrene	3.29	0.055	mg/kg wet	3.333		99	40-140			
Benzo(b)fluoranthene	3.19	0.074	mg/kg wet	3.333		96	40-140			
Benzo(g,h,i)perylene	3.19	0.333	mg/kg wet	3.333		96	40-140			
Benzo(k)fluoranthene	2.99	0.333	mg/kg wet	3.333		90	40-140			
bis(2-Chloroethoxy)methane	2.35	0.333	mg/kg wet	3.333		70	40-140			
bis(2-Chloroethyl)ether	2.23	0.090	mg/kg wet	3.333		67	40-140			
bis(2-chloroisopropyl)Ether	2.09	0.089	mg/kg wet	3.333		63	40-140			
bis(2-Ethylhexyl)phthalate	3.43	0.333	mg/kg wet	3.333		103	40-140			
Butylbenzylphthalate	3.43	0.333	mg/kg wet	3.333		103	40-140			
Chrysene	3.00	0.167	mg/kg wet	3.333		90	40-140			
Dibenzo(a,h)Anthracene	3.32	0.051	mg/kg wet	3.333		100	40-140			
Dibenzofuran	2.48	0.333	mg/kg wet	3.333		74	40-140			
Diethylphthalate	2.75	0.333	mg/kg wet	3.333		83	40-140			

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DC01610 - 3546										
Dimethylphthalate	2.66	0.333	mg/kg wet	3.333		80	40-140			
Di-n-butylphthalate	3.08	0.333	mg/kg wet	3.333		93	40-140			
Di-n-octylphthalate	3.36	0.333	mg/kg wet	3.333		101	40-140			
Fluoranthene	2.94	0.333	mg/kg wet	3.333		88	40-140			
Fluorene	2.69	0.333	mg/kg wet	3.333		81	40-140			
Hexachlorobenzene	2.67	0.056	mg/kg wet	3.333		80	40-140			
Hexachlorobutadiene	2.04	0.333	mg/kg wet	3.333		61	40-140			
Hexachloroethane	2.04	0.084	mg/kg wet	3.333		61	40-140			
Indeno(1,2,3-cd)Pyrene	3.28	0.108	mg/kg wet	3.333		98	40-140			
Isophorone	2.02	0.333	mg/kg wet	3.333		61	40-140			
Naphthalene	2.16	0.333	mg/kg wet	3.333		65	40-140			
Nitrobenzene	2.28	0.333	mg/kg wet	3.333		68	40-140			
N-Nitrosodimethylamine	2.06	0.333	mg/kg wet	3.333		62	40-140			
Pentachlorophenol	3.27	0.288	mg/kg wet	3.333		98	30-130			
Phenanthrene	2.82	0.083	mg/kg wet	3.333		85	40-140			
Phenol	2.40	0.081	mg/kg wet	3.333		72	30-130			
Pyrene	3.07	0.333	mg/kg wet	3.333		92	40-140			
Pyridine	1.84	1.67	mg/kg wet	3.333		55	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*2.10*		mg/kg wet	*3.333*		*63*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.45*		mg/kg wet	*5.000*		*89*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.43*		mg/kg wet	*5.000*		*69*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.41*		mg/kg wet	*3.333*		*72*	*30-130*			
Surrogate: 2-Fluorophenol	*3.41*		mg/kg wet	*5.000*		*68*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.40*		mg/kg wet	*3.333*		*72*	*30-130*			
Surrogate: Phenol-d6	*3.69*		mg/kg wet	*5.000*		*74*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.15*		mg/kg wet	*3.333*		*95*	*30-130*			
LCS Dup										
1,2,4-Trichlorobenzene	2.17	0.167	mg/kg wet	3.333		65	40-140	4	30	
1,2-Dichlorobenzene	2.16	0.167	mg/kg wet	3.333		65	40-140	6	30	
1,3-Dichlorobenzene	2.09	0.080	mg/kg wet	3.333		63	40-140	4	30	
1,4-Dichlorobenzene	2.15	0.084	mg/kg wet	3.333		64	40-140	5	30	
2,4,5-Trichlorophenol	2.61	0.333	mg/kg wet	3.333		78	30-130	7	30	
2,4,6-Trichlorophenol	2.50	0.082	mg/kg wet	3.333		75	30-130	5	30	
2,4-Dichlorophenol	2.42	0.083	mg/kg wet	3.333		73	30-130	0.9	30	
2,4-Dimethylphenol	2.45	0.075	mg/kg wet	3.333		73	30-130	2	30	
2,4-Dinitrophenol	3.29	0.557	mg/kg wet	3.333		99	30-130	5	30	
2,4-Dinitrotoluene	2.96	0.107	mg/kg wet	3.333		89	40-140	6	30	
2,6-Dinitrotoluene	2.56	0.333	mg/kg wet	3.333		77	40-140	6	30	
2-Chloronaphthalene	2.25	0.333	mg/kg wet	3.333		67	40-140	2	30	
2-Chlorophenol	2.33	0.094	mg/kg wet	3.333		70	30-130	4	30	
2-Methylnaphthalene	2.21	0.072	mg/kg wet	3.333		66	40-140	0.7	30	
2-Methylphenol	2.35	0.333	mg/kg wet	3.333		71	30-130	2	30	
2-Nitrophenol	2.41	0.333	mg/kg wet	3.333		72	30-130	5	30	
3,3´-Dichlorobenzidine	2.43	0.074	mg/kg wet	3.333		73	40-140	7	30	
3+4-Methylphenol	4.62	0.667	mg/kg wet	6.667		69	30-130	0.6	30	

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DC01610 - 3546										
4-Bromophenyl-phenylether	2.55	0.333	mg/kg wet	3.333		77	40-140	7	30	
4-Chloroaniline	1.47	0.075	mg/kg wet	3.333		44	40-140	3	30	
4-Nitrophenol	3.17	1.67	mg/kg wet	3.333		95	30-130	6	30	
Acenaphthene	2.33	0.081	mg/kg wet	3.333		70	40-140	5	30	
Acenaphthylene	2.15	0.064	mg/kg wet	3.333		64	40-140	5	30	
Acetophenone	2.18	0.667	mg/kg wet	3.333		65	40-140	5	30	
Aniline	1.73	1.67	mg/kg wet	3.333		52	40-140	0	30	
Anthracene	2.69	0.333	mg/kg wet	3.333		81	40-140	6	30	
Azobenzene	2.70	0.333	mg/kg wet	3.333		81	40-140	6	30	
Benzo(a)anthracene	2.85	0.058	mg/kg wet	3.333		85	40-140	6	30	
Benzo(a)pyrene	3.05	0.055	mg/kg wet	3.333		91	40-140	8	30	
Benzo(b)fluoranthene	2.98	0.074	mg/kg wet	3.333		89	40-140	7	30	
Benzo(g,h,i)perylene	2.97	0.333	mg/kg wet	3.333		89	40-140	7	30	
Benzo(k)fluoranthene	2.74	0.333	mg/kg wet	3.333		82	40-140	9	30	
bis(2-Chloroethoxy)methane	2.39	0.333	mg/kg wet	3.333		72	40-140	2	30	
bis(2-Chloroethyl)ether	2.34	0.090	mg/kg wet	3.333		70	40-140	4	30	
bis(2-chloroisopropyl)Ether	2.17	0.089	mg/kg wet	3.333		65	40-140	4	30	
bis(2-Ethylhexyl)phthalate	3.20	0.333	mg/kg wet	3.333		96	40-140	7	30	
Butylbenzylphthalate	3.17	0.333	mg/kg wet	3.333		95	40-140	8	30	
Chrysene	2.81	0.167	mg/kg wet	3.333		84	40-140	7	30	
Dibenzo(a,h)Anthracene	3.08	0.051	mg/kg wet	3.333		92	40-140	7	30	
Dibenzofuran	2.34	0.333	mg/kg wet	3.333		70	40-140	6	30	
Diethylphthalate	2.61	0.333	mg/kg wet	3.333		78	40-140	5	30	
Dimethylphthalate	2.48	0.333	mg/kg wet	3.333		74	40-140	7	30	
Di-n-butylphthalate	2.95	0.333	mg/kg wet	3.333		89	40-140	4	30	
Di-n-octylphthalate	3.07	0.333	mg/kg wet	3.333		92	40-140	9	30	
Fluoranthene	2.79	0.333	mg/kg wet	3.333		84	40-140	5	30	
Fluorene	2.55	0.333	mg/kg wet	3.333		77	40-140	5	30	
Hexachlorobenzene	2.49	0.056	mg/kg wet	3.333		75	40-140	7	30	
Hexachlorobutadiene	2.15	0.333	mg/kg wet	3.333		64	40-140	5	30	
Hexachloroethane	2.17	0.084	mg/kg wet	3.333		65	40-140	6	30	
Indeno(1,2,3-cd)Pyrene	3.05	0.108	mg/kg wet	3.333		91	40-140	7	30	
Isophorone	2.03	0.333	mg/kg wet	3.333		61	40-140	0.4	30	
Naphthalene	2.24	0.333	mg/kg wet	3.333		67	40-140	4	30	
Nitrobenzene	2.38	0.333	mg/kg wet	3.333		71	40-140	4	30	
N-Nitrosodimethylamine	2.16	0.333	mg/kg wet	3.333		65	40-140	5	30	
Pentachlorophenol	3.13	0.288	mg/kg wet	3.333		94	30-130	5	30	
Phenanthrene	2.64	0.083	mg/kg wet	3.333		79	40-140	7	30	
Phenol	2.45	0.081	mg/kg wet	3.333		73	30-130	2	30	
Pyrene	2.83	0.333	mg/kg wet	3.333		85	40-140	8	30	
Pyridine	1.91	1.67	mg/kg wet	3.333		57	40-140	4	30	
Surrogate: 1,2-Dichlorobenzene-d4	*2.22*		mg/kg wet	*3.333*		*67*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.14*		mg/kg wet	*5.000*		*83*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.56*		mg/kg wet	*5.000*		*71*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.39*		mg/kg wet	*3.333*		*72*	*30-130*			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0468

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DC01610 - 3546										
Surrogate: 2-Fluorophenol	*3.50*		mg/kg wet	*5.000*		*70*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.53*		mg/kg wet	*3.333*		*76*	*30-130*			
Surrogate: Phenol-d6	*3.78*		mg/kg wet	*5.000*		*76*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.92*		mg/kg wet	*3.333*		*88*	*30-130*			
Classical Chemistry										
Batch DC01631 - General Preparation										
Reference										
Flashpoint	81		°F	81.00		100	97.9-102.1			
Batch DC01819 - General Preparation										
Blank										
Reactive Cyanide	ND	2.0	mg/kg							
Reactive Sulfide	ND	2.0	mg/kg							
LCS										
Reactive Cyanide	4.0	2.0	mg/kg	100.3		4	0.68-5.41			
Reactive Sulfide	ND	2.0	mg/kg	10.00		0	0-44			
Batch DC01829 - General Preparation										
Reference										
Flashpoint	81		°F	81.00		100	97.9-102.1			

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation ESS Laboratory Work Order: 20C0468

Notes and Definitions

Z18	Temperature is not within 23 +/-2 ºC.
Z-10a	Soil pH measured in water at 19.2 ºC.
Z-10	Soil pH measured in water at 19.1 ºC.
U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
Q	Calibration required quadratic regression (Q).
EL	Elevated Method Reporting Limits due to sample matrix (EL).
E	Reported above the quantitation limit; Estimated value (E).
D+	Relative percent difference for duplicate is outside of criteria (D+).
D	Diluted.
CD-	Continuing Calibration %Diff/Drift is below control limit (CD-).
>	Greater than.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: Tombarello Site Investigation

ESS Laboratory Work Order: 20C0468

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: GEI Consultants, Inc. - TB

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20C0468
Date Received: 3/13/2020
Project Due Date: 3/20/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 3.6 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? Yes
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** (Yes) No / NA
10. Were any analyses received outside of hold time? Yes / (No)

11. Any Subcontracting needed? Yes / (No)
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? (Yes) / No
    a. Air bubbles in aqueous VOAs? Yes / No
    b. Does methanol cover soil completely? Yes / No / NA

13. Are the samples properly preserved? (Yes) / No
    a. If metals preserved upon receipt: Date: Time: By:
    b. Low Level VOA vials frozen: Date: 3/13/20 Time: 1032 By: M

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes (No)
    a. Was there a need to contact the client? Yes (No)
    Who was contacted: Date: Time: By:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
1	23739	Yes	N/A	Yes	VOA Vial	MeOH	
1	23741	Yes	N/A	Yes	VOA Vial	DI Water	
1	23742	Yes	N/A	Yes	VOA Vial	DI Water	
1	23745	Yes	N/A	Yes	8 oz jar	NP	
1	23746	Yes	N/A	Yes	8 oz jar	NP	
2	23740	Yes	N/A	Yes	VOA Vial	MeOH	
2	23743	Yes	N/A	Yes	VOA Vial	DI Water	
2	23744	Yes	N/A	Yes	VOA Vial	DI Water	
2	23747	Yes	N/A	Yes	8 oz jar	NP	
2	23956	Yes	N/A	Yes	4 oz. Jar	NP	
2	23957	Yes	N/A	Yes	4 oz. Jar	NP	

2nd Review
Were all containers scanned into storage/lab? Initials
Are barcode labels on correct containers? (Yes) / No
Are all Flashpoint stickers attached/container ID # circled? Yes / No / (NA)
Are all Hex Chrome stickers attached? Yes / No / (NA)
Are all QC stickers attached? Yes / No / (NA)

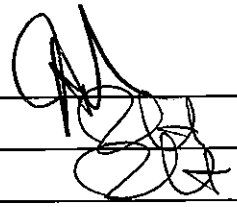
ESS Laboratory Sample and Cooler Receipt Checklist

Client: GEI Consultants, Inc. - TB

ESS Project ID: 20C0468

Date Received: 3/13/2020

Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: 

Date & Time: 3/13/20 2009

Reviewed By:

Date & Time: 3/13/20 2033

Delivered By:

3/13/20 2033

Chain-of-Custody Record

Laboratory: ESS

Laboratory Job # (Lab use only) 2000468

GEI Consultants
400 Unicorn Park Drive
Woburn, MA 01801
PH: 781.721.4000
FX: 781.721.4073

Project Information

Project Name: Former Tombarello
Project Number: 1802441
Project Location: Lawrence MA
Project Manager: L. Lombardo
339.221.3551

Send Report to: Elise Farrington
Send EDD to: labdata@geiconsultants.com

MCP PRESUMPTIVE CERTAINTY REQUIRED: (YES) NO

If Yes, Are MCP Analytical Methods Required? (YES) NO NA
If Yes, Are Drinking Water Samples Submitted? YES (NO) NA
If Yes, Have You Met Minimum Field QC Requirements? YES NO (NA)

Preservative

MeOH	DI H20	None	None						

Analysis

Lab Sample Number	GEI Sample ID	Collection Date	Collection Time	Matrix	No. of Bottles	Sampler(s) Initials	VOC(High Level)	VOC (Low Level)	SVOCs, RCRA 8 Metals**, Ignitability, Corrosivity, RCN/S	PCBs*								
1	1802441-Lot2-DISP01	3/13/2020	8:45	SO	5	BRL	x	x	x	x								
2	1802441-Lot2-DISP02	3/13/2020	9:55	SO	6	BRL	x	x	x	x								

Sample Handling

Samples Field Filtered: YES NO (NA)

Sampled Shipped With Ice: (YES) NO

Sample Specific Remarks

MCP Level Needed: GEI requires the most stringent Method 1 MCP standard be met for all analytes whenever possible.

	Relinquished by sampler: (signature)	Date :	Time:	Received by: (signature)
1.		3/13/20	1400	
2.		3/13/20	1904	
3.				
4.				

Turnaround Time (Business days):

Normal ____ Other ____
10-Day ____ 7-Day ____
5-Day __X__ 3-Day ____

Before submitting rush turnaround samples, you **must** notify the laboratory to confirm that the TAT can be achieved.

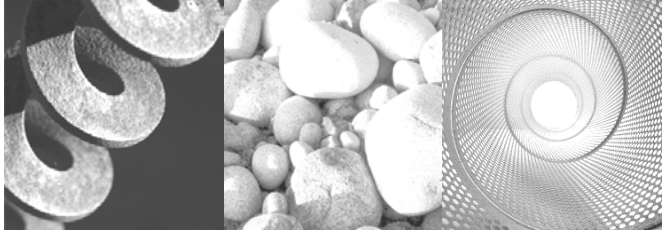
Additional Requirements/Comments/Remarks:

* Manual Soxhlet Extraction for PCBs. Analysis must be performed in accordance with GEI's Site Specific QAPP.

**Run TCLP if 20x Rule Exceeded

Appendix G

Perimeter Air Monitoring Plan



GEI Consultants

Consulting
Engineers and
Scientists

MassDEP RTN 3-18126

Perimeter Air Monitoring Plan

Former Tombarello Property – Lots 1 and 2 Targeted Excavations
207 Marston Street, Lawrence, Massachusetts

Submitted to:
City of Lawrence
12 Methuen Street
Lawrence, MA 01840

Submitted by:
GEI Consultants, Inc.
400 Unicorn Park Drive
Woburn, MA 01801
781-721-4000

June 2020
Project 1802441

Leslie Lombardo, P.E.
Project Manager

Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

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1. Alert Levels, Action Levels, and Mitigation Control Measures

Figure

1. Site Plan

B:\Working\LAWRENCE, CITY OF\1802441 Former Tombarello\PAMP\Former Tombarello PAMP.docx

Executive Summary

GEI Consultants, Inc. prepared this Perimeter Air Monitoring Plan (PAMP) on behalf of the City of Lawrence for perimeter ambient air monitoring during targeted excavations of soil containing polychlorinated biphenyls (PCBs) and/or petroleum on Lots 1 and 2 at the former Tombarello Property at 207 Marston Street, in Lawrence, Massachusetts. The former Tombarello Property is a Massachusetts Department of Environmental Protection (MassDEP)-listed disposal site identified by release tracking number (RTN) 3-18126 (the Site).

Real-time ambient air monitoring for dust will be conducted at the Site perimeter during excavation and handling of contaminated soil. The purpose of perimeter dust monitoring is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences, a school, and businesses) from potential airborne contaminant releases as a direct result of cleanup activities.

Pre-construction baseline dust monitoring will be conducted prior to the initiation of ground disturbing activities. Baseline dust monitoring will establish background dust concentrations and will be used to confirm the appropriateness of the alert and action levels.

Alert and action levels are concentrations that when exceeded trigger implementation of dust mitigation measures. This PAMP defines an alert level that triggers early warning of dust concentrations that are approaching the action level. The dust alert level is set at 100 micrograms per cubic meter (ug/m^3) and the dust action level is set at 150 ug/m^3. The alert level will initiate notification to the project team and mitigation response actions to reduce the potential for dust concentrations to reach the action level. An alert level does not suggest the existence of a health hazard but serves instead as a tool to trigger measures to assist in minimizing potential off-site transport of dust during excavation and handling of contaminated soil.

The project team is the City of Lawrence, GEI, and the contractor. GEI's responsibilities include air monitoring for dust, which may include airborne contaminants. In the case of an alert level or action level exceedance, GEI will inform the contractor. The contractor will implement dust control measures to abate the emissions and reduce ambient air levels below the alert level or action level.

1. Introduction

GEI Consultants, Inc. prepared this Perimeter Air Monitoring Plan (PAMP) on behalf of the City of Lawrence to document plans for perimeter ambient air monitoring during targeted excavations of soil containing polychlorinated biphenyls (PCBs) and/or petroleum on Lots 1 and 2 at the former Tombarello Property at 207 Marston Street, in Lawrence, Massachusetts. The former Tombarello Property is a Massachusetts Department of Environmental Protection (MassDEP)-listed disposal site identified by release tracking number (RTN) 3-18126 (the Site). The PAMP also documents dust alert and action levels that will trigger mitigation measures to reduce dust levels at the Site perimeter.

1.1 Site Description

The Site was operated as a metals recycling facility from about 1941 through 2001 and has been vacant since 2001. The Site is a 14-acre property, subdivided into two lots (Lots 1 and 2) owned by the City of Lawrence in a mixed-use area of Lawrence, Massachusetts. The Site is abutted by residential properties to the north, commercial properties to south, an elementary school across Marston Street to the west, and Interstate 495 to the east.

A portion of the Site is paved and developed with former industrial buildings and a former residential building, in varying states of disrepair, as well as concrete pads formerly used when the property was operated as a metals recycling facility. There are several soil and scrap material piles throughout the Site. An earthen berm about 10 to 20 feet high is along the eastern and southeastern property boundaries. The Site is vacant, and access is restricted by a chain link fence. A combination of 6-foot high wood fence and 8-foot high vinyl fence provide a barrier between Lot 2 and the residential properties to the north. A small portion of the Site (Lot 1) is paved; however, most of the Site is unpaved and overgrown with native vegetation.

1.2 Planned Cleanup Activities

The cleanup activities to be conducted on Lots 1 and 2 are the excavation and offsite disposal of contaminated soil from select areas. Specific cleanup activities planned on each lot are:

<u>Lot 1</u>

- Removal and offsite disposal of the asphalt surface cover on the northwest portion of Lot 1.
- Excavation and offsite disposal of soil with PCB concentrations greater than 1 ppm along the southern boundary of the northwest portion of Lot 1.

- Excavation and offsite disposal of soil with elevated extractable petroleum hydrocarbons (EPH) on the northeast portion of Lot 1.
- Collection of soil verification samples from the limits of the excavations.
- Backfill of excavated areas with clean imported fill.

Lot 2

- Excavation and offsite disposal of soil from select areas with PCB concentrations greater than 100 ppm.
- Collection of soil verification samples from the limits of the excavations.
- Backfill of excavated areas with clean imported fill.

Dust generation dust during excavation and handling of contaminated soil will be controlled by conventional methods described in Section 3.3.

1.3 Air Monitoring Approach

Continuous real-time air monitoring for particulates (dust) will be conducted at the Site perimeter during excavation and handling of contaminated soil.

The objectives of this PAMP are as follows:

- Provide an early warning system to alert appropriate personnel that concentrations of particulates (i.e., dust) in ambient air are approaching alert levels or action levels due to Site activities.
- Provide details for dust mitigation measures designed to reduce the offsite migration of particulates in ambient air that are above alert levels or action levels due to Site activities.
- Evaluate whether mitigation measures to abate dust emissions are effective in reducing ambient air dust concentrations below alert levels and/or action levels.
- Develop and document a permanent record that includes a database of air monitoring results, meteorological conditions, equipment maintenance, calibration records, and other pertinent information.

2. Air Monitoring Procedures

2.1 Continuous Monitoring

An air monitoring system will be employed for continuous monitoring of dust, which may include airborne contaminants, at the Site perimeter during excavation and handling of contaminated soil. The system will be a minimum of three perimeter, real-time air monitoring stations that transmit dust measurements to a data acquisition system. The system will include an email and/or text messaging notification system to notify GEI and the contractor of any exceedance of the dust alert level or action level.

At a minimum, air monitoring stations will be established at an upwind location, downwind location, and at the Site perimeter with the abutting residential properties. The anticipated air monitoring station locations are shown in Figure 1. However, actual locations will be selected based on wind direction and the location of Site activities.

Each real-time air monitoring station will contain the following or equivalent:

- Station enclosure
- Power source (solar panel with battery backup)
- MetOne® ES-642 aerosol particulate [dust] monitor, or equivalent
- Data logger plus communications device

A meteorological station will be located on Site at one of the air monitoring stations to record air temperature, relative humidity, wind speed, and wind direction to be used to evaluate the potential migration of particulates.

2.1.1 Particulate Monitoring

Particulate concentrations (dust) will be monitored at each air monitoring station on a continuous basis while contaminated soil excavation and handling activities are being conducted. A particulate monitor equipped with a cyclone inlet for particulate matter less than 10 micrometers in size (PM_{10}) will be used to monitor dust. The system can integrate monitoring results over a period of 15 minutes for comparison to the alert level and action level.

2.1.2 Meteorological Monitoring

A Vaisala® T-450 meteorological station will be affixed to one of the air monitoring stations. The meteorological tower will be instrumented with wind speed and direction, temperature, and relative humidity sensors. Daily wind direction and wind speed data will be used to determine the upwind and downwind monitoring locations with respect to cleanup activities.

2.1.3 Visible Dust

In addition to continuous particulate monitoring, fugitive dust migration will be visually assessed by GEI personnel on the work zone throughout cleanup activities.

2.2 Work Zone Ambient Air Sampling

Work zone ambient air sampling for PCBs will be conducted to evaluate the appropriateness of the dust alert and action levels during cleanup activities. GEI personnel in the work zone will wear a Real Time Air Monitor (RAM) for PCB analysis as well as a personal dust monitor during the first day of excavation in the area of heaviest PCB contamination. An air-sampling cassette with a sampling pump will be used to continuously collect vapors and dust onto a filter media over the duration of the 8-hour workday. The filter media will be submitted to a laboratory for total PCB testing on a one-day turn-around time. In addition, particulate concentrations (dust) will be monitored in the work zone using a personal DataRAM, which will measure real-time mass concentrations of dust. The concentration of PCBs in the 8-hour air and dust sample collected form the work zone will be correlated with the 8-hour average dust concentration in the work zone to evaluate the appropriateness of the dust alert and action levels for the cleanup activities at the Site perimeter. Work Zone ambient air sampling is discussed in more detail in GEI's site-specific Health and Safety Plan (HASP).

Additional contaminants in soil to be excavated include PAHS, metals and petroleum hydrocarbons. Modeled concentrations of these soil contaminants in dust based on soil concentrations were evaluated to identify the dust alert and action levels at the Site perimeter for protection of nearby receptors from potential exposure to dust. In accordance with "Real-Time Air Monitoring at Construction and Remediation Sites to Estimate Risks of Contaminated Dust Migration" (MassDEP 1997), GEI concluded that exposure to PAHs, metals, and petroleum hydrocarbons via particulates is unlikely to be a significant exposure pathway based on the dust action level set at 150 $\mu g/m^3$, which is the USEPA National Ambient Air Quality Standard (NAAQS) for PM10 for a 24-hour averaging period. Accordingly, employing the daily NAAQS dust action level of 150 $\mu g/m^3$ at the perimeter as well as within the work zone will be protective of potential dust exposures to nearby receptors adjacent to the Site.

2.3 Pre-Construction Baseline Monitoring

Pre-construction baseline monitoring will be conducted for one to three days prior to initiating soil disturbing activities to establish pre-construction background dust concentrations. The baseline monitoring will be performed at real-time air monitoring stations. Baseline monitoring will be performed during anticipated typical construction hours. Baseline dust monitoring will establish background dust concentrations and will be used to confirm the appropriateness of the alert and action levels.

3. Contingency Plan

The dust alert level specified in this PAMP will trigger early warning of particulates approaching the action level. This alert level is intended to initiate mitigation response actions before the action level is reached. Both the alert level and the action level are summarized in Table 1. As a conservative measure, the alert level was set at approximately 30 percent below the action level.

3.1 Communication

The project team is the City of Lawrence, GEI, and the contractor. GEI's responsibilities include perimeter dust monitoring in accordance with this PAMP. In the case of an alert level or action level exceedance, GEI will inform the contractor. The contractor will implement dust control measures to abate the emissions and reduce dust levels to below the alert level or action level. Common dust control measures are summarized in Section 3.3.

3.2 Particulate Response

The dust action level was set at 150 $\mu g/m^3$, which is the USEPA NAAQS for PM_{10} for a 24-hour averaging period. This standard is based on potential adverse health impacts due to the inhalation of particulates in this size range. The alert level was set at 100 $\mu g/m^3$.

If the concentration of particulates at the downwind Site perimeter or at the Site boundary with the residents exceeds the alert level of 100 $\mu g/m^3$ above upwind background conditions for the 15-minute average and is attributable to Site cleanup activities, or if airborne dust is observed leaving the Site, then dust control techniques will be employed. GEI will notify the contractor. The contractor will immediately implement dust control measures to abate the emissions and reduce levels to below the alert level. Work will continue with dust mitigation techniques provided that the dust concentrations at the downwind and resident dust monitoring locations do not exceed the action level of 150 $\mu g/m^3$ above the upwind background conditions, and provided that no visible dust is migrating from the Site.

If, after implementation of dust mitigation techniques, the concentration of particulates at the downwind and resident monitoring locations persist at levels in excess of 150 ug/m^3 above the upwind background conditions and are attributable to Site cleanup activities, work will be stopped, and activities will be re-evaluated. GEI will notify the contractor. The contractor will immediately implement additional dust control measures to abate the emissions and reduce levels to below the action level. Work will resume if dust control measures and/or other controls are successful in reducing the downwind particulate concentrations to below 150 ug/m^3 above the upwind background conditions and preventing visible dust migration.

3.3 Specific Dust Mitigation Techniques

The following techniques will be implemented during excavation and handling of contaminated soil to control dust:

- Placing excavated soil to be temporarily stored on Site into covered containers.
- Spraying misted water to prevent dust formation. Water should be applied as warranted, depending on meteorological conditions.
- Temporarily suspending contaminated soil excavation and handling activities, as needed.
- Reducing construction equipment traffic and/or speed.

4. Quality Assurance

GEI will maintain a log of air monitoring activities completed each day including calibration (if warranted), monitoring, maintenance, any equipment malfunctions, and alert level and action level exceedances.

5. Data Management and Reporting

All readings will be recorded and be available for review by the City of Lawrence. Alert level or action level exceedances and activities that were conducted at the time of the exceedance along with responses taken will be documented daily. After the completion of cleanup activities, an air monitoring summary report will be prepared summarizing exceedances and responses.

6. Health and Safety

GEI will perform activities in accordance with GEI's project-specific HASP for the Site. The contractor will perform its activities in accordance with its HASP. Work zone air monitoring will be conducted by the contractor for protection of contractor personnel.

References

MassDEP. 1997. Real-Time Air Monitoring at Construction and Remediation Sites to Estimate Risks of Contaminated Dust Migration. October, 1997.

Table

Table 1. Alert Levels, Action Levels, and Mitigation Control Measures
Former Tombarello Site - Lots 1 and 2 Targeted Excavations
Lawrence, Massachusetts

Air Monitoring Parameter	Monitoring Location	Alert Level	Alert Level Mitigation Control Measures	Action Level	Action Level Mitigation Control Measures
Particulate Matter	Perimeter	100 µg/m^3 above upwind concentrations, or visible dust leaving the site	-Determine if the alert level is attributable to site activity, then -Apply dust suppression	150 g/m^3 above upwind concentrations, or visible dust leaving the site	-Determine if the action level is attributable to site activity, then -Apply dust suppression -Temporarily halt work activities -Continue work if downwind PM-10 particulate levels return to 150 µg/m^3 or less above upwind concentration and no visual dust leaving site

Notes:
1. µg/m^3 = micrograms per meter cubed.

Figure

SOURCE:
1. AERIAL IMAGE OBTAINED FROM GOOGLE EARTH PRO.

NOTES:
1. ACTUAL AIR MONITORING LOCATIONS WILL BE DETERMINED BASED ON WIND DIRECTION AND SITE ACTIVITIES. AT A MINIMUM, STATIONS WILL BE ESTABLISHED AT AN UPWIND LOCATION, A DOWNWIND LOCATION, AND AT THE SITE PERIMETER WITH THE ADJACENT RESIDENTIAL PROPERTIES.

0 100 200

SCALE: 1" = 100'

Perimeter Air Monitoring Plan
Former Tombarello Site - Lots 1 & 2 Targeted Excavations
Lawrence, Massachusetts

City of Lawrence
Lawrence, Massachusetts

GEI Consultants

Project 1802441

PROPOSED AIR MONITORING LOCATIONS

June 2020 Fig. 1

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