Release Abatement Measure Plan

New Cypher Street Improvements
Boston Convention and Exhibition Center
Parcel 2 – East of C Street
South Boston, Massachusetts
DEP RTN 3-16215

Submitted to:

Massachusetts Department of Environmental Protection

August 15, 2023

TETRA TECH

August 15, 2023

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

Re: Release Abatement Measure Pan
New Cypher Street Improvements
Boston Convention and Exhibition Center
Parcel 2 – East of C Street
South Boston, Massachusetts
DEP RTN 3-16215

Dear Sir or Madam:

Tetra Tech, Inc., on behalf of the Massachusetts Port Authority (Massport), has prepared this Release Abatement Measure (RAM) Plan in relation to planned excavation and soil/groundwater management activities at the referenced Massachusetts Contingency Plan (MCP) Disposal Site to support reconstruction of New Cypher Street in South Boston, Massachusetts.

Please call us at 508-786-2200 if you have any questions.

Very truly yours,

William C. Phelps
Senior Project Manager

Matthew T. Madden P.E., L.S.P.
Senior Project Manager

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1.0 INTRODUCTION

On behalf of the Massachusetts Port Authority (Massport), Tetra Tech has prepared this Release Abatement Measure (RAM) Plan for soil management during anticipated excavation activities associated with roadway improvements at New Cypher Street in South Boston, Massachusetts (the Project).

The overall roadway reconstruction Project Area comprises sections of Richards and New Cypher Streets located between A and E Streets, E Street, and a segment of Fargo Street between E Street and Summer Street in South Boston. The current Site conditions within the Project Area consist primarily of existing asphalt paved roadway and concrete sidewalk, although a proposed extension of New Cypher Street between D and E Street crosses currently undeveloped parcels of land. Figure 1 is a locus map of the Project Area. Figure 2 is an aerial site plan of the Project Area.

A portion of the reconstruction of New Cypher Street includes work within the Disposal Site boundary for RTN 3-16215, for which this RAM Plan is being filed. Work under this RAM Plan covers the portion of New Cypher Street generally between the intersections with C and D Streets in South Boston.

This RAM Plan presents soil management, characterization and handling procedures for oil and hazardous materials (OHM) impacts anticipated to be encountered during the construction of the New Cypher Street Extension. Proposed improvements in the Project Area include the full depth reconstruction of New Cypher Street, street widening to provide improved access and usability by pedestrian and bicycle traffic, new curbing and sidewalks, the installation of a redesigned drainage system, new signage, and pavement markings. The RAM Plan was prepared in accordance with the MCP under 310 CMR 40.0444. The material facts and opinions of the Licensed Site Professional (LSP) for the RAM Plan are subject to the limitations and conditions presented in Appendix A. This submittal is appended to the transmittal form BWSC-106 established by the Massachusetts Department of Environmental Protection (MassDEP) and is submitted in electronic format via eDEP.

1.1 REGULATORY CONTEXT – PROJECT AREA

There are at least 10 Massachusetts Contingency Plan (MCP) Disposal Sites that either overlap or are adjacent to the Project Area. At least 6 of these have deed restrictions in the form of Activity and Use Limitations (AULs). In addition, there have been multiple response actions under both the Massachusetts Department of Environmental Protection (DEP) and the US Environmental Protection Agency (EPA) related to historic conditions on property owned by the Massachusetts Convention Center Authority (MCCA).

This RAM Plan has been developed for the portion of the Project Area that falls within the referenced Disposal Site (which does have an AUL) in order to manage OHM-impacted soils known to exist at the RTN 3-16215 Disposal Site. Figure 3 presents a summary of the regulatory history/status for each Site within and proximate to the Project Area. The Disposal Site subject to this RAM Plan is highlighted in yellow on Figure 3.

1.2 RELATIONSHIP OF PERSON CONDUCTING RAM ACTIVITIES TO THE SITE

Massport is conducting the response actions to facilitate the roadway and public infrastructure improvements within the Project Area. This project does not precipitate a change in the status of the Primary Responsible Party for the referenced Disposal Site.

1.3 SITE CONTACTS

The contact information for the parties involved in this RAM is provided below.

Person Conducting RAM
Madeline Soule, Environmental Manager
Massachusetts Port Authority
One Harborside Drive, Suite 200s
Boston, Massachusetts

Licensed Site Professional
Matthew T. Madden, PE, LSP
Tetra Tech, Inc.
100 Nickerson Road
Marlborough, MA 01752
(508) 786-2200

2.0 DISPOSAL SITE SETTING

2.1 DISPOSAL SITE DESCRIPTION

Presently, the Site for the purposes of this RAM is comprised of New Cypher Street, a public right of way between C Street and D Street in South Boston. There are no buildings or other structures currently at the Site, and utilities are limited to light poles and stormwater drainage on the eastern portion of the property.

2.2 SURROUNDING AREA

The Project Area under this RAM Plan is generally surrounded by commercial and industrial properties. Parking lots owned and operated as part of the BCEC are located to the north of the RAM area. The continuation of Cypher Street beyond C Street is located to the east of the RAM area. Old Cypher Street and commercial properties are situated to the south, and D Street is to the east.

2.3 NATURAL RESOURCE AREAS

The Site is located within reclaimed tidal wetlands and is not considered to be a potential source of potable water supply. The Site is located within an urban area, and much of the Site is covered with impervious surface (asphalt pavement) which poses limited potential for exposure to environmental receptors. Therefore, we have not identified environmental receptors at the Site. The nearest surface water bodies are the Reserved and Fort Point Channels, each located approximately 1,800 feet east and west of the Site, respectively.

3.0 DISPOSAL SITE HISTORY

The Project Area was developed shortly after the land became available beginning in the mid-1800s, with continued development and redevelopment through to the present. Most of the area was developed as commercial and industrial properties around a large rail yard, with spurs connecting to the vicinity of most of the properties. Many of the properties in the area included manufacturing and metalworking. Cypher Street (Old Cypher Street) was one of the planned gridded horizontal streets (paper streets) of the newly filled area, but eventually became a series of connected alleyways that included railroad spurs, which terminated at the rail yard to the northwest.

By the end of the 1980s, the major South Boston railyard was abandoned and began to be dismantled or covered. Beginning in 1999, much of the area north of the Project Area extending to the area south of Summer Street was acquired by the Boston Redevelopment Authority (BRA) and subsequently the Massachusetts Convention Center Authority (MCCA), and a major redevelopment project began. The area north of the Project Area was cleared of most of the remaining industrial and commercial properties, and the Boston Convention and Exhibition Center (BCEC) was constructed, as well as new commercial, residential, and hospitality developments along D Street. The development of the BCEC included the demolition and abandonment of the alleyways that formed Old Cypher Street, and the paving and creation of a new street to the north, immediately adjoining the historic street (New Cypher Street). New Cypher Street is currently located on BCEC property.

4.0 SITE RELEASE, INVESTIGATION AND REMEDIATION SUMMARY

The portion of the Project Area that is subject to RTN 3-16215 has historically been identified in MCP regulatory submittals as “BCEC Phase 2 - East of Historic C Street”. This includes the Project Area on New Cypher Street. This area was determined to not be directly impacted by the Boston Junk / SAK operation located on the parcels located West of C Street. OHM impacts associated with RTN 3-16215 include those typically encountered in urban fill in the surrounding area, including PAHs and metals, as well as petroleum impacts from historic property use. An investigation was conducted on this property as one of the portions of the planned BCEC after the acquisition of the property by BRA and subsequently MCCA. Tetra Tech completed a subsurface investigation in 2011, and along with historic data and observations, submitted a Class B-2 RAO including the recording of an AUL on the parcel.

The portion of the Project Area that traverses this property is impacted with OHM including petroleum, PAHs and metals associated with urban fill and historic use. An AUL is recorded for this property. The AUL restricts the property usage to that of a convention center, hotel, retail space, including, without limitation, maintenance activities, landscaping, vehicular parking, and vehicular and pedestrian traffic that are necessary and incidental to such uses, as well as commercial and industrial uses that are consistent with zoning of the portion of the property. Any non-emergency utility work, construction, and excavation that may result in the excavation and/or relocation of soil on or off the portion of the property subject to the AUL must include the implementation of a HASP, and a written Soil Management Plan must be developed to ensure that good soil management practices are adhered to pursuant to 310 CMR 40.0030 prior to commencement of work. Supporting documentation from the Permanent Solution Statement for RTN 3-16215 and related are attached as Appendix B.

5.0 SUPPLEMENTAL SITE CHARACTERIZATION ACTIVITIES – 2019

In 2019, Tetra Tech conducted a limited subsurface investigation within the Project Area, including advancement of soil borings and completion of select borings as temporary groundwater monitoring wells. Overall, twenty borings were advanced along the entire length of Project Area, five of the borings (TT-12 through TT-16) were advanced within the proposed limits of the RAM activities located on the Disposal Site tracked by RTN 3-16215. In general, soil samples were collected from the 0-2 foot interval at each boring to evaluate near surface soils and from a deeper interval proximate to the water table (8-10 foot sample). The results of the investigation were summarized in the 2019 Field Investigation Report included in Appendix B.

Approximate sampling locations for the borings performed in 2019 are shown on Figure 4. Analytical results for the discreet soil samples collected during the advancement of the borings are summarized in Table 1. The following presents a summary of the results:

- The maximum (total) polychlorinated biphenyl (PCB) concentration the samples was 0.741 milligrams per kilogram (mg/kg) in the 0-2 foot sample from TT-15.

- Arsenic, lead, petroleum hydrocarbons and polycyclic aromatic hydrocarbons (PAHs) were detected in the soil samples at concentrations generally consistent with levels identified in urban fill. The maximum lead concentration (1,170 mg/kg) was identified in the 0-2 foot sample from TT-15.

- Where analyzed, TCLP concentrations detected in the samples did not exceed the EPA Resource Conservation and Recovery Act (RCRA) characteristic hazardous waste threshold of 5.0 milligrams per liter (mg/L).

Overall, the nature, concentration and distribution of the OHM identified during the 2019 investigation activities was consistent with prior rounds of evaluation by Others.

6.0 PRE-CHARACTERIZATION INVESTIGATION - 2023

Tetra Tech implemented a soil boring and sampling program in May and June 2023 to provide pre-characterization data for soils anticipated to be excavated, handled, and/or displaced by construction. The goals of the program were to provide sufficient data to identify suitable disposal alternatives for soils within each construction segment (generally defined by individual RTN boundaries).

Tetra Tech engaged New England Boring Company (NEBC) to perform a total of 68 soil borings within the Project Area. Boring locations, depths and sampling intervals were based on the Construction Drawings, cut and fill estimates and general assumptions about facility acceptance criteria and related sampling frequency.

6.1 SOIL BORING ADVANCEMENT AND SAMPLING – BCEC PHASE 2 – EAST OF C STREET

Soil borings TT-117A, B and C through TT-119A and B were advanced at the Disposal Site property by NEBC in May and June , 2023. We note that boring TT-119C was advanced on the adjacent property owned by Massport

and identified as Old Cypher Street. Approximate boring locations are shown on Figure 5. At each location, the boring was advanced using a vacuum excavation rig to the maximum desired sampling depth or a maximum of 10 feet. Soil samples were collected at regular intervals using a hand auger as the boring was advanced to the desired depth using the vacuum rig. One soil was composited from each set of borings (e.g., TT-117A, TT-117B and TT-117C were used to create sample TT-117 for submission to the laboratory. Additional grab samples were collected from each boring for VOC and/or TPH analysis to meet anticipated disposal facility requirements.

The following table summarizes the boring depths, sampling intervals and compositing approach at the Site.

Segment	Boring ID	Proposed Depth (ft.)	Total Number of soil samples	0-3'	3-6'	6-10'	10-bottom	Sample ID	Sample Depth
6	TT-117A	15	4 composites plus TPH grabs from each boring @ 0-3 and 3-6	X	X	X	X	TT-117	0-3' 3-6' 6-10' 10-15'
	TT-117B	15		X	X	X	X		
	TT-117C	15		X	X	X	X		
	TT-118A	15	4 composites plus TPH grabs from each boring @ 0-3 and 3-6	X	X	X	X	TT-118	0-3' 3-6' 6-10' 10-15'
	TT-118B	15		X	X	X	X		
	TT-118C	15		X	X	X	X		
	TT-119A	15	4 composites plus TPH grabs from each boring @ 0-3 and 3-6	X	X	X	X	TT-119	0-3' 3-6' 6-10' 10-15'
	TT-119B	15		X	X	X	X		
	TT-119C	15		X	X	X	X		

Green highlights indicate samples completed to the full depth.

6.2 SAMPLE COLLECTION AND ANALYSIS

As indicated in the table above, composited soil samples collected from borings TT-117 through TT-119 resulted in the submission of a total of 12 soil samples for complete disposal characterization analysis. VOC samples were submitted to the laboratory from one grab sample location for each interval and were not composited. Additional samples were collected and analyzed for TPH only in anticipation of disposal facility supplemental requirements. Samples were submitted on ice and under chain of custody to ESS Laboratories in Cranston, RI for analysis.

6.3 2023 ANALYTICAL RESULTS

Analytical results are summarized in Table 1 and are compared to MCP RCS-1 and RCS-2 Reportable Concentrations along with Massachusetts COMM-97-001 Disposal Criteria. Laboratory certificates of analysis from the 2013 Investigation are included in Appendix C. As indicated in the table:

- Lead was detected in the soil samples at concentrations ranging from 19.8 mg/kg to 2,410 mg/kg. The maximum lead concentration was identified in the 3 to 6 foot sample from TT-119.

- The TCLP lead concentrations detected in the 3 to6 foot and 6 to10 foot samples at TT-119 exceed the RCRA Characteristic Hazardous Waste Limit of 5.0 mg/L and soils represented by these samples will require in-situ treatment prior to disposal.

- Total Petroleum Hydrocarbons (TPH) concentrations ranged from 27.4 mg/kg to 4,770 mg/kg, with the highest concentration reported in the 0 to 3 foot sample from TT-117.

- PAHs including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(ghi)perylene, dibenzo(a,h)anthracene, 2-methylnaphthalene, phenanthrene, and pyrene were identified at concentrations above MCP RCS-1 concentrations in select samples.

- Other than acetone in one soil sample, VOCs in were not detected in soil samples collected at the Site.

- PCBs were not detected in the samples at concentrations above laboratory detection limits.

- Pesticides and herbicides were identified in select soil samples at concentrations well below MCP Reportable Concentrations.

A review of these results indicates that they are generally similar to those identified during prior rounds of investigation, including data used to support the preparation of the AUL and PSS.

7.0 PROPOSED RAM ACTIVITIES

The purpose and objectives of the RAM are to manage existing OHM-impacted Site soils and groundwater in areas subject to disturbance by the Project in the context of the existing AUL recorded for the Site. The Contract Documents require the Contractor to develop and implement an Excavated Materials Management Plan (EMMP) to outline protocols for materials excavation, handling and management, and waste disposal in a manner consistent with the MCP and the AUL filed for this MCP Disposal Site.

This section of the RAM Plan references general MCP compliant provisions. To allow greater flexibility in construction means and methods, this RAM Plan is not prescribing detailed materials handling protocols beyond requiring knowledge of and compliance with relevant regulatory framework, including the AUL, MCP, and related policies.

7.1 ROADWAY RECONSTRUCTION AND PUBLIC INFRASTRUCTURE IMPROVEMENTS

RAM activities associated with the proposed public infrastructure improvements will include the following:

- Development and implementation of Health and Safety protocols including dust monitoring and mitigation activities.
- Management of soils disturbed or displaced from re-grading the roadways including for full depth pavement reconstruction (2 feet).
- Management of soils displaced by with utility installations including deeper drainage structures (manholes and catchbasins) and related drainage lines.
- Management of soils or other fill materials determined by the Engineer to be structurally unsuitable for re-use in the roadway.
- Management of groundwater in deeper excavations.
- Disposal of surplus soils, groundwater, treatment residuals and other materials identified as Remediation Waste under the MCP.
- Equipment and personnel decontamination procedures.

7.2 HEALTH AND SAFETY

The Contractor is required to prepare and implement a Site-Specific HASP for all Contractor employees and subcontractors working on the area covered under this RAM Plan. The HASP will be prepared by a qualified environmental professional (QEP) familiar with the applicable regulatory framework and site-specific conditions. The HASP shall follow the guidelines of the U.S. Department of Labor and Occupational Safety and Health Administration (OSHA) under 29 CFR Part 1910(I)(2). Due to the detection of OHM-impacts to soil subject to the provisions of the MCP, additional training including HAZWOPER 40-hour certification (40 CFR 1910.120) is required for Site personnel who may be exposed to OHM impacted soils.

7.3 SITE ACCESS CONTROL AND WORK ZONE SECURITY

Access to the work zone will be restricted to authorized personnel involved in the construction including Contractor personnel, sub-contractors, and personnel of the Owner, Engineer and/or Architect as part of normal construction security procedures and general access prohibitions.

7.4 DUST, VAPOR, ODOR AND NOISE CONTROL

Tetra Tech has developed an Ambient Air Monitoring Program (AMMP) for implementation during the work. The elements of the AMMP include dust and vapor monitoring at the perimeter of the work site on a daily basis. At a minimum, upwind and downwind real-time dust monitoring will be utilized to assess the efficacy of the Contractor's dust control and mitigation measures and will identify when additional measures are needed to meet project standards. Dust monitoring will be conducted using a combination of portable/handheld dust monitors supplemented by fixed base telemetry equipment capable cloud-based data storage and reporting. A copy of the AMMP is included in Appendix D.

As specified in the AMMP, dust levels approaching or the action level of 0.075 ug/M3 (as measured during a 15-minute time-weighted interval) shall require implementation of dust control measures. These measures may include the use of water sprays and/or hygroscopic salts, the use of dust control agents (tackifiers) and/or fabrics to mitigate the generation of fugitive dust. Additional measures may include limiting equipment speeds and activity and/or temporary work stoppages. Section G-010 of the Contract Specifications also requires the Contractor to develop and submit a Dust Control Plan following notice to proceed. Relevant information from this Plan will be included in the first RAM Status Report.

7.5 IN-SITU SOIL STABLIZATION

Laboratory analysis of soil samples collected from TT-119 (3-6' and 6-10') identified soils with TCLP lead at concentrations above the RCRA 5.0 mg/L limit. The area of soils requiring TCLP treatment is shown in orange on Figure 5. These soils will be stabilized in situ to reduce the TCLP lead concentrations to below 5.0 mg/L prior to either off-site disposal or on-site reuse in areas under the future roadway. Only soils generated as excess and displaced during construction will be treated and supplemental sampling prior to the start of RAM activities may be performed to refine the area and depths of soils requiring treatment.

While actual treatment methodology of the soils will be at the discretion of the excavation Contractor, overall treatment is anticipated to include mixing soils in-situ with a solid (pelletized) or liquid stabilization agent with

the soils. Water will be added as needed to complete the reaction and to mitigate dust during the stabilization work. Mixing will be performed in one-foot lifts to increase regent contact with the material and increase treatment efficacy. Soils will be covered with polyethylene sheeting immediately following completion of treatment activities.

Following treatment and any required latency period, post treatment verification samples will be collected from the material at 100 cubic yard intervals and will be analyzed for total and TCLP lead. Those soils not meeting the treatment criteria will be retreated until TCLP lead concentrations are reduced to less than 5.0 mg/L. Details on the treatment approach developed by the Contractor are anticipated to be presented in the first RAM Status Report due 120 days from the submission of the RAM Plan.

7.6 SOIL MONITORING DURING EXCAVATION

During excavation, soils displaying a dark or discolored appearance, staining, excessively oily or cohesive texture and/or odor inconsistent with that observed during the pre-characterization investigation and/or the prior data collected in support of prior MCP submittals will be considered as suspect and will be segregated from other excavated soils for further evaluation. Field screening devices such as photoionization detectors (PIDs) will also be used to aid in segregation of suspect impacted soils. Excavated soils inconsistent with the soil classification that cannot be reused within the immediate excavation will be stockpiled at the direction of MassPort or the Engineer/LSP.

If soils are temporarily managed in stockpiles, stockpiles will be maintained with positive drainage to convey water away from the stockpiled materials and toward on-site recharge as feasible. Stockpiles shall be surrounded by erosion and sediment control barriers (i.e., berms, haybales and silt fence or approved equivalent). Alternatively, soils may be stored within water-tight containers appropriate to the media being stored (e.g., roll-off containers, drums, totes, etc.). We note that if excavated soils that ultimately meet hazardous waste criteria are containerized, they are no longer eligible for on-site treatment such as stabilization for TCLP failure and must be disposed as hazardous waste if excess to the Project.

7.7 CHARACTERIZATION OF SUPPLEMENTAL OR INCONSISTENT SOILS

Soils exhibiting evidence of OHM impacts that are surplus to the project will have been characterized to permit live loading and transport to a disposal or recycling facility. In the event soils inconsistent with the classification are identified or soils are generated from outside those areas previously characterized, this material shall be classified to identify suitable disposal or recycling options. The frequency of soil sampling and laboratory analysis shall be determined based on the requirements of the anticipated receiving facility.

The parameters to be analyzed will also be dictated by the requirements of the anticipated receiving facility, the presence of known OHM impacts, and/or prior investigations. The samples shall be analyzed at a Massachusetts-certified analytical testing laboratory in accordance with the most recent methods under the Compendium of Quality Control Requirements and Performance Standards for Selected Analytical Protocols (the CAM). At a minimum, testing shall include the following:

Soil Sampling Parameters for Export Off-Site

Parameter	Reference Method	Alternative Parameter(s)
Total Petroleum Hydrocarbons	EPA Method 8100M	MADEP Extractable Petroleum Hydrocarbons, MADEP Volatile Petroleum Hydrocarbons
Volatile Organic Compounds	EPA Method 8260	
Semi-Volatile Organic Compounds	EPA Method 8270	
MCP 14 Metals	EPA Method 6010	EPA 200.7, 6020
Polychlorinated Biphenyls (PCBs)	EPA Method 8082	
Reactivity	EPA SW-846 Ch.7	
Flashpoint/ignitability	EPA 010/1030	
pH	EPA Method 9045C	

7.8 SOIL MANAGEMENT

Options for soil management/disposal have been developed based on the results of the pre-characterization investigation (Appendix C) and historic data. The following sections describe the various alternatives for the management of soils during this project.

7.8.1 On-Site Soil Reuse

To the extent feasible and appropriate based on soil observations/screening and structural suitability, soils may be reused at similar depths within the area covered under this RAM, if consistent with the AUL.

Soils from within the limits of the Disposal Site may not be reused at areas beyond the limits of the Disposal Site or at other properties without review, characterization, and possible further assessment of the soils by Massport or its Agents.

7.8.2 Off-Site Disposal - MCP Remediation Waste

Soils surplus to the Project are classified as MCP Remediation Waste, and off-site transport and disposal, if required, will be under a Bill of Lading. Characterization data collected to date indicate that soils meet the requirements for off-site disposal at a Massachusetts Landfill and/or Asphalt Batch facility. Further details relative to soil disposal classification are presented in Appendix C. Lastly, Remediation Waste may be stored on-site for up to 120 days following its initial excavation and placement in a stockpile or other container.

7.9 GROUNDWATER MANAGEMENT

The proposed work may involve the management of groundwater and/or stormwater generated from the dewatering of the excavations or management of runoff. It may be necessary to temporarily divert stormwater and/or groundwater into or away from excavations. During water management activities, a representative of the LSP for this RAM will shall be on-site to observe the recovered water for evidence of OHM impact. Management of impacted groundwater may include on-site recharge (with treatment) or on-Site treatment and off-site discharge under a NPDES DRGP authorization from US EPA and BWSC. Lastly, remedial wastewater generated

during the RAM may be containerized, tested and transported off-site for disposal under a Bill of Lading or Hazardous Waste Manifest, as applicable.

7.9.1 On Site Recharge of Remedial Wastewater

To the extent feasible, recovered waters that do not display evidence of OHM impact shall be recharged on-site proximate to excavation areas pursuant to the requirements of the MCP. For all such discharges, the MCP specifies in 310 CMR 40.0045:

- The discharge does not erode of otherwise impair functioning of surficial or subsurface soils, does not infiltrate underground utilities, building interiors or subsurface structures.

- The discharge does not result in groundwater mounding to within 2 feet of the ground surface or flooding or breakout at the ground surface.

The MCP specifies the following for **upgradient** discharges:

- Hydraulic containment of the groundwater at the Disposal Site is maintained so the Remedial Wastewater is captured or contained within the boundaries of the Site;

- The area of hydraulic containment is monitored at regular intervals of 30 days for the first 12 months of discharge and at intervals of 3 months thereafter;

- The discharge is not made to a location where OHM concentrations are significantly lower than the OHM concentration in the discharge.

Downgradient and/or off-site discharges of untreated remedial wastewater are not permitted under this RAM Plan.

7.9.2 On-Site Treatment and Off-Site Discharge to Surface Water

On Site treatment and off-site discharge (to surface water) may be performed if infiltration of the groundwater at the Site is found to be infeasible due to the nature of the OHM, the soil conditions and/or the discharge rate of the dewatering operations.

Under this condition, a permit from the USEPA NPDES program will be obtained to discharge treated groundwater to a surface water body. A Notice of Intent for coverage under the Dewatering and Remediation General Permit (DRGP) program was submitted to US EPA on July 14, 2023. A Copy of the NOI is included in Appendix E. The NOI proposed on Site treatment of groundwater including (at a minimum) the following:

- Use of fractionation tank(s) to promote settling of suspended solids and to provide interim storage of pumped water. Settling / flocculating agents may be used to aid in removing suspended solids.
- Use of bag filters to remove additional suspended solids.
- Use of granulated, activated carbon (GAC) to remove organic compounds (petroleum)
- Use of ion exchange media to remove elevated iron concentrations.

We note these requirements may be changed once the final permit approval is received from the US EPA.

As required under the MCP, all discharges must comply with all of the requirements of the NPDES /RGP authorization including those associated with influent and effluent monitoring and implementation of corrective measures, if needed.

Based on preliminary research, catch basins located at the intersection of New Cypher and D Streets discharge directly to the Reserved Channel via Boston's municipal separate storm sewer system (MS4) drainage system. Elements of the new/upgraded storm drainage system proposed in New Cypher Street (east of C Street) also will ultimately discharge to the same point. Permission to discharge to the Boston MS4 system will be obtained from the Boston Water and Sewer Commission (BWSC) prior to discharge.

Any treatment residuals, including bag filters, GAC, ion exchange media, fractionation tank sediment and decontamination materials from dewatering activities conducted will be characterized and managed, if required, as MCP Remediation Waste.

7.9.3 Off-Site Recycling / Disposal of Remedial Wastewater

For limited quantities and/or intermittent discharges, OHM impacted groundwater pumped from utility or other excavations may be containerized on Site in a fractionation tank for subsequent characterization and off-site disposal. Impacted water will be transported under a Bill of Lading or Hazardous Waste Manifest.

7.10 DECONTAMINATION

Truck tires and equipment that is in contact with OHM and that are leaving the Site will be cleaned as necessary to prevent tracking of contaminated materials off-site. Residues from decontamination may be co-managed with like soils generated from the Site or must be returned to the excavation from which they were generated.

8.0 FOCUSED FEASIBILITY AND RISK EVALUATION

The proposed RAM has been prepared to facilitate management of excess soils on a roadway improvement project. The Project will not change the nature of the current use of the Project Area and will not entail construction of a structure that could prevent or impede the implementation of likely response actions in the future. Since this section of the Project Area is subject to a Permanent Solution, a risk characterization and feasibility evaluation have been conducted by the LSP of Record for the Disposal Site tracked under this RTN. The current deed restriction will remain in place without amendment. Therefore, the RAM requirements for development of a risk characterization and feasibility evaluation under 310 CMR 40.0442(3)(b) & (c) are not applicable to this RAM.

9.0 PERMITS AND APPROVALS

Roadway reconstruction and related work is being implemented under permits and approvals issued by the City of Boston. The City of Boston issued an Order of Conditions for the entire roadway reconstruction project under File #006-1834. A copy of the Order is included in Appendix E. A copy of the DRGP, when issued by USEPA, will be included in a subsequent RAM Status Report. We are not aware of additional permits required to implement this RAM Plan.

10.0 FINANCIAL CERTIFICATION

It is currently estimated that more than 1,500 cubic yards of remediation waste may be generated during this RAM Plan. Certification required under 310 CMR 40.0442(5) is made through the execution of this RAM Plan by Massport.

11.0 RAM SCHEDULE

It is currently anticipated that implementation of the Project, which includes this RAM, will begin in summer of 2023, following completion of permitting and the public bidding/award process. Project completion is scheduled for December 2024, although construction activities managed under the RAM are likely to be completed in advance of the date.

12.0 PUBLIC NOTIFICATIONS

In accordance with the MCP, public notification shall be made *within* the 20 days prior to the implementation of the RAM. Copies of the letters sent to the Boston Mayors Office and Inspectional Services Division describing the nature and duration of the RAM Activities are included in Appendix F.

Table 1 Soil Analytical Data - RTN 3-16215 (2019-2023)

Segment:			Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6
Sample Name:			TT-12 (2-4')	TT-12 (4-6')	TT-13 (2-4')	TT-13 (4-4.75')	TT-14 (0-2')	TT-14 (8-10')	TT-15 (0-2')	TT-15 (8-10')	TT-16 (0-2')	TT-16 (8-10')	TT-116B	TT-116	TT-116C	TT-116B
Sample Depth:			2-4'	4-6'	2-4'	4-4.75'	0-2'	8-10'	0-2'	8-10'	0-2'	8-10'	2ft	0-3ft	0-3ft	7ft
Laboratory:			Alpha	Alpha	Alpha	Alpha	Alpha	Alpha	Alpha	Alpha	Alpha	Alpha	ESS	ESS	ESS	ESS
Laboratory I.D.:			L1938825-04/D, L1941630-02	L1938825-05, L1941630-03	1938617-01/D/D2, L1941630-0	L1938617-02, L1942594-01	L1938617-03/R, L19411630-0	L1940491-01/D, L1943327-05	L1938617-05/D	L1939976-04/D, L1943327-04	0	L1940491-02/D, L1943327-06	23E0573-01	23E0631-04	23E0520-08	23E0573-02
Sample Date:			08/27/2019	08/27/2019	08/26/2019	08/26/2019	08/26/2019	09/05/2019	08/26/2019	09/03/2019	08/28/2019	09/05/2019	16-May-23	16-May-23	15-May-23	16-May-23
Consultant:	CAS#	Units	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech
Acetone	00067-64-1	mg/kg	<0.71	<0.81	<0.66	<0.68	0.055	<2.4	0.037	<1.5	0.030	<1	<0.0324			<0.0403
Benzene	00071-43-2	mg/kg	<0.036	<0.04	0.04	<0.034	<0.00057	<0.12	<0.00047	0.09	<0.00046	<0.053	<0.0032			<0.0040
Butylbenzene, n-	00104-51-8	mg/kg	0.10	<0.081	<0.066	<0.068	<0.0011	<0.24	<0.00094	<0.15	<0.00092	<0.1	<0.0032			<0.0040
Butylbenzene, sec-	00135-98-8	mg/kg	0.09	<0.081	<0.066	<0.068	<0.0011	<0.24	<0.00094	<0.15	<0.00092	<0.1	<0.0032			<0.0040
Isopropyltoluene, p-	00099-87-6	mg/kg	<0.071	<0.081	<0.066	<0.068	<0.0011	0.27	<0.00094	0.54	<0.00092	<0.1	<0.0032			<0.0040
Naphthalene	00091-20-3	mg/kg	<0.28	<0.32	**8.40**	1.50	<0.0046	43	<0.0038	<0.58	<0.0037	1.5	<0.0032			<0.0040
Toluene	00108-88-3	mg/kg	<0.071	<0.081	0.16	0.09	<0.0011	0.26	<0.00094	1.00	<0.00092	<0.1	<0.0032			<0.0040
Trimethylbenzene, 1,2,4-	00095-63-6	mg/kg	0.32	<0.16	<0.13	<0.14	<0.0023	0.58	<0.0019	<0.29	<0.0018	<0.21	<0.0032			<0.0040
Trimethylbenzene, 1,3,5-	00108-67-8	mg/kg	0.15	<0.16	<0.13	<0.14	<0.0023	<0.48	<0.0019	<0.29	<0.0018	<0.21	<0.0032			<0.0040
p,m-Xylene	m: 00108-38-3;	mg/kg	<0.14	<0.16	0.13	<0.14	<0.0023	<0.48	<0.0019	<0.29	<0.0018	<0.21	<0.0065			<0.0081
Xylene (total)	01330-20-7	mg/kg	<0.071	<0.081	0.13	<0.068	<0.0011	<0.24	<0.00094	<0.15	<0.00092	<0.1	<0.00647			<0.00806
Total VOCs	NA	mg/kg	0.65	ND	8.73	1.59	0.055	44	0.037	1.63	0.030	1.5	ND			ND
Acenaphthene	00083-32-9	mg/kg	0.40	0.37	**12**	1.6	<0.14	**49**	<0.28	2.1	<0.7	3.3		<0.298		
Acenaphthylene	00208-96-8	mg/kg	<0.15	<0.16	**4.2**	<1.5	0.61	***23***	**2.3**	0.28	**1.8**	**1.3**		<0.298		
Anthracene	00120-12-7	mg/kg	1.8	1.0	24	2.7	0.48	92	1.5	4.0	1.6	6.0		<0.298		
Benzo(a)anthracene	00056-55-3	mg/kg	5.7	2.5	**29**	7.9	1.5	***90***	4.6	4.6	**3.8**	**7.6**		<0.298		
Benzo(a)pyrene	00050-32-8	mg/kg	**5.6**	**2.2**	***20***	7.3	1.4	***59***	**6.0**	**3.8**	**3.4**	**5.6**		<0.298		
Benzo(b)fluoranthene	00205-99-2	mg/kg	6.5	2.7	**27**	9.2	2.5	***70***	**11**	4.7	5.3	6.4		<0.298		
Benzo(g,h,i)perylene	00191-24-2	mg/kg	3.3	1.1	11	3.9	1.1	30	3.8	1.9	2.5	3.0		<0.298		
Benzo(k)fluoranthene	00207-08-9	mg/kg	2.0	0.85	9.4	3.1	0.66	25	2.4	1.6	2.1	2.5		<0.298		
Chrysene	00218-01-9	mg/kg	5.2	2.3	27	7.4	1.6	69	4.9	4.5	4.8	5.9		<0.298		
Dibenzo(a,h)anthracene	00053-70-3	mg/kg	**0.71**	0.29	**2.7**	<1.1	0.26	<12	**1.1**	0.51	0.61	**0.92**		<0.298		
Fluoranthene	00206-44-0	mg/kg	8.7	4.7	86	17	2.5	190	4.8	11	8.6	14		<0.298		
Fluorene	00086-73-7	mg/kg	0.53	0.51	19	<1.9	<0.18	66	<0.35	3.2	<0.88	4.8		<0.298		
Indeno(1,2,3-cd)pyrene	00193-39-5	mg/kg	3.4	1.2	**13**	4.3	1.2	**36**	4.4	2.0	2.500	3.5		<0.298		
Methylnaphthalene, 2-	00091-57-6	mg/kg	**0.78**	0.43	**7.2**	<2.2	**0.80**	**47**	0.51	**1.4**	<1	**2.9**		<0.298		
Naphthalene	00091-20-3	mg/kg	0.64	0.26	**14**	2.9	0.88	***150***	0.80	2.6	<0.88	**8.0**		<0.298		
Phenanthrene	00085-01-8	mg/kg	5.4	4.3	**95**	13	1.4	**300**	1.8	**14**	3.8	**19**		<0.298		
Pyrene	00129-00-0	mg/kg	8.0	4.2	62	14.0	2.2	150	5.3	10	7.5	12		<0.298		
Total PAHs	NA	mg/kg	58.7	28.9	463	94	19	1446	55	72	48	107				
1,1-Biphenyl			<0.21											<0.030		
Methylphenol, 3-	00108-39-4	mg/kg												<0.298		
Trichlorophenol, 2,4,6-	00088-06-2	mg/kg												<0.298		
Total SVOCs	NA	mg/kg	59.2	28.9	462.5	94.3	19.1	1446	55.2	72	48.3	107		ND		
Dichloro-6-methoxybenzoic acid, 2,5-(Dicamba)	01918-00-9	mg/kg	<0.039											<0.011		
Dichloroprop (2,4-DP)	00120-36-5	mg/kg	<0.00117											<0.053		
Endosulfan I	00959-98-8	mg/kg	0.003											<0.0030		
p,p'-DDT	00050-29-3	mg/kg	<0.035											<0.0030		
Trichlorophenoxy acetic acid (2,4,5-T)	00093-76-5	mg/kg	0.003											<0.011		
Total Pesticides	NA	mg/kg												ND		
Arochlor 1016	12674-11-2	mg/kg	<0.0376	<0.0396	<0.0359	<0.0374	<0.0361	<0.0396	<0.0666	<0.0518	<0.0345	<0.0445		<0.06		
Arochlor 1221	11104-28-2	mg/kg	<0.0376	<0.0396	<0.0359	<0.0374	<0.0361	<0.0396	<0.0666	<0.0518	<0.0345	<0.0445		<0.06		
Arochlor 1232	11141-16-5	mg/kg	<0.0376	<0.0396	<0.0359	<0.0374	<0.0361	<0.0396	<0.0666	<0.0518	<0.0345	<0.0445		<0.06		
Arochlor 1242	53469-21-9	mg/kg	<0.0376	<0.0396	<0.0359	<0.0374	<0.0361	<0.0396	<0.0666	<0.0518	<0.0345	<0.0445		<0.06		
Arochlor 1248	12672-29-6	mg/kg	<0.0376	<0.0396	<0.0359	<0.0374	<0.0361	<0.0396	0.113	<0.0518	<0.0345	<0.0445		<0.06		
Arochlor 1254	11097-69-1	mg/kg	<0.0376	<0.0396	<0.0359	<0.0374	<0.0361	<0.0396	0.107	<0.0518	<0.0345	<0.0445		<0.06		
Arochlor 1260	11096-82-5	mg/kg	<0.0376	<0.0396	0.080	<0.0374	0.075	<0.0396	0.328	<0.0518	<0.0345	<0.0445		<0.06		
Arochlor 1262	37324-23-5	mg/kg	<0.0376	<0.0396	<0.0359	<0.0374	<0.0361	<0.0396	<0.0666	<0.0518	0.251	<0.0445		<0.06		
Arochlor 1268	11100-14-4	mg/kg	<0.0376	<0.0396	0.044	<0.0374	0.063	<0.0396	0.193	<0.0518	<0.0345	<0.0445		<0.06		
Total Polychlorinated Biphenyls (PCBs) [2]	01336-36-3	mg/kg	ND	ND	0.124	ND	0.137	ND	0.741	ND	0.251	ND		ND		
Antimony, Total	07440-36-0	mg/kg	6.54	3.29	2.80	<2.28	5.7	<2.35	2.77	7.70	2.99	5.01				
Arsenic, Total	07440-38-2	mg/kg	10.4	12.5	6.85	6.30	12.0	15.0	6.81	***26***	6.72	***98.0***		3.73		
Barium, Total	07440-39-3	mg/kg	105	74.4	70.5	45.9	57.6	87.7	41.2	232	39.7	106		58.1		
Beryllium, Total	07440-41-7	mg/kg	0.29	0.26	0.36	0.24	0.29	<0.235	0.27	0.41	0.25	0.37				
Cadmium, Total	07440-43-9	mg/kg	1.65	0.97	1.39	0.51	1.65	<0.469	1.04	1.52	1.16	<0.535		<0.40		
Chromium, Total	07440-47-3	mg/kg	6.56	8.35	9.42	10.2	14.0	16.9	14.6	60.9	20.2	23.9		11.6		
Lead, Total	07439-92-1	mg/kg	***869***	**213**	**235**	116	194	**566**	95.1	***1170***	123	**494**		192		
Mercury, Total [2]	07439-97-6	mg/kg	1.06	0.35	0.74	0.17	0.46	16.9	0.19	16.4	0.19	4.43		0.374		
Nickel, Total	07440-02-0	mg/kg	20.6	15.7	10.6	16.4	18.8	6.38	12.6	16.0	22.9	15.1				
Selenium, Total	07782-49-2	mg/kg	<2.37	<2.38	<2.09	<2.28	<2.14	<2.35	<2.11	<3.17	<2.12	<2.68		<7.94		
Silver, Total	07440-22-4	mg/kg	26.1	<0.476	<0.417	<0.455	<0.428	<0.469	<0.422	2.66	<0.424	<0.535		<0.79		
Thallium, Total	07440-28-0	mg/kg	<2.37	<2.38	<2.09	<2.28	<2.14	<2.35	<2.11	<3.17	<2.12	<2.68				
Vanadium, Total	07440-62-2	mg/kg	11.5	12.3	21.2	22.2	21.7	12.0	20.2	33.0	27.4	23.4				
Zinc, Total	07440-66-6	mg/kg	416	183	122	104	78.6	342	64.8	385	97.2	311				
TPH (Total Petroleum Hydrocarbons)	NA	mg/kg	612	139	662	74	267.0							21.5	129	
Cyanide, Reactive	00057-12-5	mg/kg	<10											<2.0		
Ignitability	NA	egative/Positiv	NI											200		
Lead, TCLP	NA	mg/l	<0.500	<0.500	<0.500	<0.500		1.14		0.56		0.62		0.321		
Mercury, TCLP	07439-96-5	mg/kg						<0.0010		<0.0010		<0.0010				
pH (SU)	NA	SU	7.20											9.04		
Specific Conductance (Us/CM)	NA	uS/cm												1070		
Sulfide, Reactive	18496-25-8	mg/kg	<10											<2.0		

Notes:

Bold Compounds Exceed MCP RCS-1

ND = Not Detected

NA = Not Applicable

Table 1 Soil Analytical Data - RTN 3-16215 (2(

Segment:	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6
Sample Name:	**TT-116B**	**TT-116B**	**TT-116**	**TT-117C**	**TT-117**	**TT-117B**	**TT-117**	**TT-117C**	**TT-117**	**TT-117C**	**TT-117B/C**	**TT-117A**	**TT-117A**	**TT-117B**	**TT-117B**	**TT-117C**	**TT-117C**	**TT-118B**	**TT-118**	**TT-118B**	**TT-118**	**TT-118A**
Sample Depth:	**6-10**	**13-15ft**	**10-15ft**	**2ft**	**0-3ft**	**5ft**	**3-6ft**	**8.5ft**	**6-10ft**	**14ft**	**10-15**	**0-3ft**	**3-6ft**	**0-3ft**	**3-6ft**	**0-3ft**	**3-6ft**	**2ft**	**0-3ft**	**6ft**	**3-6ft**	**9ft**
Laboratory:	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**
Laboratory I.D.:	**23E0631-05**	**23E1091-08**	**23E1091-07**	**23E0520-01**	**23E0520-05**	**23E0369-06**	**23E0520-06**	**23E0520-03**	**23E0520-07**	**23F0048-04**	**23F0094-05**	**23E0369-01**	**23E0369-02**	**23E0369-03**	**23E0369-04**	**23E0520-02**	**23E0520-04**	**23E0408-04**	**23E0489-04**	**23E0408-07**	**23E0489-05**	**23E0489-03**
Sample Date:	**16-May-23**	**31-May-23**	**31-May-23**	**15-May-23**	**09-May-23**	**09-May-23**	**09-May-23**	**15-May-23**	**09-May-23**	**01-Jun-23**	**01-Jun-23**	**09-May-23**	**09-May-23**	**09-May-23**	**09-May-23**	**15-May-23**	**15-May-23**	**11-May-23**	**10-May-23**	**11-May-23**	**10-May-23**	**12-May-23**
Consultant:	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**
Acetone		<0.0328		<0.0331		<0.102		0.0301		0.124								<0.0462		<0.0396		<0.0384
Benzene		0.0154		<0.0033		<0.0102		<0.0028		<0.0069								<0.0046		<0.0040		<0.0038
Butylbenzene, n-		<0.0033		<0.0033		<0.0102		<0.0028		<0.0069								<0.0046		<0.0040		<0.0038
Butylbenzene, sec-		<0.0033		<0.0033		<0.0102		<0.0028		<0.0069								<0.0046		<0.0040		<0.0038
Isopropyltoluene, p-		0.0045		<0.0033		<0.0102		<0.0028		<0.0069								<0.0046		<0.0040		<0.0038
Naphthalene		**9.32**		<0.0033		<0.0102		<0.0028		<0.0069								<0.0046		<0.0040		<0.0038
Toluene		0.0071		<0.0033		<0.0102		<0.0028		<0.0069								<0.0046		<0.0040		<0.0038
Trimethylbenzene, 1,2,4-		0.0203		<0.0033		<0.0102		<0.0028		<0.0069								<0.0046		<0.0040		<0.0038
Trimethylbenzene, 1,3,5-		0.0084		<0.0033		<0.0102		<0.0028		<0.0069								<0.0046		<0.0040		<0.0038
p,m-Xylene		0.011		<0.0066		<0.0204		<0.0056		<0.0139								<0.0092		<0.0079		<0.0077
Xylene (total)		0.0174		<0.00663		<0.0204		<0.00557		<0.0139								<0.00925		<0.00791		<0.00769
Total VOCs		9.4161		ND		ND		0.0301		0.124								ND		ND		ND
Acenaphthene	<0.330		<0.352		<0.289		0.402		<0.313		<0.368								<0.521		<0.290	
Acenaphthylene	<0.330		<0.352		<0.289		<0.302		<0.313		<0.368								<0.521		<0.290	
Anthracene	<0.330		<0.352		<0.289		0.562		<0.313		0.444								<0.521		0.595	
Benzo(a)anthracene	<0.330		<0.352		0.802		0.957		0.651		1.08								1.75		1.39	
Benzo(a)pyrene	<0.330		<0.352		0.801		0.974		0.707		1.12								1.92		1.47	
Benzo(b)fluoranthene	<0.330		<0.352		0.637		0.69		0.489		0.807								1.5		1.15	
Benzo(g,h,i)perylene	<0.330		<0.352		0.505		0.592		0.437		0.673								1.07		0.737	
Benzo(k)fluoranthene	<0.330		<0.352		0.525		0.591		0.469		0.691								1.35		0.924	
Chrysene	<0.330		<0.352		0.775		1.03		0.687		1.06								1.65		1.3	
Dibenzo(a,h)anthracene	<0.330		<0.352		<0.289		<0.302		<0.313		<0.368								<0.521		<0.290	
Fluoranthene	0.603		<0.352		1.39		2.11		1.47		2.05								3.23		2.88	
Fluorene	<0.330		<0.352		<0.289		0.343		<0.313		<0.368								<0.521		<0.290	
Indeno(1,2,3-cd)pyrene	<0.330		<0.352		0.539		0.61		0.445		0.674								1.17		0.857	
Methylnaphthalene, 2-	<0.330		<0.352		1.33		<0.302		<0.313		<0.368								<0.521		<0.290	
Naphthalene	<0.330		<0.352		0.373		<0.302		<0.313		<0.368								<0.521		<0.290	
Phenanthrene	0.636		<0.352		0.891		2.08		0.944		1.36								1.77		2.25	
Pyrene	0.591		<0.352		1.4		2.25		1.43		1.86								3.65		2.92	
Total PAHs																						
1,1-Biphenyl	<0.033		<0.035		0.114		0.035		<0.031		<0.037								<0.052		<0.029	
Methylphenol, 3-	<0.330		<0.352		<0.289		<0.302		0.473		<0.368								<0.521		<0.290	
Trichlorophenol, 2,4,6-	<0.330		<0.352		<0.289		<0.302		<0.313		<0.368								<0.521		<0.290	
Total SVOCs	1.83		ND		10.1		13.2		8.20		11.8								19.1		16.5	
Dichloro-6-methoxybenzoic acid, 2,5-(Dicamba)	<0.012		<0.012		<0.010		0.328		0.561		0.368								<0.010		<0.011	
Dichloroprop (2,4-DP)	<0.061		0.461		<0.051		0.554		0.513		0.8								<0.048		<0.055	
Endosulfan I	<0.0032		<0.0035		<0.0029		<0.0031		<0.0031		<0.0039								<0.0025		<0.0029	
p,p'-DDT	<0.0032		<0.0035		<0.0029		<0.0031		<0.0031		<0.0039								0.0044		<0.0029	
Trichlorophenoxy acetic acid (2,4,5-T)	<0.012		0.037		<0.010		0.054		0.086		<0.068								<0.010		<0.011	
Total Pesticides	ND		0.498		ND		0.936		1.16		1.168								0.0044		ND	
Arochlor 1016	<0.07		<0.07		<0.06		<0.06		<0.06		<0.07								<0.05		<0.06	
Arochlor 1221	<0.07		<0.07		<0.06		<0.06		<0.06		<0.07								<0.05		<0.06	
Arochlor 1232	<0.07		<0.07		<0.06		<0.06		<0.06		<0.07								<0.05		<0.06	
Arochlor 1242	<0.07		<0.07		<0.06		<0.06		<0.06		<0.07								<0.05		<0.06	
Arochlor 1248	<0.07		<0.07		<0.06		<0.06		<0.06		<0.07								<0.05		<0.06	
Arochlor 1254	<0.07		<0.07		<0.06		<0.06		<0.06		<0.07								<0.05		<0.06	
Arochlor 1260	<0.07		<0.07		<0.06		<0.06		<0.06		<0.07								<0.05		<0.06	
Arochlor 1262	<0.07		<0.07		<0.06		<0.06		<0.06		<0.07								<0.05		<0.06	
Arochlor 1268	<0.07		<0.07		<0.06		<0.06		<0.06		<0.07								<0.05		<0.06	
Total Polychlorinated Biphenyls (PCBs) [2]	ND		ND		ND		ND		ND		ND								ND		ND	
Antimony, Total																						
Arsenic, Total	10.8		15		4.13		10.3		10.1		13								4.91		13.1	
Barium, Total	134		116		46.4		66.2		179		109								42		128	
Beryllium, Total																						
Cadmium, Total	<0.55		<0.61		<0.50		1.97		<0.57		0.39								<0.47		<0.52	
Chromium, Total	40		49.6		7.93		11.4		9.68		9.05								8.27		11	
Lead, Total	**236**		**361**		127		**221**		**561**		**895**								166		**401**	
Mercury, Total [2]	0.793		4.71		0.388		0.701		3.2		1.73								0.612		2.08	
Nickel, Total																						
Selenium, Total	<11.0		<12.3		<5.00		<5.06		<5.67		<5.58								<4.74		<5.24	
Silver, Total	<1.10		<1.23		<0.50		<0.51		1.83		<0.56								<0.47		<0.52	
Thallium, Total																						
Vanadium, Total																						
Zinc, Total																						
TPH (Total Petroleum Hydrocarbons)	59.8		64.2		379		44.3		27.4		663	267	93.5	**4770**	262	<10.7	185		317		68.7	
Cyanide, Reactive	<2.0		<2.0		<2.0		<2.0		<2.0		<2.0								<2.0		<2.0	
Ignitability	200		200		200		200		200		200								200		200	
Lead, TCLP	0.421		1.21		0.174		0.653		2.08		1.6								0.803		1.06	
Mercury, TCLP			<0.00050																			
pH (SU)	7.37				8.15		8.21		8.42		7.66								8.82		8.24	
Specific Conductance (Us/CM)	4170				982		1490		1700		2090								1760		3350	
Sulfide, Reactive	<2.0		<2.0		<2.0		<2.0		<2.0		12.5								<2.0		<2.0	

Notes:
Bold Compounds Exceed MCP RCS-1
ND = Not Detected
NA = Not Applicable

Table 1 Soil Analytical Data - RTN 3-16215 (2(

Segment:	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6	Segment 6
Sample Name:	**TT-118**	**TT-118B**	**TT-118B/C**	**TT-118A**	**TT-118A**	**TT-118B**	**TT-118B**	**TT-118C**	**TT-118C**	**TT-119C**	**TT-119**	**TT-119B**	**TT-119**	**TT-119A**	**TT-119**	**TT-119C**	**TT-119A/C**	**TT-119A**	**TT-119A**	**TT-119B**	**TT-119B**	**TT-119C**
Sample Depth:	**6-9ft**	**13ft**	**10-15**	**0-3ft**	**3-6ft**	**0-3ft**	**3-6ft**	**0-3ft**	**3-6ft**	**3ft**	**0-3ft**	**5ft**	**3-6ft**	**10ft**	**6-10ft**	**14ft**	**10-15**	**0-3ft**	**3-6ft**	**0-3ft**	**3-6ft**	**0-3ft**
Laboratory:	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**	**ESS**
Laboratory I.D.:	**23E0489-06**	**23F0048-05**	**23F0094-06**	**23E0489-01**	**23E0489-02**	**23E0408-05**	**23E0408-06**	**23E0369-07**	**23E0369-08**	**23E0369-10**	**23E0489-10**	**23E0489-09**	**23E0489-11**	**23E0408-03**	**23E0489-12**	**23F0094-09**	**23F0094-07**	**23E0408-01**	**23E0408-02**	**23E0489-07**	**23E0489-08**	**23E0369-11**
Sample Date:	**10-May-23**	**01-Jun-23**	**31-May-23**	**12-May-23**	**12-May-23**	**11-May-23**	**11-May-23**	**10-May-23**	**10-May-23**	**10-May-23**	**10-May-23**	**12-May-23**	**10-May-23**	**11-May-23**	**10-May-23**	**02-Jun-23**	**02-Jun-23**	**11-May-23**	**11-May-23**	**12-May-23**	**12-May-23**	**10-May-23**
Consultant:	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**	**Tetra Tech**
Acetone		<0.0545								<0.0568		<0.218		0.158		<0.0506						
Benzene		<0.0054								<0.0057		<0.0218		<0.0140		<0.0051						
Butylbenzene, n-		<0.0054								<0.0057		<0.0218		<0.0140		<0.0051						
Butylbenzene, sec-		<0.0054								<0.0057		<0.0218		<0.0140		<0.0051						
Isopropyltoluene, p-		<0.0054								<0.0057		<0.0218		<0.0140		<0.0051						
Naphthalene		0.0071								<0.0057		<0.0218		<0.0140		<0.0051						
Toluene		<0.0054								<0.0057		<0.0218		<0.0140		<0.0051						
Trimethylbenzene, 1,2,4-		<0.0054								<0.0057		<0.0218		<0.0140		<0.0051						
Trimethylbenzene, 1,3,5-		<0.0054								<0.0057		<0.0218		<0.0140		<0.0051						
p,m-Xylene		<0.0109								<0.0114		<0.0437		<0.0279		<0.0101						
Xylene (total)		<0.0109								<0.0114		<0.0437		<0.0279		<0.0101						
Total VOCs		0.0071								ND		ND		0.158		ND						
Acenaphthene	0.548		<0.341								0.787		1.87		2.78		<0.330					
Acenaphthylene	<0.378		<0.341								1.6		0.514		0.544		<0.330					
Anthracene	1.07		<0.341								2.47		4.62		6.01		<0.330					
Benzo(a)anthracene	1.56		<0.341								8.22		**10.1**		**7.71**		<0.330					
Benzo(a)pyrene	1.39		<0.341								8.76		**9.52**		**7.09**		<0.330					
Benzo(b)fluoranthene	1.09		<0.341								7.64		7.61		5.2		<0.330					
Benzo(g,h,i)perylene	0.646		<0.341								4.44		4.01		2.81		<0.330					
Benzo(k)fluoranthene	0.994		<0.341								6.37		6.44		4.74		<0.330					
Chrysene	1.52		<0.341								7.86		9.56		7.23		<0.330					
Dibenzo(a,h)anthracene	<0.378		<0.341								1.27		**1.31**		**0.944**		<0.330					
Fluoranthene	3.59		<0.341								14.2		22.6		15.2		<0.330					
Fluorene	0.607		<0.341								0.877		2.22		3.38		<0.330					
Indeno(1,2,3-cd)pyrene	0.765		<0.341								5.23		4.94		3.56		<0.330					
Methylnaphthalene, 2-	<0.378		<0.341								<0.581		0.585		**1.62**		<0.330					
Naphthalene	0.561		<0.341								<0.581		0.967		3.35		<0.330					
Phenanthrene	3.93		<0.341								7.88		19.4		21.6		<0.330					
Pyrene	3.67		<0.341								14.8		20		17.1		<0.330					
Total PAHs																						
1,1-Biphenyl	0.084		<0.034								0.064		0.171		0.397		<0.033					
Methylphenol, 3-	1.63		<0.341								<0.581		<0.312		0.589		<0.330					
Trichlorophenol, 2,4,6-	<0.378		<0.341								<0.581		<0.312		<0.354		<0.330					
Total SVOCs	24.1		ND								92.5		128		114		ND					
Dichloro-6-methoxybenzoic acid, 2,5-(Dicamba)	0.652		<0.012								<0.011		<0.012		<0.012		<0.012					
Dichloroprop (2,4-DP)	<0.068		<0.060								<0.056		<0.058		2.63		<0.058					
Endosulfan I	<0.0039		<0.0032								<0.0032		<0.0030		<0.0035		<0.0032					
p,p'-DDT	<0.0039		<0.0032								0.0043		<0.0030		<0.0035		<0.0032					
Trichlorophenoxy acetic acid (2,4,5-T)	0.104		<0.012								<0.011		<0.012		0.311		<0.012					
Total Pesticides	0.756		ND								0.0043		ND		2.941		ND					
Arochlor 1016	<0.07		<0.07								<0.06		<0.06		<0.07		<0.06					
Arochlor 1221	<0.07		<0.07								<0.06		<0.06		<0.07		<0.06					
Arochlor 1232	<0.07		<0.07								<0.06		<0.06		<0.07		<0.06					
Arochlor 1242	<0.07		<0.07								<0.06		<0.06		<0.07		<0.06					
Arochlor 1248	<0.07		<0.07								<0.06		<0.06		<0.07		<0.06					
Arochlor 1254	<0.07		<0.07								<0.06		<0.06		<0.07		<0.06					
Arochlor 1260	<0.07		<0.07								<0.06		<0.06		<0.07		<0.06					
Arochlor 1262	<0.07		<0.07								<0.06		<0.06		<0.07		<0.06					
Arochlor 1268	<0.07		<0.07								<0.06		<0.06		<0.07		<0.06					
Total Polychlorinated Biphenyls (PCBs) [2]	ND		ND								ND		ND		ND		ND					
Antimony, Total																						
Arsenic, Total	27.4		7.77								6.32		15.7		**28**		8.1					
Barium, Total	406		84.8								58.3		294		285		77.3					
Beryllium, Total																						
Cadmium, Total	1		<0.63								<0.56		<0.53		<0.63		<0.55					
Chromium, Total	21.3		38.8								11.6		19.8		40.8		43					
Lead, Total	**1830**		103								**241**		**2410**		**1510**		19.8					
Mercury, Total [2]	9.48		0.194								0.619		3.58		10.1		0.038					
Nickel, Total																						
Selenium, Total	<7.09		<12.7								<5.57		<5.29		6.98		<11.0					
Silver, Total	<0.71		<2.53								<0.56		<0.53		<0.63		<2.19					
Thallium, Total																						
Vanadium, Total																						
Zinc, Total																						
TPH (Total Petroleum Hydrocarbons)	188		93.9	908	89.9	11.4	<10.2	75.3	65.5		304		434		303		<13.0	90.5	274	60.7	42.3	451
Cyanide, Reactive	<2.0		<2.0								<2.0		<2.0		<2.0		<2.0					
Ignitability	200		200								200		200		200		200					
Lead, TCLP	3.73		0.071								0.119		**16.3**		**8.89**							
Mercury, TCLP	<0.00050														<0.00050							
pH (SU)	7.47		8.27								8.83		7.91		7.62		8.31					
Specific Conductance (Us/CM)	4600		3890								935		1180		1740		3620					
Sulfide, Reactive	<2.0		<2.0								<2.0		<2.0		<2.0		<2.0					

Notes:

Bold Compounds Exceed MCP RCS-1

ND = Not Detected

NA = Not Applicable

Table 1 Soil Analytical Data - RTN 3-16215 (2(

Segment:	**Segment 6**					
Sample Name:	**TT-119C**					
Sample Depth:	**3-6ft**	**2014**	**2014**	**2014**	**Approved**	**Approved**
Laboratory:	**ESS**	**MCP**	**MCP**	**MCP**	**Reuse Levels**	**Reuse Levels**
Laboratory I.D.:	**23E0369-12**	**RCS-1**	**RCS-2**	**UCL**	**Unlined**	**Lined**
Sample Date:	**10-May-23**	**mg/kg**	**mg/kg**	**mg/kg**	**Landfill**	**Landfill**
Consultant:	**Tetra Tech**	(1)	(1)	(1)	**mg/kg**	**mg/kg**
Acetone		6	50	10,000		
Benzene		2	200	10,000		
Butylbenzene, n-		NA	NA	NA		
Butylbenzene, sec-		NA	NA	NA		
Isopropyltoluene, p-		NA	NA	NA		
Naphthalene		4	20	10,000		
Toluene		30	1,000	10,000		
Trimethylbenzene, 1,2,4-		1,000	10,000	NA		
Trimethylbenzene, 1,3,5-		10	100	NA		
p,m-Xylene		500	500	NA		
Xylene (total)		100	100	10,000		
Total VOCs					4	10
Acenaphthene		4	3,000	10,000		
Acenaphthylene		1	10	10,000		
Anthracene		1,000	3,000	10,000		
Benzo(a)anthracene		7	40	3,000		
Benzo(a)pyrene		2	7	300		
Benzo(b)fluoranthene		7	40	3,000		
Benzo(g,h,i)perylene		1,000	3,000	10,000		
Benzo(k)fluoranthene		70	400	10,000		
Chrysene		70	400	10000		
Dibenzo(a,h)anthracene		0.7	4	300		
Fluoranthene		1,000	3,000	10,000		
Fluorene		1,000	3,000	10,000		
Indeno(1,2,3-cd)pyrene		7	40	3,000		
Methylnaphthalene, 2-		0.7	80	5,000		
Naphthalene		4	20	10,000		
Phenanthrene		10	1,000	10,000		
Pyrene		1,000	3,000	10,000		
Total PAHs						
1,1-Biphenyl		NA	NA			
Methylphenol, 3-		NA	NA	NA		
Trichlorophenol, 2,4,6-		0.7	20	4,000		
Total SVOCs					100	100
Dichloro-6-methoxybenzoic acid, 2,5-(Dicamba)		500	5,000	NA		
Dichloroprop (2,4-DP)		NA	NA	NA		
Endosulfan I		0.5	1	5,000		
p,p'-DDT		6	30	600		
Trichlorophenoxy acetic acid (2,4,5-T)		100	1,000	NA		
Total Pesticides		NA	NA	NA		
Arochlor 1016						
Arochlor 1221						
Arochlor 1232						
Arochlor 1242						
Arochlor 1248						
Arochlor 1254						
Arochlor 1260						
Arochlor 1262						
Arochlor 1268						
Total Polychlorinated Biphenyls (PCBs) (2)		1	4	100	2	2
Antimony, Total		20	30	300	NA	NA
Arsenic, Total		20	20	500	40	40
Barium, Total		1,000	3,000	10,000	NA	NA
Beryllium, Total		90	200	2,000	NA	NA
Cadmium, Total		70	100	1,000	30	80
Chromium, Total		100	200	2,000	1,000	1,000
Lead, Total		200	600	6,000	1,000	2,000
Mercury, Total (4)		20	30	300	10	10
Nickel, Total		600	1,000	10,000	NA	NA
Selenium, Total		400	700	7,000	NA	NA
Silver, Total		100	200	2,000	NA	NA
Thallium, Total		8	60	800	NA	NA
Vanadium, Total		400	700	7,000	NA	NA
Zinc, Total		1,000	3,000	10,000	NA	NA
TPH (Total Petroleum Hydrocarbons)	151	1,000	3,000	10,000	2,500	5,000
Cyanide, Reactive					(4)	(4)
Ignitability		NA	NA		Not Ignitable(5)	Not Ignitable(5)
Lead, TCLP					5	5
Mercury, TCLP						
pH (SU)		NA	NA		2 to 12.5(5)	2 to 12.5(5)
Specific Conductance (Us/CM)		NA	NA		4,000	8,000
Sulfide, Reactive					(4)	(4)

Notes:

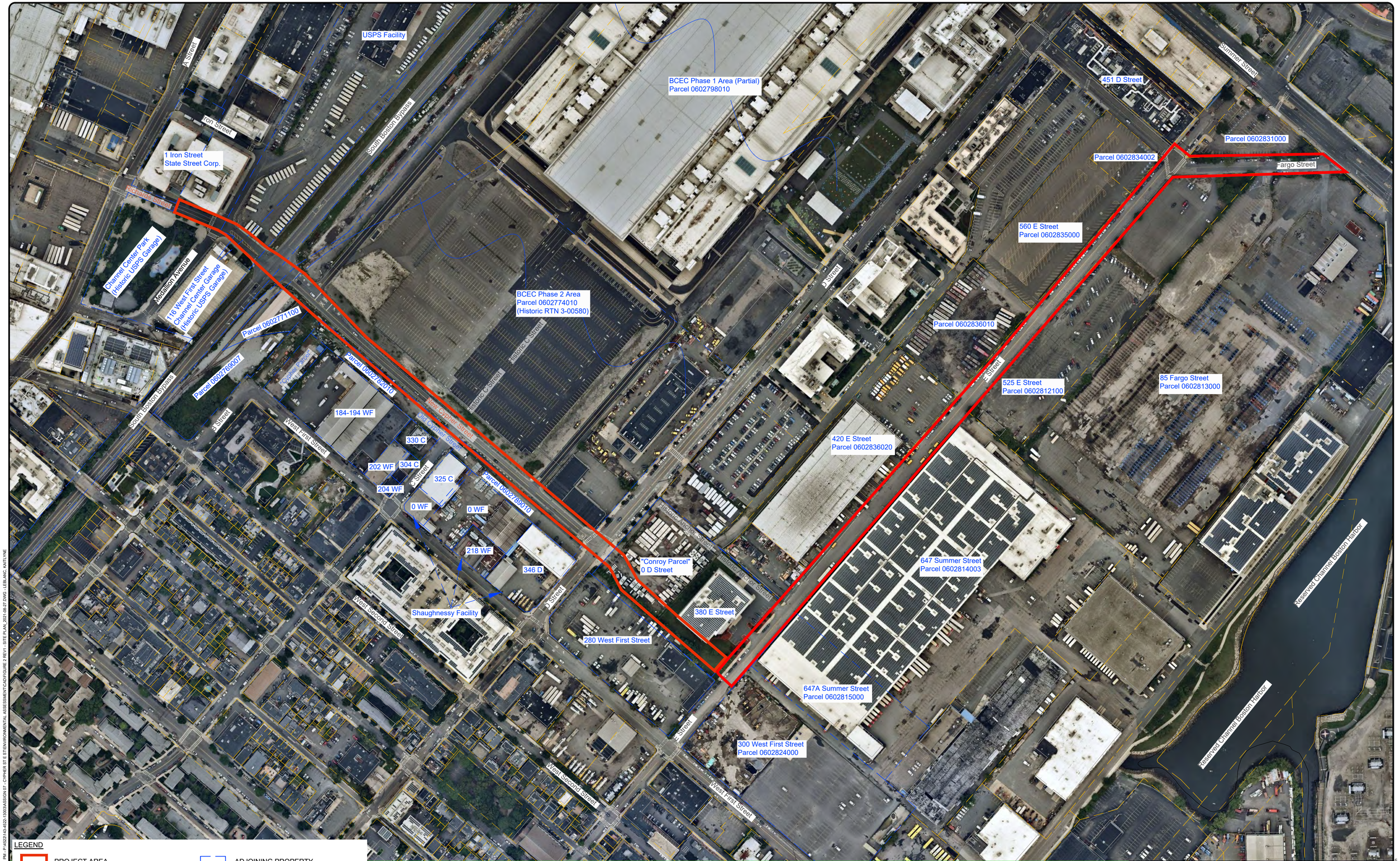
Bold Compounds Exceed MCP RCS-1

ND = Not Detected

NA = Not Applicable

Date: 10/7/2019
Path: P:\4522\143-4522-13003\Assign 07 - Cypher St E St\Environmental Assessment\GIS\Figure 1 - Site Locus.mxd

TETRA TECH www.tetratech.com 100 Nickerson Road Marlborough, MA 01752 Phone (508) 786-2200 Fax: (508) 786-2201	N 0 1,000 2,000 Feet	"Information obtained from the USGS Topographic Quadrangle of Boston South, Massachusetts, dated 1987" Source: MassGIS, USGS	MassDOT Cypher St. / Richards St. Improvements Project South Boston, MA Site Locus Map	Project No.: 143-4522-13003.07 Date: June 14, 2017 Designed By: JWF Figure 1


USPS Facility
A Street
Iron Street
1 Iron Street
State State Corp.
Medallion Street
South Boston Bypass
BCEC Phase 1 Area (Partial)
Parcel 0602798010
451 D Street
Summer Street
Parcel 0602831000
Parcel 0602834002
Fargo Street
560 E Street
Parcel 0602835000
Channel Center Park
(Historic USPS Garage)
Medallion Avenue
116 West First Street
Channel Center Garage
(Historic USPS Garage)
Parcel 0602771100
BCEC Phase 2 Area
Parcel 0602774010
(Historic RTN 3-00580)
Historic C Street
D Street
Parcel 0602836010
Parcel 0602769007
Cypher Place
Parcel 0602762010
184-194 WF
West First Street
Iron Cypher Street
Old Cypher Street
525 E Street
Parcel 0602812100
85 Fargo Street
Parcel 0602813000
330 C
202 WF
304 C
325 C
204 WF
0 WF
Parcel 0602789010
420 E Street
Parcel 0602836020
218 WF
346 D
"Conroy Parcel"
0 D Street
Historic Archer Street
Historic Archer Street
647 Summer Street
Parcel 0602814003
Reserved Channel Boston Harbor
Shaughnessy Facility
West Second Street
280 West First Street
380 E Street
647A Summer Street
Parcel 0602815000
300 West First Street
Parcel 0602824000
LEGEND
PROJECT AREA
BUILDING FOOTPRINT
ADJOINING PROPERTY
BOSTON PARCEL
0 60' 120' 240'
SCALE: 1"= 120'
TETRA TECH
www.tetratech.com
100 Nickerson Road
Marlborough, MA 01752
Phone: (508) 786-2200 Fax: (508) 786-2201
MassDOT
Cypher Street Improvements
South Boston, Massachusetts
Site and Surrounding Properties
Project No.: 143-279997-19001
Designed By: JWF
Drawn By: JWF
Checked By: MB
2
Bar Measures 1 inch
Copyright data 2021

Notes:

1. This figure was created for the purpose of locating areas of interest described in the companion memorandum regarding the planned Cypher Street Improvements Project. This document should be reviewed along with the accompanying tables and should not be used as a stand-alone document.

2. The areas of interest, including MassDEP Disposal Sites, depicted on this figure represent only those that include the Project Area, adjoin the Project Area, or are anticipated to have the potential to impact the Project Area. Not all state or federal listed.

3. The parenthetic contaminants of concern listed as the last line of each reference area on this figure represent the most pertinent information for the listing, but do not necessarily represent all contaminants detected at the location.

4. The location of all referenced MassDEP Disposal Sites and other findings are approximate, and based on documents reviewed in preparation of this figure.

5. Aerial source Nearmap dated June 28, 2021.

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MassDOT
Cypher Street Improvements
South Boston, Massachusetts

Site and Surrounding Properties with Pertinent Features, Aerial Overlay

Project No.: 143-21997-19001
Designed By: JWF
Drawn By: JWF
Checked By: MB

3

Bar Measures 1 inch

Copyright: Tetra Tech

8/30/2021 1:41:51 PM - P:\43221\143-8522-19003\ASSESSMENT\CAD\FIGURE 2 REV 1 - SITE PLAN, 2021-08-27.DWG - LEBLANC, KAITLYNE

BOSTON
CYPHER STREET

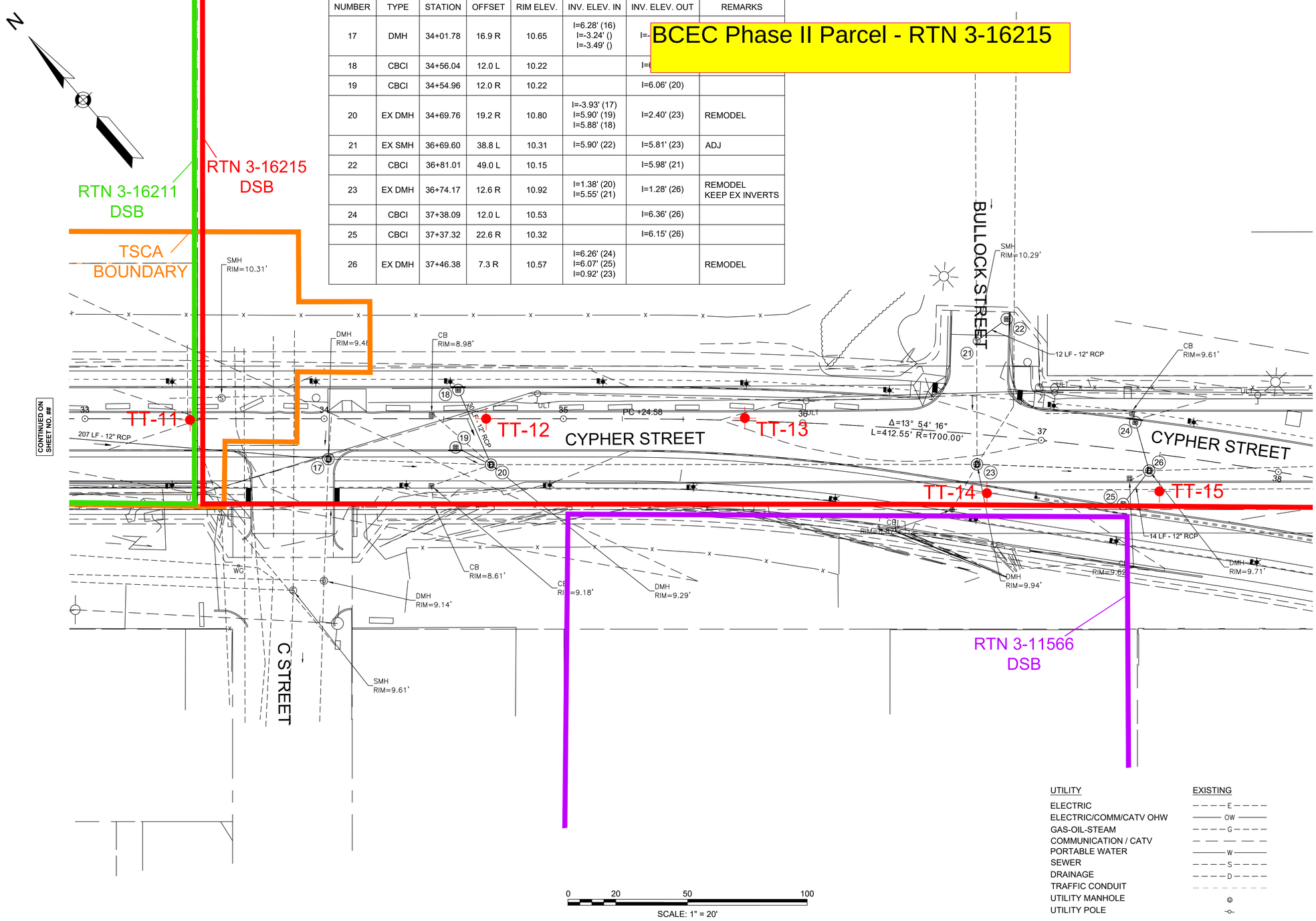
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	34	90
PROJECT FILE NO.	608807		

DRAINAGE & UTILITY PLAN

Figure 4

BCEC Phase II Parcel - RTN 3-16215

DRAINAGE STRUCTURE TABLE							
NUMBER	TYPE	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
17	DMH	34+01.78	16.9 R	10.65	I=6.28' (16) I=-3.24' () I=-3.49' ()	I=-	
18	CBCI	34+56.04	12.0 L	10.22		I=6	
19	CBCI	34+54.96	12.0 R	10.22		I=6.06' (20)	
20	EX DMH	34+69.76	19.2 R	10.80	I=-3.93' (17) I=5.90' (19) I=5.88' (18)	I=2.40' (23)	REMODEL
21	EX SMH	36+69.60	38.8 L	10.31	I=5.90' (22)	I=5.81' (23)	ADJ
22	CBCI	36+81.01	49.0 L	10.15		I=5.98' (21)	
23	EX DMH	36+74.17	12.6 R	10.92	I=1.38' (20) I=5.55' (21)	I=1.28' (26)	REMODEL KEEP EX INVERTS
24	CBCI	37+38.09	12.0 L	10.53		I=6.36' (26)	
25	CBCI	37+37.32	22.6 R	10.32		I=6.15' (26)	
26	EX DMH	37+46.38	7.3 R	10.57	I=6.26' (24) I=6.07' (25) I=0.92' (23)		REMODEL



UTILITY	EXISTING	PROPOSED
ELECTRIC	E	E
ELECTRIC/COMM/CATV OHW	OW	OW
GAS-OIL-STEAM	G	G
COMMUNICATION / CATV		T
PORTABLE WATER	W	W
SEWER	S	S
DRAINAGE	D	
TRAFFIC CONDUIT		
UTILITY MANHOLE		
UTILITY POLE		

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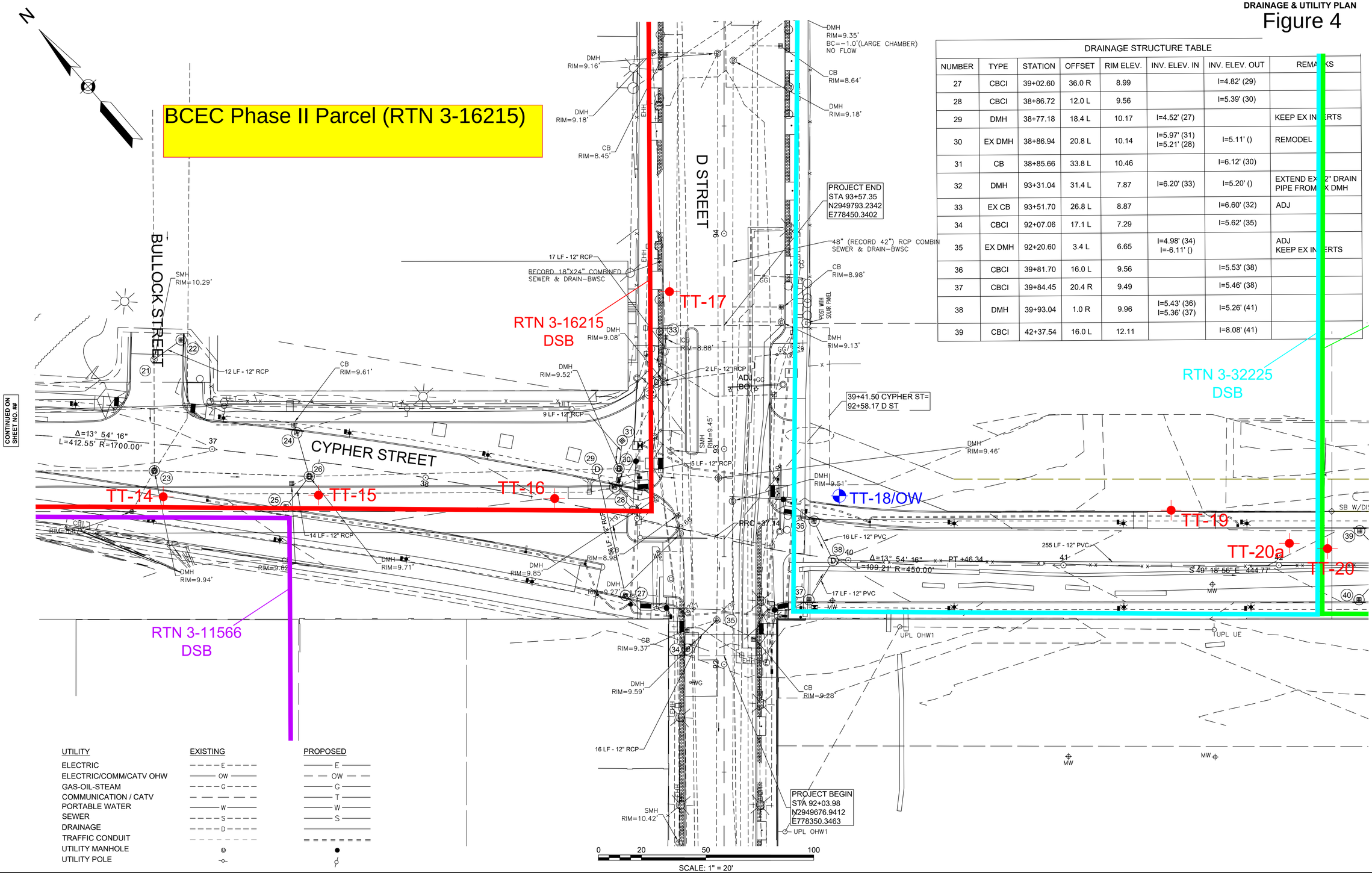
BOSTON
CYPHER STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	35	90
PROJECT FILE NO.	608807		

DRAINAGE & UTILITY PLAN

Figure 4



DRAINAGE STRUCTURE TABLE

NUMBER	TYPE	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
27	CBCI	39+02.60	36.0 R	8.99		I=4.82' (29)	
28	CBCI	38+86.72	12.0 L	9.56		I=5.39' (30)	
29	DMH	38+77.18	18.4 L	10.17	I=4.52' (27)		KEEP EX INVERTS
30	EX DMH	38+86.94	20.8 L	10.14	I=5.97' (31) I=5.21' (28)	I=5.11' ()	REMODEL
31	CB	38+85.66	33.8 L	10.46		I=6.12' (30)	
32	DMH	93+31.04	31.4 L	7.87	I=6.20' (33)	I=5.20' ()	EXTEND EX 12" DRAIN PIPE FROM EX DMH
33	EX CB	93+51.70	26.8 L	8.87		I=6.60' (32)	ADJ
34	CBCI	92+07.06	17.1 L	7.29		I=5.62' (35)	
35	EX DMH	92+20.60	3.4 L	6.65	I=4.98' (34) I=-6.11' ()		ADJ KEEP EX INVERTS
36	CBCI	39+81.70	16.0 L	9.56		I=5.53' (38)	
37	CBCI	39+84.45	20.4 R	9.49		I=5.46' (38)	
38	DMH	39+93.04	1.0 R	9.96	I=5.43' (36) I=5.36' (37)	I=5.26' (41)	
39	CBCI	42+37.54	16.0 L	12.11		I=8.08' (41)	

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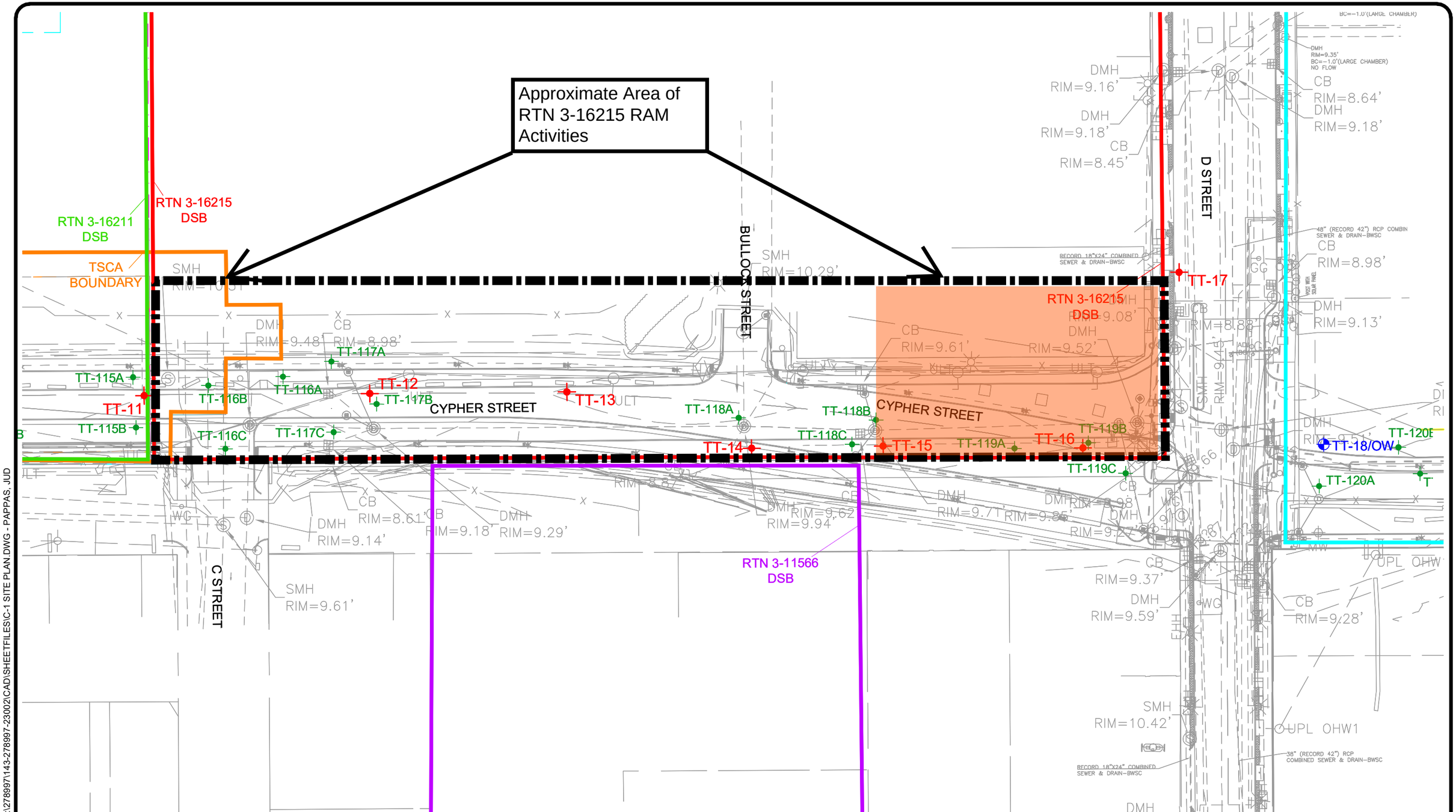

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PHONE: (508) 786-2200 FAX: (508) 786-2201

NITSCH ENGINEERING INC

Cypher Street
Boston MA

RAM Activities Site Plan

Project No.:	143-278997-23002
Date:	July 19, 2023
Designed By:	KS
Figure	5

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Appendix A

LSP Statement of Limitations

Statement of Limitations and Conditions

Attachment to Opinion of Massachusetts Licensed Site Professional
Tetra Tech, Inc.

Name of Licensed Site Professional:	Matthew T. Madden
Date of Opinion:	July 28, 2023
Client to Whom Opinion was Rendered:	Massport
Date of Agreement between Tetra Tech and Client pursuant to which Opinion was Rendered:	March 14, 2023
Response Tracking No./Site No.:	3-16215

This Statement of Limitations and Conditions is an integral part of, and is incorporated by reference into, the Opinion of Massachusetts Licensed Site Professional referenced above.

Limitations

1. Purpose of Opinion

A. This Opinion is being provided in compliance with the requirements set forth in the Massachusetts Contingency Plan ("MCP"), 310 CMR 40.0000 et seq. Specifically, the LSP has prepared this Opinion at the request of the Client identified above as part of a Release Abatement Measure Plan. This stated purpose has been a significant factor in determining the scope and level of services required to render this Opinion.

B. Should the purpose for which this Opinion is to be used change, this Opinion shall no longer be valid.

2. General

A. This Opinion was prepared for the sole and exclusive use of the Client, subject to the provisions of the MCP. No other party is entitled to rely in any way on the conclusions, observations, specifications, or data contained herein without the express written consent of Tetra Tech, Inc. and the LSP who rendered this opinion. Any use of this Opinion by anyone other than Client, or any use of this Opinion by Client or others for any purpose other than the stated purpose set forth above, without the LSP's review and the written authorization of Tetra Tech, Inc. and the LSP, shall be at the user's sole risk, and neither Tetra Tech, Inc. nor the LSP shall have any liability or responsibility therefore.

B. This Opinion was prepared pursuant to an Agreement between Tetra Tech, Inc. and the Client referenced above which defines the scope of work and sets out agreements regarding waivers of consequential damages, limitations on liability, and other important conditions and restrictions pursuant to which the Opinion is rendered. All uses of the Opinion are subject to and deemed acceptance of the conditions and restrictions contained in such Agreement. A copy of the Agreement or relevant excerpts from the Agreement will be made available upon requests to any authorized person seeking to use the Opinion.

3. Scope of Services

The observations and conclusions described in this Opinion are based solely on the Services provided pursuant to the Agreement with the Client and any approved additional services authorized by Client. Without limitation of any other applicable limitations or conditions, neither Tetra Tech, Inc. nor the LSP shall be liable for the existence of any condition, the discovery of which would have required the performance of services not authorized under the Agreement. To the best of the knowledge and belief of Tetra Tech, Inc. and the LSP who signed this Opinion, no inquiry of an attorney-at-law having being made, no laws, regulations, orders, permits or approvals are applicable to the response actions to which this opinion relates except, if and to the extent applicable, M.G.L. c. 21A, Sections 19-19J, 309 CMR, M.G.L. c. 21 E and 310 CMR 40.0000. Accordingly, this opinion is not intended to and does not address compliance with any other laws, regulation, orders, permits or approvals.

4. Changed Circumstances

The passage of time may result in changes in technology, economic conditions or regulatory standards, manifestations of latent conditions, or the occurrence of future events which would render this Opinion inaccurate or otherwise inapplicable. Neither Tetra Tech, Inc. nor the LSP shall be liable or responsible for the consequences of any such changed circumstances or conditions on the accuracy of this Opinion.

5. Additional Compensation

Should Tetra Tech, Inc. or the LSP be required or requested to review or authorize others to use this Opinion after its date of submission, Tetra Tech, Inc. shall be entitled to additional compensation at then existing rates or such other terms as may be agreed upon between Tetra Tech, Inc. and the Client. Nothing herein contained shall be deemed to require Tetra Tech, Inc. or the LSP to undertake any such review or authorize others to use this Opinion.

6. Conclusions

The conclusions stated in this Opinion are based upon:

- Visual inspection of existing physical conditions;
- Review and interpretation of site history and site usage information which was made available or obtained within the scope of work authorized by the Client;
- Information provided by the Client;
- Information and/or analyses for designated substances or parameters provided by an independent testing service or laboratory on a limited number of samples; and
- A limited number of subsurface explorations made on dates indicated in documentation supporting this Opinion;

upon which the LSP has relied and presumed accurate, and upon which the LSP is entitled to reasonably rely. The LSP was not authorized and did not attempt to independently verify the accuracy or completeness of information or materials received from the Client and/or from laboratories and other third parties during the performance of its services. Neither Tetra Tech, Inc. nor the LSP shall be liable for any condition, information, or conclusion, the discovery of which required information not available to the LSP or for independent investigation of information provided to the LSP by the Client and/or independent third parties.

7. This Opinion is rendered for the limited purpose stated above, and is not and should not be deemed to be an opinion concerning the compliance of any past or present owner or operator of the site with any federal, state or local law or regulation. No warranty or guarantee, whether express or implied, is made by this opinion, and any implied warranties of merchantability or fitness for a particular purpose are expressly disclaimed. Without limiting the generality of the foregoing, no warranty or guarantee is made that all contamination at a site or sources or contamination has been detected or identified, that any action or recommended action will achieve all of its objectives, or that this Opinion or any action as to which this Opinion relates will be upheld by any audit conducted by the DEP or any other party.

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Appendix B

Field Investigation Report

Field Investigation Report

Cypher Street Improvement Project
South Boston, Massachusetts

Submitted to:

Massachusetts Department of Transportation
October 7, 2019

TETRA TECH

October 7, 2019

Mr. Lawrence Cash
Massachusetts Department of Transportation – Highway Division
10 Park Plaza, 6th Floor
Boston, MA 02108

Re: Field Investigation Report
Cypher Street Improvement Project
South Boston, Massachusetts

Dear Mr. Cash:

Tetra Tech is pleased to present this Field Investigation Report for the proposed Cypher Street Improvement Project in South Boston, Massachusetts. This Report documents the results of soil and groundwater assessment activities performed along the proposed route for the reconstruction/realignment of the existing "New Cypher Street" and was developed as a companion document to the Environmental Assessment Report also prepared by Tetra Tech and dated September 13, 2019. The intent of the sampling was to inform construction plans, specifications and cost estimates in relation to the proposed excavation, management, handling and disposal of impacted soil and groundwater that will likely be generated as a result of the reconstruction of New Cypher Street.

Please contact the undersigned if you have any questions.

Very truly yours,

William C. Phelps
Project Manager

Michael E. Billa, PE, PG, LSP
Vice President

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Marlborough Technology Park
100 Nickerson Road, Marlborough, MA 01752
Tel 508.786.2200 Fax 508.786.2201 tetratech.com

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Figure 2 Soil Boring Location Plan

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Appendix B Boring Logs and Temporary Monitoring Well Completion Details

Appendix C Laboratory Certificates of Analysis

1.0 FIELD INVESTIGATION ACTIVITIES

Tetra Tech implemented a field investigation program to further evaluate current soil conditions within the project boundaries in areas likely to be disturbed by the proposed reconstruction/realignment of New Cypher Street. The approximate limits of work are shown on Figure 1. This investigation included the advancement and sampling of twenty soil borings and two temporary monitoring wells. Borings TT-4 and TT-5 were also performed to complete geotechnical investigations of proposed signal mast arm foundations. Soil and groundwater data was compared to existing data for the known Disposal Sites and current regulatory standards under the Massachusetts Contingency Plan (MCP). The resulting evaluation was used to estimate soil excavation, management, handling and disposal requirements for segments of the roadway reconstruction project.

2.0 PRELIMINARY ACTIVITIES

Prior to the start of the work, Tetra Tech performed Site visits to observe current Site conditions, access constraints, and traffic flow patterns to aid in the selection of proposed soil boring locations. Ultimately, boring locations were selected based on the MCP Disposal Site Boundaries, the Project Limits, and the need to maintain vehicular traffic and pedestrian flow along Cypher and D Streets. Final locations were pre-marked for DigSafe clearance and to permit the drilling subcontractor to file for and obtain the required Drilling Permits from the City of Boston Inspectional Services Department. Access to the portion of Cypher Street between the South Boston Access Road and D Street was also coordinated with the Massachusetts Convention Center Authority (MCCA).

Following discussions with MCCA, a dedicated equipment decontamination station was constructed on the paved portion of former (now closed) Bullock Street. Drilling and sampling equipment was decontaminated using a steam cleaner and/or laboratory-grade soap rinses. Decontamination fluids and sediment were drummed for subsequent characterization and disposal (see Section 7.0 below).

3.0 INVESTIGATION OVERVIEW

Assessment activities included the advancement of twenty-two soil borings, designated TT-1 through TT-5, TT-8 through TT-20, TT-20A, TT-21, TT-22 and TT-22A. Borings TT-6 and TT-7, originally proposed in the South Boston Haul Road (SBHR), were eliminated due to the limited nature of the proposed roadway work in that area (micro milling pavement only). Temporary monitoring wells were installed at TT-05-OW and TT-18-OW to facilitate the collection of groundwater samples. Table 1 presents a summary of the proposed and actual depths of the borings, sampling intervals and analytical parameters. Table 1 also presents a summary of the Release Tracking Number, AUL Status and Contaminants of Concern at each boring location. Borings TT-4 and TT-5 were also performed to collect geotechnical data for signal mast arm foundations proposed at those locations. Drilling activities, including associated permits and DigSafe clearance, was performed by New England Boring Contractors (NEBC) of Derry, New Hampshire at the direction of Tetra Tech. Geotechnical oversight of borings TT-4 and TT-5 was performed by Lahlf Geotechnical Consulting, Inc. (LGCI).

Boring locations are shown on Figure 2 along with existing and proposed conditions for Cypher Street. The approximate Disposal Site boundaries are also shown on Figure 3 along with indications of which Sites are restricted by one or more Activity and Use Limitations (AULs).

4.0 SOIL BORING ADVANCEMENT

Due to the presence of numerous shallow utilities in the Project Area, and as required by the City of Boston Drilling Permits, each of the borings was performed or cleared using vacuum drilling techniques. Due to limited access for the drilling equipment, borings TT-21 and TT-22A were advanced using a hand auger. At each location, the existing pavement (if present), was removed using a jackhammer. General observations are noted below; boring logs for each location are included in Appendix B.

- Observed asphalt thicknesses ranged from 0.5 to 1.8 feet, with the greatest thickness noted at TT-13. Borings TT-14, 15, 16, and 18 through 22 were performed in unpaved areas;
- Boring TT-3 encountered shallow refusal at a depth of 1.5 feet on a former concrete slab or similar type of obstruction;
- Urban fill comprised of varying percentages of sand, gravel, cinders, ash, coal, slag, glass, metal and other debris was noted in all of the borings at thicknesses ranging up to 10 feet. Deeper borings encountered marine clay and silt below the urban fill.
- A layer of weathered asphalt/concrete like material mixed with urban fill was encountered below the pavement in borings TT-8, TT-9 and TT-10 and required the use of a jackhammer to advance the boring TT-10 the first 2 feet.
- Groundwater was encountered in deeper borings at depths ranging from 6.5 to 8.0 feet below the ground surface.

We note that the analytical results are based on soils recovered during boring advancement and actual Site conditions may vary from those suggested by the data set.

5.0 SOIL SAMPLE COLLECTION AND ANALYSIS

Tetra Tech collected soil samples from each boring as indicated in Table 1. Sampling was performed to aid in the estimation of disposal options for management of surplus materials during construction, to confirm contaminants of concern at pre-existing Disposal Sites and to inform the Health and Safety Plans (HASPs) that will be developed by the contractor during future roadway construction activities.

In addition to soil samples from individual soil borings, the following composite soil samples were collected from a series of borings to provide disposal characterization data over a broad area:

- Sample DC123 was collected from borings TT-1, TT-2, and TT-3
- Sample DC1112 was collected from borings TT-11 and TT-12
- Sample DC20A18 was collected from borings TT-18 and TT-20A
- Sample DC1820DEEP was collected at depths below 8 feet in borings TT-18 and TT-20
- Sample MOUND COMP was collected near surface soils proximate borings TT-22 and TT-22A

These samples were analyzed for a broader suite of parameters to provide additional assessment of disposal options.

Analytical results for the discreet soil samples collected during the advancement of the borings are summarized in Table 2. In general, the types and concentrations of compounds identified in the soil samples are consistent with previously documented pre-existing conditions at each Disposal Site. Notable findings are presented below:

- Polychlorinated biphenyls (PCBs) were identified at concentrations greater than 1 mg/kg in borings TT-8, TT-9 and TT-10. These borings are within the limits of the Toxic Substances Control Act (TSCA) Site. The maximum PCB concentration detected in the samples was 172 mg/kg in the 1.5-3.5 foot sample from TT-8. PCB concentrations outside the TSCA Site boundary were identified at concentrations below MCP and EPA regulatory standards.

- Arsenic, lead, petroleum hydrocarbons and polycyclic aromatic hydrocarbons (PAHs) were detected in the soil samples at concentrations generally consistent with levels identified in urban fill. Exceptions included elevated lead (3020 /mg/kg) at TT-8 and elevated PAHs in TT-2 and TT-13.

- With the exception of the samples from TT-9 (2-4') and TT-10 (7-10') the TCLP concentrations detected in the samples did not exceed the EPA Resource Conservation and Recovery Act (RCRA) characteristic hazardous waste threshold of 5.0 milligrams per liter. As a result, only soils from TT-9/10 are would be classified as a RCRA Hazardous Waste (in addition to TSCA in this instance).

The results from the disposal composite samples are presented in Table 3. The analysis of these samples was performed to provide data representative of soils generated during actual construction activities – e.g. soils consolidated over a larger area during grading and/or utility installation.

- Analysis of the samples for the additional disposal parameters (pesticides, herbicides, reactivity, ignitability, etc.) did not change the overall soil disposal classification identified by the individual samples.

The results in Tables 2 and 3 have been color-coded to provide a preliminary evaluation of soil disposal options during construction and include the following classifications:

- **Green** Below MCP Reportable Concentrations for soil category S-1 ("Below RCS-1")
- **Blue** Meets Massachusetts COM-97 criteria for reuse/disposal at a Massachusetts Landfill
- **Orange** Does not meet Massachusetts COM-97 criteria – suitable for out of state asphalt batching
- **Red** One or more triggers as a RCRA Characteristic or TSCA (PCB) Hazardous Waste

Laboratory certificates of analysis are included in Appendix C.

6.0 GROUNDWATER SAMPLE ANALYTICAL RESULTS

Groundwater samples were collected from temporary monitoring wells installed at TT-5 and TT-18 during the investigation program. The temporary well installations involved the placement of 2"-diameter PVC well materials at a depth of 15 feet at each location. A temporary sand pack was installed around the slotted well screen and water was then purged from the well and a sample was obtained for analysis. Since the intent of the sampling was to evaluate treatment requirements / disposal options during future potential dewatering activities associated with mast arm foundation installation work, only limited purging of the wells was performed and turbid samples submitted to the laboratory to reflect conditions likely to be

encountered during actual construction-related dewatering. Due to limited recharge and sample volume, the sample from TT-05-OW was analyzed for a limited number of parameters while the sample from TT-18-OW was analyzed for the full suite of Remediation General Permit (RGP) parameters.

Laboratory analytical results are summarized in Table 4. PCBs and petroleum-related compounds were not detected in the samples. The elevated metals and PAH concentrations detected in the samples are likely attributable to the turbid nature of the samples.

7.0 INVESTIGATION DERIVED WASTE MANAGEMENT

While the majority of the drilling activities did not result in the generation of surplus soils, a small volume of soil (approximately half of a 55-gallon drum) was generated during the installation of the borings within the TSCA-regulated area, primarily from deeper boring TT-10. In addition, one partial drum of rinse water and sediment was generated from the decontamination of the drilling and sampling equipment.

Following coordination with MassDOT, each drum was labeled and placed in the hazardous waste storage shed at MassDOT's D-Street Maintenance Depot. Disposal of the drums is scheduled in late October 2019.

8.0 DATA USE AND EVALUATION

Data collected during this investigation, and provided in prior assessment/remediation reports for the various Disposal Sites that comprise the project area, have been used to provide preliminary disposal characterization criteria for each of the segments shown on the Soil Characterization Plans (Sheets 23 through 29) in the Contract Drawings. The following conditions are noted in association with the plans:

- Current disposal acceptance criteria (October 2019) were used in the development of the Characterization Plans and classifications shown on Tables 2 and 3. We note that acceptance criteria, facility capacity and operating status, and controlling regulations are subject to change which may alter these classifications and the associated costs for disposal.

- Based on discussions with MCCA and its consultant, all soils located below the pavement in the portion of Cypher Street that lies within the TSCA disposal Site are considered TSCA PCB Remediation Waste (Hazardous Waste). Although select soil samples collected within the TSCA limits (Borings TT8-TT11) did not identify PCBs at concentrations greater than 1 ppm, all soils in this segment are considered TSCA waste to manage uncertainty in PCB concentrations through this portion of the work.

- Soil disposal options may also be controlled by the physical nature of the material excavated. Typically, asphalt batching and/or thermal treatment facilities will not accept cohesive soils (clay/silt) or soils containing large debris (greater than 2 feet in any one dimension). As a result, additional segregation and handling of the soils may be required beyond that suggested by the laboratory analytical data. In many cases, these modifications will be made in the field, during the actual excavation activities.

Table 1 Cypher Street Soil Sampling Matrix

Boring	Location	Anticipated Contamination	Target RTN(s)	In an AUL Area?	Temporary Well ?	Ownership	Proposed Total Depth (ft)	Actual Total Depth (ft)	Observed Pavement Thicnkess (ft)	Actual Sample Interval #1	Actual Sample Interval #2	Sample Interval #3	Laboratory Analysis: Analyses for all interval samples	Laboratory Analysis: Additional Analyses for select 0-2' Samples Only
TT-1	Richards Street	EPH + Urban Fill	3-22227	No	No	Comm of MA	4	4.5	0.5'	0.5-1.5 *	2.4-4.5' *	None	EPH, MCP 14, SVOCS, PCB, VOC/VPH	
TT-2	Richards @ Medallion	EPH + Urban Fill	3-31101	No	No	Comm of MA	4	4.8	0.8'	0.75-2.75' *	2.75-4.75' *	None	EPH, MCP 14, SVOCS, PCB, VOC/VPH	PEST + HERB
TT-3	Richards @ Medallion	EPH + Urban Fill	3-31101	No	No	Comm of MA	4	1.5	0.8'	0-1.5' *	Refusal	Refusal	EPH, MCP 14, SVOCS, PCB, VOC/VPH	
TT-4	Cypher @ SBHR	PCBs	3-16224	No	No	MCCA	30	31	0.8'	8-10' **	None	None	EPH, MCP 14, SVOCS, PCB, VOC/VPH	
TT-5-OW	Cypher @ SBHR	PCBs	3-16224	Yes	Yes	MCCA	30	31	0.5'	4.5-6.0' *	7-9' **	None	EPH, MCP 14, SVOCS, PCB, VOC/VPH	PEST + HERB
TT-6	SBHR	Urban Fill	None	No	No	Comm of MA	10	0						
TT-7	SBHR	Urban Fill	None	No	No	Comm of MA	4	0						
TT-8	Cypher Street	PCBs + Urban Fill	3-16211	Yes	No	MCCA	4	4.0	0.8'	0.75-1.25' *	1.5-3.5' *	None	EPH, MCP 14, SVOCS, PCB, VOC/VPH	
TT-9	Cypher Street	PCBs + Urban Fill	3-16211	Yes	No	MCCA	4	5.0	0.8'	2-4' *	4-5' **	None	EPH, MCP 14, SVOCS, PCB, VOC/VPH	PEST + HERB
TT-10	Cypher Street	PCBs + Urban Fill	3-16211	Yes	No	MCCA	10	10	2.0'	7-10' **	None	None	EPH, MCP 14, SVOCS, PCB, VOC/VPH	
TT-11	Cypher @ C Street	Urban Fill	3-16215	Yes	No	MCCA	4	4.3	1.3'	0-2' *	2-4' *	None	EPH, MCP 14, SVOCS, PCB, VOC/VPH	
TT-12	Cypher Street	Urban Fill	3-16215	Yes	No	MCCA	4	6.0	1.3'	2-4' *	4-6'*	None	EPH, MCP 14, SVOCS, PCB, VOC/VPH	PEST + HERB
TT-13	Cypher Street	Urban Fill	3-16215/3-11556	Yes	No	MCCA	4	4.8	1.8'	2-4 *	4-4.75' *	None	EPH, MCP 14, SVOCS, PCB, VOC/VPH	
TT-14	Cypher @ Bullock	Urban Fill / CVOCs	3-16215/3-11556	Yes	No	MCCA	10	10	None	0-2' *	4-6' **	8-10' **	EPH, MCP 14, SVOCS, PCB, VOC/VPH	
TT-15	Cypher Street	Urban Fill / CVOCs	3-16215/3-11556	Yes	No	MCCA	10	10	None	0-2' *	4-6' **	8-10' **	EPH, MCP 14, SVOCS, PCB, VOC/VPH	
TT-16	Cypher @ D Street	Urban Fill	3-16215	Yes	No	MCCA	10	10	None	0-2' *	8-10' **	None	EPH, MCP 14, SVOCS, PCB, VOC/VPH	
TT-17	D Street @ Cypher	Urban Fill	None	No	No	Comm of MA	4	7.0	1.0'	1-3' *	7' **	None	EPH, MCP 14, SVOCS, PCB, VOC/VPH	
TT-18-OW	Cypher Street Extension	EPH + Urban Fill	3-22225/3-16528	Yes	Yes	Massport	15	15	None	0-2' *	8-10' **	None	EPH, MCP 14, SVOCS, PCB, VOC/VPH	
TT-19	Cypher Street Extension	EPH + Urban Fill	3-22225/3-16528	Yes	No	Massport	4	4.0	None	0-2' *	2-4' *	None	EPH, MCP 14, SVOCS, PCB, VOC/VPH	PEST + HERB
TT-20a	Cypher Street Extension	EPH + Urban Fill	3-22225/3-16528	Yes	No	Massport	10	2.0	None	0-2' *	8-10' **	None	EPH, MCP 14, SVOCS, PCB, VOC/VPH	
TT-21	Cypher Street Extension	EPH/Fill/TCLP Pb	3-31115	Yes	No	Massport	4	2.0	None	0-2' *	2-4' *	None	EPH, MCP 14, SVOCS, PCB, VOC/VPH	PEST/HERB + TCLP Pb
TT-22a	Cypher Street Extension	EPH/Fill/TCLP Pb	3-31115	Yes	No	Massport	10	3.0	None	0-2' *	3' *	None	EPH, MCP 14, SVOCS, PCB, VOC/VPH,	TCLP Pb

FOOTNOTES

*	Interval is as measured down from interface between pavement/sub-base and underlying fill material
**	Depth of interval is 8-10 ' or just above WT, whichever comes first; Interval is as measured down from top of existing
***	Interval is as measured down from top of existing pavement
****	Disposal Testing is suite of analytes that covers lined & unlined in-state landfill, out of state landfill, asphalt batch, haz waste, and >50 PPM PCB

Table 2 Soil Boring Data (mg/kg)

Location:			CYPHER ST., S. BOSTON	CYPHER ST., S. BOSTON	CYPHER ST., S. BOSTON	CYPHER ST., S. BOSTON	CYPHER ST., S. BOSTON	CYPHER ST., S. BOSTON	CYPHER ST., S. BOSTON	CYPHER ST., S. BOSTON	CYPHER ST., S. BOSTON	CYPHER ST., S. BOSTON	CYPHER ST., S. BOSTON	CYPHER ST., S. BOSTON	CYPHER ST. S. BOSTON	CYPHER ST., S. BOSTON
Sample Name:			TT-1 (0.5-2.5')	TT-1 (2.5-4.5')	TT-2 (0.75'-2.75')	TT-2 (2.75'-4.75')	TT-3 (0-2')	TT-4 (8-10')	TT-5 (4.5-6')	TT-5 (7-9')	TT-8 (0.75-1.25')	TT-8 (1.5-3.5')	TT-9 (2-4')	TT-9 (4-5')	TT-10 (7-10')	TT-11 (0-2')
Sample Depth:			0.5-2.5'	2.5-4.5'	0.75-2.75'	2.75-4.75'	0-2'	8-10'	4.5-6.0'	7-9'	0.75-1.25'	1.5-3.5'	2-4'	4-5'	7-10'	0-2'
Laboratory:			Alpha	Alpha	Alpha	Alpha	Alpha	Alpha	Alpha	Alpha	Alpha	Alpha	Alpha	Alpha	Alpha	Alpha
Laboratory I.D.:			L1939114-02/D	L1939114-03/D	L1939114-04	L1939114-05/D, L1942725-02	L1939381-08/D/R	L1940180-01	L1939749-01, L1942725-03	L1940180-02	L1939749-02	L1939749-03/D, L1943327-08	L1939749-04/D, L1943327-09	L1939749-05/D	L1940491-03/D,L1943327-07	L1939381-06R, L1942594-02
Sample Date:			08/28/2019	08/28/2019	08/28/2019	08/28/2019	08/29/2019	09/04/2019	08/30/2019	09/04/2019	08/30/2019	08/30/2019	08/30/2019	08/30/2019	09/05/2019	08/29/2019
Consultant:	CAS#	Units	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech
Disposal Designation			MA Landfill	MA Landfill	MA Landfill	Asphalt Batch	MA Landfill	Below RCS-1	Below RCS-1	Below RCS-1	Hazardous Waste	Hazardous Waste	Hazardous Waste	Hazardous Waste	Hazardous Waste	Hazardous Waset
Acetone	00067-64-1	mg/kg	<0.52	0.052	0.032	<0.81	0.0140	0.0200	0.012	0.140			0.011	0.092	<0.83	0.012
Benzene	00071-43-2	mg/kg	<0.026	<0.00043	<0.00052	<0.041	<0.0003	<0.00041	<0.00061	<0.00069			<0.0005	0.001	<0.041	<0.00051
Butanone, 2- (MEK)	00078-93-3	mg/kg	<0.52	<0.0086	<0.01	<0.81	<0.006	<0.00082	<0.012	0.023			<0.01	0.014	<0.83	<0.01
Butylbenzene, n-	00104-51-8	mg/kg	<0.052	<0.00086	<0.001	0.09	<0.0006	<0.00082	<0.0012	<0.0014			<0.001	<0.001	<0.083	<0.001
Butylbenzene, sec-	00135-98-8	mg/kg	<0.052	<0.00086	<0.001	<0.081	<0.0006	<0.00082	<0.0012	<0.0014			<0.001	<0.001	<0.083	<0.001
Butylbenzene, tert-	00098-06-6	mg/kg	<0.1	<0.0017	<0.0021	<0.16	<0.0012	<0.0016	<0.0024	<0.0028			<0.002	<0.0021	<0.16	<0.002
Ethylbenzene	00100-41-4	mg/kg	<0.052	<0.00086	<0.001	0.14	<0.0006	<0.00082	<0.0012	<0.0014			<0.001	<0.001	<0.083	<0.001
Isopropylbenzene	00098-82-8	mg/kg	<0.052	<0.00086	<0.001	<0.081	<0.0006	<0.00082	<0.0012	<0.0014			<0.001	<0.001	<0.083	<0.001
Isopropyltoluene, p-	00099-87-6	mg/kg	<0.052	<0.00086	<0.001	0.15	0.0007	<0.00082	<0.0012	<0.0014			<0.001	<0.001	0.13	<0.001
Naphthalene	00091-20-3	mg/kg	1.10	<0.0034	<0.0042	1.70	0.0036	<0.0033	<0.0049	<0.0055			<0.004	<0.0042	2.40	<0.004
Propylbenzene, n-	00103-65-1	mg/kg	<0.052	<0.00086	<0.001	0.09	<0.0006	<0.00082	<0.0012	<0.0014			<0.001	<0.001	<0.083	<0.001
Toluene	00108-88-3	mg/kg	<0.052	<0.00086	<0.001	0.14	<0.0006	<0.00082	<0.0012	<0.0014			<0.001	<0.001	<0.083	<0.001
Trimethylbenzene, 1,2,4-	00095-63-6	mg/kg	<0.1	<0.0017	<0.0021	0.58	0.003	<0.0016	<0.0024	<0.0028			<0.002	<0.0021	<0.16	<0.002
Trimethylbenzene, 1,3,5-	00108-67-8	mg/kg	<0.1	<0.0017	<0.0021	0.34	0.002	<0.0016	<0.0024	<0.0028			<0.002	<0.0021	<0.16	<0.002
p,m-Xylene	m: 00108-38-3;	mg/kg	<0.1	<0.0017	<0.0021	<0.16	<0.0012	<0.0016	<0.0024	<0.0028			<0.002	<0.0021	<0.16	<0.002
o-Xylene	00095-47-6	mg/kg	<0.052	<0.00086	<0.001	0.62	0.0007	<0.00082	<0.0012	<0.0014			<0.001	<0.001	<0.083	<0.001
Xylene (total)	01330-20-7	mg/kg	<0.052	<0.00086	<0.001	0.62	0.0007	<0.00082	<0.0012	<0.0014			<0.001	<0.001	<0.083	<0.001
Total VOCs	NA	mg/kg	1.10	0.052	0.032	3.85	0.0237	0.0200	0.012	0.163			0.011	0.107	2.53	0.012
Acenaphthene	00083-32-9	mg/kg	0.8	<0.71	0.29	1.7	<0.71	<0.14	<0.15	0.18	<0.16	0.34	0.32	1.1	0.49	<0.44
Acenaphthylene	00208-96-8	mg/kg	<0.71	<0.71	0.33	**1.0**	<0.71	<0.14	<0.15	<0.17	<0.16	<0.15	<0.27	<0.15	0.25	<0.44
Anthracene	00120-12-7	mg/kg	2.0	1.3	1.3	2.6	<0.53	0.17	<0.11	0.29	<0.12	0.71	0.52	2.3	0.83	0.41
Benzo(a)anthracene	00056-55-3	mg/kg	4.0	3.4	3.7	**11**	2.7	0.51	0.25	0.33	<0.12	1.5	2.2	6.9	1.3	1.2
Benzo(a)pyrene	00050-32-8	mg/kg	**3.4**	**2.6**	**4.2**	***12***	**2.8**	0.49	0.22	0.26	<0.16	1.3	1.9	**5.8**	0.75	1.2
Benzo(b)fluoranthene	00205-99-2	mg/kg	4.2	3.7	4.9	***12***	2.7	0.59	0.29	0.35	<0.12	1.7	2.8	6.0	0.96	1.4
Benzo(g,h,i)perylene	00191-24-2	mg/kg	2.2	1.7	4.0	11	1.8	0.24	<0.15	<0.17	<0.16	0.67	1.0	3.2	0.44	0.72
Benzo(k)fluoranthene	00207-08-9	mg/kg	1.8	1.5	0.9	2.7	<0.53	0.19	<0.11	<0.13	<0.12	0.58	0.81	2.2	0.30	0.51
Chrysene	00218-01-9	mg/kg	3.8	3.4	3.8	14	3.3	0.46	0.23	0.33	<0.12	1.4	2.1	6.3	1.00	1.1
Dibenzo(a,h)anthracene	00053-70-3	mg/kg	0.61	<0.53	**1.7**	***6.1***	**1.4**	<0.11	<0.11	<0.13	<0.12	0.16	0.27	**0.9**	<0.13	<0.33
Fluoranthene	00206-44-0	mg/kg	8.0	8.3	5.8	11	1.1	0.89	0.51	0.94	<0.12	3.4	4.1	11	2.5	2.4
Fluorene	00086-73-7	mg/kg	1.1	<0.88	0.44	1.6	<0.88	<0.18	<0.19	0.32	<0.21	0.33	<0.34	1.0	0.69	<0.55
Indeno(1,2,3-cd)pyrene	00193-39-5	mg/kg	2.1	1.8	2.3	5.2	0.9	0.28	<0.15	<0.17	<0.16	0.66	1.1	3.7	0.45	0.72
Methylnaphthalene, 2-	00091-57-6	mg/kg	<1.1	<1.1	<0.21	**1.4**	<1.1	<0.22	<0.22	0.27	<0.25	<0.22	<0.4	0.3	0.54	<0.66
Naphthalene	00091-20-3	mg/kg	<0.89	<0.88	0.28	2.8	<0.88	<0.18	<0.19	0.67	<0.21	0.19	0.6	0.4	1.4	<0.55
Phenanthrene	00085-01-8	mg/kg	7.2	5.0	4.2	7.2	1.1	0.44	0.54	1.3	<0.12	2.8	2.4	6.2	3.3	1.7
Pyrene	00129-00-0	mg/kg	6.2	6.4	5.5	11.0	1.5	0.72	0.46	0.80	<0.12	2.9	3.9	9.3	3.0	2.3
Total PAHs	NA	mg/kg	47.4	39.1	43.6	114	19.3	5.0	2.5	6.0	ND	19	24	66	18	13.7
Bis(2-ethylhexyl)phthalate	00117-81-7	mg/kg			<0.18								<0.34	2.4		
Dibenzofuran	00132-64-9	mg/kg			0.28								<0.34	0.65		
Total SVOCs	NA	mg/kg	47.4	39.1	43.9	114	19.3	5.0	2.5	6.0	ND	18.6	24.0	69.54	18	13.7
Endosulfan II	33213-65-9	mg/kg			<0.0017								<0.00173	<0.00176		
p,p'-DDD	00072-54-8	mg/kg			<0.0017								<0.00173	<0.00176		
p,p'-DDE	00072-55-9	mg/kg			<0.0017								<0.00173	0.005		
p,p'-DDT	00050-29-3	mg/kg			<0.00319								<0.00324	<0.0033		
Arochlor 1242	53469-21-9	mg/kg	<0.034	<0.0345	<0.0347	<0.0391	<0.176	<0.0354	<0.0371	<0.0436	<0.0419	<7.29	1.56	0.067	<0.21	<0.0366
Arochlor 1248	12672-29-6	mg/kg	<0.034	<0.0345	<0.0347	<0.0391	<0.176	<0.0354	<0.0371	<0.0436	<0.0419	***32***	<0.351	<0.0355	0.85	<0.0366
Arochlor 1254	11097-69-1	mg/kg	<0.034	<0.0345	<0.0347	<0.0391	<0.176	<0.0354	<0.0371	<0.0436	<0.0419	***41***	**2.53**	0.079	0.90	<0.0366
Arochlor 1260	11096-82-5	mg/kg	<0.034	<0.0345	<0.0347	<0.0391	<0.176	<0.0354	<0.0371	<0.0436	<0.0419	***100***	**2.01**	0.115	0.63	<0.0366
Arochlor 1262	37324-23-5	mg/kg	<0.034	<0.0345	<0.0347	<0.0391	<0.176	<0.0354	<0.0371	<0.0436	<0.0419	<7.29	<0.351	<0.0355	<0.21	<0.0366
Arochlor 1268	11100-14-4	mg/kg	<0.034	<0.0345	<0.0347	<0.0391	<0.176	<0.0354	<0.0371	<0.0436	<0.0419	<7.29	<0.351	<0.0355	<0.21	<0.0366
Total Polychlorinated Biphenyls (PCBs) (2)	01336-36-3	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	***172***	***6.10***	0.260	**2.37**	ND
Antimony, Total	07440-36-0	mg/kg	<2.05	<2.13	<2.15	4.89	<2.11	<2.22	<2.22	<2.56	<2.53	2.61	**115**	<2.18	***123***	2.67
Arsenic, Total	07440-38-2	mg/kg	3.82	3.30	2.82	8.48	6.16	1.00	6.52	5.66	4.50	5.91	**27.2**	4.78	16.9	12.2
Barium, Total	07440-39-3	mg/kg	31.6	27.6	30.0	66.3	27.6	7.27	23.4	55.7	23.2	39.5	373	45.2	126	85.9
Beryllium, Total	07440-41-7	mg/kg	0.28	0.22	0.27	0.31	<0.211	<0.222	<0.222	<0.256	<0.253	<0.217	<0.206	<0.218	<0.254	0.26
Cadmium, Total	07440-43-9	mg/kg	0.50	0.53	0.52	1.42	<0.422	<0.443	<0.445	0.79	<0.507	1.51	8.36	<0.435	<0.508	<0.452
Chromium, Total	07440-47-3	mg/kg	11.1	8.92	9.19	10.6	9.30	5.72	11.3	8.88	10.8	11.7	36.7	13.5	6.79	10.2
Lead, Total	07439-92-1	mg/kg	30.2	33.0	41.9	196	34.2	7.68	64.6	129	8.59	**317**	***3090***	20.8	**442**	**571**
Mercury, Total [3,7]	07439-97-6	mg/kg	0.12	<0.082	0.20	1.26	<0.081	0.16	0.10	4.65	<0.088	0.33	1.55	0.18	2.33	1.12
Nickel, Total	07440-02-0	mg/kg	7.63	6.41	7.56	13.0	7.38	2.82	15.4	8.72	6.01	10.7	55.6	10.8	21.8	11.5
Selenium, Total	07782-49-2	mg/kg	<2.05	<2.13	<2.15	<2.34	<2.11	<2.22	<2.22	<2.56	<2.53	<2.17	3	<2.18	5.97	<2.26
Silver, Total	07440-22-4	mg/kg	<0.410	<0.425	<0.431	<0.468	<0.422	<0.443	<0.445	<0.511	<0.507	<0.433	1.8	<0.435	<0.508	<0.452
Vanadium, Total	07440-62-2	mg/kg	16.5	16.4	16.2	19.4	21.2	5.26	22.2	14.2	18.9	27.4	134	15.9	15.0	11.6
Zinc, Total	07440-66-6	mg/kg	65.0	53.3	61.5	261	54.1	17.2	111	73.9	29.2	326	***3940***	58.3	127	226
TPH (Total Petroleum Hydrocarbons)	NA	mg/kg									75		872	432		
C_9-C_{18} Aliphatics	NA	mg/kg	36.1	23.8	68.0	422	84.8	<7.36	11.8	10.0			38.4	65.2	15.7	7.48
C_{19}-C_{36} Aliphatics	NA	mg/kg	330	221	529	2360	467	11.0	19.9	36.6			141	162	61.2	30.2
C_{11}-C_{22} Aromatics	NA	mg/kg	290	199	521	983	492	19.6	41.4	80.2			90.3	232	97.6	62.9
C_5-C_8 Aliphatics	NA	mg/kg	<5.15	<5.67	<5.93	16.0	<7.25	<4.22	<6.70	<9.72			<6.54	<7.33	<8.26	<16.5
C_9-C_{12} Aliphatics	NA	mg/kg	<5.15	<5.67	<5.93	21.7	<7.25	<4.22	<6.70	<9.72			<6.54	<7.33	<8.26	<16.5
C_9-C_{10} Aromatics	NA	mg/kg	<5.15	<5.67	<5.93	32.9	<7.25	<4.22	<6.70	<9.72			<6.54	<7.33	<8.26	<16.5
Cyanide, Reactive	00057-12-5	mg/kg											<10	<10		
Ignitability	NA	Negative/Positive											NI	NI		
Lead, TCLP	NA	mg/l										1.11	86.8		22.4	<0.500
Mercury, TCLP	07439-96-5	mg/kg														
pH	NA	SU											10.2	11.2		
Solids, Total	NA	%	92.7	92.7	92.2	83.1	91.3	89.2	88.4	74.3	78.7	88.0	91.2	88.4	77.7	87.6
Sulfide, Reactive	18496-25-8	mg/kg											<10	<10		

Notes:
Bold Exceeds MCP RCS-1
Italicsed results exceed MCP RCS-2
ND = Not Detected
NA = Not Applicable
Asphalt Batch - In State or Out of State Asphalt Batching
MA Landfill - In State MA Landfill (Com 97-001)
Below RCS-1 - Disposal at Below RCS-1 Permitted Facility
Hazardous Waste - TSCA Bulk PCB Remediation Waste
Hazardous Waste - TSCA and RCRA Hazardous Waste

Table 2 Soil Boring Data (mg/kg)

Location:			CYPHER ST., S. BOSTON	CYPHER ST., S. BOSTON	CYPHER ST., S. BOSTON	CYPHER ST., S. BOSTON	CYPHER ST., S. BOSTON	CYPHER ST., S. BOSTON	CYPHER ST., S. BOSTON	CYPHER ST. S. BOSTON	CYPHER ST., S. BOSTON	CYPHER ST., S. BOSTON	CYPHER ST. S. BOSTON	CYPHER ST., S. BOSTON	CYPHER ST. S. BOSTON	CYPHER ST., S. BOSTON
Sample Name:			TT-11 (2-4')	TT-12 (2-4')	TT-12 (4-6')	TT-13 (2-4')	TT-13 (4-4.75')	TT-14 (0-2')	TT-14 (4-6')	TT-14 (8-10')	TT-15 (0-2')	TT-15 (4-6')	TT-15 (8-10')	TT-16 (0-2')	TT-16 (8-10')	TT-17 (1-3')
Sample Depth:			2-4'	2-4'	4-6'	2-4'	4-4.75'	0-2'	4-6'	8-10'	0-2'	4-6'	8-10'	0-2'	8-10'	1-3'
Laboratory:			Alpha	Alpha	Alpha	Alpha	Alpha	Alpha	Alpha	Alpha	Alpha	Alpha	Alpha	Alpha	Alpha	Alpha
Laboratory I.D.:			L1939381-07, L1942594-03	L1938825-04/D, L1941630-02	L1938825-05, L1941630-03	L1938617-01/D/D2, L1941630-0	L1938617-02, L1942594-01	L1938617-03/R, L19411630-0	L1938617-04	L1940491-01/D, L1943327-05	L1938617-05/D	L1938617-06	L1939976-04/D, L1943327-04	L1939114-01/D/R, L1942725-01	L1940491-02/D, L1943327-06	L1938825-02
Sample Date:			08/29/2019	08/27/2019	08/27/2019	08/26/2019	08/26/2019	08/26/2019	08/26/2019	09/05/2019	08/26/2019	08/26/2019	09/03/2019	08/28/2019	09/05/2019	08/27/2019
Consultant:			Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech
Disposal Designation	CAS#	Units	Asphalt Batch	MA Landfill	MA Landfill	Asphalt Batch	Below RCS-1	MA Landfill	MA Landfill	Asphalt Batch	MA Landfill	MA Landfill	Asphalt Batch	MA Landfill	Asphalt Batch	Below RCS-1
Acetone	00067-64-1	mg/kg	0.016	<0.71	<0.81	<0.66	<0.68	0.055	0.054	<2.4	0.037	0.073	<1.5	0.030	<1	0.031
Benzene	00071-43-2	mg/kg	<0.00046	<0.036	<0.04	0.04	<0.034	<0.00057	<0.00064	<0.12	<0.00047	<0.00092	0.09	<0.00046	<0.053	<0.00045
Butanone, 2- (MEK)	00078-93-3	mg/kg	<0.0092	<0.71	<0.81	<0.66	<0.68	<0.011	<0.013	<2.4	<0.0094	<0.018	<1.5	<0.0092	<1	<0.009
Butylbenzene, n-	00104-51-8	mg/kg	<0.00092	0.10	<0.081	<0.066	<0.068	<0.0011	<0.0013	<0.24	<0.00094	<0.0018	<0.15	<0.00092	<0.1	<0.0009
Butylbenzene, sec-	00135-98-8	mg/kg	<0.00092	0.09	<0.081	<0.066	<0.068	<0.0011	<0.0013	<0.24	<0.00094	<0.0018	<0.15	<0.00092	<0.1	<0.0009
Butylbenzene, tert-	00098-06-6	mg/kg	<0.0018	<0.14	<0.16	<0.13	<0.14	<0.0023	<0.0026	<0.48	<0.0019	<0.0037	<0.29	<0.0018	<0.21	<0.0018
Ethylbenzene	00100-41-4	mg/kg	<0.00092	<0.071	<0.081	<0.066	<0.068	<0.0011	<0.0013	<0.24	<0.00094	<0.0018	<0.15	<0.00092	<0.1	<0.0009
Isopropylbenzene	00098-82-8	mg/kg	<0.00092	<0.071	<0.081	<0.066	<0.068	<0.0011	<0.0013	<0.24	<0.00094	<0.0018	<0.15	<0.00092	<0.1	<0.0009
Isopropyltoluene, p-	00099-87-6	mg/kg	<0.00092	<0.071	<0.081	<0.066	<0.068	<0.0011	<0.0013	0.27	<0.00094	<0.0018	0.54	<0.00092	<0.1	<0.0009
Naphthalene	00091-20-3	mg/kg	<0.0037	<0.28	<0.32	**8.40**	1.50	<0.0046	<0.0051	43	<0.0038	<0.0074	<0.58	<0.0037	1.5	<0.0036
Propylbenzene, n-	00103-65-1	mg/kg	<0.00092	<0.071	<0.081	<0.066	<0.068	<0.0011	<0.0013	<0.24	<0.00094	<0.0018	<0.15	<0.00092	<0.1	<0.0009
Toluene	00108-88-3	mg/kg	<0.00092	<0.071	<0.081	0.16	0.09	<0.0011	<0.0013	0.26	<0.00094	<0.0018	1.00	<0.00092	<0.1	0.001
Trimethylbenzene, 1,2,4-	00095-63-6	mg/kg	<0.0018	0.32	<0.16	<0.13	<0.14	<0.0023	<0.0026	0.58	<0.0019	<0.0037	<0.29	<0.0018	<0.21	<0.0018
Trimethylbenzene, 1,3,5-	00108-67-8	mg/kg	<0.0018	0.15	<0.16	<0.13	<0.14	<0.0023	<0.0026	<0.48	<0.0019	<0.0037	<0.29	<0.0018	<0.21	<0.0018
p,m-Xylene	m: 00108-38-3;	mg/kg	<0.0018	<0.14	<0.16	0.13	<0.14	<0.0023	<0.0026	<0.48	<0.0019	<0.0037	<0.29	<0.0018	<0.21	<0.0018
o-Xylene	00095-47-6	mg/kg	<0.00092	<0.071	<0.081	<0.066	<0.068	<0.0011	<0.0013	<0.24	<0.00094	<0.0018	<0.15	<0.00092	<0.1	<0.0009
Xylene (total)	01330-20-7	mg/kg	<0.00092	<0.071	<0.081	0.13	<0.068	<0.0011	<0.0013	<0.24	<0.00094	<0.0018	<0.15	<0.00092	<0.1	<0.0009
Total VOCs	NA	mg/kg	0.016	0.65	ND	8.73	1.59	0.055	0.054	44	0.037	0.073	1.63	0.030	1.5	0.032
Acenaphthene	00083-32-9	mg/kg	0.79	0.40	0.37	**12**	1.6	<0.14		**49**	<0.28		2.1	<0.7	3.3	<0.14
Acenaphthylene	00208-96-8	mg/kg	<0.47	<0.15	<0.16	**4.2**	<1.5	0.61		***23***	**2.3**		0.28	**1.8**	**1.3**	<0.14
Anthracene	00120-12-7	mg/kg	1.4	1.8	1.0	24	2.7	0.48		92	1.5		4.0	1.6	6.0	<0.1
Benzo(a)anthracene	00056-55-3	mg/kg	3.6	5.7	2.5	**29**	7.9	1.5		***90***	4.6		4.6	**3.8**	**7.6**	<0.1
Benzo(a)pyrene	00050-32-8	mg/kg	**3.0**	**5.6**	**2.2**	***20***	7.3	1.4		***59***	**6.0**		**3.8**	**3.4**	**5.6**	<0.14
Benzo(b)fluoranthene	00205-99-2	mg/kg	3.7	6.5	2.7	**27**	9.2	2.5		***70***	**11**		4.7	5.3	6.4	0.10
Benzo(g,h,i)perylene	00191-24-2	mg/kg	2.0	3.3	1.1	11	3.9	1.1		30	3.8		1.9	2.5	3.0	<0.14
Benzo(k)fluoranthene	00207-08-9	mg/kg	1.4	2.0	0.85	9.4	3.1	0.66		25	2.4		1.6	2.1	2.5	<0.1
Chrysene	00218-01-9	mg/kg	3.2	5.2	2.3	27	7.4	1.6		69	4.9		4.5	4.8	5.9	<0.1
Dibenzo(a,h)anthracene	00053-70-3	mg/kg	0.4	**0.71**	0.29	**2.7**	<1.1	0.26		<12	**1.1**		0.51	0.61	**0.92**	<0.1
Fluoranthene	00206-44-0	mg/kg	7.5	8.7	4.7	86	17	2.5		190	4.8		11	8.6	14	0.15
Fluorene	00086-73-7	mg/kg	0.6	0.53	0.51	19	<1.9	<0.18		66	<0.35		3.2	<0.88	4.8	<0.18
Indeno(1,2,3-cd)pyrene	00193-39-5	mg/kg	2.0	3.4	1.2	**13**	4.3	1.2		**36**	4.4		2.0	2.500	3.5	<0.14
Methylnaphthalene, 2-	00091-57-6	mg/kg	<0.7	**0.78**	0.43	**7.2**	<2.2	**0.80**		**47**	0.51		**1.4**	<1	**2.9**	<0.21
Naphthalene	00091-20-3	mg/kg	<0.58	0.64	0.26	**14**	2.9	0.88		***150***	0.80		2.6	<0.88	**8.0**	<0.18
Phenanthrene	00085-01-8	mg/kg	6.2	5.4	4.3	**95**	13	1.4		**300**	1.8		**14**	3.8	**19**	<0.1
Pyrene	00129-00-0	mg/kg	6.8	8.0	4.2	62	14.0	2.2		150	5.3		10	7.5	12	0.15
Total PAHs	NA	mg/kg	42.6	58.7	28.9	463	94	19		1446	55		72	48	107	0.40
Bis(2-ethylhexyl)phthalate	00117-81-7	mg/kg		<0.19												
Dibenzofuran	00132-64-9	mg/kg		0.5												
Total SVOCs	NA	mg/kg	42.6	59.2	28.9	462.5	94.3	19.1		1446	55.2		72	48.3	107	0.4
Endosulfan II	33213-65-9	mg/kg		0.003												
p,p'-DDD	00072-54-8	mg/kg		<0.00187												
p,p'-DDE	00072-55-9	mg/kg		<0.00187												
p,p'-DDT	00050-29-3	mg/kg		<0.0035												
Arochlor 1242	53469-21-9	mg/kg	<0.0395	<0.0376	<0.0396	<0.0359	<0.0374	<0.0361		<0.0396	<0.0666		<0.0518	<0.0345	<0.0445	<0.0344
Arochlor 1248	12672-29-6	mg/kg	<0.0395	<0.0376	<0.0396	<0.0359	<0.0374	<0.0361		<0.0396	0.113		<0.0518	<0.0345	<0.0445	<0.0344
Arochlor 1254	11097-69-1	mg/kg	<0.0395	<0.0376	<0.0396	<0.0359	<0.0374	<0.0361		<0.0396	0.107		<0.0518	<0.0345	<0.0445	<0.0344
Arochlor 1260	11096-82-5	mg/kg	<0.0395	<0.0376	<0.0396	0.080	<0.0374	0.075		<0.0396	0.328		<0.0518	<0.0345	<0.0445	<0.0344
Arochlor 1262	37324-23-5	mg/kg	<0.0395	<0.0376	<0.0396	<0.0359	<0.0374	<0.0361		<0.0396	<0.0666		<0.0518	0.251	<0.0445	<0.0344
Arochlor 1268	11100-14-4	mg/kg	<0.0395	<0.0376	<0.0396	0.044	<0.0374	0.063		<0.0396	0.193		<0.0518	<0.0345	<0.0445	<0.0344
Total Polychlorinated Biphenyls (PCBs) (2)	01336-36-3	mg/kg	ND	ND	ND	0.124	ND	0.137		ND	0.741		ND	0.251	ND	ND
Antimony, Total	07440-36-0	mg/kg	4.82	6.54	3.29	2.80	<2.28	5.7		<2.35	2.77		7.70	2.99	5.01	<2.08
Arsenic, Total	07440-38-2	mg/kg	**41.7**	10.4	12.5	6.85	6.30	12.0		15.0	6.81		***26***	6.72	***98.0***	1.71
Barium, Total	07440-39-3	mg/kg	181	105	74.4	70.5	45.9	57.6		87.7	41.2		232	39.7	106	22.1
Beryllium, Total	07440-41-7	mg/kg	0.57	0.29	0.26	0.36	0.24	0.29		<0.235	0.27		0.41	0.25	0.37	0.37
Cadmium, Total	07440-43-9	mg/kg	<0.470	1.65	0.97	1.39	0.51	1.65		<0.469	1.04		1.52	1.16	<0.535	0.44
Chromium, Total	07440-47-3	mg/kg	19.0	6.56	8.35	9.42	10.2	14.0		16.9	14.6		60.9	20.2	23.9	7.37
Lead, Total	07439-92-1	mg/kg	**638**	***869***	**213**	**235**	116	194		**566**	95.1		***1170***	123	**494**	15.1
Mercury, Total [1,V]	07439-97-6	mg/kg	3.18	1.06	0.35	0.74	0.17	0.46		16.9	0.19		16.4	0.19	4.43	<0.082
Nickel, Total	07440-02-0	mg/kg	21.9	20.6	15.7	10.6	16.4	18.8		6.38	12.6		16.0	22.9	15.1	9.9
Selenium, Total	07782-49-2	mg/kg	<2.35	<2.37	<2.38	<2.09	<2.28	<2.14		<2.35	<2.11		<3.17	<2.12	<2.68	<2.08
Silver, Total	07440-22-4	mg/kg	<0.470	26.1	<0.476	<0.417	<0.455	<0.428		<0.469	<0.422		2.66	<0.424	<0.535	<0.415
Vanadium, Total	07440-62-2	mg/kg	21.4	11.5	12.3	21.2	22.2	21.7		12.0	20.2		33.0	27.4	23.4	15.0
Zinc, Total	07440-66-6	mg/kg	336	416	183	122	104	78.6		342	64.8		385	97.2	311	27.3
TPH (Total Petroleum Hydrocarbons)	NA	mg/kg		612												
C_9-C_{18} Aliphatics	NA	mg/kg	<7.92	46.3	16.2	<35.2	<7.21	15.5		<162	15.6		213	<13.7	92.2	<6.73
C_{19}-C_{36} Aliphatics	NA	mg/kg	48.1	88.2	25.3	259	<7.21	142		298	119		268	251	206	<6.73
C_{11}-C_{22} Aromatics	NA	mg/kg	78.0	140	71.1	403	73.5	109		**1060**	168		200	254	150	<6.73
C_5-C_8 Aliphatics	NA	mg/kg	<13.2	10.7	13.4	<6.58	<6.91	<5.66		<38.6	<4.70		<14.6	<5.15	<10.5	<5.12
C_9-C_{12} Aliphatics	NA	mg/kg	<13.2	7.65	<8.07	<6.58	<6.91	<5.66		46.7	<4.70		16.0	<5.15	<10.5	<5.12
C_9-C_{10} Aromatics	NA	mg/kg	<13.2	16.8	<8.07	<6.58	<6.91	<5.66		<38.6	<4.70		30.2	<5.15	<10.5	<5.12
Cyanide, Reactive	00057-12-5	mg/kg		<10												
Ignitability	NA	Negative/Positive		NI												
Lead, TCLP	NA	mg/l	<0.500	<0.500	<0.500	<0.500	<0.500			1.14			0.56		0.62	
Mercury, TCLP	07439-96-5	mg/kg								<0.0010			<0.0010		<0.0010	
pH	NA	SU		7.20												
Solids, Total	NA	%	81.2	84.0	82.2	92.0	86.9	91.4	79.4	81.5	94.3	73.7	61.5	93.7	71.4	93.8
Sulfide, Reactive	18496-25-8	mg/kg		<10												

Notes:
Bold Exceeds MCP RCS-1
Italicsed results exceed MCP RCS-2
ND = Not Detected
NA = Not Applicable
Asphalt Batch - In State or Out of State Asphalt Batching
MA Landfill - In State MA Landfill (Com 97-001)
Below RCS-1 - Disposal at Below RCS-1 Permitted Facility
Hazardous Waste - TSCA Bulk PCB Remediation Waste
Hazardous Waste - TSCA and RCRA Hazardous Waste

Table 2 Soil Boring Data (mg/kg)

Location:	CAS#	Units	CYPHER ST., S. BOSTON	CYPHER ST., S. BOSTON	CYPHER ST. S. BOSTON	CYPHER ST., S. BOSTON	CYPHER ST., S. BOSTON	CYPHER ST., S. BOSTON	CYPHER ST. S. BOSTON	CYPHER ST., S. BOSTON	CYPHER ST., S. BOSTON	CYPHER ST., S. BOSTON	CYPHER ST., S. BOSTON
Sample Name:			TT-17 (7')	TT-18 (0-2')	TT-18 (8-10')	TT-19 (0-2')	TT-19 (2-4')	TT-20A (0-2')	TT-20A (8-10')	TT-21 (0-2')	TT-22A (0-2')	TT-22A (3')	TRIP BLANK
Sample Depth:			7'	0-2'	8-10'	0-2'	2-4'	0-2'	8-10'	0-2'	0-2'	3'	NA
Laboratory:			Alpha	Alpha	Alpha	Alpha	Alpha	Alpha	Alpha	Alpha	Alpha	Alpha	Alpha
Laboratory I.D.:			L1938825-03, L1941630-01	L1938825-01	L1939976-02/D, L1943327-02	L1938617-07/D, L1941630-06	L1938617-08	L1939381-05	L1939976-01, L1943327-01	L1939381-01	L1939381-02/D	L1939381-03/R	L1938617-09
Sample Date:			08/27/2019	08/27/2019	09/03/2019	08/26/2019	08/26/2019	08/29/2019	09/03/2019	08/29/2019	08/29/2019	08/29/2019	08/26/2019
Consultant:			Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech	Tetra Tech
Disposal Designation			MA Landfill	Below RCS-1	Asphalt Batch	Asphalt Batch	MA Landfill	Below RCS-1	Below RCS-1	Below RCS-1	MA Landfill	Below RCS-1	
Acetone	00067-64-1	mg/kg	0.016	0.0240	<1.1	<0.4	0.080	0.012	<0.97	0.025	0.0170	0.021	<0.5
Benzene	00071-43-2	mg/kg	<0.00032	<0.00041	<0.057	<0.02	<0.00053	<0.00036	<0.048	<0.00048	<0.00054	<0.00087	<0.025
Butanone, 2- (MEK)	00078-93-3	mg/kg	<0.0064	<0.0083	<1.1	<0.4	<0.01	<0.0071	<0.97	<0.0096	<0.011	<0.017	<0.5
Butylbenzene, n-	00104-51-8	mg/kg	<0.00064	<0.00083	<0.11	<0.04	<0.001	<0.00071	<0.097	<0.00096	<0.0011	<0.0017	<0.05
Butylbenzene, sec-	00135-98-8	mg/kg	<0.00064	<0.00083	<0.11	<0.04	<0.001	<0.00071	0.31	<0.00096	<0.0011	<0.0017	<0.05
Butylbenzene, tert-	00098-06-6	mg/kg	<0.0013	<0.0016	<0.23	<0.08	<0.0021	<0.0014	0.19	<0.0019	<0.0022	<0.0035	<0.1
Ethylbenzene	00100-41-4	mg/kg	<0.00064	<0.00083	<0.11	<0.04	<0.001	<0.00071	<0.097	<0.00096	<0.0011	<0.0017	<0.05
Isopropylbenzene	00098-82-8	mg/kg	<0.00064	<0.00083	<0.11	<0.04	<0.001	<0.00071	0.13	<0.00096	<0.0011	<0.0017	<0.05
Isopropyltoluene, p-	00099-87-6	mg/kg	<0.00064	<0.00083	0.19	<0.04	<0.001	<0.00071	0.13	<0.00096	<0.0011	<0.0017	<0.05
Naphthalene	00091-20-3	mg/kg	<0.0026	<0.0033	1.10	4.90	<0.0042	<0.0028	<0.39	<0.0038	<0.0043	<0.007	<0.2
Propylbenzene, n-	00103-65-1	mg/kg	<0.00064	<0.00083	<0.11	<0.04	<0.001	<0.00071	0.12	<0.00096	<0.0011	<0.0017	<0.05
Toluene	00108-88-3	mg/kg	<0.00064	<0.00083	<0.11	<0.04	<0.001	<0.00071	<0.097	<0.00096	<0.0011	<0.0017	<0.05
Trimethylbenzene, 1,2,4-	00095-63-6	mg/kg	<0.0013	<0.0016	<0.23	<0.08	<0.0021	<0.0014	<0.19	<0.0019	<0.0022	<0.0035	<0.1
Trimethylbenzene, 1,3,5-	00108-67-8	mg/kg	<0.0013	<0.0016	<0.23	<0.08	<0.0021	<0.0014	<0.19	<0.0019	<0.0022	<0.0035	<0.1
p,m-Xylene	m: 00108-38-3;	mg/kg	<0.0013	<0.0016	<0.23	<0.08	<0.0021	<0.0014	<0.19	<0.0019	<0.0022	<0.0035	<0.1
o-Xylene	00095-47-6	mg/kg	<0.00064	<0.00083	<0.11	<0.04	<0.001	<0.00071	<0.097	<0.00096	<0.0011	<0.0017	<0.05
Xylene (total)	01330-20-7	mg/kg	<0.00064	<0.00083	<0.11	<0.04	<0.001	<0.00071	<0.097	<0.00096	<0.0011	<0.0017	<0.05
Total VOCs	NA	mg/kg	0.016	0.024	1.29	4.90	0.080	0.012	0.88	0.025	0.017	0.021	ND
Acenaphthene	00083-32-9	mg/kg	0.44	<0.14	**5.7**	**14**	1.1	<0.14	<0.19	0.38	<0.75	<0.15	
Acenaphthylene	00208-96-8	mg/kg	<0.16	0.20	**2.1**	<0.46	<0.15	<0.14	<0.19	0.20	<0.75	<0.15	
Anthracene	00120-12-7	mg/kg	0.81	0.46	8.7	20	1.6	<0.1	<0.14	0.91	1.7	<0.11	
Benzo(a)anthracene	00056-55-3	mg/kg	1.4	1.8	6.5	**21**	2.6	0.16	<0.14	2.2	3.1	0.28	
Benzo(a)pyrene	00050-32-8	mg/kg	1.1	1.8	**5.9**	***17***	**2.1**	0.16	<0.19	**2.1**	**2.8**	0.24	
Benzo(b)fluoranthene	00205-99-2	mg/kg	1.4	2.4	**7.0**	**23**	2.8	0.23	<0.14	2.5	3.3	0.31	
Benzo(g,h,i)perylene	00191-24-2	mg/kg	0.59	1.0	3.4	15	1.3	<0.14	<0.19	1.2	1.4	0.15	
Benzo(k)fluoranthene	00207-08-9	mg/kg	0.47	0.74	2.4	12	1.0	<0.1	<0.14	0.87	1.3	0.11	
Chrysene	00218-01-9	mg/kg	1.2	1.7	5.9	19	2.2	0.17	<0.14	2.1	2.7	0.35	
Dibenzo(a,h)anthracene	00053-70-3	mg/kg	0.15	0.22	**0.9**	***4.0***	0.34	<0.1	<0.14	0.31	<0.56	<0.11	
Fluoranthene	00206-44-0	mg/kg	2.8	3.1	18	52	5.9	0.35	<0.14	4.8	5.5	0.43	
Fluorene	00086-73-7	mg/kg	0.4	<0.17	9.3	11	1.0	<0.17	<0.24	0.37	<0.94	<0.19	
Indeno(1,2,3-cd)pyrene	00193-39-5	mg/kg	0.61	1.0	3.5	**18**	1.5	<0.14	<0.19	1.3	1.5	<0.15	
Methylnaphthalene, 2-	00091-57-6	mg/kg	<0.24	<0.21	**1.5**	**3.7**	0.58	<0.21	<0.29	<0.22	<1.1	<0.23	
Naphthalene	00091-20-3	mg/kg	0.22	<0.17	1.8	**14**	1.4	<0.17	<0.24	0.25	<0.94	<0.19	
Phenanthrene	00085-01-8	mg/kg	2.9	1.8	**29**	**56**	5.4	0.21	<0.14	3.9	4.6	0.41	
Pyrene	00129-00-0	mg/kg	2.5	3.1	15	39	4.6	0.31	<0.14	5.1	4.8	0.42	
Total PAHs	NA	mg/kg	17	19	127	339	35	1.59	ND	28.5	32.7	2.70	
Bis(2-ethylhexyl)phthalate	00117-81-7	mg/kg				<0.57					<0.94	<0.19	
Dibenzofuran	00132-64-9	mg/kg				7.50					<0.94	<0.19	
Total SVOCs	NA	mg/kg	17.0	19.3	127	7.50	35.4	1.59	ND	28.5	32.7	2.70	
Endosulfan II	33213-65-9	mg/kg									<0.00181	<0.00181	
p,p'-DDD	00072-54-8	mg/kg									0.005	<0.00181	
p,p'-DDE	00072-55-9	mg/kg									0.006	<0.00181	
p,p'-DDT	00050-29-3	mg/kg									0.007	<0.00339	
Arochlor 1242	53469-21-9	mg/kg	<0.0394	<0.0331	<0.0477	<0.0348	<0.037	<0.0341	<0.136	<0.0351	<0.0374	<0.0367	
Arochlor 1248	12672-29-6	mg/kg	<0.0394	<0.0331	<0.0477	<0.0348	<0.037	<0.0341	<0.136	<0.0351	<0.0374	<0.0367	
Arochlor 1254	11097-69-1	mg/kg	<0.0394	<0.0331	<0.0477	0.041	<0.037	<0.0341	<0.136	<0.0351	0.109	<0.0367	
Arochlor 1260	11096-82-5	mg/kg	<0.0394	0.044	<0.0477	0.065	0.039	<0.0341	<0.136	<0.0351	0.050	<0.0367	
Arochlor 1262	37324-23-5	mg/kg	<0.0394	<0.0331	<0.0477	<0.0348	<0.037	<0.0341	<0.136	<0.0351	<0.0374	<0.0367	
Arochlor 1268	11100-14-4	mg/kg	<0.0394	<0.0331	<0.0477	0.071	<0.037	<0.0341	<0.136	<0.0351	<0.0374	<0.0367	
Total Polychlorinated Biphenyls (PCBs) (2)	01336-36-3	mg/kg	ND	0.044	ND	0.176	0.039	ND	ND	ND	0.159	ND	
Antimony, Total	07440-36-0	mg/kg	<2.26	<2.00	<2.90	<2.01	2.43	<2.06	<2.95	<2.12	<2.19	<2.29	
Arsenic, Total	07440-38-2	mg/kg	8.54	2.64	***30.7***	4.72	11.9	3.31	9.07	7.32	8.02	14.6	
Barium, Total	07440-39-3	mg/kg	98.9	21.5	118	70.1	90.3	23.8	115	66.5	63.1	68.6	
Beryllium, Total	07440-41-7	mg/kg	0.25	0.26	<0.290	0.21	0.45	<0.206	0.34	0.31	0.34	0.30	
Cadmium, Total	07440-43-9	mg/kg	0.76	0.69	1.53	0.87	1.22	<0.411	<0.590	<0.424	<0.438	1.77	
Chromium, Total	07440-47-3	mg/kg	8.37	8.98	14.5	14.0	11.9	7.94	5.86	25.2	22.5	8.42	
Lead, Total	07439-92-1	mg/kg	**386**	66.9	***1070***	103	**246**	69.8	134	153	120	44.9	
Mercury, Total [3,4]	07439-97-6	mg/kg	2.57	<0.079	7.21	0.42	1.41	0.25	0.55	0.53	0.54	0.13	
Nickel, Total	07440-02-0	mg/kg	8.04	10.0	8.96	10.2	14.0	7.37	6.21	17.0	14.8	8.69	
Selenium, Total	07782-49-2	mg/kg	<2.26	<2.00	<2.90	<2.01	<2.22	<2.06	<2.95	<2.12	<2.19	<2.29	
Silver, Total	07440-22-4	mg/kg	<0.453	<0.399	<0.579	<0.402	<0.443	<0.411	<0.590	<0.424	<0.438	<0.458	
Vanadium, Total	07440-62-2	mg/kg	18.0	13.1	18.0	21.7	48.0	18.7	16.0	19.2	24.4	8.99	
Zinc, Total	07440-66-6	mg/kg	193	81.6	894	93.8	163	98.6	64.8	128	116	62.1	
TPH (Total Petroleum Hydrocarbons)	NA	mg/kg				***5810***					161	186	
C_9-C_{18} Aliphatics	NA	mg/kg	<7.89	<19.6	482	<68.8	<7.17	7.97	33.8	<7.22	<7.62	<23.2	
C_{19}-C_{36} Aliphatics	NA	mg/kg	14.3	152	603	<68.8	51.1	22.0	<9.52	29.4	38.8	<23.2	
C_{11}-C_{22} Aromatics	NA	mg/kg	24.2	143	556	543	53.1	29.5	29.9	83.2	69.2	71.3	
C_5-C_8 Aliphatics	NA	mg/kg	<6.85	<4.63	11.9	<4.02	<7.16	<9.50	<19.4	<5.96	<7.11	<7.64	
C_9-C_{12} Aliphatics	NA	mg/kg	<6.85	<4.63	19.6	<4.02	<7.16	<9.50	40.2	<5.96	<7.11	<7.64	
C_9-C_{10} Aromatics	NA	mg/kg	<6.85	<4.63	26.4	<4.02	<7.16	<9.50	56.4	<5.96	<7.11	<7.64	
Cyanide, Reactive	00057-12-5	mg/kg				<10					<10	<10	
Ignitability	NA	Negative/Positive				NI					NI	NI	
Lead, TCLP	NA	mg/l	<0.500		1.13				2.14	<0.500	<0.500	<0.500	
Mercury, TCLP	07439-96-5	mg/kg			<0.0010								
pH	NA	SU				9.00					7.10	7.10	
Solids, Total	NA	%	83.8	95.9	66.1	95.3	87.7	94.9	67.1	91.2	86.7	85.7	
Sulfide, Reactive	18496-25-8	mg/kg				<10					<10	<10	

Soil Analytical Data Summary Statistics (mg/kg)

Disposal Designation	Number of Times Detected	Number of Times Sought	Minimum Concentration Detected	Maximum Concentration Detected	Average Concentration Detected	2014 MCP RCS-1 mg/kg (1)	2014 MCP RCS-2 mg/kg (1)	2014 MCP UCL mg/kg (1)
Acetone	23	37	0.01	0.14	0.20	6	50	10,000
Benzene	3	37	0.00	0.09	0.01	2	200	10,000
Butanone, 2- (MEK)	2	37	0.01	0.02	0.18	4.0	50	10,000
Butylbenzene, n-	2	37	0.09	0.10	0.02	NA	NA	NA
Butylbenzene, sec-	2	37	0.09	0.31	0.03	NA	NA	NA
Butylbenzene, tert-	1	37	0.19	0.19	0.04	100	1,000	NA
Ethylbenzene	1	37	0.14	0.14	0.02	40	1,000	10,000
Isopropylbenzene	1	37	0.13	0.13	0.02	1,000	10,000	NA
Isopropyltoluene, p-	7	37	0.00	0.54	0.05	NA	NA	NA
Naphthalene	10	37	0.00	43.0	1.80	4	20	10,000
Propylbenzene, n-	2	37	0.09	0.12	0.02	NA	NA	NA
Toluene	6	37	0.00	1.00	0.05	30	1,000	10,000
Trimethylbenzene, 1,2,4-	4	37	0.00	0.58	0.06	1,000	10,000	NA
Trimethylbenzene, 1,3,5-	3	37	0.00	0.34	0.04	10	100	NA
p,m-Xylene	1	37	0.13	0.13	0.04	500	500	NA
o-Xylene	2	37	0.00	0.62	0.03	500	500	NA
Xylene (total)	3	37	0.00	0.62	0.04	100	100	10,000
Total VOCs	35	37	0.01	44.1				
Acenaphthene	21	36	0.18	49	2.75	4	3,000	10,000
Acenaphthylene	13	36	0.20	23	1.16	1	10	10,000
Anthracene	29	36	0.17	92	5.10	1,000	3,000	10,000
Benzo(a)anthracene	33	36	0.16	90	6.64	7	40	3,000
Benzo(a)pyrene	33	36	0.16	59	5.21	2	7	300
Benzo(b)fluoranthene	34	36	0.10	70	6.49	7	40	3,000
Benzo(g,h,i)perylene	30	36	0.15	30	3.20	1,000	3,000	10,000
Benzo(k)fluoranthene	29	36	0.11	25	2.28	70	400	10,000
Chrysene	33	36	0.17	69	5.90	70	400	10000
Dibenzo(a,h)anthracene	22	36	0.15	6.1	0.90	0.7	4	300
Fluoranthene	34	36	0.15	190	14.11	1,000	3,000	10,000
Fluorene	19	36	0.32	66	3.51	1,000	3,000	10,000
Indeno(1,2,3-cd)pyrene	29	36	0.28	36	3.35	7	40	3,000
Methylnaphthalene, 2-	15	36	0.26	47	2.09	0.7	80	5,000
Naphthalene	21	36	0.19	150	5.77	4	20	10,000
Phenanthrene	33	36	0.21	300	16.99	10	1,000	10,000
Pyrene	34	36	0.15	150	11.42	1,000	3,000	10,000
Total PAHs	34	36	0.40	1446				
Bis(2-ethylhexyl)phthalate	1	7	2.40	2.40	0.52	90	600	10,000
Dibenzofuran	4	7	0.28	7.50	1.38	100	1,000	NA
Total SVOCs	34	36	0.40	1446.0				
Endosulfan II	1	6	0.00	0.00	0.00	0.5	1	5,000
p,p'-DDD	1	6	0.00	0.00	0.00	8	40	600
p,p'-DDE	2	6	0.01	0.01	0.00	6	30	600
p,p'-DDT	1	6	0.01	0.01	0.00	6	30	600
Arochlor 1242	2	36	0.07	1.56	0.17			
Arochlor 1248	3	36	0.11	31.6	0.93			
Arochlor 1254	7	36	0.04	41.0	1.26			
Arochlor 1260	11	36	0.04	99.5	2.88			
Arochlor 1262	1	36	0.25	0.25	0.14			
Arochlor 1268	4	36	0.04	0.19	0.14			
Total Polychlorinated Biphenyls (PCBs) (2)	12	36	0.04	172		1	4	100
Antimony, Total	15	36	2.43	123	8.78	20	30	300
Arsenic, Total	36	36	1.00	98.0	12.6	20	20	500
Barium, Total	36	36	7.27	373	76.7	1,000	3,000	10,000
Beryllium, Total	24	36	0.21	0.57	0.25	90	200	2,000
Cadmium, Total	22	36	0.44	8.36	0.95	70	100	1,000
Chromium, Total	36	36	5.72	60.9	14.0	100	200	2,000
Lead, Total	36	36	7.68	3090	336	200	600	6,000
Mercury, Total [3,4]	31	36	0.10	16.9	1.94	20	30	300
Nickel, Total	36	36	2.82	55.6	13.3	600	1,000	10,000
Selenium, Total	2	36	2.55	5.97	1.32	400	700	7,000
Silver, Total	3	36	1.78	26.1	1.06	100	200	2,000
Vanadium, Total	36	36	5.26	134	22.3	400	700	7,000
Zinc, Total	36	36	17.20	3940	271	1,000	3,000	10,000
TPH (Total Petroleum Hydrocarbons)	7	7	74.50	5810	1164	1,000	3,000	10,000
C_9-C_{18} Aliphatics	20	34	7.48	482.00	55.78	1,000	3,000	20,000
C_{19}-C_{36} Aliphatics	29	34	11.0	2360.00	207.11	3,000	5,000	20,000
C_{11}-C_{22} Aromatics	33	34	19.6	1060.00	218.28	1,000	3,000	10,000
C_5-C_8 Aliphatics	4	34	10.7	16.00	5.45	100	500	5,000
C_9-C_{12} Aliphatics	6	34	7.65	46.70	7.44	1,000	3,000	20,000
C_9-C_{10} Aromatics	5	34	16.800	56.40	8.32	100	500	5,000
Cyanide, Reactive	ND	6	ND	ND	ND			
Ignitability	ND	6	ND	ND	ND			
Lead, TCLP	8	18	0.56	86.80	6.58			
Mercury, TCLP	ND	4	ND	ND	ND			
pH	6	6	7.10	11.20	8.63			
Solids, Total	38	38	61.50	95.90	85.18			
Sulfide, Reactive	ND	3	ND	ND	ND			

Notes:
Bold Exceeds MCP RCS-1
Italicsed results exceed MCP RCS-2
ND = Not Detected
NA = Not Applicable
Asphalt Batch - In State or Out of State Asphalt Batching
MA Landfill - In State MA Landfill (Com 97-001)
Below RCS-1 - Disposal at Below RCS-1 Permitted Facility
Hazardous Waste - TSCA Bulk PCB Remediation Waste
Hazardous Waste - TSCA and RCRA Hazardous Waste

Table 4 - Groundwater Data from Temporary Wells

Location: Sample Name: Laboratory: Laboratory I.D.: Sample Date: Consultant: Method(s):	CAS#	Units	CYPHER ST., S. BOSTON TT-5/OW Alpha L1940180-03 09/04/2019 Tetra Tech	CYPHER ST. S. BOSTON TT-18/OW Alpha L1939976-05 09/03/2019 Tetra Tech	2014 RCGW-1 Standard (1)	2014 RCGW-2 Standard (1)	2014 MCP UCL (1)
Acetone	00067-64-1	ug/l		<10	6,300	50,000	100,000
Ethylbenzene	00100-41-4	ug/l		<1.0	700	5,000	100,000
Methyl tert-butyl ether	01634-04-4	ug/l		<10	70	5,000	100,000
Toluene	00108-88-3	ug/l		<1.0	1,000	40,000	100,000
p,m-Xylene	m: 00108-38-3;	ug/l		<2.0	NA	NA	NA
o-Xylene	00095-47-6	ug/l		<1.0	NA	NA	NA
Xylene (total)	01330-20-7	ug/l		<1.0	3,000	3,000	100,000
Total VOCs	NA	ug/l					
Acenaphthene	00083-32-9	ug/l		1.3	20	6,000	100,000
Acenaphthylene	00208-96-8	ug/l		0.2	30	40	100,000
Anthracene	00120-12-7	ug/l		0.4	30	30	600
Benzo(a)anthracene	00056-55-3	ug/l		0.5	1	1,000	10,000
Benzo(a)pyrene	00050-32-8	ug/l		0.4	0.2	500	5,000
Benzo(b)fluoranthene	00205-99-2	ug/l		0.5	1	400	4,000
Benzo(g,h,i)perylene	00191-24-2	ug/l		0.3	20	20	500
Benzo(k)fluoranthene	00207-08-9	ug/l		0.2	1	100	1,000
Chrysene	00218-01-9	ug/l		0.4	2	70	700
Fluoranthene	00206-44-0	ug/l		1.1	90	200	2,000
Fluorene	00086-73-7	ug/l		1.0	30	40	400
Indeno(1,2,3-cd)pyrene	00193-39-5	ug/l		0.2	0.5	100	1,000
Naphthalene	00091-20-3	ug/l		0.4	140	1,000	100,000
Phenanthrene	00085-01-8	ug/l		1.8	40	10,000	100,000
Pyrene	00129-00-0	ug/l		0.9	20	20	600
Total PAHs	NA	ug/l		9.4			
Arochlor 1016	12674-11-2	ug/l	<0.417	<0.250	0.5	5	100
Arochlor 1221	11104-28-2	ug/l	<0.417	<0.250	0.5	5	100
Arochlor 1232	11141-16-5	ug/l	<0.417	<0.250	0.5	5	100
Arochlor 1242	53469-21-9	ug/l	<0.417	<0.250	0.5	5	100
Arochlor 1248	12672-29-6	ug/l	<0.417	<0.250	0.5	5	100
Arochlor 1254	11097-69-1	ug/l	<0.417	<0.250	0.5	5	100
Arochlor 1260	11096-82-5	ug/l	<0.417	<0.200	0.5	5	100
Arochlor 1262	37324-23-5	ug/l	<0.417		0.5	5	100
Arochlor 1268	11100-14-4	ug/l	<0.417		0.5	5	100
Total Polychlorinated Biphenyls (PCBs)	01336-36-3	ug/l	ND	ND	0.5	5	100

Table 4 - Groundwater Data from Temporary Wells

Location:			CYPHER ST., S. BOSTON	CYPHER ST. S. BOSTON			
Sample Name:			TT-5/OW	TT-18/OW			
Laboratory:			Alpha	Alpha	2014	2014	2014
Laboratory I.D.:			L1940180-03	L1939976-05	RCGW-1	RCGW-2	MCP
Sample Date:			09/04/2019	09/03/2019	Standard	Standard	UCL
Consultant:	CAS#	Units	Tetra Tech	Tetra Tech	(1)	(1)	(1)
Method(s):							
Arsenic, Total	07440-38-2	ug/l	218	37.9	10	900	9,000
Barium, Total	07440-39-3	ug/l	1030		2,000	50,000	100,000
Beryllium, Total	07440-41-7	ug/l	14.0		4	200	2,000
Cadmium, Total	07440-43-9	ug/l	14.0	<0.2	4	4	50
Chromium, Total	07440-47-3	ug/l	413	1.65	100	300	3,000
Copper, Total	07440-50-8	ug/l		7.31	10,000	100,000	NA
Lead, Total	07439-92-1	ug/l	1370	43.7	10	10	150
Mercury, Total	07439-97-6	ug/l	3.50	<0.2	2	20	200
Nickel, Total	07440-02-0	ug/l	329	2.7	100	200	2,000
Vanadium, Total	07440-62-2	ug/l	509		30	4,000	40,000
Zinc, Total	07440-66-6	ug/l	1880	59	900	900	50,000
TPH, SGT-HEM	NA	ug/l		<4,000	200	5,000	50,000
C_9-C_{18} Aliphatics	NA	ug/l	<132		700	5,000	100,000
C_{19}-C_{36} Aliphatics	NA	ug/l	<132		14,000	50,000	100,000
C_{11}-C_{22} Aromatics	NA	ug/l	<132		200	5,000	100,000
Chloride	16887-00-6	mg/l		226			
Cyanide, Total	00057-12-5	mg/l		<0.005	30	30	2,000
Residual Chlorine	07782-44-7	mg/l		<20			
Phenolics, Total		mg/l		<30			
Iron, Total	07439-89-6	mg/l		28.3			
Nitrogen, Ammonia	07664-41-7	mg/l		9.33			
Total Suspended Solids	07440-44-0	mg/l		70			

Notes: - Samples Collected from Temporary Wells

ND = Not Detected

NA = Not Applicable

(1) Source: Massachusetts Department of Environmental Protection (DEP) 310 CMR 40.0000 The Massachusetts Contingency Plan, 4/25/2014

Date: 10/7/2019
Path: P:\4522\143-4522-13003\Assign 07 - Cypher St E St\Environmental Assessment\GIS\Figure 1 - Site Locus.mxd

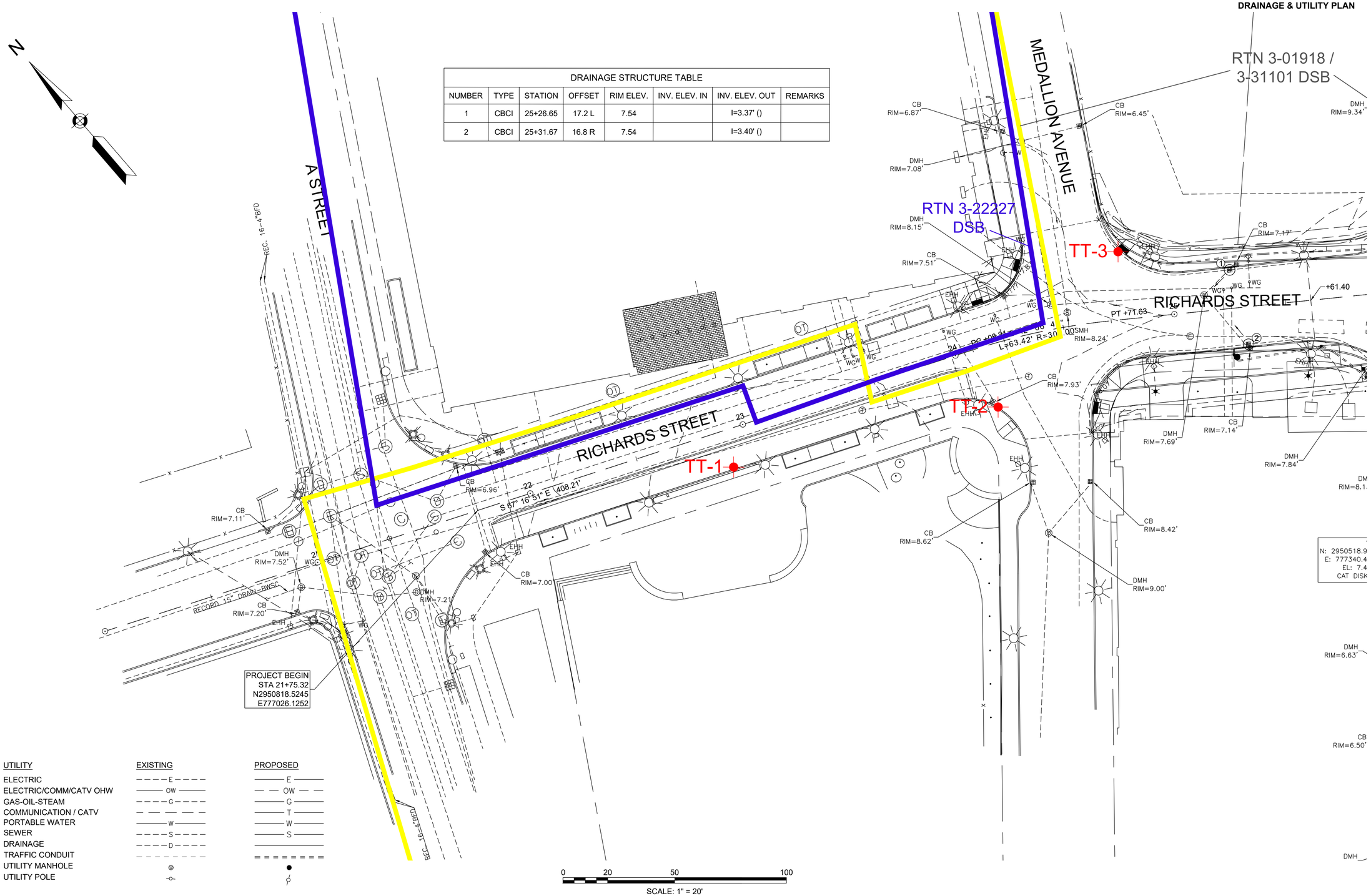
TETRA TECH www.tetratech.com 100 Nickerson Road Marlborough, MA 01752 Phone (508) 786-2200 Fax: (508) 786-2201	N 0 1,000 2,000 Feet	"Information obtained from the USGS Topographic Quadrangle of Boston South, Massachusetts, dated 1987" Source: MassGIS, USGS	MassDOT Cypher St. / Richards St. Improvements Project South Boston, MA Site Locus Map	Project No.: 143-4522-13003.07 Date: June 14, 2017 Designed By: JWF Figure 1

BOSTON
CYPHER STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	30	90
PROJECT FILE NO.	608807		

DRAINAGE & UTILITY PLAN

DRAINAGE STRUCTURE TABLE							
NUMBER	TYPE	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
1	CBCI	25+26.65	17.2 L	7.54		I=3.37' ()	
2	CBCI	25+31.67	16.8 R	7.54		I=3.40' ()	



UTILITY	EXISTING	PROPOSED
ELECTRIC	E	E
ELECTRIC/COMM/CATV OHW	OW	OW
GAS-OIL-STEAM	G	G
COMMUNICATION / CATV		T
PORTABLE WATER	W	W
SEWER	S	S
DRAINAGE	D	
TRAFFIC CONDUIT		
UTILITY MANHOLE		
UTILITY POLE		

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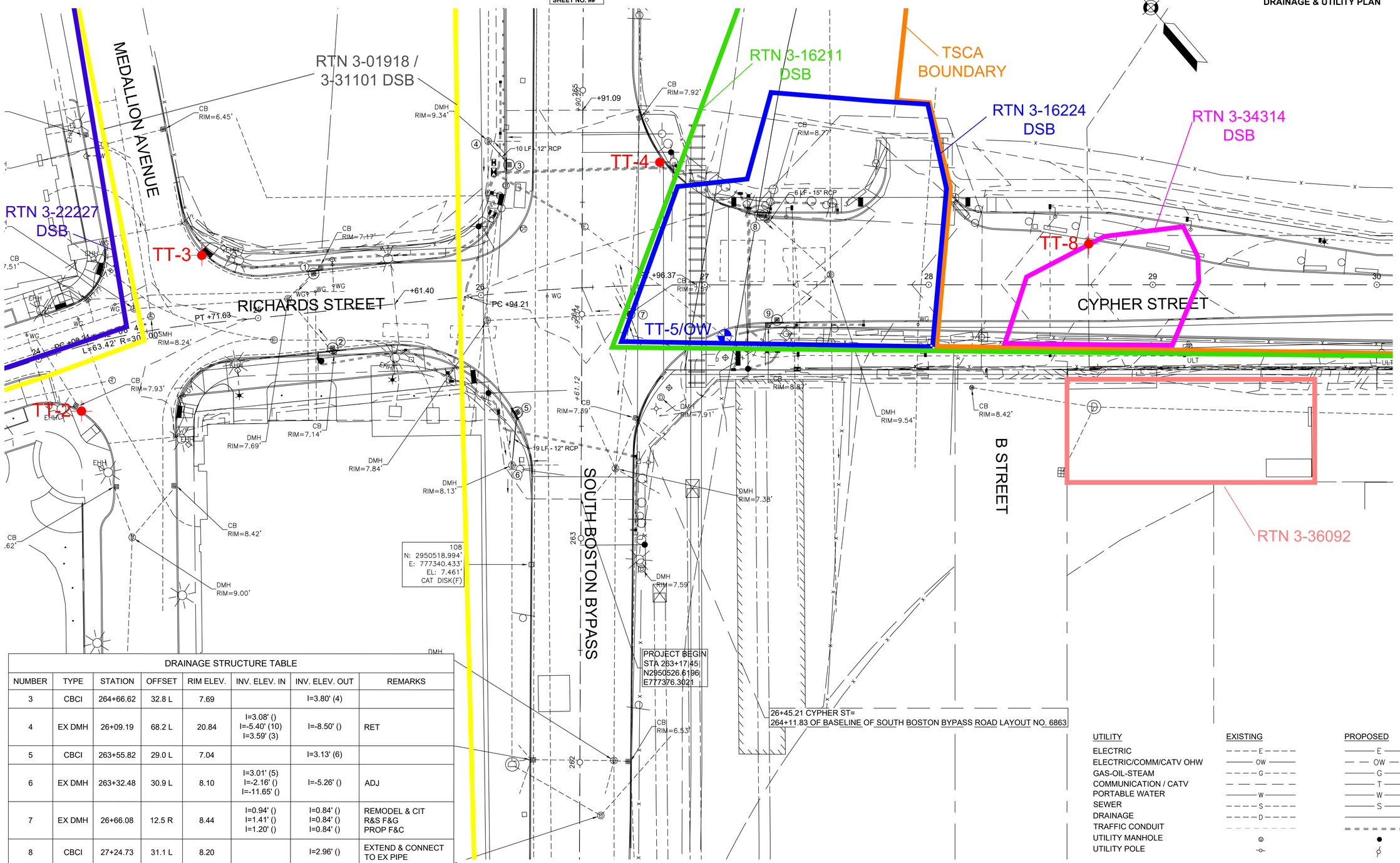
BOSTON
CYPHER STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	31	90
PROJECT FILE NO.	608807		

DRAINAGE & UTILITY PLAN



DRAINAGE STRUCTURE TABLE							
NUMBER	TYPE	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
3	CBCI	264+66.62	32.8 L	7.69		I=3.80' (4)	
4	EX DMH	26+09.19	68.2 L	20.84	I=3.08' () I=-5.40' (10) I=3.59' (3)	I=-8.50' ()	RET
5	CBCI	263+55.82	29.0 L	7.04		I=3.13' (6)	
6	EX DMH	263+32.48	30.9 L	8.10	I=3.01' (5) I=-2.16' () I=-11.65' ()	I=-5.26' ()	ADJ
7	EX DMH	26+66.08	12.5 R	8.44	I=0.94' () I=1.41' () I=1.20' ()	I=0.84' () I=0.84' () I=0.84' ()	REMODEL & CIT R&S F&G PROP F&C
8	CBCI	27+24.73	31.1 L	8.20		I=2.96' ()	EXTEND & CONNECT TO EX PIPE
9	CBCI	27+32.28	15.7 R	8.60		I=3.89' ()	CONNECT TO EX PIPE

UTILITY	EXISTING	PROPOSED
ELECTRIC	E	E
ELECTRIC/COMM/CATV OHW	OW	OW
GAS-OIL-STEAM	G	G
COMMUNICATION / CATV		T
PORTABLE WATER	W	W
SEWER	S	S
DRAINAGE	D	
TRAFFIC CONDUIT		
UTILITY MANHOLE		
UTILITY POLE		

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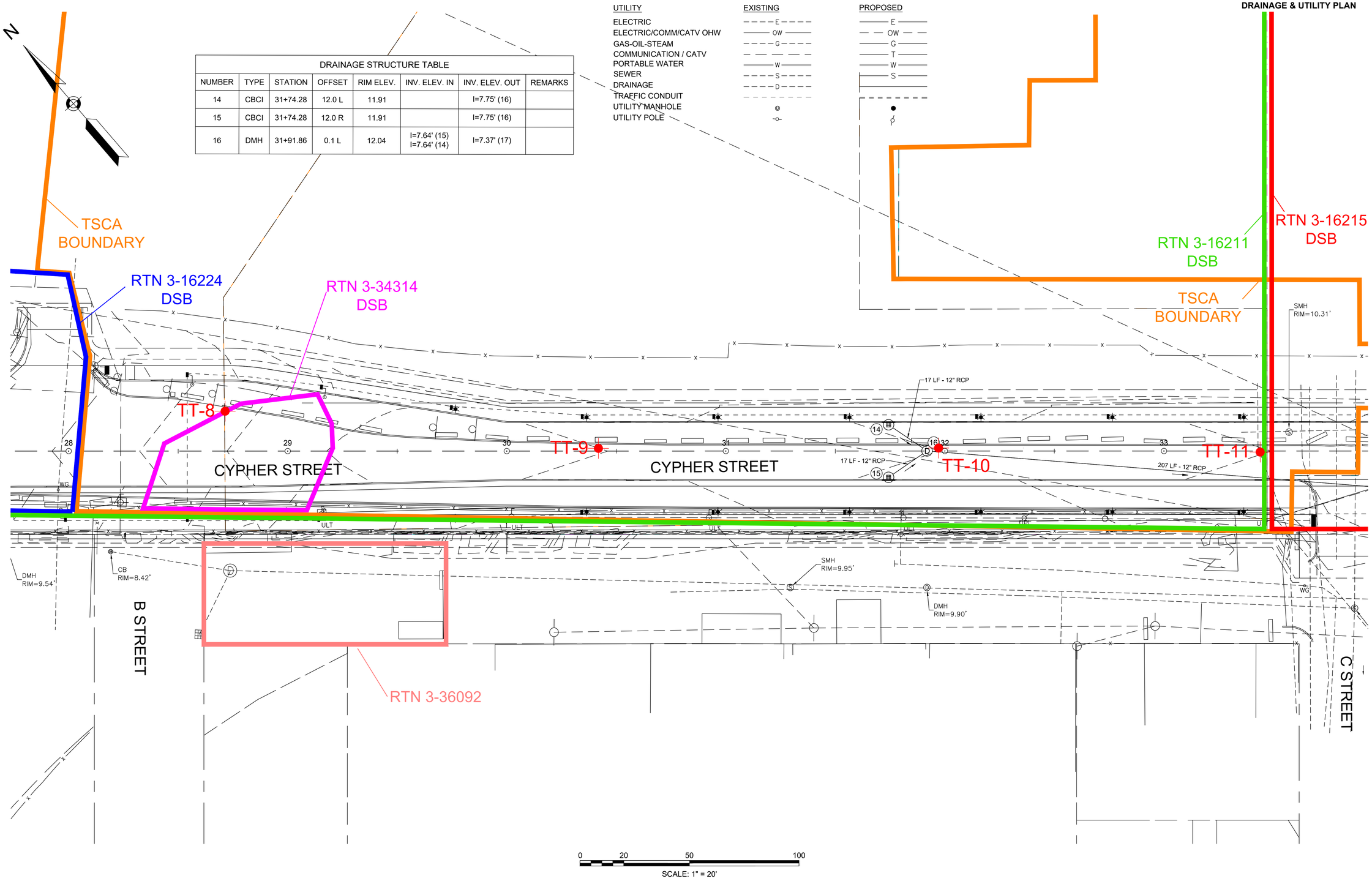
BOSTON
CYPHER STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	33	90
PROJECT FILE NO.	608807		

DRAINAGE & UTILITY PLAN

UTILITY	EXISTING	PROPOSED
ELECTRIC	E	E
ELECTRIC/COMM/CATV OHW	OW	OW
GAS-OIL-STEAM	G	G
COMMUNICATION / CATV		T
PORTABLE WATER	W	W
SEWER	S	S
DRAINAGE	D	
TRAFFIC CONDUIT		
UTILITY MANHOLE		
UTILITY POLE		

DRAINAGE STRUCTURE TABLE							
NUMBER	TYPE	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
14	CBCI	31+74.28	12.0 L	11.91		I=7.75' (16)	
15	CBCI	31+74.28	12.0 R	11.91		I=7.75' (16)	
16	DMH	31+91.86	0.1 L	12.04	I=7.64' (15) I=7.64' (14)	I=7.37' (17)	



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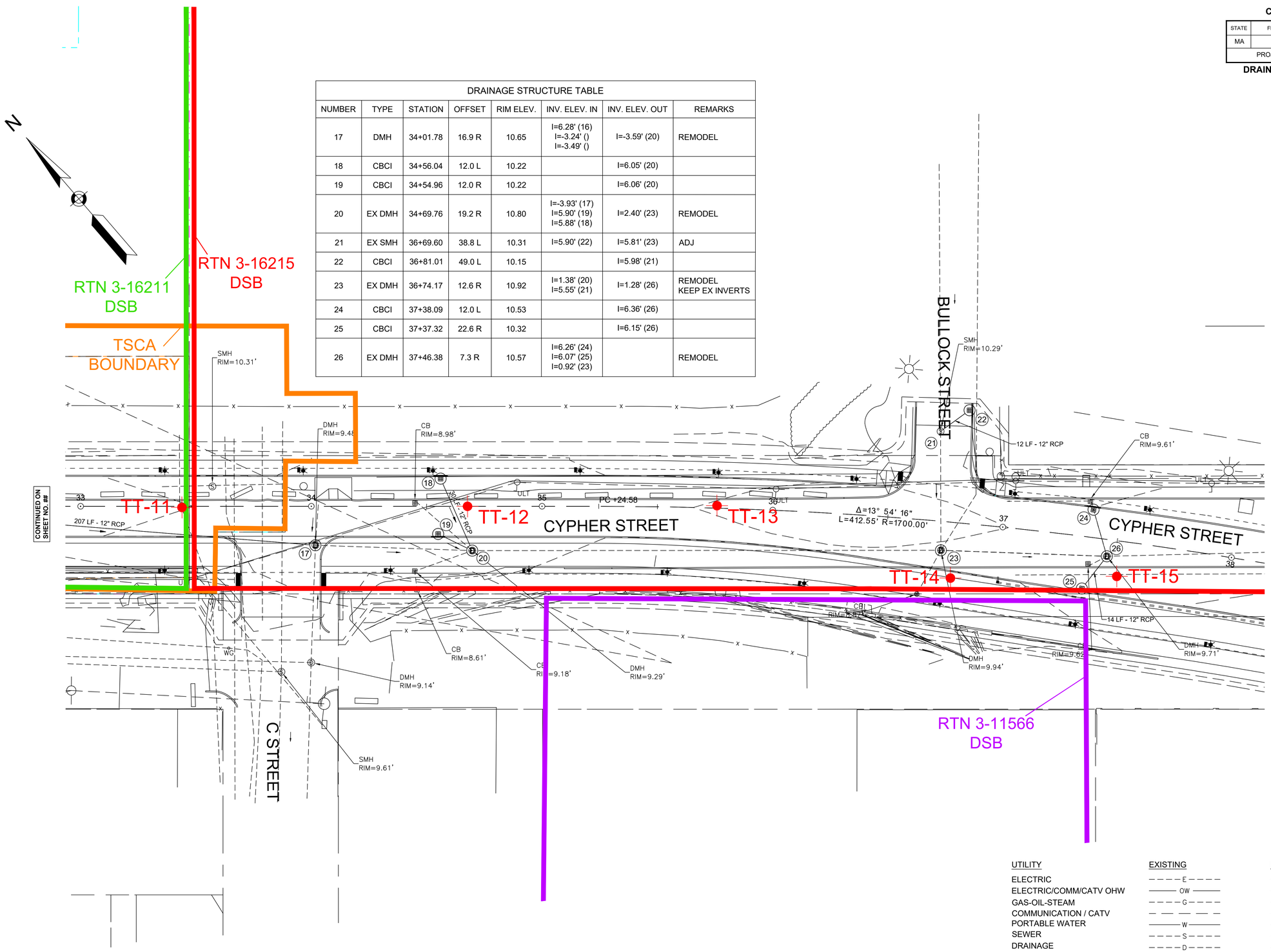
BOSTON
CYPHER STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	34	90
PROJECT FILE NO.	608807		

DRAINAGE & UTILITY PLAN

DRAINAGE STRUCTURE TABLE							
NUMBER	TYPE	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
17	DMH	34+01.78	16.9 R	10.65	I=6.28' (16) I=-3.24' () I=-3.49' ()	I=-3.59' (20)	REMODEL
18	CBCI	34+56.04	12.0 L	10.22		I=6.05' (20)	
19	CBCI	34+54.96	12.0 R	10.22		I=6.06' (20)	
20	EX DMH	34+69.76	19.2 R	10.80	I=-3.93' (17) I=5.90' (19) I=5.88' (18)	I=2.40' (23)	REMODEL
21	EX SMH	36+69.60	38.8 L	10.31	I=5.90' (22)	I=5.81' (23)	ADJ
22	CBCI	36+81.01	49.0 L	10.15		I=5.98' (21)	
23	EX DMH	36+74.17	12.6 R	10.92	I=1.38' (20) I=5.55' (21)	I=1.28' (26)	REMODEL KEEP EX INVERTS
24	CBCI	37+38.09	12.0 L	10.53		I=6.36' (26)	
25	CBCI	37+37.32	22.6 R	10.32		I=6.15' (26)	
26	EX DMH	37+46.38	7.3 R	10.57	I=6.26' (24) I=6.07' (25) I=0.92' (23)		REMODEL



UTILITY	EXISTING	PROPOSED
ELECTRIC	E	E
ELECTRIC/COMM/CATV OHW	OW	OW
GAS-OIL-STEAM	G	G
COMMUNICATION / CATV		T
PORTABLE WATER	W	W
SEWER	S	S
DRAINAGE	D	
TRAFFIC CONDUIT		
UTILITY MANHOLE		
UTILITY POLE		

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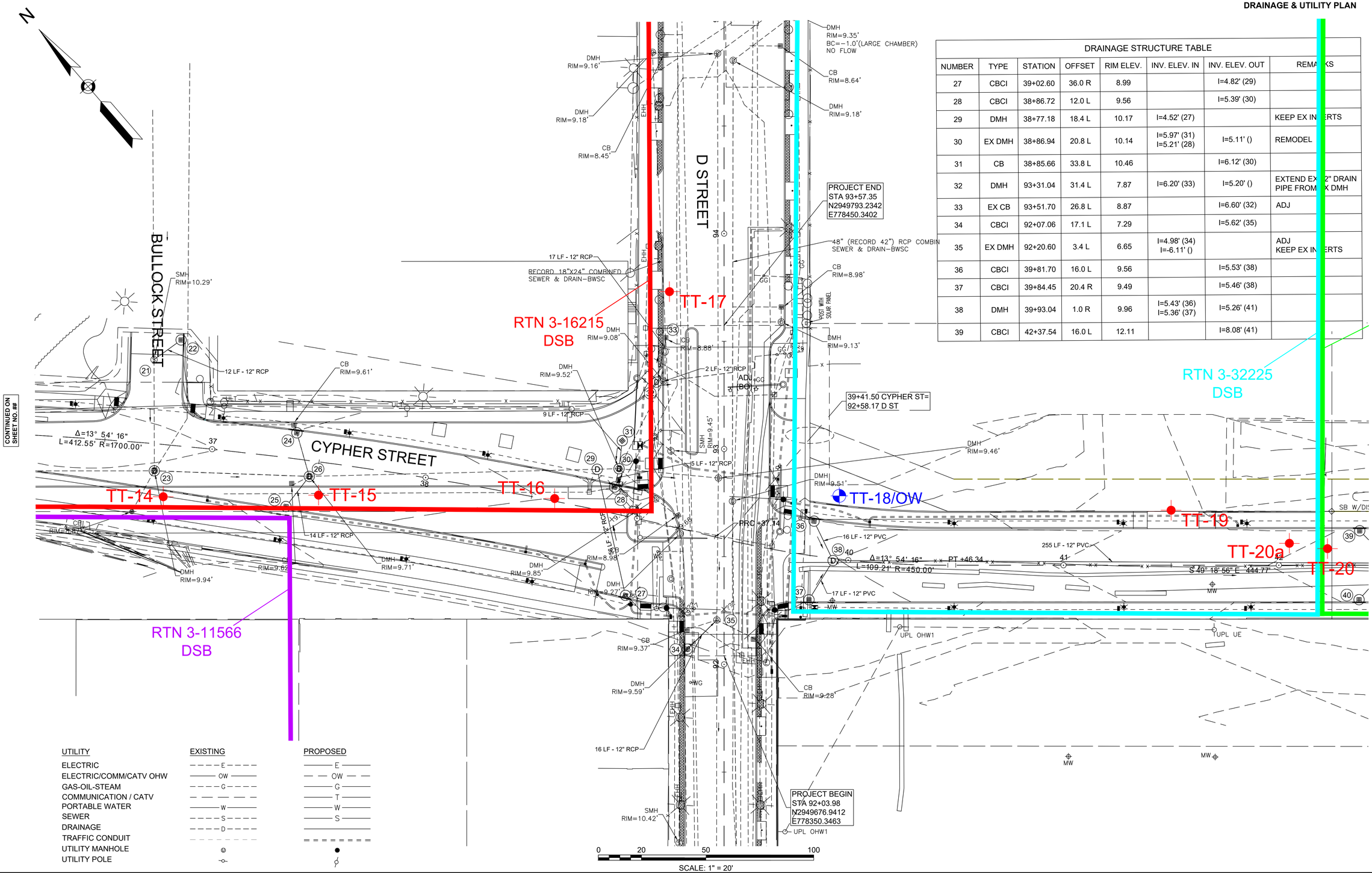
BOSTON
CYPHER STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	35	90
PROJECT FILE NO.	608807		

DRAINAGE & UTILITY PLAN



UTILITY	EXISTING	PROPOSED
ELECTRIC	E	E
ELECTRIC/COMM/CATV OHW	OW	OW
GAS-OIL-STEAM	G	G
COMMUNICATION / CATV		T
PORTABLE WATER	W	W
SEWER	S	S
DRAINAGE	D	
TRAFFIC CONDUIT		
UTILITY MANHOLE		
UTILITY POLE		

DRAINAGE STRUCTURE TABLE

NUMBER	TYPE	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
27	CBCI	39+02.60	36.0 R	8.99		I=4.82' (29)	
28	CBCI	38+86.72	12.0 L	9.56		I=5.39' (30)	
29	DMH	38+77.18	18.4 L	10.17	I=4.52' (27)		KEEP EX INVERTS
30	EX DMH	38+86.94	20.8 L	10.14	I=5.97' (31) I=5.21' (28)	I=5.11' ()	REMODEL
31	CB	38+85.66	33.8 L	10.46		I=6.12' (30)	
32	DMH	93+31.04	31.4 L	7.87	I=6.20' (33)	I=5.20' ()	EXTEND EX 12" DRAIN PIPE FROM EX DMH
33	EX CB	93+51.70	26.8 L	8.87		I=6.60' (32)	ADJ
34	CBCI	92+07.06	17.1 L	7.29		I=5.62' (35)	
35	EX DMH	92+20.60	3.4 L	6.65	I=4.98' (34) I=-6.11' ()		ADJ KEEP EX INVERTS
36	CBCI	39+81.70	16.0 L	9.56		I=5.53' (38)	
37	CBCI	39+84.45	20.4 R	9.49		I=5.46' (38)	
38	DMH	39+93.04	1.0 R	9.96	I=5.43' (36) I=5.36' (37)	I=5.26' (41)	
39	CBCI	42+37.54	16.0 L	12.11		I=8.08' (41)	

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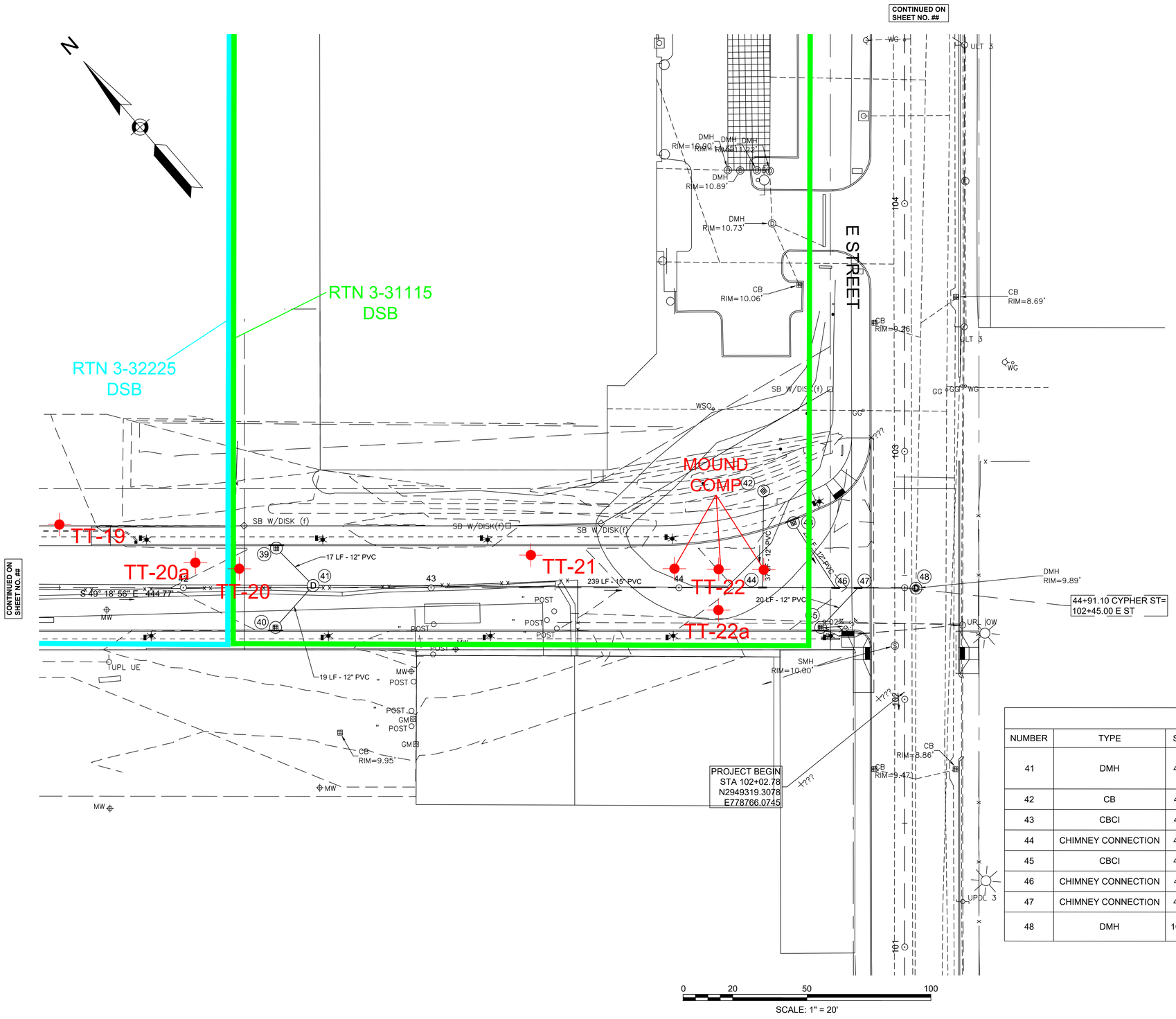
BOSTON
CYPHER STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	36	90
PROJECT FILE NO.	608807		

DRAINAGE & UTILITY PLAN



UTILITY	EXISTING	PROPOSED
ELECTRIC	E	E
ELECTRIC/COMM/CATV OHW	OW	OW
GAS-OIL-STEAM	G	G
COMMUNICATION / CATV		T
PORTABLE WATER	W	W
SEWER	S	S
DRAINAGE	D	
TRAFFIC CONDUIT		
UTILITY MANHOLE		
UTILITY POLE		

0 20 50 100
SCALE: 1" = 20'

DRAINAGE STRUCTURE TABLE

NUMBER	TYPE	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
41	DMH	42+52.40	1.0 L	12.55	I=3.96' (38) I=7.98' (39) I=7.97' (40)	I=2.58' (48)	
42	CB	44+34.21	39.1 L	10.59		I=6.40' (44)	
43	CBCI	44+46.21	26.2 L	10.80		I=6.57' (46)	
44	CHIMNEY CONNECTION	44+33.72	0.1 L	6.32	I=4.80' (42)		
45	CBCI	44+57.20	16.0 R	9.75		I=5.73' (47)	
46	CHIMNEY CONNECTION	44+63.21	0.0 R	6.60	I=5.07' (43)		
47	CHIMNEY CONNECTION	44+72.28	0.1 R	7.14	I=5.62' (45)		
48	DMH	102+44.82	4.6 R	9.90	I=1.36' (41)		ADJ KEEP EX INVERTS

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Appendix A
Limitations

Limitations

1. The observations described in this report were made under the conditions stated therein. The conclusions presented in the report were based solely upon the services described therein, and not on scientific tasks or procedures beyond the scope of described services or the time and budgetary constraints imposed by the CLIENT. The work described in this report was carried out in accordance with the Terms and Conditions in our contract.

2. In preparing this report, ENGINEER has relied on certain information provided by state and local officials and other parties referenced therein, and on information contained in the files of state and/or local agencies available to ENGINEER at the time of the site assessment. Although there may have been some degree of overlap in the information provided by these various sources, ENGINEER did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of this site assessment.

3. Observations were made of the Site and of structures on the Site as indicated within the report. Where access to portions of the Site or to structures on the Site was unavailable or limited, ENGINEER renders no opinion as to the presence of hazardous materials or oil, or to the presence of indirect evidence relating to hazardous material or oil, in that portion of the Site or structure. In addition, ENGINEER renders no opinion as to the presence of hazardous material or oil, or the presence of indirect evidence relating to hazardous material or oil, where direct observation of the interior walls, floor, or ceiling of a structure on a Site was obstructed by objects or coverings on or over these surfaces.

4. ENGINEER did not perform testing or analyses to determine the presence or concentration of asbestos at the Site or in the environment at the Site.

5. It is ENGINEER's understanding that the purpose of this report is to assess the physical characteristics of the subject Site with respect to the presence on the Site of hazardous material or oil. This stated purpose has been a significant factor in determining the scope and level of services provided for in the Agreement. Should the purpose for which the Report is to be used or the proposed use of the site(s) change, this Report is no longer valid and use of this Report by CLIENT or others without ENGINEER's review and written authorization shall be at the user's sole risk. Should ENGINEER be required to review the Report after its date of submission, ENGINEER shall be entitled to additional compensation at then existing rates or such other terms as agreed between ENGINEER and the CLIENT.

6. The conclusions and recommendations contained in this report are based in part, where noted, upon the data obtained from a limited number of soil samples obtained from widely spaced subsurface explorations. The nature and extent of variations between these explorations may not become evident until further exploration. If variations or other latent conditions then appear evident, it will be necessary to reevaluate the conclusions and recommendations of this report.

7. Any water level readings made in test pits, borings, and/or observation wells were made at the times and under the conditions stated on the report. However, it must be noted that fluctuations in the level of groundwater may occur due to variations in rainfall and other factors different from those prevailing at the time measurements were made.

8. Except as noted within the text of the report, no quantitative laboratory testing was performed as part of the site assessment. Where such analyses have been conducted by an outside laboratory,

ENGINEER has relied upon the data provided and has not conducted an independent evaluation of the reliability of these data.

9. The conclusions and recommendations contained in this report are based in part, where noted, upon various types of chemical data and are contingent upon their validity. These data have been reviewed and interpretations made in the report. As indicated within the report, some of these data may be preliminary screening level data and should be confirmed with quantitative analyses if more specific information is necessary. Moreover, it should be noted that variations in the types and concentrations of contaminants and variations in their flow paths may occur due to seasonal water table fluctuations, past disposal practices, the passage of time, and other factors. Should additional chemical data become available in the future, these data should be reviewed, and the conclusions and recommendations presented herein modified accordingly.

10. Chemical analyses have been performed for specific constituents during the course of this site assessment, as described in the text. However, it should be noted that additional chemical constituents not searched for during the current study may be present in soil and/or groundwater at the Site.

11. This Report was prepared for the exclusive use of the CLIENT. No other party is entitled to rely on the conclusions, observations, specifications, or data contained therein without the express written consent of ENGINEER.

12. The observations and conclusions described in this Report are based solely on the Scope of Services provided pursuant to the Agreement. ENGINEER has not performed any additional observations, investigations, studies, or testing not specifically stated therein. ENGINEER shall not be liable for the existence of any condition, the discovery of which required the performance of services not authorized under the Agreement.

13. The passage of time may result in significant changes in technology, economic conditions, or site variations that would render the Report inaccurate. Accordingly, neither the CLIENT, nor any other party, shall rely on the information or conclusions contained in this Report after six months from its date of submission without the express written consent of ENGINEER. Reliance on the Report after such period of time shall be at the user's sole risk. Should ENGINEER be required to review the Report after six months from its date of submission, ENGINEER shall be entitled to additional compensation at then existing rates or such other terms as may be agreed upon between ENGINEER and the CLIENT.

14. ENGINEER has endeavored to perform its services based upon engineering practices accepted at the time they were performed. ENGINEER makes no other representations, express or implied, regarding the information, data, analysis, calculations, and conclusions contained herein.

15. The services provided by ENGINEER do not include legal advice. Legal counsel should be consulted regarding interpretation of applicable and relevant federal, state, and local statutes and regulations and other legal matters.

Appendix B
Boring Logs and Temporary Monitoring Well Completion Details

BORING NUMBER TT-1

TETRA TECH

CLIENT Nitsch Engineering
PROJECT NAME Cypher Street South Boston Improvements
PROJECT NUMBER 143-278997-19001
PROJECT LOCATION Boston, MA
DATE STARTED 8/28/19 **COMPLETED** 8/28/19
GROUND ELEVATION **HOLE SIZE** 4"
DRILLING CONTRACTOR New England Boring Contractors
GROUND WATER LEVELS:
DRILLING METHOD Vacuum Cleared
AT TIME OF DRILLING 4.5 ft
LOGGED BY JWF **CHECKED BY** WCP/MEB
AT END OF DRILLING ---
NOTES Soil boring completed to 4.5'
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0				ASPHALT (0.5)	
	AU S-1	100		Tan gravelly fine SAND, some silt (0.8); Dark brown silty fine to coarse SAND, some gravel (2.5)	0.7
2.5	AU S-2	100		Dark brown silty fine to coarse SAND, some gravel, possibly little fine fill debris, slight odor, wet at 4.5' (4.5)	1.7
				Bottom of hole at 4.5 feet.	

BORING NUMBER TT-2

TETRA TECH

CLIENT Nitsch Engineering
PROJECT NAME Cypher Street South Boston Improvements
PROJECT NUMBER 143-278997-19001
PROJECT LOCATION Boston, MA
DATE STARTED 8/28/19 **COMPLETED** 8/28/19
GROUND ELEVATION ____ **HOLE SIZE** 4"
DRILLING CONTRACTOR New England Boring Contractors
GROUND WATER LEVELS:
DRILLING METHOD Vacuum Cleared
AT TIME OF DRILLING ---
LOGGED BY JWF **CHECKED BY** WCP/MEB
AT END OF DRILLING ---
NOTES Soil boring completed to 4.75'
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0				ASPHALT (0.0–0.8)	
	AU S-1	100		Tan gravelly fine SAND, some silt (0.8–0.9); Dark brown silty fine to coarse SAND, some gravel (0.9–2.5)	0.6
2.5	AU S-2	100		Dark brown silty fine to coarse SAND, some gravel, possibly little fine fill debris, petroleum odor at bottom half (2.5–4.8)	20.5
				Bottom of hole at 4.8 feet.	

BORING NUMBER TT-3

TETRA TECH

CLIENT Nitsch Engineering
PROJECT NAME Cypher Street South Boston Improvements
PROJECT NUMBER 143-278997-19001
PROJECT LOCATION Boston, MA
DATE STARTED 8/28/19 **COMPLETED** 8/28/19
GROUND ELEVATION ____ **HOLE SIZE** 4"
DRILLING CONTRACTOR New England Boring Contractors
GROUND WATER LEVELS:
DRILLING METHOD Vacuum Cleared
AT TIME OF DRILLING ---
LOGGED BY JWF **CHECKED BY** WCP/MEB
AT END OF DRILLING ---
NOTES Soil boring completed to 1.5'
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0			Multiple attempts to pass 1.5' bgs and encounter solid "concrete structure" with some wood in each hole, refusal		ASPHALT (0.8)	
	AU S-1	100			FILL, tan gravelly sand, well graded, end of boring at 1.5' bgs due to obstruction (1.5)	3.4
					1.8 CONCRETE	
					Bottom of hole at 1.5 feet.	

BORING NUMBER TT-4

TETRA TECH

CLIENT Nitsch Engineering
PROJECT NAME Cypher Street South Boston Improvements
PROJECT NUMBER 143-278997-19001
PROJECT LOCATION Boston, MA
DATE STARTED 9/4/19 **COMPLETED** 9/4/19
GROUND ELEVATION ____ **HOLE SIZE** 4"
DRILLING CONTRACTOR New England Boring Contractors
GROUND WATER LEVELS:
DRILLING METHOD Drive and Wash
AT TIME OF DRILLING 9.0 ft
LOGGED BY JWF **CHECKED BY** WCP/MEB
AT END OF DRILLING ---
NOTES Soil boring completed to 31'
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0				Borehole previously cleared to 4' bgs by others, reportedly asphalt over ballast stone		0.8 ASPHALT BALLAST STONE 4.0	
5	SS S-1	46	7-7-5-5 (12)			Dark brown sandy SILT, little coarse sand and gravel, dry, no odor 6.0	
	SS S-2	50	8-5-7-11 (12)			Dark brown to light brown sandy SILT, little gravel, trace fill debris, moist, no odor 8.0	
10	SS S-3	21	22-12-12-11 (24)			Brown well sorted fine to medium SAND, little silt, trace gravel, wet, no odor 10.0	NA
	SS S-4	38	12-10-9-13 (19)			Brown medium SAND, some fine sand, trace silt and gravel, wet, no odor 12.0	
	SS S-5	42	18-10-9-10 (19)			Brown medium SAND, some coarse sand, little fine sand and silt, wet, no odor 14.0	
15	SS S-6	25	18-11-18-20 (29)			Brown medium SAND, some coarse sand and gravel, little fine sand and silt, wet, no odor 16.0	
	SS S-7	21	30-15-11-15 (26)			Gray silty poorly sorted fine to coarse SAND, little gravel, wet, no odor 18.0	
20	SS S-8	0	37-25-10-9 (35)			No recovery 20.0	
	SS S-9	29	8-6-8-8 (14)			Gray poorly sorted silty fine to coarse SAND, some gravel, wet, no odor 22.0	
	SS S-10	71	2-1-2-3 (3)			Light brown to gray sandy SILT, plastic, little fine sand, some shell debris, wet, oganic odor 24.0	
25	SS S-11	17	1-0-1-1 (1)			Light brown to gray sandy SILT, plastic, little fine sand, wet, oganic odor 29.0	
30	SS S-12	100	0-0-1-3 (1)			Gray clayey SILT, plastic 31.0	
						Bottom of hole at 31.0 feet.	

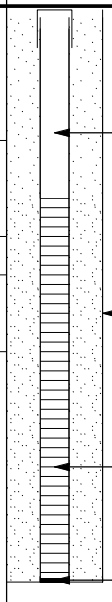
WELL NUMBER TT-5

TETRA TECH

CLIENT Nitsch Engineering
PROJECT NAME Cypher Street South Boston Improvements
PROJECT NUMBER 143-278997-19001
PROJECT LOCATION Boston, MA
DATE STARTED 8/29/19 **COMPLETED** 9/4/19
GROUND ELEVATION **HOLE SIZE** 4"
DRILLING CONTRACTOR New England Boring Contractors
GROUND WATER LEVELS:
DRILLING METHOD Drive and Wash
AT TIME OF DRILLING 9.0 ft
LOGGED BY JWF **CHECKED BY** WCP/MEB
AT END OF DRILLING ---
NOTES Sol boring completed to 31' & Temp MW to 15'
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0						0.5 ASPHALT BALLAST STONE	
						3.5	
						3.6 GEOTEXTILE FABRIC	
5	AU S-1	100				Brown silty fine SAND, some medium to coarse sand and gravel, dry	0.1
						7.0	
	SS S-2	21	4-1-1-1 (2)	Collect 7-9' sample with 3" split spoon due to little recovery in 2" split spoon		Dark brown FILL, brick, ash, in silty sand matrix, slight odor, moist	4.6
						9.0	
10	SS S-3	4	1-0-0-0 (0)			Black sandy ORGANICS, moist to wet, organic odor	
						11.0	
	SS S-4	58	0-0-1-2 (1)	Install temporary well at 15' bgs to collect grab water sample, remove well after sampling and backfill to grade		Black sandy ORGANICS (4"), over gray SILT, plastic, trace fine sand with wood and organics, moist	
						14.0	
15	SS S-5	100	0-0-0-1 (0)			Gray SILT, trace fine sand and organics, plastic, moist, organic odor	
20	SS S-6	58	1-0-0-0 (0)				
25	SS S-7	100	0-0-0-0 (0)				
						29.0	
30	SS S-8	100	1-0-0-0 (0)			Gray silty CLAY, some shell fragments	
						31.0	
						Bottom of hole at 31.0 feet.	

WELL DIAGRAM



BORING NUMBER TT-8

TETRA TECH

CLIENT Nitsch Engineering
PROJECT NAME Cypher Street South Boston Improvements
PROJECT NUMBER 143-278997-19001
PROJECT LOCATION Boston, MA
DATE STARTED 8/30/19 **COMPLETED** 8/30/19
GROUND ELEVATION ____ **HOLE SIZE** 4"
DRILLING CONTRACTOR New England Boring Contractors
GROUND WATER LEVELS:
DRILLING METHOD Vacuum Cleared
AT TIME OF DRILLING ---
LOGGED BY JWF **CHECKED BY** WCP/MEB
AT END OF DRILLING ---
NOTES Soil boring completed to 4'
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0				ASPHALT 0.8	
	AU S-1	100		Fine tan SAND, some silt, little gravel and medium to coarse sand 1.3	0.7
2.5	AU S-2	100		Dense, "weathered asphalt like" material, a solid aggregate of sand and gravel in a dark gray matrix, material becomes friable under vacuum excavation techniques 3.5	0.7
				Bottom of hole at 4.0 feet.	

BORING NUMBER TT-9

TETRA TECH

CLIENT Nitsch Engineering
PROJECT NAME Cypher Street South Boston Improvements
PROJECT NUMBER 143-278997-19001
PROJECT LOCATION Boston, MA
DATE STARTED 8/30/19 **COMPLETED** 8/30/19
GROUND ELEVATION ---- **HOLE SIZE** 4"
DRILLING CONTRACTOR New England Boring Contractors
GROUND WATER LEVELS:
DRILLING METHOD Vacuum Cleared
AT TIME OF DRILLING ---
LOGGED BY JWF **CHECKED BY** WCP/MEB
AT END OF DRILLING ---
NOTES Soil boring completed to 5'
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0				ASPHALT (0.0–0.8)	
	AU S-1	100		Tan gravelly SAND, dense (0.8–1.5)	0.4
2.5	AU S-2	25		Red to black "concrete like" material, rock and/or debris in gray sandy matrix, some loose brick and glass debris (1.5–4.0)	0.3
	AU S-3	100		Dark gray FILL, ash, brick, silty sand and gravel (4.0–5.0)	0.3
5.0				Bottom of hole at 5.0 feet.	

BORING NUMBER TT-10

TETRA TECH

CLIENT Nitsch Engineering
PROJECT NAME Cypher Street South Boston Improvements
PROJECT NUMBER 143-278997-19001
PROJECT LOCATION Boston, MA
DATE STARTED 8/30/19 **COMPLETED** 9/5/19
GROUND ELEVATION **HOLE SIZE** 4"
DRILLING CONTRACTOR New England Boring Contractors
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING 8.5 ft
LOGGED BY JWF **CHECKED BY** WCP/MEB
AT END OF DRILLING ---
NOTES Soil boring completed to 10'
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0						ASPHALT	
				Can not recover samples with hand tools, boring clearance reduces in diameter with depth due to jackhammer technique to get through very thick "concrete like" material		2.0 Red to black "concrete like" material, rock and/or debris in gray sandy matrix, some loose brick and glass debris	
2.5							
5.0						5.0	
	SS S-1	0	2-2-2-2 (4)	Overdrive 3" split spoon from approximately 5-8' bgs to try and collect sample, little recovery, no 2" split spoon recovery		5.0 GEOTEXTILE FABRIC Black FILL, cobbles, ash, brick, glass in sandy matrix	NA
7.5						8.0	
	SS S-2	42	1-1-1-1 (2)			Gray to red gray FILL, silty sand matrix with some brick, ash, glass, some gravel, wet	NA
10.0						10.0	
						Bottom of hole at 10.0 feet.	

BORING NUMBER TT-11

TETRA TECH

CLIENT Nitsch Engineering
PROJECT NAME Cypher Street South Boston Improvements
PROJECT NUMBER 143-278997-19001
PROJECT LOCATION Boston, MA
DATE STARTED 8/29/19 **COMPLETED** 8/29/19
GROUND ELEVATION ____ **HOLE SIZE** 4"
DRILLING CONTRACTOR New England Boring Contractors
GROUND WATER LEVELS:
DRILLING METHOD Vacuum Cleared
AT TIME OF DRILLING ---
LOGGED BY JWF **CHECKED BY** WCP/MEB
AT END OF DRILLING ---
NOTES Soil boring completed to 4.25'
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0				ASPHALT (1.3)	
	AU S-1	100		Light brown fine to medium SAND, little silt (2.3)	0.0
2.5	AU S-2	100		Dark gray fine to coarse SAND, some silt, little fine gravel, pieces of glass, brick, and ash, dry (4.3)	0.0
				Bottom of hole at 4.3 feet.	

BORING NUMBER TT-12

TETRA TECH

CLIENT Nitsch Engineering
PROJECT NAME Cypher Street South Boston Improvements
PROJECT NUMBER 143-278997-19001
PROJECT LOCATION Boston, MA
DATE STARTED 8/27/19 **COMPLETED** 8/27/19
GROUND ELEVATION ---- **HOLE SIZE** 4"
DRILLING CONTRACTOR New England Boring Contractors
GROUND WATER LEVELS:
DRILLING METHOD Vacuum Cleared
AT TIME OF DRILLING ---
LOGGED BY JWF **CHECKED BY** WCP/MEB
AT END OF DRILLING ---
NOTES Soil boring completed to 6'
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0				ASPHALT	
				1.3 COBBLESTONE	
				2.3	
2.5	AU S-1	100		Black FILL, ash, coal ash, fine glass, in black silty fine to medium sand matrix, dry	0.2
				4.5	
5.0	AU S-2	100		Tan to black FILL, ash, coal ash, brick, fine glass, in gray silty fine to medium sand matrix, dry	0.9
				6.0	
				Bottom of hole at 6.0 feet.	

BORING NUMBER TT-13

TETRA TECH

CLIENT Nitsch Engineering
PROJECT NAME Cypher Street South Boston Improvements
PROJECT NUMBER 143-278997-19001
PROJECT LOCATION Boston, MA
DATE STARTED 8/26/19 **COMPLETED** 8/26/19
GROUND ELEVATION ---- **HOLE SIZE** 4"
DRILLING CONTRACTOR New England Boring Contractors
GROUND WATER LEVELS:
DRILLING METHOD Vacuum Cleared
AT TIME OF DRILLING ---
LOGGED BY JWF **CHECKED BY** WCP/MEB
AT END OF DRILLING ---
NOTES Soil boring completed to 4.75'
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0				ASPHALT	
				1.8	
				2.0 Dense grade road base	
2.5	AU S-1	100		Black silty find SAND, some medium sand and rounded gravel, railroad tie encountered obstructing half of borehole	
				3.0 Black grading to brown silty fine SAND, some medium sand and rounded gravel	0.2
	AU S-2	100		4.8	1.6
				Bottom of hole at 4.8 feet.	

BORING NUMBER TT-14

TETRA TECH

CLIENT Nitsch Engineering
PROJECT NAME Cypher Street South Boston Improvements
PROJECT NUMBER 143-278997-19001
PROJECT LOCATION Boston, MA
DATE STARTED 8/26/19 **COMPLETED** 9/5/19
GROUND ELEVATION **HOLE SIZE** 4"
DRILLING CONTRACTOR New England Boring Contractors
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING 9.0 ft
LOGGED BY JWF **CHECKED BY** WCP/MEB
AT END OF DRILLING ---
NOTES Soil boring completed to 10'
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0	AU S-1	100			0.2 GRAVEL Dark brown to gray fine SAND, some medium to coarse sand, little gravel, dry 2.0	0.2
2.5					Dark brown to gray/black silty find to medium SAND, little gravel and fill material, brick, ash, and glass, dry	
5.0	AU S-2	100				0.2
7.5					8.0	
10.0	SS S-3	100	1-3-3-1 (6)		Black and gray FILL, clayey sand matrix with ash, some gravel, little brick and glass, petroleum odor, wet 10.0	27.4
					Bottom of hole at 10.0 feet.	

GENERAL BH / TP / WELL 2019 BORING LOGS.GPJ GINT STD US LAB.GDT 10/8/19

BORING NUMBER TT-15

TETRA TECH

CLIENT Nitsch Engineering
PROJECT NAME Cypher Street South Boston Improvements
PROJECT NUMBER 143-278997-19001
PROJECT LOCATION Boston, MA
DATE STARTED 8/26/19 **COMPLETED** 9/3/19
GROUND ELEVATION **HOLE SIZE** 4"
DRILLING CONTRACTOR New England Boring Contractors
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING 9.0 ft
LOGGED BY JWF **CHECKED BY** WCP/MEB
AT END OF DRILLING ---
NOTES Soil boring completed to 10'
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0						
	AU S-1	100			0.2 GRAVEL Dark brown to gray fine SAND, some medium to coarse sand, little gravel 2.0	0.7
2.5					Dark brown to gray/black silty find to medium SAND, little gravel and fill material, brick, ash, and glass, dry	
5.0	AU S-2	100				0.4
7.5					8.0	
	SS S-3	54	0-0-2-5 (2)		Gray to dark brown sandy SILT, wet, unidentified odor 10.0	15.3
10.0					Bottom of hole at 10.0 feet.	

BORING NUMBER TT-16

TETRA TECH

CLIENT Nitsch Engineering
PROJECT NAME Cypher Street South Boston Improvements
PROJECT NUMBER 143-278997-19001
PROJECT LOCATION Boston, MA
DATE STARTED 8/28/19 **COMPLETED** 9/5/19
GROUND ELEVATION ---- **HOLE SIZE** 4"
DRILLING CONTRACTOR New England Boring Contractors
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING 9.0 ft
LOGGED BY JWF **CHECKED BY** WCP/MEB
AT END OF DRILLING ---
NOTES Soil boring completed to 10'
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0					0.2 GRAVEL	
	AU S-1	100			Brown to dark brown fine SAND, little silt, coarse sand, and gravel	0.0
2.5	AU S-2	100			3.0 Dark brown to gray fine SAND, little silt, coarse sand and gravel, gravel increasing with depth	
5.0	AU S-3	100				
7.5					8.0 Black to gray FILL, clayey sand matrix with ash, little fine debris, some gravel, unidentified odor	
10.0	SS S-4	100	1-3-2-2 (5)		10.0 Bottom of hole at 10.0 feet.	

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BORING NUMBER TT-17

TETRA TECH

CLIENT Nitsch Engineering
PROJECT NAME Cypher Street South Boston Improvements
PROJECT NUMBER 143-278997-19001
PROJECT LOCATION Boston, MA
DATE STARTED 8/27/19 **COMPLETED** 8/27/19
GROUND ELEVATION **HOLE SIZE** 4"
DRILLING CONTRACTOR New England Boring Contractors
GROUND WATER LEVELS:
DRILLING METHOD Vacuum Cleared
AT TIME OF DRILLING 6.5 ft
LOGGED BY JWF **CHECKED BY** WCP/MEB
AT END OF DRILLING ---
NOTES Soil boring completed to 7'
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0				ASPHALT (1.0)	
	AU S-1	100		Brown fine to medium SAND, some gravel, trace silt (2.0)	NA
2.5				Tan grading to brown fine to medium SAND, some coarse sand, little gravel, wet at 6.5', no odor	
	AU S-2	100			NA
5.0					
	AU S-3	100		(7.0)	NA
				Bottom of hole at 7.0 feet.	

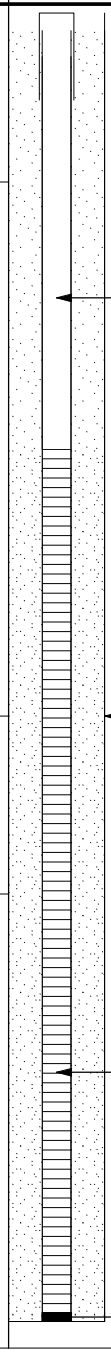
WELL NUMBER TT-18

TETRA TECH

CLIENT Nitsch Engineering
PROJECT NAME Cypher Street South Boston Improvements
PROJECT NUMBER 143-278997-19001
PROJECT LOCATION Boston, MA
DATE STARTED 8/27/19 **COMPLETED** 9/3/19
GROUND ELEVATION ---- **HOLE SIZE** 4"
DRILLING CONTRACTOR New England Boring Contractors
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING 8.5 ft
LOGGED BY JWF **CHECKED BY** WCP/MEB
AT END OF DRILLING ---
NOTES Soil boring completed to 10' & Temp MW to 15'
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0	AU S-1	100				0.2 GRAVEL Dark gray FILL, fine sand matrix with gravel, ash, glass, wood, and metal, some boulders increasing with depth; blocks of granite at 2-3' bgs, dry	0.4
2.5							
5.0							
7.5						8.0	
	SS S-2	0	1-1-1-1 (2)	Collect 8-10' sample with 3" split spoon due to little recovery in 2" split spoon		Gray FILL, brick, plastic, ash debris in clayey matrix, some gravel, petroleum odor, wet 9.0 Gray to dark gray, very soft plastic clayey SILT, petroleum odor, wet	37.8
10.0						10.0	
12.5				Install temporary well at 15' bgs to collect grab water sample, remove well after sampling and backfill to grade			
15.0							

WELL DIAGRAM



Bottom of hole at 15.0 feet.

GENERAL BH / TP / WELL 2019 BORING LOGS.GPJ GINT STD US LAB.GDT 10/8/19

BORING NUMBER TT-19

TETRA TECH

CLIENT Nitsch Engineering
PROJECT NAME Cypher Street South Boston Improvements
PROJECT NUMBER 143-278997-19001
PROJECT LOCATION Boston, MA
DATE STARTED 8/26/19 **COMPLETED** 8/26/19
GROUND ELEVATION ---
HOLE SIZE 4"
DRILLING CONTRACTOR New England Boring Contractors
GROUND WATER LEVELS:
DRILLING METHOD Vacuum Cleared
AT TIME OF DRILLING ---
LOGGED BY JWF **CHECKED BY** WCP/MEB
AT END OF DRILLING ---
NOTES Soil boring completed to 4'
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0				0.1 GRAVEL	
	AU S-1	100		Gray silty medium to coarse SAND, some gravel, dense 2.0	0.7
2.5	AU S-2	100		Gray silty medium to coarse SAND, some gravel, some fill debris including ash and brick 3.0	
				Brown, gray, and red FILL material, silty sand and gravel matrix with ash, brick, and glass 4.0	1.5
				Bottom of hole at 4.0 feet.	

BORING NUMBER TT-20

TETRA TECH

CLIENT Nitsch Engineering
PROJECT NAME Cypher Street South Boston Improvements
PROJECT NUMBER 143-278997-19001
PROJECT LOCATION Boston, MA
DATE STARTED 8/29/19 **COMPLETED** 8/29/19
GROUND ELEVATION ---
HOLE SIZE 4"
DRILLING CONTRACTOR Tetra Tech
GROUND WATER LEVELS:
DRILLING METHOD Hand Auger
AT TIME OF DRILLING ---
LOGGED BY JWF **CHECKED BY** WCP/MEB
AT END OF DRILLING ---
NOTES Soil boring completed to 2'
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0	AU S-1	100		0.3 TOPSOIL Dark brown to gray brown silty fine SAND, little coarse sand and gravel, trace fill debris (plastic, glass) 2.0	0.0
				Bottom of hole at 2.0 feet.	

BORING NUMBER TT-20a

TETRA TECH

CLIENT Nitsch Engineering
PROJECT NAME Cypher Street South Boston Improvements
PROJECT NUMBER 143-278997-19001
PROJECT LOCATION Boston, MA
DATE STARTED 8/29/19 **COMPLETED** 9/3/19
GROUND ELEVATION ---- **HOLE SIZE** 4"
DRILLING CONTRACTOR New England Boring Contractors
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING 9.0 ft
LOGGED BY JWF **CHECKED BY** WCP/MEB
AT END OF DRILLING ---
NOTES Soil boring completed to 10'
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0	AU S-1	100			Dark gray to brown fine to coarse SAND, some medium to coarse gravel, little silt; railroad tie at approximately 1' and railbed ballast stone with brick and pieces of metal fill material between 1-3' bgs	0.0
2.5						
5.0						
6.0	AU S-2	100			Gray CLAY, little fine to medium sand, soft and loose, petroleum odor	153.6
7.5						
8.0	SS S-3	13	Collect 8-10' sample with 3" split spoon due to little recovery in 2" split spoon		Gray FILL, brick, plastic, ash debris in clayey matrix, some gravel, petroleum odor, wet	40.3
10.0					Bottom of hole at 10.0 feet.	

BORING NUMBER TT-21

TETRA TECH

CLIENT Nitsch Engineering
PROJECT NAME Cypher Street South Boston Improvements
PROJECT NUMBER 143-278997-19001
PROJECT LOCATION Boston, MA
DATE STARTED 8/29/19 **COMPLETED** 8/29/19
GROUND ELEVATION ---
HOLE SIZE 4"
DRILLING CONTRACTOR Tetra Tech
GROUND WATER LEVELS:
DRILLING METHOD Hand Auger
AT TIME OF DRILLING ---
LOGGED BY JWF **CHECKED BY** WCP/MEB
AT END OF DRILLING ---
NOTES Soil boring completed to 2'
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0	AU S-1	100		0.3 TOPSOIL Dark brown to gray brown silty fine SAND, little coarse sand and gravel, trace fill debris (plastic, glass) 2.0	0.0
				Bottom of hole at 2.0 feet.	

BORING NUMBER TT-22

TETRA TECH

CLIENT Nitsch Engineering
PROJECT NAME Cypher Street South Boston Improvements
PROJECT NUMBER 143-278997-19001
PROJECT LOCATION Boston, MA
DATE STARTED 8/29/19 **COMPLETED** 8/29/19
GROUND ELEVATION ---
HOLE SIZE 4"
DRILLING CONTRACTOR Tetra Tech
GROUND WATER LEVELS:
DRILLING METHOD Hand Auger
AT TIME OF DRILLING ---
LOGGED BY JWF **CHECKED BY** WCP/MEB
AT END OF DRILLING ---
NOTES Soil boring completed to 3'
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0				0.3 TOPSOIL	
				Red gray to gray clayey fine SAND, some coarse sand and gravel	
	AU S-1	100			1.0
2.5	AU S-2	100		3.0	1.0
				Bottom of hole at 3.0 feet.	

BORING NUMBER TT-22a

TETRA TECH

CLIENT Nitsch Engineering
PROJECT NAME Cypher Street South Boston Improvements
PROJECT NUMBER 143-278997-19001
PROJECT LOCATION Boston, MA
DATE STARTED 8/29/19 **COMPLETED** 8/29/19
GROUND ELEVATION ____ **HOLE SIZE** 4"
DRILLING CONTRACTOR Tetra Tech
GROUND WATER LEVELS:
DRILLING METHOD Hand Auger
AT TIME OF DRILLING ---
LOGGED BY JWF **CHECKED BY** WCP/MEB
AT END OF DRILLING ---
NOTES Soil boring completed to 3'
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0				0.3 TOPSOIL	
	AU S-1	100		Dark brown to gray brown silty fine SAND, little coarse sand and gravel, trace fill debris (plastic, glass) 2.0	0.0
2.5	AU S-2	100		Black FILL, silty matrix with coal ash, some silty sand and gravel 3.0	
				Bottom of hole at 3.0 feet.	

Appendix C
Laboratory Certificates of Analysis

ANALYTICAL REPORT

Lab Number:	L1938617
Client:	Tetra Tech Rizzo Marlborough Technology Park 100 Nickerson Road Marlborough, MA 01752
ATTN:	Mike Billa
Phone:	(508) 786-2200
Project Name:	CYPHER ST., BOSTON
Project Number:	143-278997-19001
Report Date:	09/13/19

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: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1938617-01	TT-13 (2-4')	SOIL	CYPHER ST., SOUTH BOSTON	08/26/19 11:10	08/26/19
L1938617-02	TT-13 (4-4.75')	SOIL	CYPHER ST., SOUTH BOSTON	08/26/19 11:20	08/26/19
L1938617-03	TT-14 (0-2')	SOIL	CYPHER ST., SOUTH BOSTON	08/26/19 12:00	08/26/19
L1938617-04	TT-14 (4-6')	SOIL	CYPHER ST., SOUTH BOSTON	08/26/19 12:20	08/26/19
L1938617-05	TT-15 (0-2')	SOIL	CYPHER ST., SOUTH BOSTON	08/26/19 12:40	08/26/19
L1938617-06	TT-15 (4-6')	SOIL	CYPHER ST., SOUTH BOSTON	08/26/19 12:55	08/26/19
L1938617-07	TT-19 (0-2')	SOIL	CYPHER ST., SOUTH BOSTON	08/26/19 14:00	08/26/19
L1938617-08	TT-19 (2-4')	SOIL	CYPHER ST., SOUTH BOSTON	08/26/19 14:28	08/26/19
L1938617-09	TRIP BLANK	SOIL	CYPHER ST., SOUTH BOSTON	08/26/19 00:00	08/26/19

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

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?	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:	CYPHER ST., BOSTON	**Lab Number:**	L1938617
Project Number:	143-278997-19001	**Report Date:**	09/13/19

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:	CYPHER ST., BOSTON	**Lab Number:**	L1938617
Project Number:	143-278997-19001	**Report Date:**	09/13/19

Case Narrative (continued)

Report Submission

September 13, 2019: This final report includes the results of all requested analyses.

September 10, 2019: This is a preliminary report.

MCP Related Narratives

Sample Receipt

L1938617-04 and -06: Only the analysis of Volatile Organics was required, per the client.

L1938617-07 and -08: Client-specified analyses were performed.

L1938617-09: A sample identified as "TRIP BLANK" was received but not listed on the Chain of Custody. At the client's request, this sample was analyzed.

In reference to question H:

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

Volatile Organics

L1938617-01, -02 and -07: The analysis of Volatile Organics by EPA Method 5035/8260 Low Level could not be performed due to the elevated concentrations of target compounds in the sample.

L1938617-09: The Trip Blank has results for toluene and acetone present above the reporting limits. The sample was verified as being labeled correctly by the laboratory and the previous analysis showed there was no potential for carry over.

In reference to question G:

L1938617-01, -02 and -07: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

L1938617-03: The internal standard (IS) response for 1,4-dichlorobenzene-d4 (37%) was below the acceptance criteria; however, re-analysis achieved a similar result: 1,4-dichlorobenzene-d4 (48%). The results of both analyses are reported; however, since the IS response was below method criteria (but not <20% of applicable calibration standard area counts), all associated compounds are considered to have a potentially

Case Narrative (continued)

high bias.
The WG1281074-3/-4 LCS/LCSD recoveries, associated with L1938617-01, -07, and -09, are above the individual acceptance criteria for trichlorofluoromethane (135%/138%) and chloroethane (LCSD 131%), but within the overall method allowances. The results of the associated samples are reported; however, all positive detects are considered to have a potentially high bias for these compounds.
The WG1281075-3/-4 LCS/LCSD recoveries, associated with L1938617-03, -04, -06, -08, and -09, are above the individual acceptance criteria for trichlorofluoromethane (135%/138%) and chloroethane (LCSD 131%), but within the overall method allowances. The results of the associated samples are reported; however, all positive detects are considered to have a potentially high bias for these compounds.
The WG1281075-9 LCSD recovery, associated with L1938617-03 and -05, is below the individual acceptance criteria for hexachlorobutadiene (69%), but within the overall method allowances. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for this compound.
The initial calibration, associated with L1938617-01 and -03 through -09, 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 initial calibration, associated with L1938617-02, 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 continuing calibration standards, associated with L1938617-01 through -09, 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.

PAHs
L1938617-01 and -05: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.
L1938617-01: The sample was re-analyzed on dilution in order to quantify the results within the calibration

Case Narrative (continued)

range. The result(s) should be considered estimated, and are qualified with an E flag, for any compound(s) that exceeded the calibration range in the initial analysis. The re-analysis was performed only for the compound(s) that exceeded the calibration range.
L1938617-02: The sample has elevated detection limits due to the dilution required by the sample matrix.
In reference to question G:
L1938617-01, -02, and -05: One or more of the target analytes did not achieve the requested CAM reporting limits.
In reference to question I:
L1938617-01, -02, -03, -05, and -08 were analyzed for a subset of MCP analytes per client request.

Semivolatile Organics
L1938617-07: The sample has elevated detection limits due to limited sample volume available for analysis.
L1938617-07: The sample was re-analyzed on dilution in order to quantify the results within the calibration range. The result(s) should be considered estimated, and are qualified with an E flag, for any compound(s) that exceeded the calibration range in the initial analysis. The re-analysis was performed only for the compound(s) that exceeded the calibration range.
In reference to question H:
The WG1281256-2/-3 LCS/LCSD recoveries, associated with L1938617-07, are below the individual acceptance criteria for 3,3'-dichlorobenzidine (30%/36%), hexachlorobutadiene (LCSD 39%), aniline (LCS 35%), 4-chloroaniline (LCS 38%), and 2,4-dinitrophenol (LCS 26%), but within the overall method allowances. The results of the associated sample are reported; however, all results are considered to have a potentially low bias for these compounds.

VPH
L1938617-07 was outside the recommended 1:1 methanol:soil ratio, due to the amount of soil provided in the sample vial.
In reference to question I:

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Case Narrative (continued)

L1938617-01, -03, -05, -07, and -08 were analyzed for a subset of MCP analytes per client request.

EPH

L1938617-01 and -07: The sample has elevated detection limits due to the dilution required by the sample matrix.

In reference to question G:

L1938617-01 and -07: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

L1938617-01: The surrogate recovery is outside the acceptance criteria for o-terphenyl (209%); 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.

In reference to question I:

L1938617-01, -03, -05, -07, and -08 were analyzed for a subset of MCP analytes per client request.

PCBs

L1938617-05: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

In reference to question H:

L1938617-07: One or more dual column RPDs are above the acceptance criteria; however, obvious column interferences are present. The result is qualified with a "P" if the higher of the two results is reported. The result is qualified with an "IP" if the lower of the two results is reported.

Non-MCP Related Narratives

Petroleum Hydrocarbon Quantitation

L1938617-07: The sample has an elevated detection limit due to the dilution required by the sample matrix.

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

Authorized Signature: Cristin Walker

Title: Technical Director/Representative

Date: 09/13/19

QC OUTLIER SUMMARY REPORT

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

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	WG1281074-3	Trichlorofluoromethane	LCS	135	70-130	01,07,09	potential high bias
8260C	Batch QC	WG1281074-4	Trichlorofluoromethane	LCSD	138	70-130	01,07,09	potential high bias
8260C	Batch QC	WG1281074-4	Chloroethane	LCSD	131	70-130	01,07,09	potential high bias
MCP Volatile Organics by EPA 5035 Low - Westborough Lab								
8260C	Batch QC	WG1281075-3	Trichlorofluoromethane	LCS	135	70-130	03-04,06,08-09	potential high bias
8260C	Batch QC	WG1281075-4	Trichlorofluoromethane	LCSD	138	70-130	03-04,06,08-09	potential high bias
8260C	Batch QC	WG1281075-4	Chloroethane	LCSD	131	70-130	03-04,06,08-09	potential high bias
8260C	Batch QC	WG1281075-9	Hexachlorobutadiene	LCSD	69	70-130	03,05	potential low bias
MCP Semivolatile Organics - Westborough Lab								
8270D	Batch QC	WG1281256-2	3,3'-Dichlorobenzidine	LCS	30	40-140	07	potential low bias
8270D	Batch QC	WG1281256-2	Aniline	LCS	35	40-140	07	potential low bias
8270D	Batch QC	WG1281256-2	4-Chloroaniline	LCS	38	40-140	07	potential low bias
8270D	Batch QC	WG1281256-2	2,4-Dinitrophenol	LCS	26	30-130	07	potential low bias
8270D	Batch QC	WG1281256-3	3,3'-Dichlorobenzidine	LCSD	36	40-140	07	potential low bias
8270D	Batch QC	WG1281256-3	Hexachlorobutadiene	LCSD	39	40-140	07	potential low bias
Extractable Petroleum Hydrocarbons - Westborough Lab								
EPH-04-1.1	TT-13 (2-4')	L1938617-01 D	o-Terphenyl	Surrogate	209	40-140	-	potential high bias

ORGANICS

VOLATILES

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-01
Client ID: TT-13 (2-4')
Sample Location: CYPHER ST., SOUTH BOSTON

Date Collected: 08/26/19 11:10
Date Received: 08/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/05/19 22:52
Analyst: JC
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	330	--	1
1,1-Dichloroethane	ND		ug/kg	66	--	1
Chloroform	ND		ug/kg	99	--	1
Carbon tetrachloride	ND		ug/kg	66	--	1
1,2-Dichloropropane	ND		ug/kg	66	--	1
Dibromochloromethane	ND		ug/kg	66	--	1
1,1,2-Trichloroethane	ND		ug/kg	66	--	1
Tetrachloroethene	ND		ug/kg	33	--	1
Chlorobenzene	ND		ug/kg	33	--	1
Trichlorofluoromethane	ND		ug/kg	260	--	1
1,2-Dichloroethane	ND		ug/kg	66	--	1
1,1,1-Trichloroethane	ND		ug/kg	33	--	1
Bromodichloromethane	ND		ug/kg	33	--	1
trans-1,3-Dichloropropene	ND		ug/kg	66	--	1
cis-1,3-Dichloropropene	ND		ug/kg	33	--	1
1,3-Dichloropropene, Total	ND		ug/kg	33	--	1
1,1-Dichloropropene	ND		ug/kg	33	--	1
Bromoform	ND		ug/kg	260	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	33	--	1
Benzene	35		ug/kg	33	--	1
Toluene	160		ug/kg	66	--	1
Ethylbenzene	ND		ug/kg	66	--	1
Chloromethane	ND		ug/kg	260	--	1
Bromomethane	ND		ug/kg	130	--	1
Vinyl chloride	ND		ug/kg	66	--	1
Chloroethane	ND		ug/kg	130	--	1
1,1-Dichloroethene	ND		ug/kg	66	--	1
trans-1,2-Dichloroethene	ND		ug/kg	99	--	1

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-01 Date Collected: 08/26/19 11:10

Client ID: TT-13 (2-4') Date Received: 08/26/19

Sample Location: CYPHER ST., SOUTH BOSTON 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	33	--	1
1,2-Dichlorobenzene	ND		ug/kg	130	--	1
1,3-Dichlorobenzene	ND		ug/kg	130	--	1
1,4-Dichlorobenzene	ND		ug/kg	130	--	1
Methyl tert butyl ether	ND		ug/kg	130	--	1
p/m-Xylene	130		ug/kg	130	--	1
o-Xylene	ND		ug/kg	66	--	1
Xylenes, Total	130		ug/kg	66	--	1
cis-1,2-Dichloroethene	ND		ug/kg	66	--	1
1,2-Dichloroethene, Total	ND		ug/kg	66	--	1
Dibromomethane	ND		ug/kg	130	--	1
1,2,3-Trichloropropane	ND		ug/kg	130	--	1
Styrene	ND		ug/kg	66	--	1
Dichlorodifluoromethane	ND		ug/kg	660	--	1
Acetone	ND		ug/kg	660	--	1
Carbon disulfide	ND		ug/kg	660	--	1
Methyl ethyl ketone	ND		ug/kg	660	--	1
Methyl isobutyl ketone	ND		ug/kg	660	--	1
2-Hexanone	ND		ug/kg	660	--	1
Bromochloromethane	ND		ug/kg	130	--	1
Tetrahydrofuran	ND		ug/kg	260	--	1
2,2-Dichloropropane	ND		ug/kg	130	--	1
1,2-Dibromoethane	ND		ug/kg	66	--	1
1,3-Dichloropropane	ND		ug/kg	130	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	33	--	1
Bromobenzene	ND		ug/kg	130	--	1
n-Butylbenzene	ND		ug/kg	66	--	1
sec-Butylbenzene	ND		ug/kg	66	--	1
tert-Butylbenzene	ND		ug/kg	130	--	1
o-Chlorotoluene	ND		ug/kg	130	--	1
p-Chlorotoluene	ND		ug/kg	130	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	200	--	1
Hexachlorobutadiene	ND		ug/kg	260	--	1
Isopropylbenzene	ND		ug/kg	66	--	1
p-Isopropyltoluene	ND		ug/kg	66	--	1
Naphthalene	8400		ug/kg	260	--	1
n-Propylbenzene	ND		ug/kg	66	--	1

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-01 Date Collected: 08/26/19 11:10

Client ID: TT-13 (2-4') Date Received: 08/26/19

Sample Location: CYPHER ST., SOUTH BOSTON 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	130	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	130	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	130	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	130	--	1
Diethyl ether	ND		ug/kg	130	--	1
Diisopropyl Ether	ND		ug/kg	130	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	130	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	130	--	1
1,4-Dioxane	ND		ug/kg	5300	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	98		70-130

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-02 Date Collected: 08/26/19 11:20

Client ID: TT-13 (4-4.75') Date Received: 08/26/19

Sample Location: CYPHER ST., SOUTH BOSTON Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 97,8260C

Analytical Date: 09/08/19 17:32

Analyst: JC

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	ND		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	87		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: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-02 Date Collected: 08/26/19 11:20

Client ID: TT-13 (4-4.75') Date Received: 08/26/19

Sample Location: CYPHER ST., SOUTH BOSTON 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	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	1500		ug/kg	270	--	1
n-Propylbenzene	ND		ug/kg	68	--	1

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-02 Date Collected: 08/26/19 11:20

Client ID: TT-13 (4-4.75') Date Received: 08/26/19

Sample Location: CYPHER ST., SOUTH BOSTON 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	98		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	92		70-130

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-03
Client ID: TT-14 (0-2')
Sample Location: CYPHER ST., SOUTH BOSTON

Date Collected: 08/26/19 12:00
Date Received: 08/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/05/19 20:41
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	5.0	--	1
1,1-Dichloroethane	ND		ug/kg	0.99	--	1
Chloroform	ND		ug/kg	1.5	--	1
Carbon tetrachloride	ND		ug/kg	0.99	--	1
1,2-Dichloropropane	ND		ug/kg	0.99	--	1
Dibromochloromethane	ND		ug/kg	0.99	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.99	--	1
Tetrachloroethene	ND		ug/kg	0.50	--	1
Chlorobenzene	ND		ug/kg	0.50	--	1
Trichlorofluoromethane	ND		ug/kg	4.0	--	1
1,2-Dichloroethane	ND		ug/kg	0.99	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.50	--	1
Bromodichloromethane	ND		ug/kg	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.99	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--	1
1,1-Dichloropropene	ND		ug/kg	0.50	--	1
Bromoform	ND		ug/kg	4.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--	1
Benzene	ND		ug/kg	0.50	--	1
Toluene	ND		ug/kg	0.99	--	1
Ethylbenzene	ND		ug/kg	0.99	--	1
Chloromethane	ND		ug/kg	4.0	--	1
Bromomethane	ND		ug/kg	2.0	--	1
Vinyl chloride	ND		ug/kg	0.99	--	1
Chloroethane	ND		ug/kg	2.0	--	1
1,1-Dichloroethene	ND		ug/kg	0.99	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--	1

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-03 Date Collected: 08/26/19 12:00

Client ID: TT-14 (0-2') Date Received: 08/26/19

Sample Location: CYPHER ST., SOUTH BOSTON 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	0.50	--	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	0.99	--	1
Xylenes, Total	ND		ug/kg	0.99	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.99	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.99	--	1
Dibromomethane	ND		ug/kg	2.0	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.0	--	1
Styrene	ND		ug/kg	0.99	--	1
Dichlorodifluoromethane	ND		ug/kg	9.9	--	1
Acetone	37		ug/kg	9.9	--	1
Carbon disulfide	ND		ug/kg	9.9	--	1
Methyl ethyl ketone	ND		ug/kg	9.9	--	1
Methyl isobutyl ketone	ND		ug/kg	9.9	--	1
2-Hexanone	ND		ug/kg	9.9	--	1
Bromochloromethane	ND		ug/kg	2.0	--	1
Tetrahydrofuran	ND		ug/kg	4.0	--	1
2,2-Dichloropropane	ND		ug/kg	2.0	--	1
1,2-Dibromoethane	ND		ug/kg	0.99	--	1
1,3-Dichloropropane	ND		ug/kg	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--	1
Bromobenzene	ND		ug/kg	2.0	--	1
n-Butylbenzene	ND		ug/kg	0.99	--	1
sec-Butylbenzene	ND		ug/kg	0.99	--	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	3.0	--	1
Hexachlorobutadiene	ND		ug/kg	4.0	--	1
Isopropylbenzene	ND		ug/kg	0.99	--	1
p-Isopropyltoluene	ND		ug/kg	0.99	--	1
Naphthalene	ND		ug/kg	4.0	--	1
n-Propylbenzene	ND		ug/kg	0.99	--	1

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-03 Date Collected: 08/26/19 12:00

Client ID: TT-14 (0-2') Date Received: 08/26/19

Sample Location: CYPHER ST., SOUTH BOSTON 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	79	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	119		70-130
Toluene-d8	112		70-130
4-Bromofluorobenzene	126		70-130
Dibromofluoromethane	106		70-130

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-03 R
Client ID: TT-14 (0-2')
Sample Location: CYPHER ST., SOUTH BOSTON

Date Collected: 08/26/19 12:00
Date Received: 08/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/06/19 10:45
Analyst: MV
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	5.7	--	1
1,1-Dichloroethane	ND		ug/kg	1.1	--	1
Chloroform	ND		ug/kg	1.7	--	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	0.57	--	1
Chlorobenzene	ND		ug/kg	0.57	--	1
Trichlorofluoromethane	ND		ug/kg	4.6	--	1
1,2-Dichloroethane	ND		ug/kg	1.1	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.57	--	1
Bromodichloromethane	ND		ug/kg	0.57	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.1	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.57	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.57	--	1
1,1-Dichloropropene	ND		ug/kg	0.57	--	1
Bromoform	ND		ug/kg	4.6	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.57	--	1
Benzene	ND		ug/kg	0.57	--	1
Toluene	ND		ug/kg	1.1	--	1
Ethylbenzene	ND		ug/kg	1.1	--	1
Chloromethane	ND		ug/kg	4.6	--	1
Bromomethane	ND		ug/kg	2.3	--	1
Vinyl chloride	ND		ug/kg	1.1	--	1
Chloroethane	ND		ug/kg	2.3	--	1
1,1-Dichloroethene	ND		ug/kg	1.1	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.7	--	1

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-03 R Date Collected: 08/26/19 12:00

Client ID: TT-14 (0-2') Date Received: 08/26/19

Sample Location: CYPHER ST., SOUTH BOSTON 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	0.57	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.3	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.3	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.3	--	1
Methyl tert butyl ether	ND		ug/kg	2.3	--	1
p/m-Xylene	ND		ug/kg	2.3	--	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	2.3	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.3	--	1
Styrene	ND		ug/kg	1.1	--	1
Dichlorodifluoromethane	ND		ug/kg	11	--	1
Acetone	55		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	2.3	--	1
Tetrahydrofuran	ND		ug/kg	4.6	--	1
2,2-Dichloropropane	ND		ug/kg	2.3	--	1
1,2-Dibromoethane	ND		ug/kg	1.1	--	1
1,3-Dichloropropane	ND		ug/kg	2.3	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.57	--	1
Bromobenzene	ND		ug/kg	2.3	--	1
n-Butylbenzene	ND		ug/kg	1.1	--	1
sec-Butylbenzene	ND		ug/kg	1.1	--	1
tert-Butylbenzene	ND		ug/kg	2.3	--	1
o-Chlorotoluene	ND		ug/kg	2.3	--	1
p-Chlorotoluene	ND		ug/kg	2.3	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.4	--	1
Hexachlorobutadiene	ND		ug/kg	4.6	--	1
Isopropylbenzene	ND		ug/kg	1.1	--	1
p-Isopropyltoluene	ND		ug/kg	1.1	--	1
Naphthalene	ND		ug/kg	4.6	--	1
n-Propylbenzene	ND		ug/kg	1.1	--	1

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-03 R Date Collected: 08/26/19 12:00

Client ID: TT-14 (0-2') Date Received: 08/26/19

Sample Location: CYPHER ST., SOUTH BOSTON 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	2.3	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.3	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.3	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.3	--	1
Diethyl ether	ND		ug/kg	2.3	--	1
Diisopropyl Ether	ND		ug/kg	2.3	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.3	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.3	--	1
1,4-Dioxane	ND		ug/kg	92	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	115		70-130
Dibromofluoromethane	102		70-130

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-04
Client ID: TT-14 (4-6')
Sample Location: CYPHER ST., SOUTH BOSTON

Date Collected: 08/26/19 12:20
Date Received: 08/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/05/19 21:07
Analyst: JC
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	6.4	--	1
1,1-Dichloroethane	ND		ug/kg	1.3	--	1
Chloroform	ND		ug/kg	1.9	--	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	ND		ug/kg	0.64	--	1
Chlorobenzene	ND		ug/kg	0.64	--	1
Trichlorofluoromethane	ND		ug/kg	5.1	--	1
1,2-Dichloroethane	ND		ug/kg	1.3	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.64	--	1
Bromodichloromethane	ND		ug/kg	0.64	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.3	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.64	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.64	--	1
1,1-Dichloropropene	ND		ug/kg	0.64	--	1
Bromoform	ND		ug/kg	5.1	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.64	--	1
Benzene	ND		ug/kg	0.64	--	1
Toluene	ND		ug/kg	1.3	--	1
Ethylbenzene	ND		ug/kg	1.3	--	1
Chloromethane	ND		ug/kg	5.1	--	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	1.9	--	1

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-04 Date Collected: 08/26/19 12:20

Client ID: TT-14 (4-6') Date Received: 08/26/19

Sample Location: CYPHER ST., SOUTH BOSTON 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	0.64	--	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	ND		ug/kg	1.3	--	1
1,2-Dichloroethene, Total	ND		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	54		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	5.1	--	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	0.64	--	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	3.8	--	1
Hexachlorobutadiene	ND		ug/kg	5.1	--	1
Isopropylbenzene	ND		ug/kg	1.3	--	1
p-Isopropyltoluene	ND		ug/kg	1.3	--	1
Naphthalene	ND		ug/kg	5.1	--	1
n-Propylbenzene	ND		ug/kg	1.3	--	1

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-04 Date Collected: 08/26/19 12:20

Client ID: TT-14 (4-6') Date Received: 08/26/19

Sample Location: CYPHER ST., SOUTH BOSTON 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	119		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	103		70-130

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-05
Client ID: TT-15 (0-2')
Sample Location: CYPHER ST., SOUTH BOSTON

Date Collected: 08/26/19 12:40
Date Received: 08/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/06/19 11:12
Analyst: MV
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	4.7	--	1
1,1-Dichloroethane	ND		ug/kg	0.94	--	1
Chloroform	ND		ug/kg	1.4	--	1
Carbon tetrachloride	ND		ug/kg	0.94	--	1
1,2-Dichloropropane	ND		ug/kg	0.94	--	1
Dibromochloromethane	ND		ug/kg	0.94	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.94	--	1
Tetrachloroethene	ND		ug/kg	0.47	--	1
Chlorobenzene	ND		ug/kg	0.47	--	1
Trichlorofluoromethane	ND		ug/kg	3.8	--	1
1,2-Dichloroethane	ND		ug/kg	0.94	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.47	--	1
Bromodichloromethane	ND		ug/kg	0.47	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.94	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.47	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.47	--	1
1,1-Dichloropropene	ND		ug/kg	0.47	--	1
Bromoform	ND		ug/kg	3.8	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.47	--	1
Benzene	ND		ug/kg	0.47	--	1
Toluene	ND		ug/kg	0.94	--	1
Ethylbenzene	ND		ug/kg	0.94	--	1
Chloromethane	ND		ug/kg	3.8	--	1
Bromomethane	ND		ug/kg	1.9	--	1
Vinyl chloride	ND		ug/kg	0.94	--	1
Chloroethane	ND		ug/kg	1.9	--	1
1,1-Dichloroethene	ND		ug/kg	0.94	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.4	--	1

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-05 Date Collected: 08/26/19 12:40

Client ID: TT-15 (0-2') Date Received: 08/26/19

Sample Location: CYPHER ST., SOUTH BOSTON 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	0.47	--	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	0.94	--	1
Xylenes, Total	ND		ug/kg	0.94	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.94	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.94	--	1
Dibromomethane	ND		ug/kg	1.9	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.9	--	1
Styrene	ND		ug/kg	0.94	--	1
Dichlorodifluoromethane	ND		ug/kg	9.4	--	1
Acetone	37		ug/kg	9.4	--	1
Carbon disulfide	ND		ug/kg	9.4	--	1
Methyl ethyl ketone	ND		ug/kg	9.4	--	1
Methyl isobutyl ketone	ND		ug/kg	9.4	--	1
2-Hexanone	ND		ug/kg	9.4	--	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	0.94	--	1
1,3-Dichloropropane	ND		ug/kg	1.9	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.47	--	1
Bromobenzene	ND		ug/kg	1.9	--	1
n-Butylbenzene	ND		ug/kg	0.94	--	1
sec-Butylbenzene	ND		ug/kg	0.94	--	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	0.94	--	1
p-Isopropyltoluene	ND		ug/kg	0.94	--	1
Naphthalene	ND		ug/kg	3.8	--	1
n-Propylbenzene	ND		ug/kg	0.94	--	1

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-05 Date Collected: 08/26/19 12:40

Client ID: TT-15 (0-2') Date Received: 08/26/19

Sample Location: CYPHER ST., SOUTH BOSTON 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	75	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	114		70-130
Dibromofluoromethane	99		70-130

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-06 Date Collected: 08/26/19 12:55

Client ID: TT-15 (4-6') Date Received: 08/26/19

Sample Location: CYPHER ST., SOUTH BOSTON Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 97,8260C

Analytical Date: 09/05/19 21:59

Analyst: JC

Percent Solids: 74%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	9.2	--	1
1,1-Dichloroethane	ND		ug/kg	1.8	--	1
Chloroform	ND		ug/kg	2.8	--	1
Carbon tetrachloride	ND		ug/kg	1.8	--	1
1,2-Dichloropropane	ND		ug/kg	1.8	--	1
Dibromochloromethane	ND		ug/kg	1.8	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.8	--	1
Tetrachloroethene	ND		ug/kg	0.92	--	1
Chlorobenzene	ND		ug/kg	0.92	--	1
Trichlorofluoromethane	ND		ug/kg	7.4	--	1
1,2-Dichloroethane	ND		ug/kg	1.8	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.92	--	1
Bromodichloromethane	ND		ug/kg	0.92	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.8	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.92	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.92	--	1
1,1-Dichloropropene	ND		ug/kg	0.92	--	1
Bromoform	ND		ug/kg	7.4	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.92	--	1
Benzene	ND		ug/kg	0.92	--	1
Toluene	ND		ug/kg	1.8	--	1
Ethylbenzene	ND		ug/kg	1.8	--	1
Chloromethane	ND		ug/kg	7.4	--	1
Bromomethane	ND		ug/kg	3.7	--	1
Vinyl chloride	ND		ug/kg	1.8	--	1
Chloroethane	ND		ug/kg	3.7	--	1
1,1-Dichloroethene	ND		ug/kg	1.8	--	1
trans-1,2-Dichloroethene	ND		ug/kg	2.8	--	1

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-06 Date Collected: 08/26/19 12:55

Client ID: TT-15 (4-6') Date Received: 08/26/19

Sample Location: CYPHER ST., SOUTH BOSTON 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	0.92	--	1
1,2-Dichlorobenzene	ND		ug/kg	3.7	--	1
1,3-Dichlorobenzene	ND		ug/kg	3.7	--	1
1,4-Dichlorobenzene	ND		ug/kg	3.7	--	1
Methyl tert butyl ether	ND		ug/kg	3.7	--	1
p/m-Xylene	ND		ug/kg	3.7	--	1
o-Xylene	ND		ug/kg	1.8	--	1
Xylenes, Total	ND		ug/kg	1.8	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.8	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.8	--	1
Dibromomethane	ND		ug/kg	3.7	--	1
1,2,3-Trichloropropane	ND		ug/kg	3.7	--	1
Styrene	ND		ug/kg	1.8	--	1
Dichlorodifluoromethane	ND		ug/kg	18	--	1
Acetone	73		ug/kg	18	--	1
Carbon disulfide	ND		ug/kg	18	--	1
Methyl ethyl ketone	ND		ug/kg	18	--	1
Methyl isobutyl ketone	ND		ug/kg	18	--	1
2-Hexanone	ND		ug/kg	18	--	1
Bromochloromethane	ND		ug/kg	3.7	--	1
Tetrahydrofuran	ND		ug/kg	7.4	--	1
2,2-Dichloropropane	ND		ug/kg	3.7	--	1
1,2-Dibromoethane	ND		ug/kg	1.8	--	1
1,3-Dichloropropane	ND		ug/kg	3.7	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.92	--	1
Bromobenzene	ND		ug/kg	3.7	--	1
n-Butylbenzene	ND		ug/kg	1.8	--	1
sec-Butylbenzene	ND		ug/kg	1.8	--	1
tert-Butylbenzene	ND		ug/kg	3.7	--	1
o-Chlorotoluene	ND		ug/kg	3.7	--	1
p-Chlorotoluene	ND		ug/kg	3.7	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	5.5	--	1
Hexachlorobutadiene	ND		ug/kg	7.4	--	1
Isopropylbenzene	ND		ug/kg	1.8	--	1
p-Isopropyltoluene	ND		ug/kg	1.8	--	1
Naphthalene	ND		ug/kg	7.4	--	1
n-Propylbenzene	ND		ug/kg	1.8	--	1

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-06 Date Collected: 08/26/19 12:55

Client ID: TT-15 (4-6') Date Received: 08/26/19

Sample Location: CYPHER ST., SOUTH BOSTON 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	3.7	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	3.7	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	3.7	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	3.7	--	1
Diethyl ether	ND		ug/kg	3.7	--	1
Diisopropyl Ether	ND		ug/kg	3.7	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	3.7	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	3.7	--	1
1,4-Dioxane	ND		ug/kg	150	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	104		70-130

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-07
Client ID: TT-19 (0-2')
Sample Location: CYPHER ST., SOUTH BOSTON

Date Collected: 08/26/19 14:00
Date Received: 08/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/05/19 23:18
Analyst: JC
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	200	--	1
1,1-Dichloroethane	ND		ug/kg	40	--	1
Chloroform	ND		ug/kg	60	--	1
Carbon tetrachloride	ND		ug/kg	40	--	1
1,2-Dichloropropane	ND		ug/kg	40	--	1
Dibromochloromethane	ND		ug/kg	40	--	1
1,1,2-Trichloroethane	ND		ug/kg	40	--	1
Tetrachloroethene	ND		ug/kg	20	--	1
Chlorobenzene	ND		ug/kg	20	--	1
Trichlorofluoromethane	ND		ug/kg	160	--	1
1,2-Dichloroethane	ND		ug/kg	40	--	1
1,1,1-Trichloroethane	ND		ug/kg	20	--	1
Bromodichloromethane	ND		ug/kg	20	--	1
trans-1,3-Dichloropropene	ND		ug/kg	40	--	1
cis-1,3-Dichloropropene	ND		ug/kg	20	--	1
1,3-Dichloropropene, Total	ND		ug/kg	20	--	1
1,1-Dichloropropene	ND		ug/kg	20	--	1
Bromoform	ND		ug/kg	160	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	20	--	1
Benzene	ND		ug/kg	20	--	1
Toluene	ND		ug/kg	40	--	1
Ethylbenzene	ND		ug/kg	40	--	1
Chloromethane	ND		ug/kg	160	--	1
Bromomethane	ND		ug/kg	80	--	1
Vinyl chloride	ND		ug/kg	40	--	1
Chloroethane	ND		ug/kg	80	--	1
1,1-Dichloroethene	ND		ug/kg	40	--	1
trans-1,2-Dichloroethene	ND		ug/kg	60	--	1

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-07 Date Collected: 08/26/19 14:00

Client ID: TT-19 (0-2') Date Received: 08/26/19

Sample Location: CYPHER ST., SOUTH BOSTON 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	20	--	1
1,2-Dichlorobenzene	ND		ug/kg	80	--	1
1,3-Dichlorobenzene	ND		ug/kg	80	--	1
1,4-Dichlorobenzene	ND		ug/kg	80	--	1
Methyl tert butyl ether	ND		ug/kg	80	--	1
p/m-Xylene	ND		ug/kg	80	--	1
o-Xylene	ND		ug/kg	40	--	1
Xylenes, Total	ND		ug/kg	40	--	1
cis-1,2-Dichloroethene	ND		ug/kg	40	--	1
1,2-Dichloroethene, Total	ND		ug/kg	40	--	1
Dibromomethane	ND		ug/kg	80	--	1
1,2,3-Trichloropropane	ND		ug/kg	80	--	1
Styrene	ND		ug/kg	40	--	1
Dichlorodifluoromethane	ND		ug/kg	400	--	1
Acetone	ND		ug/kg	400	--	1
Carbon disulfide	ND		ug/kg	400	--	1
Methyl ethyl ketone	ND		ug/kg	400	--	1
Methyl isobutyl ketone	ND		ug/kg	400	--	1
2-Hexanone	ND		ug/kg	400	--	1
Bromochloromethane	ND		ug/kg	80	--	1
Tetrahydrofuran	ND		ug/kg	160	--	1
2,2-Dichloropropane	ND		ug/kg	80	--	1
1,2-Dibromoethane	ND		ug/kg	40	--	1
1,3-Dichloropropane	ND		ug/kg	80	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	20	--	1
Bromobenzene	ND		ug/kg	80	--	1
n-Butylbenzene	ND		ug/kg	40	--	1
sec-Butylbenzene	ND		ug/kg	40	--	1
tert-Butylbenzene	ND		ug/kg	80	--	1
o-Chlorotoluene	ND		ug/kg	80	--	1
p-Chlorotoluene	ND		ug/kg	80	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	120	--	1
Hexachlorobutadiene	ND		ug/kg	160	--	1
Isopropylbenzene	ND		ug/kg	40	--	1
p-Isopropyltoluene	ND		ug/kg	40	--	1
Naphthalene	4900		ug/kg	160	--	1
n-Propylbenzene	ND		ug/kg	40	--	1

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-07 Date Collected: 08/26/19 14:00

Client ID: TT-19 (0-2') Date Received: 08/26/19

Sample Location: CYPHER ST., SOUTH BOSTON 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	80	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	80	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	80	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	80	--	1
Diethyl ether	ND		ug/kg	80	--	1
Diisopropyl Ether	ND		ug/kg	80	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	80	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	80	--	1
1,4-Dioxane	ND		ug/kg	3200	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	98		70-130

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-08
Client ID: TT-19 (2-4')
Sample Location: CYPHER ST., SOUTH BOSTON

Date Collected: 08/26/19 14:28
Date Received: 08/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/05/19 22:26
Analyst: JC
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.3	--	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	ND		ug/kg	0.53	--	1
Chlorobenzene	ND		ug/kg	0.53	--	1
Trichlorofluoromethane	ND		ug/kg	4.2	--	1
1,2-Dichloroethane	ND		ug/kg	1.0	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.53	--	1
Bromodichloromethane	ND		ug/kg	0.53	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--	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	4.2	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.53	--	1
Benzene	ND		ug/kg	0.53	--	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: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-08 Date Collected: 08/26/19 14:28

Client ID: TT-19 (2-4') Date Received: 08/26/19

Sample Location: CYPHER ST., SOUTH BOSTON 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	1.0	--	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	80		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	0.53	--	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	3.2	--	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: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-08 Date Collected: 08/26/19 14:28

Client ID: TT-19 (2-4') Date Received: 08/26/19

Sample Location: CYPHER ST., SOUTH BOSTON 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	85	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	114		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	103		70-130

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-09 Date Collected: 08/26/19 00:00

Client ID: TRIP BLANK Date Received: 08/26/19

Sample Location: CYPHER ST., SOUTH BOSTON Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 97,8260C

Analytical Date: 09/05/19 19:49

Analyst: JC

Percent Solids: Results reported on an 'AS RECEIVED' basis.

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

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-09 Date Collected: 08/26/19 00:00

Client ID: TRIP BLANK Date Received: 08/26/19

Sample Location: CYPHER ST., SOUTH BOSTON 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	25	--	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	50	--	1
Xylenes, Total	ND		ug/kg	50	--	1
cis-1,2-Dichloroethene	ND		ug/kg	50	--	1
1,2-Dichloroethene, Total	ND		ug/kg	50	--	1
Dibromomethane	ND		ug/kg	100	--	1
1,2,3-Trichloropropane	ND		ug/kg	100	--	1
Styrene	ND		ug/kg	50	--	1
Dichlorodifluoromethane	ND		ug/kg	500	--	1
Acetone	ND		ug/kg	500	--	1
Carbon disulfide	ND		ug/kg	500	--	1
Methyl ethyl ketone	ND		ug/kg	500	--	1
Methyl isobutyl ketone	ND		ug/kg	500	--	1
2-Hexanone	ND		ug/kg	500	--	1
Bromochloromethane	ND		ug/kg	100	--	1
Tetrahydrofuran	ND		ug/kg	200	--	1
2,2-Dichloropropane	ND		ug/kg	100	--	1
1,2-Dibromoethane	ND		ug/kg	50	--	1
1,3-Dichloropropane	ND		ug/kg	100	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	25	--	1
Bromobenzene	ND		ug/kg	100	--	1
n-Butylbenzene	ND		ug/kg	50	--	1
sec-Butylbenzene	ND		ug/kg	50	--	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	150	--	1
Hexachlorobutadiene	ND		ug/kg	200	--	1
Isopropylbenzene	ND		ug/kg	50	--	1
p-Isopropyltoluene	ND		ug/kg	50	--	1
Naphthalene	ND		ug/kg	200	--	1
n-Propylbenzene	ND		ug/kg	50	--	1

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-09 Date Collected: 08/26/19 00:00

Client ID: TRIP BLANK Date Received: 08/26/19

Sample Location: CYPHER ST., SOUTH BOSTON 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	4000	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	97		70-130

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-09 Date Collected: 08/26/19 00:00

Client ID: TRIP BLANK Date Received: 08/26/19

Sample Location: CYPHER ST., SOUTH BOSTON Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 97,8260C

Analytical Date: 09/05/19 20:15

Analyst: JC

Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.0	--	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	ND		ug/kg	0.50	--	1
Chlorobenzene	ND		ug/kg	0.50	--	1
Trichlorofluoromethane	ND		ug/kg	4.0	--	1
1,2-Dichloroethane	ND		ug/kg	1.0	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.50	--	1
Bromodichloromethane	ND		ug/kg	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--	1
1,1-Dichloropropene	ND		ug/kg	0.50	--	1
Bromoform	ND		ug/kg	4.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--	1
Benzene	ND		ug/kg	0.50	--	1
Toluene	1.0		ug/kg	1.0	--	1
Ethylbenzene	ND		ug/kg	1.0	--	1
Chloromethane	ND		ug/kg	4.0	--	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: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-09 Date Collected: 08/26/19 00:00

Client ID: TRIP BLANK Date Received: 08/26/19

Sample Location: CYPHER ST., SOUTH BOSTON 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	0.50	--	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	23		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	4.0	--	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	0.50	--	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	3.0	--	1
Hexachlorobutadiene	ND		ug/kg	4.0	--	1
Isopropylbenzene	ND		ug/kg	1.0	--	1
p-Isopropyltoluene	ND		ug/kg	1.0	--	1
Naphthalene	ND		ug/kg	4.0	--	1
n-Propylbenzene	ND		ug/kg	1.0	--	1

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-09 Date Collected: 08/26/19 00:00

Client ID: TRIP BLANK Date Received: 08/26/19

Sample Location: CYPHER ST., SOUTH BOSTON 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	80	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	102		70-130

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/05/19 19:23
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01,07,09 Batch: WG1281074-5					
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: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/05/19 19:23
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01,07,09 Batch: WG1281074-5					
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: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/05/19 19:23
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01,07,09 Batch: WG1281074-5					
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	109		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	97		70-130

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/06/19 08:08
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 03,05 Batch: WG1281075-10					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/06/19 08:08
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 03,05 Batch: WG1281075-10					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	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: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/06/19 08:08
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 03,05 Batch: WG1281075-10					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	97		70-130

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/05/19 19:23
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 03-04,06,08-09 Batch: WG1281075-5					
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: CYPHER ST., BOSTON **Lab Number:** L1938617
Project Number: 143-278997-19001 **Report Date:** 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/05/19 19:23
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 03-04,06,08-09 Batch: WG1281075-5					
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: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/05/19 19:23
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 03-04,06,08-09 Batch: WG1281075-5					
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	109		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	97		70-130

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/08/19 09:38
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 02 Batch: WG1281854-5					
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: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/08/19 09:38
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 02 Batch: WG1281854-5					
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: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/08/19 09:38
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 02 Batch: WG1281854-5					
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	95		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	91		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

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): 01,07,09 Batch: WG1281074-3 WG1281074-4								
Methylene chloride	96		98		70-130	2		20
1,1-Dichloroethane	103		102		70-130	1		20
Chloroform	101		101		70-130	0		20
Carbon tetrachloride	102		103		70-130	1		20
1,2-Dichloropropane	95		96		70-130	1		20
Dibromochloromethane	94		96		70-130	2		20
1,1,2-Trichloroethane	97		100		70-130	3		20
Tetrachloroethene	94		96		70-130	2		20
Chlorobenzene	91		91		70-130	0		20
Trichlorofluoromethane	**135**	Q	**138**	Q	70-130	2		20
1,2-Dichloroethane	106		108		70-130	2		20
1,1,1-Trichloroethane	102		102		70-130	0		20
Bromodichloromethane	93		96		70-130	3		20
trans-1,3-Dichloropropene	98		100		70-130	2		20
cis-1,3-Dichloropropene	92		93		70-130	1		20
1,1-Dichloropropene	99		99		70-130	0		20
Bromoform	97		100		70-130	3		20
1,1,2,2-Tetrachloroethane	95		95		70-130	0		20
Benzene	91		91		70-130	0		20
Toluene	93		95		70-130	2		20
Ethylbenzene	96		96		70-130	0		20
Chloromethane	116		107		70-130	8		20
Bromomethane	118		118		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

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): 01,07,09 Batch: WG1281074-3 WG1281074-4								
Vinyl chloride	123		122		70-130	1		20
Chloroethane	129		**131**	Q	70-130	2		20
1,1-Dichloroethene	102		100		70-130	2		20
trans-1,2-Dichloroethene	97		97		70-130	0		20
Trichloroethene	93		94		70-130	1		20
1,2-Dichlorobenzene	93		93		70-130	0		20
1,3-Dichlorobenzene	95		94		70-130	1		20
1,4-Dichlorobenzene	95		94		70-130	1		20
Methyl tert butyl ether	101		101		70-130	0		20
p/m-Xylene	92		93		70-130	1		20
o-Xylene	91		91		70-130	0		20
cis-1,2-Dichloroethene	95		95		70-130	0		20
Dibromomethane	101		100		70-130	1		20
1,2,3-Trichloropropane	99		102		70-130	3		20
Styrene	89		90		70-130	1		20
Dichlorodifluoromethane	99		96		70-130	3		20
Acetone	118		120		70-130	2		20
Carbon disulfide	100		100		70-130	0		20
Methyl ethyl ketone	105		107		70-130	2		20
Methyl isobutyl ketone	95		97		70-130	2		20
2-Hexanone	89		89		70-130	0		20
Bromochloromethane	96		95		70-130	1		20
Tetrahydrofuran	111		105		70-130	6		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

MCP Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01,07,09 Batch: WG1281074-3 WG1281074-4

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
2,2-Dichloropropane	101		100		70-130	1		20
1,2-Dibromoethane	97		98		70-130	1		20
1,3-Dichloropropane	98		100		70-130	2		20
1,1,1,2-Tetrachloroethane	89		92		70-130	3		20
Bromobenzene	91		93		70-130	2		20
n-Butylbenzene	99		99		70-130	0		20
sec-Butylbenzene	95		95		70-130	0		20
tert-Butylbenzene	94		93		70-130	1		20
o-Chlorotoluene	96		94		70-130	2		20
p-Chlorotoluene	95		95		70-130	0		20
1,2-Dibromo-3-chloropropane	94		94		70-130	0		20
Hexachlorobutadiene	92		91		70-130	1		20
Isopropylbenzene	95		93		70-130	2		20
p-Isopropyltoluene	94		94		70-130	0		20
Naphthalene	95		92		70-130	3		20
n-Propylbenzene	98		98		70-130	0		20
1,2,3-Trichlorobenzene	95		94		70-130	1		20
1,2,4-Trichlorobenzene	96		93		70-130	3		20
1,3,5-Trimethylbenzene	94		94		70-130	0		20
1,2,4-Trimethylbenzene	93		94		70-130	1		20
Diethyl ether	115		117		70-130	2		20
Diisopropyl Ether	102		102		70-130	0		20
Ethyl-Tert-Butyl-Ether	100		100		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

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): 01,07,09 Batch: WG1281074-3 WG1281074-4								
Tertiary-Amyl Methyl Ether	93		93		70-130	0		20
1,4-Dioxane	85		88		70-130	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	108		108		70-130
Toluene-d8	97		97		70-130
4-Bromofluorobenzene	93		93		70-130
Dibromofluoromethane	100		99		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

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): 03-04,06,08-09 Batch: WG1281075-3 WG1281075-4								
Methylene chloride	96		98		70-130	2		20
1,1-Dichloroethane	103		102		70-130	1		20
Chloroform	101		101		70-130	0		20
Carbon tetrachloride	102		103		70-130	1		20
1,2-Dichloropropane	95		96		70-130	1		20
Dibromochloromethane	94		96		70-130	2		20
1,1,2-Trichloroethane	97		100		70-130	3		20
Tetrachloroethene	94		96		70-130	2		20
Chlorobenzene	91		91		70-130	0		20
Trichlorofluoromethane	**135**	Q	**138**	Q	70-130	2		20
1,2-Dichloroethane	106		108		70-130	2		20
1,1,1-Trichloroethane	102		102		70-130	0		20
Bromodichloromethane	93		96		70-130	3		20
trans-1,3-Dichloropropene	98		100		70-130	2		20
cis-1,3-Dichloropropene	92		93		70-130	1		20
1,1-Dichloropropene	99		99		70-130	0		20
Bromoform	97		100		70-130	3		20
1,1,2,2-Tetrachloroethane	95		95		70-130	0		20
Benzene	91		91		70-130	0		20
Toluene	93		95		70-130	2		20
Ethylbenzene	96		96		70-130	0		20
Chloromethane	116		107		70-130	8		20
Bromomethane	118		118		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

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): 03-04,06,08-09 Batch: WG1281075-3 WG1281075-4								
Vinyl chloride	123		122		70-130	1		20
Chloroethane	129		**131**	Q	70-130	2		20
1,1-Dichloroethene	102		100		70-130	2		20
trans-1,2-Dichloroethene	97		97		70-130	0		20
Trichloroethene	93		94		70-130	1		20
1,2-Dichlorobenzene	93		93		70-130	0		20
1,3-Dichlorobenzene	95		94		70-130	1		20
1,4-Dichlorobenzene	95		94		70-130	1		20
Methyl tert butyl ether	101		101		70-130	0		20
p/m-Xylene	92		93		70-130	1		20
o-Xylene	91		91		70-130	0		20
cis-1,2-Dichloroethene	95		95		70-130	0		20
Dibromomethane	101		100		70-130	1		20
1,2,3-Trichloropropane	99		102		70-130	3		20
Styrene	89		90		70-130	1		20
Dichlorodifluoromethane	99		96		70-130	3		20
Acetone	118		120		70-130	2		20
Carbon disulfide	100		100		70-130	0		20
Methyl ethyl ketone	105		107		70-130	2		20
Methyl isobutyl ketone	95		97		70-130	2		20
2-Hexanone	89		89		70-130	0		20
Bromochloromethane	96		95		70-130	1		20
Tetrahydrofuran	111		105		70-130	6		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

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): 03-04,06,08-09 Batch: WG1281075-3 WG1281075-4								
2,2-Dichloropropane	101		100		70-130	1		20
1,2-Dibromoethane	97		98		70-130	1		20
1,3-Dichloropropane	98		100		70-130	2		20
1,1,1,2-Tetrachloroethane	89		92		70-130	3		20
Bromobenzene	91		93		70-130	2		20
n-Butylbenzene	99		99		70-130	0		20
sec-Butylbenzene	95		95		70-130	0		20
tert-Butylbenzene	94		93		70-130	1		20
o-Chlorotoluene	96		94		70-130	2		20
p-Chlorotoluene	95		95		70-130	0		20
1,2-Dibromo-3-chloropropane	94		94		70-130	0		20
Hexachlorobutadiene	92		91		70-130	1		20
Isopropylbenzene	95		93		70-130	2		20
p-Isopropyltoluene	94		94		70-130	0		20
Naphthalene	95		92		70-130	3		20
n-Propylbenzene	98		98		70-130	0		20
1,2,3-Trichlorobenzene	95		94		70-130	1		20
1,2,4-Trichlorobenzene	96		93		70-130	3		20
1,3,5-Trimethylbenzene	94		94		70-130	0		20
1,2,4-Trimethylbenzene	93		94		70-130	1		20
Diethyl ether	115		117		70-130	2		20
Diisopropyl Ether	102		102		70-130	0		20
Ethyl-Tert-Butyl-Ether	100		100		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

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): 03-04,06,08-09 Batch: WG1281075-3 WG1281075-4								
Tertiary-Amyl Methyl Ether	93		93		70-130	0		20
1,4-Dioxane	85		88		70-130	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	108		108		70-130
Toluene-d8	97		97		70-130
4-Bromofluorobenzene	93		93		70-130
Dibromofluoromethane	100		99		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

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): 03,05 Batch: WG1281075-8 WG1281075-9								
Methylene chloride	92		92		70-130	0		20
1,1-Dichloroethane	95		94		70-130	1		20
Chloroform	94		94		70-130	0		20
Carbon tetrachloride	90		88		70-130	2		20
1,2-Dichloropropane	90		90		70-130	0		20
Dibromochloromethane	91		93		70-130	2		20
1,1,2-Trichloroethane	95		97		70-130	2		20
Tetrachloroethene	83		82		70-130	1		20
Chlorobenzene	84		84		70-130	0		20
Trichlorofluoromethane	113		112		70-130	1		20
1,2-Dichloroethane	102		102		70-130	0		20
1,1,1-Trichloroethane	89		88		70-130	1		20
Bromodichloromethane	88		88		70-130	0		20
trans-1,3-Dichloropropene	93		94		70-130	1		20
cis-1,3-Dichloropropene	85		87		70-130	2		20
1,1-Dichloropropene	86		85		70-130	1		20
Bromoform	93		94		70-130	1		20
1,1,2,2-Tetrachloroethane	90		94		70-130	4		20
Benzene	83		82		70-130	1		20
Toluene	85		84		70-130	1		20
Ethylbenzene	86		85		70-130	1		20
Chloromethane	106		96		70-130	10		20
Bromomethane	101		97		70-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

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): 03,05 Batch: WG1281075-8 WG1281075-9								
Vinyl chloride	103		101		70-130	2		20
Chloroethane	110		107		70-130	3		20
1,1-Dichloroethene	89		88		70-130	1		20
trans-1,2-Dichloroethene	88		87		70-130	1		20
Trichloroethene	84		83		70-130	1		20
1,2-Dichlorobenzene	88		88		70-130	0		20
1,3-Dichlorobenzene	88		86		70-130	2		20
1,4-Dichlorobenzene	87		87		70-130	0		20
Methyl tert butyl ether	96		99		70-130	3		20
p/m-Xylene	84		83		70-130	1		20
o-Xylene	84		83		70-130	1		20
cis-1,2-Dichloroethene	87		87		70-130	0		20
Dibromomethane	95		98		70-130	3		20
1,2,3-Trichloropropane	100		101		70-130	1		20
Styrene	84		82		70-130	2		20
Dichlorodifluoromethane	84		80		70-130	5		20
Acetone	117		119		70-130	2		20
Carbon disulfide	87		86		70-130	1		20
Methyl ethyl ketone	97		108		70-130	11		20
Methyl isobutyl ketone	87		93		70-130	7		20
2-Hexanone	83		86		70-130	4		20
Bromochloromethane	91		90		70-130	1		20
Tetrahydrofuran	107		112		70-130	5		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

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): 03,05 Batch: WG1281075-8 WG1281075-9								
2,2-Dichloropropane	89		87		70-130	2		20
1,2-Dibromoethane	91		94		70-130	3		20
1,3-Dichloropropane	95		95		70-130	0		20
1,1,1,2-Tetrachloroethane	85		84		70-130	1		20
Bromobenzene	85		86		70-130	1		20
n-Butylbenzene	82		81		70-130	1		20
sec-Butylbenzene	82		79		70-130	4		20
tert-Butylbenzene	81		79		70-130	3		20
o-Chlorotoluene	88		87		70-130	1		20
p-Chlorotoluene	88		86		70-130	2		20
1,2-Dibromo-3-chloropropane	88		86		70-130	2		20
Hexachlorobutadiene	70		**69**	Q	70-130	1		20
Isopropylbenzene	84		82		70-130	2		20
p-Isopropyltoluene	80		79		70-130	1		20
Naphthalene	84		86		70-130	2		20
n-Propylbenzene	86		85		70-130	1		20
1,2,3-Trichlorobenzene	83		82		70-130	1		20
1,2,4-Trichlorobenzene	82		82		70-130	0		20
1,3,5-Trimethylbenzene	84		84		70-130	0		20
1,2,4-Trimethylbenzene	85		84		70-130	1		20
Diethyl ether	106		108		70-130	2		20
Diisopropyl Ether	100		100		70-130	0		20
Ethyl-Tert-Butyl-Ether	97		98		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

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): 03,05 Batch: WG1281075-8 WG1281075-9								
Tertiary-Amyl Methyl Ether	88		90		70-130	2		20
1,4-Dioxane	98		101		70-130	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	108		108		70-130
Toluene-d8	97		97		70-130
4-Bromofluorobenzene	95		94		70-130
Dibromofluoromethane	99		100		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

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): 02 Batch: WG1281854-3 WG1281854-4								
Methylene chloride	129		130		70-130	1		20
1,1-Dichloroethane	96		95		70-130	1		20
Chloroform	97		97		70-130	0		20
Carbon tetrachloride	106		105		70-130	1		20
1,2-Dichloropropane	91		91		70-130	0		20
Dibromochloromethane	102		101		70-130	1		20
1,1,2-Trichloroethane	93		94		70-130	1		20
Tetrachloroethene	109		107		70-130	2		20
Chlorobenzene	103		102		70-130	1		20
Trichlorofluoromethane	105		104		70-130	1		20
1,2-Dichloroethane	92		92		70-130	0		20
1,1,1-Trichloroethane	106		104		70-130	2		20
Bromodichloromethane	98		97		70-130	1		20
trans-1,3-Dichloropropene	98		97		70-130	1		20
cis-1,3-Dichloropropene	94		93		70-130	1		20
1,1-Dichloropropene	102		101		70-130	1		20
Bromoform	93		92		70-130	1		20
1,1,2,2-Tetrachloroethane	96		97		70-130	1		20
Benzene	96		95		70-130	1		20
Toluene	101		101		70-130	0		20
Ethylbenzene	104		103		70-130	1		20
Chloromethane	107		106		70-130	1		20
Bromomethane	90		89		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

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): 02 Batch: WG1281854-3 WG1281854-4								
Vinyl chloride	97		95		70-130	2		20
Chloroethane	83		82		70-130	1		20
1,1-Dichloroethene	102		101		70-130	1		20
trans-1,2-Dichloroethene	98		98		70-130	0		20
Trichloroethene	101		101		70-130	0		20
1,2-Dichlorobenzene	102		101		70-130	1		20
1,3-Dichlorobenzene	106		105		70-130	1		20
1,4-Dichlorobenzene	105		104		70-130	1		20
Methyl tert butyl ether	84		84		70-130	0		20
p/m-Xylene	106		105		70-130	1		20
o-Xylene	102		102		70-130	0		20
cis-1,2-Dichloroethene	95		94		70-130	1		20
Dibromomethane	90		90		70-130	0		20
1,2,3-Trichloropropane	94		94		70-130	0		20
Styrene	103		103		70-130	0		20
Dichlorodifluoromethane	114		114		70-130	0		20
Acetone	98		101		70-130	3		20
Carbon disulfide	96		96		70-130	0		20
Methyl ethyl ketone	90		94		70-130	4		20
Methyl isobutyl ketone	87		88		70-130	1		20
2-Hexanone	96		97		70-130	1		20
Bromochloromethane	96		95		70-130	1		20
Tetrahydrofuran	97		98		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

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): 02 Batch: WG1281854-3 WG1281854-4								
2,2-Dichloropropane	98		97		70-130	1		20
1,2-Dibromoethane	98		98		70-130	0		20
1,3-Dichloropropane	94		94		70-130	0		20
1,1,1,2-Tetrachloroethane	104		103		70-130	1		20
Bromobenzene	100		100		70-130	0		20
n-Butylbenzene	111		111		70-130	0		20
sec-Butylbenzene	109		109		70-130	0		20
tert-Butylbenzene	108		107		70-130	1		20
o-Chlorotoluene	105		104		70-130	1		20
p-Chlorotoluene	105		105		70-130	0		20
1,2-Dibromo-3-chloropropane	94		96		70-130	2		20
Hexachlorobutadiene	105		105		70-130	0		20
Isopropylbenzene	108		107		70-130	1		20
p-Isopropyltoluene	110		109		70-130	1		20
Naphthalene	97		98		70-130	1		20
n-Propylbenzene	108		108		70-130	0		20
1,2,3-Trichlorobenzene	100		102		70-130	2		20
1,2,4-Trichlorobenzene	105		106		70-130	1		20
1,3,5-Trimethylbenzene	107		107		70-130	0		20
1,2,4-Trimethylbenzene	107		106		70-130	1		20
Diethyl ether	87		88		70-130	1		20
Diisopropyl Ether	98		99		70-130	1		20
Ethyl-Tert-Butyl-Ether	85		86		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

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): 02 Batch: WG1281854-3 WG1281854-4								
Tertiary-Amyl Methyl Ether	82		82		70-130	0		20
1,4-Dioxane	101		103		70-130	2		20

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

SEMIVOLATILES

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-01 D2
Client ID: TT-13 (2-4')
Sample Location: CYPHER ST., SOUTH BOSTON

Date Collected: 08/26/19 11:10
Date Received: 08/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/10/19 15:55
Analyst: JG
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 09/02/19 16:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Fluoranthene	86000		ug/kg	2700	--	25
Phenanthrene	95000		ug/kg	2700	--	25

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-01 D
Client ID: TT-13 (2-4')
Sample Location: CYPHER ST., SOUTH BOSTON

Date Collected: 08/26/19 11:10
Date Received: 08/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/09/19 17:30
Analyst: HL
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 09/02/19 16:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Acenaphthene	12000		ug/kg	1400	--	10
Fluoranthene	82000	E	ug/kg	1100	--	10
Naphthalene	14000		ug/kg	1800	--	10
Benzo(a)anthracene	29000		ug/kg	1100	--	10
Benzo(a)pyrene	20000		ug/kg	1400	--	10
Benzo(b)fluoranthene	27000		ug/kg	1100	--	10
Benzo(k)fluoranthene	9400		ug/kg	1100	--	10
Chrysene	27000		ug/kg	1100	--	10
Acenaphthylene	4200		ug/kg	1400	--	10
Anthracene	24000		ug/kg	1100	--	10
Benzo(ghi)perylene	11000		ug/kg	1400	--	10
Fluorene	19000		ug/kg	1800	--	10
Phenanthrene	96000	E	ug/kg	1100	--	10
Dibenzo(a,h)anthracene	2700		ug/kg	1100	--	10
Indeno(1,2,3-cd)pyrene	13000		ug/kg	1400	--	10
Pyrene	62000		ug/kg	1100	--	10
2-Methylnaphthalene	7200		ug/kg	2100	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	64		30-130
2-Fluorobiphenyl	44		30-130
4-Terphenyl-d14	33		30-130

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-02 D
Client ID: TT-13 (4-4.75')
Sample Location: CYPHER ST., SOUTH BOSTON

Date Collected: 08/26/19 11:20
Date Received: 08/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/12/19 09:32
Analyst: HL
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 09/07/19 13:37

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Acenaphthene	1600		ug/kg	1500	--	10
Fluoranthene	17000		ug/kg	1100	--	10
Naphthalene	2900		ug/kg	1900	--	10
Benzo(a)anthracene	7900		ug/kg	1100	--	10
Benzo(a)pyrene	7300		ug/kg	1500	--	10
Benzo(b)fluoranthene	9200		ug/kg	1100	--	10
Benzo(k)fluoranthene	3100		ug/kg	1100	--	10
Chrysene	7400		ug/kg	1100	--	10
Acenaphthylene	ND		ug/kg	1500	--	10
Anthracene	2700		ug/kg	1100	--	10
Benzo(ghi)perylene	3900		ug/kg	1500	--	10
Fluorene	ND		ug/kg	1900	--	10
Phenanthrene	13000		ug/kg	1100	--	10
Dibenzo(a,h)anthracene	ND		ug/kg	1100	--	10
Indeno(1,2,3-cd)pyrene	4300		ug/kg	1500	--	10
Pyrene	14000		ug/kg	1100	--	10
2-Methylnaphthalene	ND		ug/kg	2200	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	76		30-130
2-Fluorobiphenyl	100		30-130
4-Terphenyl-d14	79		30-130

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-03
Client ID: TT-14 (0-2')
Sample Location: CYPHER ST., SOUTH BOSTON

Date Collected: 08/26/19 12:00
Date Received: 08/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/06/19 05:01
Analyst: IM
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 09/02/19 16:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Acenaphthene	ND		ug/kg	140	--	1
Fluoranthene	2500		ug/kg	110	--	1
Naphthalene	880		ug/kg	180	--	1
Benzo(a)anthracene	1500		ug/kg	110	--	1
Benzo(a)pyrene	1400		ug/kg	140	--	1
Benzo(b)fluoranthene	2500		ug/kg	110	--	1
Benzo(k)fluoranthene	660		ug/kg	110	--	1
Chrysene	1600		ug/kg	110	--	1
Acenaphthylene	610		ug/kg	140	--	1
Anthracene	480		ug/kg	110	--	1
Benzo(ghi)perylene	1100		ug/kg	140	--	1
Fluorene	ND		ug/kg	180	--	1
Phenanthrene	1400		ug/kg	110	--	1
Dibenzo(a,h)anthracene	260		ug/kg	110	--	1
Indeno(1,2,3-cd)pyrene	1200		ug/kg	140	--	1
Pyrene	2200		ug/kg	110	--	1
2-Methylnaphthalene	800		ug/kg	220	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	95		30-130
2-Fluorobiphenyl	86		30-130
4-Terphenyl-d14	71		30-130

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-05 D
Client ID: TT-15 (0-2')
Sample Location: CYPHER ST., SOUTH BOSTON

Date Collected: 08/26/19 12:40
Date Received: 08/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/06/19 13:38
Analyst: SZ
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 09/02/19 16:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Acenaphthene	ND		ug/kg	280	--	2
Fluoranthene	4800		ug/kg	210	--	2
Naphthalene	800		ug/kg	350	--	2
Benzo(a)anthracene	4600		ug/kg	210	--	2
Benzo(a)pyrene	6000		ug/kg	280	--	2
Benzo(b)fluoranthene	11000		ug/kg	210	--	2
Benzo(k)fluoranthene	2400		ug/kg	210	--	2
Chrysene	4900		ug/kg	210	--	2
Acenaphthylene	2300		ug/kg	280	--	2
Anthracene	1500		ug/kg	210	--	2
Benzo(ghi)perylene	3800		ug/kg	280	--	2
Fluorene	ND		ug/kg	350	--	2
Phenanthrene	1800		ug/kg	210	--	2
Dibenzo(a,h)anthracene	1100		ug/kg	210	--	2
Indeno(1,2,3-cd)pyrene	4400		ug/kg	280	--	2
Pyrene	5300		ug/kg	210	--	2
2-Methylnaphthalene	510		ug/kg	420	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	59		30-130
2-Fluorobiphenyl	72		30-130
4-Terphenyl-d14	80		30-130

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-07
Client ID: TT-19 (0-2')
Sample Location: CYPHER ST., SOUTH BOSTON

Date Collected: 08/26/19 14:00
Date Received: 08/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/08/19 23:29
Analyst: RC
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 16:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	14000		ug/kg	460	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	570	--	1
Hexachlorobenzene	ND		ug/kg	340	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	510	--	1
2-Chloronaphthalene	ND		ug/kg	570	--	1
1,2-Dichlorobenzene	ND		ug/kg	570	--	1
1,3-Dichlorobenzene	ND		ug/kg	570	--	1
1,4-Dichlorobenzene	ND		ug/kg	570	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	570	--	1
2,4-Dinitrotoluene	ND		ug/kg	570	--	1
2,6-Dinitrotoluene	ND		ug/kg	570	--	1
Azobenzene	ND		ug/kg	570	--	1
Fluoranthene	61000	E	ug/kg	340	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	570	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	680	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	610	--	1
Hexachlorobutadiene	ND		ug/kg	570	--	1
Hexachloroethane	ND		ug/kg	460	--	1
Isophorone	ND		ug/kg	510	--	1
Naphthalene	14000		ug/kg	570	--	1
Nitrobenzene	ND		ug/kg	510	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	570	--	1
Butyl benzyl phthalate	ND		ug/kg	570	--	1
Di-n-butylphthalate	ND		ug/kg	570	--	1
Di-n-octylphthalate	ND		ug/kg	570	--	1
Diethyl phthalate	ND		ug/kg	570	--	1
Dimethyl phthalate	ND		ug/kg	570	--	1
Benzo(a)anthracene	29000	E	ug/kg	340	--	1

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-07 Date Collected: 08/26/19 14:00

Client ID: TT-19 (0-2') Date Received: 08/26/19

Sample Location: CYPHER ST., SOUTH BOSTON Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	28000	E	ug/kg	460	--	1
Benzo(b)fluoranthene	34000	E	ug/kg	340	--	1
Benzo(k)fluoranthene	12000		ug/kg	340	--	1
Chrysene	24000	E	ug/kg	340	--	1
Acenaphthylene	ND		ug/kg	460	--	1
Anthracene	20000		ug/kg	340	--	1
Benzo(ghi)perylene	15000		ug/kg	460	--	1
Fluorene	11000		ug/kg	570	--	1
Phenanthrene	58000	E	ug/kg	340	--	1
Dibenzo(a,h)anthracene	4000		ug/kg	340	--	1
Indeno(1,2,3-cd)pyrene	18000		ug/kg	460	--	1
Pyrene	46000	E	ug/kg	340	--	1
Aniline	ND		ug/kg	680	--	1
4-Chloroaniline	ND		ug/kg	570	--	1
Dibenzofuran	7500		ug/kg	570	--	1
2-Methylnaphthalene	3700		ug/kg	680	--	1
Acetophenone	ND		ug/kg	570	--	1
2,4,6-Trichlorophenol	ND		ug/kg	340	--	1
2-Chlorophenol	ND		ug/kg	570	--	1
2,4-Dichlorophenol	ND		ug/kg	510	--	1
2,4-Dimethylphenol	ND		ug/kg	570	--	1
2-Nitrophenol	ND		ug/kg	1200	--	1
4-Nitrophenol	ND		ug/kg	800	--	1
2,4-Dinitrophenol	ND		ug/kg	2700	--	1
Pentachlorophenol	ND		ug/kg	1100	--	1
Phenol	ND		ug/kg	570	--	1
2-Methylphenol	ND		ug/kg	570	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	820	--	1
2,4,5-Trichlorophenol	ND		ug/kg	570	--	1
Pyridine	ND		ug/kg	610	--	1

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-07 Date Collected: 08/26/19 14:00

Client ID: TT-19 (0-2') Date Received: 08/26/19

Sample Location: CYPHER ST., SOUTH BOSTON Field Prep: Not Specified

Sample Depth:

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	51		30-130
Phenol-d6	62		30-130
Nitrobenzene-d5	52		30-130
2-Fluorobiphenyl	47		30-130
2,4,6-Tribromophenol	32		30-130
4-Terphenyl-d14	46		30-130

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-07 D
Client ID: TT-19 (0-2')
Sample Location: CYPHER ST., SOUTH BOSTON

Date Collected: 08/26/19 14:00
Date Received: 08/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/09/19 17:54
Analyst: HL
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 16:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Fluoranthene	52000		ug/kg	3400	--	10
Benzo(a)anthracene	21000		ug/kg	3400	--	10
Benzo(a)pyrene	17000		ug/kg	4600	--	10
Benzo(b)fluoranthene	23000		ug/kg	3400	--	10
Chrysene	19000		ug/kg	3400	--	10
Phenanthrene	56000		ug/kg	3400	--	10
Pyrene	39000		ug/kg	3400	--	10

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-08
Client ID: TT-19 (2-4')
Sample Location: CYPHER ST., SOUTH BOSTON

Date Collected: 08/26/19 14:28
Date Received: 08/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/05/19 08:16
Analyst: IM
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 09/02/19 16:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Acenaphthene	1100		ug/kg	150	--	1
Fluoranthene	5900		ug/kg	110	--	1
Naphthalene	1400		ug/kg	190	--	1
Benzo(a)anthracene	2600		ug/kg	110	--	1
Benzo(a)pyrene	2100		ug/kg	150	--	1
Benzo(b)fluoranthene	2800		ug/kg	110	--	1
Benzo(k)fluoranthene	1000		ug/kg	110	--	1
Chrysene	2200		ug/kg	110	--	1
Acenaphthylene	ND		ug/kg	150	--	1
Anthracene	1600		ug/kg	110	--	1
Benzo(ghi)perylene	1300		ug/kg	150	--	1
Fluorene	1000		ug/kg	190	--	1
Phenanthrene	5400		ug/kg	110	--	1
Dibenzo(a,h)anthracene	340		ug/kg	110	--	1
Indeno(1,2,3-cd)pyrene	1500		ug/kg	150	--	1
Pyrene	4600		ug/kg	110	--	1
2-Methylnaphthalene	580		ug/kg	230	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	108		30-130
2-Fluorobiphenyl	96		30-130
4-Terphenyl-d14	79		30-130

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 09/03/19 15:07
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 09/02/19 01:44

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01,03,05,08 Batch: WG1279307-1					
Acenaphthene	ND		ug/kg	130	--
Fluoranthene	ND		ug/kg	99	--
Naphthalene	ND		ug/kg	160	--
Benzo(a)anthracene	ND		ug/kg	99	--
Benzo(a)pyrene	ND		ug/kg	130	--
Benzo(b)fluoranthene	ND		ug/kg	99	--
Benzo(k)fluoranthene	ND		ug/kg	99	--
Chrysene	ND		ug/kg	99	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	99	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	99	--
Dibenzo(a,h)anthracene	ND		ug/kg	99	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	99	--
2-Methylnaphthalene	ND		ug/kg	200	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	70		30-130
2-Fluorobiphenyl	60		30-130
4-Terphenyl-d14	66		30-130

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 09/08/19 17:54
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 09/06/19 16:40

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 07 Batch: WG1281256-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	99	--
Bis(2-chloroethyl)ether	ND		ug/kg	150	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	160	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	160	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	99	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	200	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	130	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	160	--
Benzo(a)anthracene	ND		ug/kg	99	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 09/08/19 17:54
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 09/06/19 16:40

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 07 Batch: WG1281256-1					
Benzo(b)fluoranthene	ND		ug/kg	99	--
Benzo(k)fluoranthene	ND		ug/kg	99	--
Chrysene	ND		ug/kg	99	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	99	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	99	--
Dibenzo(a,h)anthracene	ND		ug/kg	99	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	99	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	200	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	99	--
2-Chlorophenol	ND		ug/kg	160	--
2,4-Dichlorophenol	ND		ug/kg	150	--
2,4-Dimethylphenol	ND		ug/kg	160	--
2-Nitrophenol	ND		ug/kg	360	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	790	--
Pentachlorophenol	ND		ug/kg	330	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 09/08/19 17:54
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 09/06/19 16:40

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 07 Batch: WG1281256-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	53		30-130
Phenol-d6	55		30-130
Nitrobenzene-d5	42		30-130
2-Fluorobiphenyl	38		30-130
2,4,6-Tribromophenol	44		30-130
4-Terphenyl-d14	40		30-130

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 09/08/19 17:50
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 09/06/19 18:21

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 02 Batch: WG1281314-1					
Acenaphthene	ND		ug/kg	130	--
Fluoranthene	ND		ug/kg	99	--
Naphthalene	ND		ug/kg	160	--
Benzo(a)anthracene	ND		ug/kg	99	--
Benzo(a)pyrene	ND		ug/kg	130	--
Benzo(b)fluoranthene	ND		ug/kg	99	--
Benzo(k)fluoranthene	ND		ug/kg	99	--
Chrysene	ND		ug/kg	99	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	99	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	99	--
Dibenzo(a,h)anthracene	ND		ug/kg	99	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	99	--
2-Methylnaphthalene	ND		ug/kg	200	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	51		30-130
2-Fluorobiphenyl	67		30-130
4-Terphenyl-d14	72		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01,03,05,08 Batch: WG1279307-2 WG1279307-3								
Acenaphthene	78		78		40-140	0		30
Fluoranthene	85		83		40-140	2		30
Naphthalene	72		70		40-140	3		30
Benzo(a)anthracene	83		84		40-140	1		30
Benzo(a)pyrene	83		84		40-140	1		30
Benzo(b)fluoranthene	84		84		40-140	0		30
Benzo(k)fluoranthene	82		83		40-140	1		30
Chrysene	81		81		40-140	0		30
Acenaphthylene	81		81		40-140	0		30
Anthracene	86		85		40-140	1		30
Benzo(ghi)perylene	83		83		40-140	0		30
Fluorene	81		81		40-140	0		30
Phenanthrene	81		80		40-140	1		30
Dibenzo(a,h)anthracene	83		83		40-140	0		30
Indeno(1,2,3-cd)pyrene	83		83		40-140	0		30
Pyrene	82		81		40-140	1		30
2-Methylnaphthalene	104		100		40-140	4		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST., BOSTON

Project Number: 143-278997-19001

Lab Number: L1938617

Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01,03,05,08 Batch: WG1279307-2 WG1279307-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	66		72		30-130
2-Fluorobiphenyl	58		61		30-130
4-Terphenyl-d14	58		61		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 07 Batch: WG1281256-2 WG1281256-3								
Acenaphthene	47		46		40-140	2		30
1,2,4-Trichlorobenzene	46		44		40-140	4		30
Hexachlorobenzene	41		42		40-140	2		30
Bis(2-chloroethyl)ether	46		44		40-140	4		30
2-Chloronaphthalene	47		46		40-140	2		30
1,2-Dichlorobenzene	46		42		40-140	9		30
1,3-Dichlorobenzene	46		43		40-140	7		30
1,4-Dichlorobenzene	45		43		40-140	5		30
3,3'-Dichlorobenzidine	**30**	Q	**36**	Q	40-140	18		30
2,4-Dinitrotoluene	48		49		40-140	2		30
2,6-Dinitrotoluene	51		50		40-140	2		30
Azobenzene	45		44		40-140	2		30
Fluoranthene	46		44		40-140	4		30
4-Bromophenyl phenyl ether	46		45		40-140	2		30
Bis(2-chloroisopropyl)ether	47		45		40-140	4		30
Bis(2-chloroethoxy)methane	46		47		40-140	2		30
Hexachlorobutadiene	42		**39**	Q	40-140	7		30
Hexachloroethane	43		42		40-140	2		30
Isophorone	50		49		40-140	2		30
Naphthalene	45		42		40-140	7		30
Nitrobenzene	49		47		40-140	4		30
Bis(2-ethylhexyl)phthalate	52		54		40-140	4		30
Butyl benzyl phthalate	46		46		40-140	0		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 07 Batch: WG1281256-2 WG1281256-3								
Di-n-butylphthalate	44		45		40-140	2		30
Di-n-octylphthalate	55		55		40-140	0		30
Diethyl phthalate	47		48		40-140	2		30
Dimethyl phthalate	47		48		40-140	2		30
Benzo(a)anthracene	47		46		40-140	2		30
Benzo(a)pyrene	49		47		40-140	4		30
Benzo(b)fluoranthene	52		50		40-140	4		30
Benzo(k)fluoranthene	50		48		40-140	4		30
Chrysene	45		44		40-140	2		30
Acenaphthylene	46		46		40-140	0		30
Anthracene	46		45		40-140	2		30
Benzo(ghi)perylene	49		46		40-140	6		30
Fluorene	48		48		40-140	0		30
Phenanthrene	44		44		40-140	0		30
Dibenzo(a,h)anthracene	51		49		40-140	4		30
Indeno(1,2,3-cd)pyrene	51		49		40-140	4		30
Pyrene	44		42		40-140	5		30
Aniline	**35**	Q	44		40-140	23		30
4-Chloroaniline	**38**	Q	48		40-140	23		30
Dibenzofuran	47		46		40-140	2		30
2-Methylnaphthalene	48		47		40-140	2		30
Acetophenone	54		53		40-140	2		30
2,4,6-Trichlorophenol	48		50		30-130	4		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 07 Batch: WG1281256-2 WG1281256-3								
2-Chlorophenol	51		49		30-130	4		30
2,4-Dichlorophenol	54		53		30-130	2		30
2,4-Dimethylphenol	49		52		30-130	6		30
2-Nitrophenol	53		51		30-130	4		30
4-Nitrophenol	53		53		30-130	0		30
2,4-Dinitrophenol	**26**	Q	34		30-130	27		30
Pentachlorophenol	46		45		30-130	2		30
Phenol	56		55		30-130	2		30
2-Methylphenol	52		51		30-130	2		30
3-Methylphenol/4-Methylphenol	54		53		30-130	2		30
2,4,5-Trichlorophenol	49		49		30-130	0		30
Pyridine	39		36		30-130	8		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	52		50		30-130
Phenol-d6	52		51		30-130
Nitrobenzene-d5	39		39		30-130
2-Fluorobiphenyl	36		36		30-130
2,4,6-Tribromophenol	43		41		30-130
4-Terphenyl-d14	34		33		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 02 Batch: WG1281314-2 WG1281314-3								
Acenaphthene	72		77		40-140	7		30
Fluoranthene	72		75		40-140	4		30
Naphthalene	68		74		40-140	8		30
Benzo(a)anthracene	69		74		40-140	7		30
Benzo(a)pyrene	76		81		40-140	6		30
Benzo(b)fluoranthene	74		79		40-140	7		30
Benzo(k)fluoranthene	84		90		40-140	7		30
Chrysene	76		81		40-140	6		30
Acenaphthylene	75		80		40-140	6		30
Anthracene	72		75		40-140	4		30
Benzo(ghi)perylene	76		82		40-140	8		30
Fluorene	74		79		40-140	7		30
Phenanthrene	68		73		40-140	7		30
Dibenzo(a,h)anthracene	74		79		40-140	7		30
Indeno(1,2,3-cd)pyrene	70		76		40-140	8		30
Pyrene	70		72		40-140	3		30
2-Methylnaphthalene	71		78		40-140	9		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST., BOSTON

Project Number: 143-278997-19001

Lab Number: L1938617

Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 02 Batch: WG1281314-2 WG1281314-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	49		53		30-130
2-Fluorobiphenyl	59		64		30-130
4-Terphenyl-d14	57		60		30-130

PETROLEUM HYDROCARBONS

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-07 D
Client ID: TT-19 (0-2')
Sample Location: CYPHER ST., SOUTH BOSTON

Date Collected: 08/26/19 14:00
Date Received: 08/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 09/07/19 19:41
Analyst: LL
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 09/05/19 23:56

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	5810000		ug/kg	671000	--	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	88		40-140

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 09/06/19 00:29
Analyst: MEO

Extraction Method: EPA 3546
Extraction Date: 09/05/19 06:16

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 07 Batch: WG1280438-1					
TPH	ND		ug/kg	32600	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	79		40-140

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 07 Batch: WG1280438-2								
TPH	83		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	78				40-140

Project Name:	CYPHER ST., BOSTON	**Lab Number:**	L1938617
Project Number:	143-278997-19001	**Report Date:**	09/13/19

SAMPLE RESULTS

Lab ID:	L1938617-01	Date Collected:	08/26/19 11:10
Client ID:	TT-13 (2-4')	Date Received:	08/26/19
Sample Location:	CYPHER ST., SOUTH BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	08/31/19 19:39
Analyst:	MKS
Percent Solids:	92%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1:1 +/- 25%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	6.58	--	1
C9-C12 Aliphatics	ND		mg/kg	6.58	--	1
C9-C10 Aromatics	ND		mg/kg	6.58	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	6.58	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	6.58	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	121		70-130
2,5-Dibromotoluene-FID	122		70-130

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID:	L1938617-01 D	Date Collected:	08/26/19 11:10
Client ID:	TT-13 (2-4')	Date Received:	08/26/19
Sample Location:	CYPHER ST., SOUTH BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/02/19 14:34
Analytical Date:	09/05/19 11:35	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/03/19
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	35.2	--	5
C19-C36 Aliphatics	259		mg/kg	35.2	--	5
C11-C22 Aromatics	688		mg/kg	35.2	--	5
C11-C22 Aromatics, Adjusted	403		mg/kg	35.2	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	68		40-140
o-Terphenyl	**209**	Q	40-140
2-Fluorobiphenyl	93		40-140
2-Bromonaphthalene	91		40-140

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID:	L1938617-02	Date Collected:	08/26/19 11:20
Client ID:	TT-13 (4-4.75')	Date Received:	08/26/19
Sample Location:	CYPHER ST., SOUTH BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	09/12/19 04:48
Analyst:	MKS
Percent Solids:	87%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1:1 +/- 25%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	6.91	--	1
C9-C12 Aliphatics	ND		mg/kg	6.91	--	1
C9-C10 Aromatics	ND		mg/kg	6.91	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	6.91	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	6.91	--	1

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

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID:	L1938617-02	Date Collected:	08/26/19 11:20
Client ID:	TT-13 (4-4.75')	Date Received:	08/26/19
Sample Location:	CYPHER ST., SOUTH BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/07/19 15:41
Analytical Date:	09/10/19 14:30	Cleanup Method1:	EPH-04-1
Analyst:	SR	Cleanup Date1:	09/09/19
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	7.21	--	1
C19-C36 Aliphatics	ND		mg/kg	7.21	--	1
C11-C22 Aromatics	128		mg/kg	7.21	--	1
C11-C22 Aromatics, Adjusted	73.5		mg/kg	7.21	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	61		40-140
o-Terphenyl	66		40-140
2-Fluorobiphenyl	79		40-140
2-Bromonaphthalene	79		40-140

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID:	L1938617-03	Date Collected:	08/26/19 12:00
Client ID:	TT-14 (0-2')	Date Received:	08/26/19
Sample Location:	CYPHER ST., SOUTH BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	08/31/19 16:05
Analyst:	MKS
Percent Solids:	91%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1:1 +/- 25%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	5.66	--	1
C9-C12 Aliphatics	ND		mg/kg	5.66	--	1
C9-C10 Aromatics	ND		mg/kg	5.66	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	5.66	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	5.66	--	1

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

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID:	L1938617-03	Date Collected:	08/26/19 12:00
Client ID:	TT-14 (0-2')	Date Received:	08/26/19
Sample Location:	CYPHER ST., SOUTH BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/02/19 14:34
Analytical Date:	09/03/19 11:45	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/03/19
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	15.5		mg/kg	6.96	--	1
C19-C36 Aliphatics	142		mg/kg	6.96	--	1
C11-C22 Aromatics	116		mg/kg	6.96	--	1
C11-C22 Aromatics, Adjusted	109		mg/kg	6.96	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	59		40-140
o-Terphenyl	85		40-140
2-Fluorobiphenyl	87		40-140
2-Bromonaphthalene	83		40-140

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID:	L1938617-05	Date Collected:	08/26/19 12:40
Client ID:	TT-15 (0-2')	Date Received:	08/26/19
Sample Location:	CYPHER ST., SOUTH BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	08/31/19 16:35
Analyst:	MKS
Percent Solids:	94%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1:1 +/- 25%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	4.70	--	1
C9-C12 Aliphatics	ND		mg/kg	4.70	--	1
C9-C10 Aromatics	ND		mg/kg	4.70	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	4.70	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	4.70	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	111		70-130
2,5-Dibromotoluene-FID	114		70-130

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID:	L1938617-05	Date Collected:	08/26/19 12:40
Client ID:	TT-15 (0-2')	Date Received:	08/26/19
Sample Location:	CYPHER ST., SOUTH BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/02/19 14:34
Analytical Date:	09/03/19 12:20	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/03/19
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	15.6		mg/kg	6.92	--	1
C19-C36 Aliphatics	119		mg/kg	6.92	--	1
C11-C22 Aromatics	178		mg/kg	6.92	--	1
C11-C22 Aromatics, Adjusted	168		mg/kg	6.92	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	49		40-140
o-Terphenyl	65		40-140
2-Fluorobiphenyl	80		40-140
2-Bromonaphthalene	77		40-140

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID:	L1938617-07	Date Collected:	08/26/19 14:00
Client ID:	TT-19 (0-2')	Date Received:	08/26/19
Sample Location:	CYPHER ST., SOUTH BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	08/31/19 17:06
Analyst:	MKS
Percent Solids:	95%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1:1.4

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	4.02	--	1
C9-C12 Aliphatics	ND		mg/kg	4.02	--	1
C9-C10 Aromatics	ND		mg/kg	4.02	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	4.02	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	4.02	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	115		70-130
2,5-Dibromotoluene-FID	118		70-130

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID:	L1938617-07 D	Date Collected:	08/26/19 14:00
Client ID:	TT-19 (0-2')	Date Received:	08/26/19
Sample Location:	CYPHER ST., SOUTH BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/05/19 23:49
Analytical Date:	09/07/19 13:39	Cleanup Method1:	EPH-04-1
Analyst:	LL	Cleanup Date1:	09/06/19
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	68.8	--	10
C19-C36 Aliphatics	ND		mg/kg	68.8	--	10
C11-C22 Aromatics	1050		mg/kg	68.8	--	10
C11-C22 Aromatics, Adjusted	543		mg/kg	68.8	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	68		40-140
o-Terphenyl	63		40-140
2-Fluorobiphenyl	79		40-140
2-Bromonaphthalene	74		40-140

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID:	L1938617-08	Date Collected:	08/26/19 14:28
Client ID:	TT-19 (2-4')	Date Received:	08/26/19
Sample Location:	CYPHER ST., SOUTH BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	08/31/19 17:36
Analyst:	MKS
Percent Solids:	88%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1:1 +/- 25%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	7.16	--	1
C9-C12 Aliphatics	ND		mg/kg	7.16	--	1
C9-C10 Aromatics	ND		mg/kg	7.16	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	7.16	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	7.16	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	112		70-130
2,5-Dibromotoluene-FID	115		70-130

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID:	L1938617-08	Date Collected:	08/26/19 14:28
Client ID:	TT-19 (2-4')	Date Received:	08/26/19
Sample Location:	CYPHER ST., SOUTH BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/02/19 14:34
Analytical Date:	09/03/19 12:56	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/03/19
Percent Solids:	88%		

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	7.17	--	1
C19-C36 Aliphatics	51.1		mg/kg	7.17	--	1
C11-C22 Aromatics	81.8		mg/kg	7.17	--	1
C11-C22 Aromatics, Adjusted	53.1		mg/kg	7.17	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	50		40-140
o-Terphenyl	68		40-140
2-Fluorobiphenyl	86		40-140
2-Bromonaphthalene	85		40-140

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 131,VPH-18-2.1
Analytical Date: 08/31/19 09:27
Analyst: BAD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 01,03,05,07-08 Batch: WG1279142-4					
C5-C8 Aliphatics	ND		mg/kg	5.00	--
C9-C12 Aliphatics	ND		mg/kg	5.00	--
C9-C10 Aromatics	ND		mg/kg	5.00	--
C5-C8 Aliphatics, Adjusted	ND		mg/kg	5.00	--
C9-C12 Aliphatics, Adjusted	ND		mg/kg	5.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	103		70-130
2,5-Dibromotoluene-FID	106		70-130

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 09/03/19 09:29
Analyst: MEO

Extraction Method: EPA 3546
Extraction Date: 09/02/19 14:34
Cleanup Method: EPH-04-1
Cleanup Date: 09/03/19

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01,03,05,08 Batch: WG1279395-1					
C9-C18 Aliphatics	ND		mg/kg	6.42	--
C19-C36 Aliphatics	ND		mg/kg	6.42	--
C11-C22 Aromatics	ND		mg/kg	6.42	--
C11-C22 Aromatics, Adjusted	ND		mg/kg	6.42	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	70		40-140
o-Terphenyl	79		40-140
2-Fluorobiphenyl	87		40-140
2-Bromonaphthalene	85		40-140

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 09/06/19 02:32
Analyst: LL

Extraction Method: EPA 3546
Extraction Date: 09/05/19 14:34
Cleanup Method: EPH-04-1
Cleanup Date: 09/06/19

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 07 Batch: WG1280693-1					
C9-C18 Aliphatics	ND		mg/kg	6.54	--
C19-C36 Aliphatics	ND		mg/kg	6.54	--
C11-C22 Aromatics	ND		mg/kg	6.54	--
C11-C22 Aromatics, Adjusted	ND		mg/kg	6.54	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	64		40-140
o-Terphenyl	81		40-140
2-Fluorobiphenyl	83		40-140
2-Bromonaphthalene	81		40-140

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 09/10/19 10:25
Analyst: MEO

Extraction Method: EPA 3546
Extraction Date: 09/07/19 00:23
Cleanup Method: EPH-04-1
Cleanup Date: 09/09/19

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 02 Batch: WG1281366-1					
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	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	55		40-140
o-Terphenyl	47		40-140
2-Fluorobiphenyl	65		40-140
2-Bromonaphthalene	64		40-140

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 131,VPH-18-2.1
Analytical Date: 09/11/19 21:14
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 02 Batch: WG1283376-4					
C5-C8 Aliphatics	ND		mg/kg	5.00	--
C9-C12 Aliphatics	ND		mg/kg	5.00	--
C9-C10 Aromatics	ND		mg/kg	5.00	--
C5-C8 Aliphatics, Adjusted	ND		mg/kg	5.00	--
C9-C12 Aliphatics, Adjusted	ND		mg/kg	5.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	98		70-130
2,5-Dibromotoluene-FID	101		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01,03,05,07-08 Batch: WG1279142-2 WG1279142-3								
C5-C8 Aliphatics	98		102		70-130	4		25
C9-C12 Aliphatics	99		103		70-130	4		25
C9-C10 Aromatics	96		100		70-130	4		25
Benzene	100		103		70-130	3		25
Toluene	100		104		70-130	4		25
Ethylbenzene	101		105		70-130	4		25
p/m-Xylene	101		105		70-130	4		25
o-Xylene	96		100		70-130	4		25
Methyl tert butyl ether	102		106		70-130	4		25
Naphthalene	102		108		70-130	6		25
1,2,4-Trimethylbenzene	96		100		70-130	4		25
Pentane	95		99		70-130	4		25
2-Methylpentane	102		105		70-130	3		25
2,2,4-Trimethylpentane	98		102		70-130	4		25
n-Nonane	101		105		30-130	4		25
n-Decane	94		98		70-130	4		25
n-Butylcyclohexane	101		106		70-130	5		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	102		106		70-130
2,5-Dibromotoluene-FID	103		107		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01,03,05,08 Batch: WG1279395-2 WG1279395-3								
C9-C18 Aliphatics	73		79		40-140	8		25
C19-C36 Aliphatics	81		86		40-140	6		25
C11-C22 Aromatics	91		91		40-140	0		25
Naphthalene	73		75		40-140	3		25
2-Methylnaphthalene	75		75		40-140	0		25
Acenaphthylene	81		78		40-140	4		25
Acenaphthene	84		80		40-140	5		25
Fluorene	86		82		40-140	5		25
Phenanthrene	88		86		40-140	2		25
Anthracene	93		90		40-140	3		25
Fluoranthene	91		91		40-140	0		25
Pyrene	93		93		40-140	0		25
Benzo(a)anthracene	90		90		40-140	0		25
Chrysene	91		92		40-140	1		25
Benzo(b)fluoranthene	92		92		40-140	0		25
Benzo(k)fluoranthene	91		90		40-140	1		25
Benzo(a)pyrene	88		89		40-140	1		25
Indeno(1,2,3-cd)Pyrene	89		90		40-140	1		25
Dibenzo(a,h)anthracene	88		91		40-140	3		25
Benzo(ghi)perylene	80		84		40-140	5		25
Nonane (C9)	61		67		30-140	9		25
Decane (C10)	66		72		40-140	9		25
Dodecane (C12)	66		72		40-140	9		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01,03,05,08 Batch: WG1279395-2 WG1279395-3								
Tetradecane (C14)	69		72		40-140	4		25
Hexadecane (C16)	71		75		40-140	5		25
Octadecane (C18)	75		82		40-140	9		25
Nonadecane (C19)	76		82		40-140	8		25
Eicosane (C20)	78		84		40-140	7		25
Docosane (C22)	80		85		40-140	6		25
Tetracosane (C24)	80		85		40-140	6		25
Hexacosane (C26)	80		85		40-140	6		25
Octacosane (C28)	80		86		40-140	7		25
Triacontane (C30)	80		85		40-140	6		25
Hexatriacontane (C36)	79		84		40-140	6		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	66		70		40-140
o-Terphenyl	77		75		40-140
2-Fluorobiphenyl	89		83		40-140
2-Bromonaphthalene	87		81		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 07 Batch: WG1280693-2 WG1280693-3								
C9-C18 Aliphatics	58		64		40-140	10		25
C19-C36 Aliphatics	68		73		40-140	7		25
C11-C22 Aromatics	78		77		40-140	1		25
Naphthalene	66		64		40-140	3		25
2-Methylnaphthalene	67		65		40-140	3		25
Acenaphthylene	72		70		40-140	3		25
Acenaphthene	76		74		40-140	3		25
Fluorene	76		75		40-140	1		25
Phenanthrene	78		77		40-140	1		25
Anthracene	79		78		40-140	1		25
Fluoranthene	78		77		40-140	1		25
Pyrene	80		79		40-140	1		25
Benzo(a)anthracene	79		78		40-140	1		25
Chrysene	81		80		40-140	1		25
Benzo(b)fluoranthene	77		76		40-140	1		25
Benzo(k)fluoranthene	77		77		40-140	0		25
Benzo(a)pyrene	74		74		40-140	0		25
Indeno(1,2,3-cd)Pyrene	70		70		40-140	0		25
Dibenzo(a,h)anthracene	75		75		40-140	0		25
Benzo(ghi)perylene	68		69		40-140	1		25
Nonane (C9)	45		51		30-140	13		25
Decane (C10)	52		57		40-140	9		25
Dodecane (C12)	54		59		40-140	9		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 07 Batch: WG1280693-2 WG1280693-3								
Tetradecane (C14)	56		61		40-140	9		25
Hexadecane (C16)	59		64		40-140	8		25
Octadecane (C18)	64		69		40-140	8		25
Nonadecane (C19)	63		69		40-140	9		25
Eicosane (C20)	64		70		40-140	9		25
Docosane (C22)	66		71		40-140	7		25
Tetracosane (C24)	65		71		40-140	9		25
Hexacosane (C26)	66		72		40-140	9		25
Octacosane (C28)	67		72		40-140	7		25
Triacontane (C30)	68		73		40-140	7		25
Hexatriacontane (C36)	70		76		40-140	8		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	60		64		40-140
o-Terphenyl	75		72		40-140
2-Fluorobiphenyl	81		80		40-140
2-Bromonaphthalene	81		80		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 02 Batch: WG1281366-2 WG1281366-3								
C9-C18 Aliphatics	65		62		40-140	5		25
C19-C36 Aliphatics	76		76		40-140	0		25
C11-C22 Aromatics	70		63		40-140	11		25
Naphthalene	62		52		40-140	18		25
2-Methylnaphthalene	60		52		40-140	14		25
Acenaphthylene	63		55		40-140	14		25
Acenaphthene	67		59		40-140	13		25
Fluorene	64		58		40-140	10		25
Phenanthrene	70		64		40-140	9		25
Anthracene	69		63		40-140	9		25
Fluoranthene	70		64		40-140	9		25
Pyrene	72		66		40-140	9		25
Benzo(a)anthracene	69		63		40-140	9		25
Chrysene	71		66		40-140	7		25
Benzo(b)fluoranthene	69		63		40-140	9		25
Benzo(k)fluoranthene	68		63		40-140	8		25
Benzo(a)pyrene	66		60		40-140	10		25
Indeno(1,2,3-cd)Pyrene	63		58		40-140	8		25
Dibenzo(a,h)anthracene	64		60		40-140	6		25
Benzo(ghi)perylene	60		56		40-140	7		25
Nonane (C9)	52		50		30-140	4		25
Decane (C10)	58		55		40-140	5		25
Dodecane (C12)	59		56		40-140	5		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 02 Batch: WG1281366-2 WG1281366-3								
Tetradecane (C14)	59		57		40-140	3		25
Hexadecane (C16)	62		61		40-140	2		25
Octadecane (C18)	67		66		40-140	2		25
Nonadecane (C19)	68		67		40-140	1		25
Eicosane (C20)	70		70		40-140	0		25
Docosane (C22)	70		71		40-140	1		25
Tetracosane (C24)	72		72		40-140	0		25
Hexacosane (C26)	74		74		40-140	0		25
Octacosane (C28)	75		76		40-140	1		25
Triacontane (C30)	77		77		40-140	0		25
Hexatriacontane (C36)	78		78		40-140	0		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	59		59		40-140
o-Terphenyl	61		55		40-140
2-Fluorobiphenyl	77		69		40-140
2-Bromonaphthalene	76		68		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 02 Batch: WG1283376-2 WG1283376-3								
C5-C8 Aliphatics	87		94		70-130	8		25
C9-C12 Aliphatics	86		94		70-130	8		25
C9-C10 Aromatics	86		94		70-130	10		25
Benzene	90		98		70-130	9		25
Toluene	90		98		70-130	9		25
Ethylbenzene	90		99		70-130	9		25
p/m-Xylene	90		99		70-130	9		25
o-Xylene	87		96		70-130	9		25
Methyl tert butyl ether	94		102		70-130	8		25
Naphthalene	92		102		70-130	10		25
1,2,4-Trimethylbenzene	86		94		70-130	9		25
Pentane	84		91		70-130	8		25
2-Methylpentane	89		97		70-130	8		25
2,2,4-Trimethylpentane	88		96		70-130	9		25
n-Nonane	88		96		30-130	8		25
n-Decane	81		88		70-130	8		25
n-Butylcyclohexane	90		98		70-130	9		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	86		96		70-130
2,5-Dibromotoluene-FID	88		98		70-130

PCBS

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-01
Client ID: TT-13 (2-4')
Sample Location: CYPHER ST., SOUTH BOSTON

Date Collected: 08/26/19 11:10
Date Received: 08/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/05/19 21:17
Analyst: HT
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 09/02/19 14:07
Cleanup Method: EPA 3665A
Cleanup Date: 09/03/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/03/19

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	79.7		ug/kg	35.9	--	1	B
Aroclor 1262	ND		ug/kg	35.9	--	1	A
Aroclor 1268	44.3		ug/kg	35.9	--	1	B
PCBs, Total	124		ug/kg	35.9	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	48		30-150	B
Decachlorobiphenyl	56		30-150	B
2,4,5,6-Tetrachloro-m-xylene	47		30-150	A
Decachlorobiphenyl	46		30-150	A

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-02
Client ID: TT-13 (4-4.75')
Sample Location: CYPHER ST., SOUTH BOSTON

Date Collected: 08/26/19 11:20
Date Received: 08/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/10/19 16:07
Analyst: WR
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 09/07/19 20:57
Cleanup Method: EPA 3665A
Cleanup Date: 09/08/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/08/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	37.4	--	1	A
Aroclor 1221	ND		ug/kg	37.4	--	1	A
Aroclor 1232	ND		ug/kg	37.4	--	1	A
Aroclor 1242	ND		ug/kg	37.4	--	1	A
Aroclor 1248	ND		ug/kg	37.4	--	1	A
Aroclor 1254	ND		ug/kg	37.4	--	1	A
Aroclor 1260	ND		ug/kg	37.4	--	1	B
Aroclor 1262	ND		ug/kg	37.4	--	1	A
Aroclor 1268	ND		ug/kg	37.4	--	1	A
PCBs, Total	ND		ug/kg	37.4	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	68		30-150	B
Decachlorobiphenyl	98		30-150	B
2,4,5,6-Tetrachloro-m-xylene	63		30-150	A
Decachlorobiphenyl	87		30-150	A

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-03
Client ID: TT-14 (0-2')
Sample Location: CYPHER ST., SOUTH BOSTON

Date Collected: 08/26/19 12:00
Date Received: 08/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/05/19 21:29
Analyst: HT
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 09/02/19 14:07
Cleanup Method: EPA 3665A
Cleanup Date: 09/03/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/03/19

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	74.6		ug/kg	36.1	--	1	B
Aroclor 1262	ND		ug/kg	36.1	--	1	A
Aroclor 1268	62.8		ug/kg	36.1	--	1	B
PCBs, Total	137		ug/kg	36.1	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	41		30-150	B
Decachlorobiphenyl	40		30-150	B
2,4,5,6-Tetrachloro-m-xylene	41		30-150	A
Decachlorobiphenyl	34		30-150	A

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-05 D
Client ID: TT-15 (0-2')
Sample Location: CYPHER ST., SOUTH BOSTON

Date Collected: 08/26/19 12:40
Date Received: 08/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/08/19 19:29
Analyst: WR
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 09/02/19 14:07
Cleanup Method: EPA 3665A
Cleanup Date: 09/03/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/03/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	66.6	--	2	A
Aroclor 1221	ND		ug/kg	66.6	--	2	A
Aroclor 1232	ND		ug/kg	66.6	--	2	A
Aroclor 1242	ND		ug/kg	66.6	--	2	A
Aroclor 1248	113		ug/kg	66.6	--	2	B
Aroclor 1254	107		ug/kg	66.6	--	2	A
Aroclor 1260	328		ug/kg	66.6	--	2	B
Aroclor 1262	ND		ug/kg	66.6	--	2	A
Aroclor 1268	193		ug/kg	66.6	--	2	B
PCBs, Total	741		ug/kg	66.6	--	2	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	34		30-150	B
Decachlorobiphenyl	41		30-150	B
2,4,5,6-Tetrachloro-m-xylene	43		30-150	A
Decachlorobiphenyl	32		30-150	A

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-07
Client ID: TT-19 (0-2')
Sample Location: CYPHER ST., SOUTH BOSTON

Date Collected: 08/26/19 14:00
Date Received: 08/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/05/19 21:53
Analyst: HT
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 09/02/19 14:07
Cleanup Method: EPA 3665A
Cleanup Date: 09/03/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/03/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	34.8	--	1	A
Aroclor 1221	ND		ug/kg	34.8	--	1	A
Aroclor 1232	ND		ug/kg	34.8	--	1	A
Aroclor 1242	ND		ug/kg	34.8	--	1	A
Aroclor 1248	ND		ug/kg	34.8	--	1	A
Aroclor 1254	40.9		ug/kg	34.8	--	1	A
Aroclor 1260	64.6		ug/kg	34.8	--	1	B
Aroclor 1262	ND		ug/kg	34.8	--	1	A
Aroclor 1268	70.7	P	ug/kg	34.8	--	1	B
PCBs, Total	176		ug/kg	34.8	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	52		30-150	B
Decachlorobiphenyl	49		30-150	B
2,4,5,6-Tetrachloro-m-xylene	50		30-150	A
Decachlorobiphenyl	51		30-150	A

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-08
Client ID: TT-19 (2-4')
Sample Location: CYPHER ST., SOUTH BOSTON

Date Collected: 08/26/19 14:28
Date Received: 08/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/05/19 22:06
Analyst: HT
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 09/02/19 14:07
Cleanup Method: EPA 3665A
Cleanup Date: 09/03/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/03/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	37.0	--	1	A
Aroclor 1221	ND		ug/kg	37.0	--	1	A
Aroclor 1232	ND		ug/kg	37.0	--	1	A
Aroclor 1242	ND		ug/kg	37.0	--	1	A
Aroclor 1248	ND		ug/kg	37.0	--	1	A
Aroclor 1254	ND		ug/kg	37.0	--	1	A
Aroclor 1260	39.4		ug/kg	37.0	--	1	B
Aroclor 1262	ND		ug/kg	37.0	--	1	A
Aroclor 1268	ND		ug/kg	37.0	--	1	A
PCBs, Total	39.4		ug/kg	37.0	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	43		30-150	B
Decachlorobiphenyl	40		30-150	B
2,4,5,6-Tetrachloro-m-xylene	46		30-150	A
Decachlorobiphenyl	33		30-150	A

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 09/04/19 06:56
Analyst: WR

Extraction Method: EPA 3546
Extraction Date: 09/02/19 01:51
Cleanup Method: EPA 3665A
Cleanup Date: 09/02/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/02/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01,03,05,07-08 Batch: WG1279308-1						
Aroclor 1016	ND		ug/kg	31.6	--	A
Aroclor 1221	ND		ug/kg	31.6	--	A
Aroclor 1232	ND		ug/kg	31.6	--	A
Aroclor 1242	ND		ug/kg	31.6	--	A
Aroclor 1248	ND		ug/kg	31.6	--	A
Aroclor 1254	ND		ug/kg	31.6	--	A
Aroclor 1260	ND		ug/kg	31.6	--	A
Aroclor 1262	ND		ug/kg	31.6	--	A
Aroclor 1268	ND		ug/kg	31.6	--	A
PCBs, Total	ND		ug/kg	31.6	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	96		30-150	B
Decachlorobiphenyl	109		30-150	B
2,4,5,6-Tetrachloro-m-xylene	94		30-150	A
Decachlorobiphenyl	106		30-150	A

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 09/10/19 15:06
Analyst: WR

Extraction Method: EPA 3546
Extraction Date: 09/07/19 20:57
Cleanup Method: EPA 3665A
Cleanup Date: 09/08/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/08/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 02 Batch: WG1281563-1						
Aroclor 1016	ND		ug/kg	32.6	--	A
Aroclor 1221	ND		ug/kg	32.6	--	A
Aroclor 1232	ND		ug/kg	32.6	--	A
Aroclor 1242	ND		ug/kg	32.6	--	A
Aroclor 1248	ND		ug/kg	32.6	--	A
Aroclor 1254	ND		ug/kg	32.6	--	A
Aroclor 1260	ND		ug/kg	32.6	--	A
Aroclor 1262	ND		ug/kg	32.6	--	A
Aroclor 1268	ND		ug/kg	32.6	--	A
PCBs, Total	ND		ug/kg	32.6	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	77		30-150	B
Decachlorobiphenyl	92		30-150	B
2,4,5,6-Tetrachloro-m-xylene	67		30-150	A
Decachlorobiphenyl	81		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST., BOSTON

Project Number: 143-278997-19001

Lab Number: L1938617

Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01,03,05,07-08 Batch: WG1279308-2 WG1279308-3									
Aroclor 1016	80		78		40-140	3		30	A
Aroclor 1260	75		77		40-140	3		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	87		91		30-150	B
Decachlorobiphenyl	101		107		30-150	B
2,4,5,6-Tetrachloro-m-xylene	92		90		30-150	A
Decachlorobiphenyl	102		106		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST., BOSTON

Project Number: 143-278997-19001

Lab Number: L1938617

Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 02 Batch: WG1281563-2 WG1281563-3									
Aroclor 1016	81		74		40-140	9		30	A
Aroclor 1260	77		73		40-140	5		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	72		61		30-150	B
Decachlorobiphenyl	87		81		30-150	B
2,4,5,6-Tetrachloro-m-xylene	67		57		30-150	A
Decachlorobiphenyl	79		74		30-150	A

METALS

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-01
Client ID: TT-13 (2-4')
Sample Location: CYPHER ST., SOUTH BOSTON
Date Collected: 08/26/19 11:10
Date Received: 08/26/19
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											
Antimony, Total	2.80		mg/kg	2.09	--	1	09/04/19 00:58	09/04/19 14:44	EPA 3050B	97,6010D	LC
Arsenic, Total	6.85		mg/kg	0.417	--	1	09/04/19 00:58	09/04/19 14:44	EPA 3050B	97,6010D	LC
Barium, Total	70.5		mg/kg	0.417	--	1	09/04/19 00:58	09/04/19 14:44	EPA 3050B	97,6010D	LC
Beryllium, Total	0.355		mg/kg	0.209	--	1	09/04/19 00:58	09/04/19 14:44	EPA 3050B	97,6010D	LC
Cadmium, Total	1.39		mg/kg	0.417	--	1	09/04/19 00:58	09/04/19 14:44	EPA 3050B	97,6010D	LC
Chromium, Total	9.42		mg/kg	0.417	--	1	09/04/19 00:58	09/04/19 14:44	EPA 3050B	97,6010D	LC
Lead, Total	235		mg/kg	2.09	--	1	09/04/19 00:58	09/04/19 14:44	EPA 3050B	97,6010D	LC
Mercury, Total	0.744		mg/kg	0.081	--	1	09/04/19 05:30	09/04/19 19:16	EPA 7471B	97,7471B	GD
Nickel, Total	10.6		mg/kg	1.04	--	1	09/04/19 00:58	09/04/19 14:44	EPA 3050B	97,6010D	LC
Selenium, Total	ND		mg/kg	2.09	--	1	09/04/19 00:58	09/04/19 14:44	EPA 3050B	97,6010D	LC
Silver, Total	ND		mg/kg	0.417	--	1	09/04/19 00:58	09/04/19 14:44	EPA 3050B	97,6010D	LC
Thallium, Total	ND		mg/kg	2.09	--	1	09/04/19 00:58	09/04/19 14:44	EPA 3050B	97,6010D	LC
Vanadium, Total	21.2		mg/kg	0.417	--	1	09/04/19 00:58	09/04/19 14:44	EPA 3050B	97,6010D	LC
Zinc, Total	122		mg/kg	2.09	--	1	09/04/19 00:58	09/04/19 14:44	EPA 3050B	97,6010D	LC

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-02
Client ID: TT-13 (4-4.75')
Sample Location: CYPHER ST., SOUTH BOSTON
Date Collected: 08/26/19 11:20
Date Received: 08/26/19
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											
Antimony, Total	ND		mg/kg	2.28	--	1	09/10/19 07:15	09/10/19 13:33	EPA 3050B	97,6010D	LC
Arsenic, Total	6.30		mg/kg	0.455	--	1	09/10/19 07:15	09/10/19 13:33	EPA 3050B	97,6010D	LC
Barium, Total	45.9		mg/kg	0.455	--	1	09/10/19 07:15	09/10/19 13:33	EPA 3050B	97,6010D	LC
Beryllium, Total	0.241		mg/kg	0.228	--	1	09/10/19 07:15	09/10/19 13:33	EPA 3050B	97,6010D	LC
Cadmium, Total	0.510		mg/kg	0.455	--	1	09/10/19 07:15	09/10/19 13:33	EPA 3050B	97,6010D	LC
Chromium, Total	10.2		mg/kg	0.455	--	1	09/10/19 07:15	09/10/19 13:33	EPA 3050B	97,6010D	LC
Lead, Total	116		mg/kg	2.28	--	1	09/10/19 07:15	09/10/19 13:33	EPA 3050B	97,6010D	LC
Mercury, Total	0.174		mg/kg	0.086	--	1	09/10/19 02:30	09/10/19 12:08	EPA 7471B	97,7471B	GD
Nickel, Total	16.4		mg/kg	1.14	--	1	09/10/19 07:15	09/10/19 13:33	EPA 3050B	97,6010D	LC
Selenium, Total	ND		mg/kg	2.28	--	1	09/10/19 07:15	09/10/19 13:33	EPA 3050B	97,6010D	LC
Silver, Total	ND		mg/kg	0.455	--	1	09/10/19 07:15	09/10/19 13:33	EPA 3050B	97,6010D	LC
Thallium, Total	ND		mg/kg	2.28	--	1	09/10/19 07:15	09/10/19 13:33	EPA 3050B	97,6010D	LC
Vanadium, Total	22.2		mg/kg	0.455	--	1	09/10/19 07:15	09/10/19 13:33	EPA 3050B	97,6010D	LC
Zinc, Total	104		mg/kg	2.28	--	1	09/10/19 07:15	09/10/19 13:33	EPA 3050B	97,6010D	LC

Project Name: CYPHER ST., BOSTON
Lab Number: L1938617
Project Number: 143-278997-19001
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-03
Client ID: TT-14 (0-2')
Sample Location: CYPHER ST., SOUTH BOSTON

Date Collected: 08/26/19 12:00
Date Received: 08/26/19
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											
Antimony, Total	5.73		mg/kg	2.14	--	1	09/04/19 00:58	09/04/19 14:48	EPA 3050B	97,6010D	LC
Arsenic, Total	12.0		mg/kg	0.428	--	1	09/04/19 00:58	09/04/19 14:48	EPA 3050B	97,6010D	LC
Barium, Total	57.6		mg/kg	0.428	--	1	09/04/19 00:58	09/04/19 14:48	EPA 3050B	97,6010D	LC
Beryllium, Total	0.286		mg/kg	0.214	--	1	09/04/19 00:58	09/04/19 14:48	EPA 3050B	97,6010D	LC
Cadmium, Total	1.65		mg/kg	0.428	--	1	09/04/19 00:58	09/04/19 14:48	EPA 3050B	97,6010D	LC
Chromium, Total	14.0		mg/kg	0.428	--	1	09/04/19 00:58	09/04/19 14:48	EPA 3050B	97,6010D	LC
Lead, Total	194		mg/kg	2.14	--	1	09/04/19 00:58	09/04/19 14:48	EPA 3050B	97,6010D	LC
Mercury, Total	0.455		mg/kg	0.081	--	1	09/04/19 05:30	09/04/19 19:20	EPA 7471B	97,7471B	GD
Nickel, Total	18.8		mg/kg	1.07	--	1	09/04/19 00:58	09/04/19 14:48	EPA 3050B	97,6010D	LC
Selenium, Total	ND		mg/kg	2.14	--	1	09/04/19 00:58	09/04/19 14:48	EPA 3050B	97,6010D	LC
Silver, Total	ND		mg/kg	0.428	--	1	09/04/19 00:58	09/04/19 14:48	EPA 3050B	97,6010D	LC
Thallium, Total	ND		mg/kg	2.14	--	1	09/04/19 00:58	09/04/19 14:48	EPA 3050B	97,6010D	LC
Vanadium, Total	21.7		mg/kg	0.428	--	1	09/04/19 00:58	09/04/19 14:48	EPA 3050B	97,6010D	LC
Zinc, Total	78.6		mg/kg	2.14	--	1	09/04/19 00:58	09/04/19 14:48	EPA 3050B	97,6010D	LC

Project Name: CYPHER ST., BOSTON
Lab Number: L1938617
Project Number: 143-278997-19001
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-05
Client ID: TT-15 (0-2')
Sample Location: CYPHER ST., SOUTH BOSTON

Date Collected: 08/26/19 12:40
Date Received: 08/26/19
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											
Antimony, Total	2.77		mg/kg	2.11	--	1	09/04/19 00:58	09/04/19 14:52	EPA 3050B	97,6010D	LC
Arsenic, Total	6.81		mg/kg	0.422	--	1	09/04/19 00:58	09/04/19 14:52	EPA 3050B	97,6010D	LC
Barium, Total	41.2		mg/kg	0.422	--	1	09/04/19 00:58	09/04/19 14:52	EPA 3050B	97,6010D	LC
Beryllium, Total	0.270		mg/kg	0.211	--	1	09/04/19 00:58	09/04/19 14:52	EPA 3050B	97,6010D	LC
Cadmium, Total	1.04		mg/kg	0.422	--	1	09/04/19 00:58	09/04/19 14:52	EPA 3050B	97,6010D	LC
Chromium, Total	14.6		mg/kg	0.422	--	1	09/04/19 00:58	09/04/19 14:52	EPA 3050B	97,6010D	LC
Lead, Total	95.1		mg/kg	2.11	--	1	09/04/19 00:58	09/04/19 14:52	EPA 3050B	97,6010D	LC
Mercury, Total	0.188		mg/kg	0.078	--	1	09/04/19 05:30	09/04/19 19:23	EPA 7471B	97,7471B	GD
Nickel, Total	12.6		mg/kg	1.06	--	1	09/04/19 00:58	09/04/19 14:52	EPA 3050B	97,6010D	LC
Selenium, Total	ND		mg/kg	2.11	--	1	09/04/19 00:58	09/04/19 14:52	EPA 3050B	97,6010D	LC
Silver, Total	ND		mg/kg	0.422	--	1	09/04/19 00:58	09/04/19 14:52	EPA 3050B	97,6010D	LC
Thallium, Total	ND		mg/kg	2.11	--	1	09/04/19 00:58	09/04/19 14:52	EPA 3050B	97,6010D	LC
Vanadium, Total	20.2		mg/kg	0.422	--	1	09/04/19 00:58	09/04/19 14:52	EPA 3050B	97,6010D	LC
Zinc, Total	64.8		mg/kg	2.11	--	1	09/04/19 00:58	09/04/19 14:52	EPA 3050B	97,6010D	LC

Project Name: CYPHER ST., BOSTON
Lab Number: L1938617
Project Number: 143-278997-19001
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-07
Client ID: TT-19 (0-2')
Sample Location: CYPHER ST., SOUTH BOSTON

Date Collected: 08/26/19 14:00
Date Received: 08/26/19
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											
Antimony, Total	ND		mg/kg	2.01	--	1	09/04/19 00:58	09/04/19 14:56	EPA 3050B	97,6010D	LC
Arsenic, Total	4.72		mg/kg	0.402	--	1	09/04/19 00:58	09/04/19 14:56	EPA 3050B	97,6010D	LC
Barium, Total	70.1		mg/kg	0.402	--	1	09/04/19 00:58	09/04/19 14:56	EPA 3050B	97,6010D	LC
Beryllium, Total	0.209		mg/kg	0.201	--	1	09/04/19 00:58	09/04/19 14:56	EPA 3050B	97,6010D	LC
Cadmium, Total	0.872		mg/kg	0.402	--	1	09/04/19 00:58	09/04/19 14:56	EPA 3050B	97,6010D	LC
Chromium, Total	14.0		mg/kg	0.402	--	1	09/04/19 00:58	09/04/19 14:56	EPA 3050B	97,6010D	LC
Lead, Total	103		mg/kg	2.01	--	1	09/04/19 00:58	09/04/19 14:56	EPA 3050B	97,6010D	LC
Mercury, Total	0.417		mg/kg	0.075	--	1	09/04/19 05:30	09/04/19 19:26	EPA 7471B	97,7471B	GD
Nickel, Total	10.2		mg/kg	1.00	--	1	09/04/19 00:58	09/04/19 14:56	EPA 3050B	97,6010D	LC
Selenium, Total	ND		mg/kg	2.01	--	1	09/04/19 00:58	09/04/19 14:56	EPA 3050B	97,6010D	LC
Silver, Total	ND		mg/kg	0.402	--	1	09/04/19 00:58	09/04/19 14:56	EPA 3050B	97,6010D	LC
Thallium, Total	ND		mg/kg	2.01	--	1	09/04/19 00:58	09/04/19 14:56	EPA 3050B	97,6010D	LC
Vanadium, Total	21.7		mg/kg	0.402	--	1	09/04/19 00:58	09/04/19 14:56	EPA 3050B	97,6010D	LC
Zinc, Total	93.8		mg/kg	2.01	--	1	09/04/19 00:58	09/04/19 14:56	EPA 3050B	97,6010D	LC

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001
Lab Number: L1938617
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-08
Client ID: TT-19 (2-4')
Sample Location: CYPHER ST., SOUTH BOSTON
Date Collected: 08/26/19 14:28
Date Received: 08/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	2.43		mg/kg	2.22	--	1	09/04/19 00:58	09/04/19 15:01	EPA 3050B	97,6010D	LC
Arsenic, Total	11.9		mg/kg	0.443	--	1	09/04/19 00:58	09/04/19 15:01	EPA 3050B	97,6010D	LC
Barium, Total	90.3		mg/kg	0.443	--	1	09/04/19 00:58	09/04/19 15:01	EPA 3050B	97,6010D	LC
Beryllium, Total	0.452		mg/kg	0.222	--	1	09/04/19 00:58	09/04/19 15:01	EPA 3050B	97,6010D	LC
Cadmium, Total	1.22		mg/kg	0.443	--	1	09/04/19 00:58	09/04/19 15:01	EPA 3050B	97,6010D	LC
Chromium, Total	11.9		mg/kg	0.443	--	1	09/04/19 00:58	09/04/19 15:01	EPA 3050B	97,6010D	LC
Lead, Total	246		mg/kg	2.22	--	1	09/04/19 00:58	09/04/19 15:01	EPA 3050B	97,6010D	LC
Mercury, Total	1.41		mg/kg	0.081	--	1	09/04/19 05:30	09/04/19 19:30	EPA 7471B	97,7471B	GD
Nickel, Total	14.0		mg/kg	1.11	--	1	09/04/19 00:58	09/04/19 15:01	EPA 3050B	97,6010D	LC
Selenium, Total	ND		mg/kg	2.22	--	1	09/04/19 00:58	09/04/19 15:01	EPA 3050B	97,6010D	LC
Silver, Total	ND		mg/kg	0.443	--	1	09/04/19 00:58	09/04/19 15:01	EPA 3050B	97,6010D	LC
Thallium, Total	ND		mg/kg	2.22	--	1	09/04/19 00:58	09/04/19 15:01	EPA 3050B	97,6010D	LC
Vanadium, Total	48.0		mg/kg	0.443	--	1	09/04/19 00:58	09/04/19 15:01	EPA 3050B	97,6010D	LC
Zinc, Total	163		mg/kg	2.22	--	1	09/04/19 00:58	09/04/19 15:01	EPA 3050B	97,6010D	LC

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

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): 01,03,05,07-08 Batch: WG1279777-1										
Antimony, Total	ND		mg/kg	2.00	--	1	09/04/19 00:58	09/04/19 14:27	97,6010D	LC
Arsenic, Total	ND		mg/kg	0.400	--	1	09/04/19 00:58	09/04/19 14:27	97,6010D	LC
Barium, Total	ND		mg/kg	0.400	--	1	09/04/19 00:58	09/04/19 14:27	97,6010D	LC
Beryllium, Total	ND		mg/kg	0.200	--	1	09/04/19 00:58	09/04/19 14:27	97,6010D	LC
Cadmium, Total	ND		mg/kg	0.400	--	1	09/04/19 00:58	09/04/19 14:27	97,6010D	LC
Chromium, Total	ND		mg/kg	0.400	--	1	09/04/19 00:58	09/04/19 14:27	97,6010D	LC
Lead, Total	ND		mg/kg	2.00	--	1	09/04/19 00:58	09/04/19 14:27	97,6010D	LC
Nickel, Total	ND		mg/kg	1.00	--	1	09/04/19 00:58	09/04/19 14:27	97,6010D	LC
Selenium, Total	ND		mg/kg	2.00	--	1	09/04/19 00:58	09/04/19 14:27	97,6010D	LC
Silver, Total	ND		mg/kg	0.400	--	1	09/04/19 00:58	09/04/19 14:27	97,6010D	LC
Thallium, Total	ND		mg/kg	2.00	--	1	09/04/19 00:58	09/04/19 14:27	97,6010D	LC
Vanadium, Total	ND		mg/kg	0.400	--	1	09/04/19 00:58	09/04/19 14:27	97,6010D	LC
Zinc, Total	ND		mg/kg	2.00	--	1	09/04/19 00:58	09/04/19 14:27	97,6010D	LC

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): 01,03,05,07-08 Batch: WG1279888-1										
Mercury, Total	ND		mg/kg	0.083	--	1	09/04/19 05:30	09/04/19 19:07	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): 02 Batch: WG1282049-1										
Mercury, Total	ND		mg/kg	0.083	--	1	09/10/19 02:30	09/10/19 11:48	97,7471B	GD

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

Method Blank Analysis
Batch Quality Control

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): 02 Batch: WG1282131-1										
Antimony, Total	ND		mg/kg	2.00	--	1	09/10/19 07:15	09/10/19 11:13	97,6010D	LC
Arsenic, Total	ND		mg/kg	0.400	--	1	09/10/19 07:15	09/10/19 11:13	97,6010D	LC
Barium, Total	ND		mg/kg	0.400	--	1	09/10/19 07:15	09/10/19 11:13	97,6010D	LC
Beryllium, Total	ND		mg/kg	0.200	--	1	09/10/19 07:15	09/10/19 11:13	97,6010D	LC
Cadmium, Total	ND		mg/kg	0.400	--	1	09/10/19 07:15	09/10/19 11:13	97,6010D	LC
Chromium, Total	ND		mg/kg	0.400	--	1	09/10/19 07:15	09/10/19 11:13	97,6010D	LC
Lead, Total	ND		mg/kg	2.00	--	1	09/10/19 07:15	09/10/19 11:13	97,6010D	LC
Nickel, Total	ND		mg/kg	1.00	--	1	09/10/19 07:15	09/10/19 11:13	97,6010D	LC
Selenium, Total	ND		mg/kg	2.00	--	1	09/10/19 07:15	09/10/19 11:13	97,6010D	LC
Silver, Total	ND		mg/kg	0.400	--	1	09/10/19 07:15	09/10/19 11:13	97,6010D	LC
Thallium, Total	ND		mg/kg	2.00	--	1	09/10/19 07:15	09/10/19 11:13	97,6010D	LC
Vanadium, Total	ND		mg/kg	0.400	--	1	09/10/19 07:15	09/10/19 11:13	97,6010D	LC
Zinc, Total	ND		mg/kg	2.00	--	1	09/10/19 07:15	09/10/19 11:13	97,6010D	LC

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01,03,05,07-08 Batch: WG1279777-2 WG1279777-3 SRM Lot Number: D105-540								
Antimony, Total	160		156		19-249	3		30
Arsenic, Total	103		104		70-130	1		30
Barium, Total	96		94		75-125	2		30
Beryllium, Total	102		97		75-125	5		30
Cadmium, Total	98		92		75-125	6		30
Chromium, Total	91		92		70-130	1		30
Lead, Total	93		95		71-128	2		30
Nickel, Total	97		92		70-131	5		30
Selenium, Total	102		99		63-137	3		30
Silver, Total	92		97		69-131	5		30
Thallium, Total	97		93		68-132	4		30
Vanadium, Total	92		92		65-135	0		30
Zinc, Total	95		94		70-130	1		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01,03,05,07-08 Batch: WG1279888-2 WG1279888-3 SRM Lot Number: D105-540								
Mercury, Total	93		92		60-141	1		30
MCP Total Metals - Mansfield Lab Associated sample(s): 02 Batch: WG1282049-2 WG1282049-3 SRM Lot Number: D105-540								
Mercury, Total	89		81		60-141	9		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 02 Batch: WG1282131-2 WG1282131-3 SRM Lot Number: D105-540					
Antimony, Total	133	139	19-249	4	30
Arsenic, Total	92	96	70-130	4	30
Barium, Total	84	90	75-125	7	30
Beryllium, Total	88	93	75-125	6	30
Cadmium, Total	85	89	75-125	5	30
Chromium, Total	81	84	70-130	4	30
Lead, Total	83	86	71-128	4	30
Nickel, Total	84	87	70-131	4	30
Selenium, Total	89	94	63-137	5	30
Silver, Total	86	88	69-131	2	30
Thallium, Total	84	87	68-132	4	30
Vanadium, Total	81	86	65-135	6	30
Zinc, Total	84	88	70-130	5	30

INORGANICS
&
MISCELLANEOUS

Project Name:	CYPHER ST., BOSTON	**Lab Number:**	L1938617
Project Number:	143-278997-19001	**Report Date:**	09/13/19

SAMPLE RESULTS

Lab ID:	L1938617-07	Date Collected:	08/26/19 14:00
Client ID:	TT-19 (0-2')	Date Received:	08/26/19
Sample Location:	CYPHER ST., SOUTH BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

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

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	08/30/19 05:22	1,1030	BR

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-01
Client ID: TT-13 (2-4')
Sample Location: CYPHER ST., SOUTH BOSTON

Date Collected: 08/26/19 11:10
Date Received: 08/26/19
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	-	08/27/19 00:35	121,2540G	YA

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-02
Client ID: TT-13 (4-4.75')
Sample Location: CYPHER ST., SOUTH BOSTON

Date Collected: 08/26/19 11:20
Date Received: 08/26/19
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	86.9		%	0.100	NA	1	-	09/06/19 09:48	121,2540G	RI

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-03
Client ID: TT-14 (0-2')
Sample Location: CYPHER ST., SOUTH BOSTON

Date Collected: 08/26/19 12:00
Date Received: 08/26/19
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	91.4		%	0.100	NA	1	-	08/27/19 00:35	121,2540G	YA

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-04
Client ID: TT-14 (4-6')
Sample Location: CYPHER ST., SOUTH BOSTON

Date Collected: 08/26/19 12:20
Date Received: 08/26/19
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	79.4		%	0.100	NA	1	-	08/27/19 00:35	121,2540G	YA

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-05
Client ID: TT-15 (0-2')
Sample Location: CYPHER ST., SOUTH BOSTON

Date Collected: 08/26/19 12:40
Date Received: 08/26/19
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	94.3		%	0.100	NA	1	-	08/27/19 00:35	121,2540G	YA

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-06
Client ID: TT-15 (4-6')
Sample Location: CYPHER ST., SOUTH BOSTON

Date Collected: 08/26/19 12:55
Date Received: 08/26/19
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	73.7		%	0.100	NA	1	-	08/27/19 00:35	121,2540G	YA

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-07
Client ID: TT-19 (0-2')
Sample Location: CYPHER ST., SOUTH BOSTON

Date Collected: 08/26/19 14:00
Date Received: 08/26/19
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	-	08/27/19 00:35	121,2540G	YA
pH (H)	9.0		SU	-	NA	1	-	08/28/19 23:47	1,9045D	DS
Cyanide, Reactive	ND		mg/kg	10	--	1	08/30/19 18:40	08/30/19 22:07	125,7.3	TL
Sulfide, Reactive	ND		mg/kg	10	--	1	08/30/19 18:40	08/30/19 22:13	125,7.3	TL

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1938617-08
Client ID: TT-19 (2-4')
Sample Location: CYPHER ST., SOUTH BOSTON

Date Collected: 08/26/19 14:28
Date Received: 08/26/19
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	87.7		%	0.100	NA	1	-	08/27/19 00:35	121,2540G	YA

Project Name: CYPHER ST., BOSTON **Lab Number:** L1938617

Project Number: 143-278997-19001 **Report Date:** 09/13/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 07 Batch: WG1278910-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	08/30/19 18:40	08/30/19 22:12	125,7.3	TL
General Chemistry - Westborough Lab for sample(s): 07 Batch: WG1278911-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	08/30/19 18:40	08/30/19 22:06	125,7.3	TL

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 07 Batch: WG1278003-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 07 Batch: WG1278910-2								
Sulfide, Reactive	85		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 07 Batch: WG1278911-2								
Cyanide, Reactive	108		-		30-125	-		40

Lab Duplicate Analysis

Batch Quality Control

Project Name: CYPHER ST., BOSTON

Project Number: 143-278997-19001

Lab Number: L1938617

Report Date: 09/13/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01,03-08 QC Batch ID: WG1276993-1 QC Sample: L1938617-03 Client ID: TT-14 (0-2')						
Solids, Total	91.4	93.1	%	2		20
General Chemistry - Westborough Lab Associated sample(s): 07 QC Batch ID: WG1278003-2 QC Sample: L1938617-07 Client ID: TT-19 (0-2')						
pH (H)	9.0	9.2	SU	2		5

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1938617-01A	Vial MeOH preserved	A	NA		3.6	Y	Absent		MCP-8260HLW-10(14)
L1938617-01B	Vial water preserved	A	NA		3.6	Y	Absent	26-AUG-19 21:37	MCP-8260HLW-10(14)
L1938617-01C	Vial water preserved	A	NA		3.6	Y	Absent	26-AUG-19 21:37	MCP-8260HLW-10(14)
L1938617-01D	Vial MeOH preserved	A	NA		3.6	Y	Absent		VPH-18(28)
L1938617-01E	Plastic 2oz unpreserved for TS	A	NA		3.6	Y	Absent		TS(7)
L1938617-01F	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.6	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1938617-01G	Glass 500ml/16oz unpreserved	A	NA		3.6	Y	Absent		EPH-10(14),MCP-8082-10(365),MCP-PAH-10(14)
L1938617-02A	Vial MeOH preserved	A	NA		3.6	Y	Absent		MCP-8260HLW-10(14)
L1938617-02B	Vial water preserved	A	NA		3.6	Y	Absent	26-AUG-19 21:37	MCP-8260HLW-10(14)
L1938617-02C	Vial water preserved	A	NA		3.6	Y	Absent	26-AUG-19 21:37	MCP-8260HLW-10(14)
L1938617-02D	Vial MeOH preserved	A	NA		3.6	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1938617-02E	Plastic 2oz unpreserved for TS	A	NA		3.6	Y	Absent		TS(7)
L1938617-02F	Glass 60mL/2oz unpreserved	A	NA		3.6	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1938617-02G	Glass 500ml/16oz unpreserved	A	NA		3.6	Y	Absent		EPH-10(14),MCP-8082-10(365),MCP-PAH-10(14)
L1938617-03A	Vial MeOH preserved	A	NA		3.6	Y	Absent		MCP-8260HLW-10(14)

*Values in parentheses indicate holding time in days

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1938617-03B	Vial water preserved	A	NA		3.6	Y	Absent	26-AUG-19 21:37	MCP-8260HLW-10(14)
L1938617-03C	Vial water preserved	A	NA		3.6	Y	Absent	26-AUG-19 21:37	MCP-8260HLW-10(14)
L1938617-03D	Vial MeOH preserved	A	NA		3.6	Y	Absent		VPH-18(28)
L1938617-03E	Plastic 2oz unpreserved for TS	A	NA		3.6	Y	Absent		TS(7)
L1938617-03F	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.6	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1938617-03G	Glass 500ml/16oz unpreserved	A	NA		3.6	Y	Absent		EPH-10(14),MCP-8082-10(365),MCP-PAH-10(14)
L1938617-04A	Vial MeOH preserved	A	NA		3.6	Y	Absent		MCP-8260HLW-10(14)
L1938617-04B	Vial water preserved	A	NA		3.6	Y	Absent	26-AUG-19 21:37	MCP-8260HLW-10(14)
L1938617-04C	Vial water preserved	A	NA		3.6	Y	Absent	26-AUG-19 21:37	MCP-8260HLW-10(14)
L1938617-04D	Vial MeOH preserved	A	NA		3.6	Y	Absent		MCP-8260HLW-10(14)
L1938617-04E	Plastic 2oz unpreserved for TS	A	NA		3.6	Y	Absent		TS(7)
L1938617-04F	Glass 60ml unpreserved split	A	NA		3.6	Y	Absent		TS(7)
L1938617-05A	Vial MeOH preserved	A	NA		3.6	Y	Absent		MCP-8260HLW-10(14)
L1938617-05B	Vial water preserved	A	NA		3.6	Y	Absent	26-AUG-19 21:37	MCP-8260HLW-10(14)
L1938617-05C	Vial water preserved	A	NA		3.6	Y	Absent	26-AUG-19 21:37	MCP-8260HLW-10(14)
L1938617-05D	Vial MeOH preserved	A	NA		3.6	Y	Absent		VPH-18(28)
L1938617-05E	Plastic 2oz unpreserved for TS	A	NA		3.6	Y	Absent		TS(7)
L1938617-05F	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.6	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1938617-05G	Glass 500ml/16oz unpreserved	A	NA		3.6	Y	Absent		EPH-10(14),MCP-8082-10(365),MCP-PAH-10(14)
L1938617-06A	Vial MeOH preserved	A	NA		3.6	Y	Absent		MCP-8260HLW-10(14)
L1938617-06B	Vial water preserved	A	NA		3.6	Y	Absent	26-AUG-19 21:37	MCP-8260HLW-10(14)

*Values in parentheses indicate holding time in days

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1938617-06C	Vial water preserved	A	NA		3.6	Y	Absent	26-AUG-19 21:37	MCP-8260HLW-10(14)
L1938617-06D	Vial MeOH preserved	A	NA		3.6	Y	Absent		MCP-8260HLW-10(14)
L1938617-06E	Plastic 2oz unpreserved for TS	A	NA		3.6	Y	Absent		TS(7)
L1938617-06F	Glass 60ml unpreserved split	A	NA		3.6	Y	Absent		TS(7)
L1938617-07A	Vial MeOH preserved	A	NA		3.6	Y	Absent		MCP-8260HLW-10(14)
L1938617-07B	Vial water preserved	A	NA		3.6	Y	Absent	26-AUG-19 21:37	MCP-8260HLW-10(14)
L1938617-07C	Vial water preserved	A	NA		3.6	Y	Absent	26-AUG-19 21:37	MCP-8260HLW-10(14)
L1938617-07D	Vial MeOH preserved	A	NA		3.6	Y	Absent		VPH-18(28)
L1938617-07E	Plastic 2oz unpreserved for TS	A	NA		3.6	Y	Absent		TS(7)
L1938617-07F	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.6	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1938617-07G	Glass 500ml/16oz unpreserved	A	NA		3.6	Y	Absent		EPH-10(14),IGNIT-1030(14),MCP-8082-10(365),REACTS(14),MCP-8270-10(14),PH-9045(1),REACTCN(14),TPH-DRO-D(14)
L1938617-08A	Vial MeOH preserved	A	NA		3.6	Y	Absent		MCP-8260HLW-10(14)
L1938617-08B	Vial water preserved	A	NA		3.6	Y	Absent	26-AUG-19 21:37	MCP-8260HLW-10(14)
L1938617-08C	Vial water preserved	A	NA		3.6	Y	Absent	26-AUG-19 21:37	MCP-8260HLW-10(14)
L1938617-08D	Vial MeOH preserved	A	NA		3.6	Y	Absent		VPH-18(28)
L1938617-08E	Plastic 2oz unpreserved for TS	A	NA		3.6	Y	Absent		TS(7)
L1938617-08F	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.6	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1938617-08G	Glass 500ml/16oz unpreserved	A	NA		3.6	Y	Absent		EPH-10(14),MCP-8082-10(365),MCP-PAH-10(14)
L1938617-09A	Vial MeOH preserved	A	NA		3.6	Y	Absent		MCP-8260H-10(14),MCP-8260HLW-10(14)
L1938617-09B	Vial water preserved	A	NA		3.6	Y	Absent	26-AUG-19 21:37	MCP-8260H-10(14),MCP-8260HLW-10(14)

*Values in parentheses indicate holding time in days

Project Name: CYPHER ST., BOSTON
Project Number: 143-278997-19001

Lab Number: L1938617
Report Date: 09/13/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)

*Values in parentheses indicate holding time in days

Project Name:	CYPHER ST., BOSTON	**Lab Number:**	L1938617
Project Number:	143-278997-19001	**Report Date:**	09/13/19

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:	CYPHER ST., BOSTON	**Lab Number:**	L1938617
Project Number:	143-278997-19001	**Report Date:**	09/13/19

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:	CYPHER ST., BOSTON	**Lab Number:**	L1938617
Project Number:	143-278997-19001	**Report Date:**	09/13/19

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

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.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

131 Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, February 2018, Revision 2.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, June 1, 2018.

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 1

Date Rec'd in Lab: 8/26/19

ALPHA Job #: L1938617

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: Tetra Tech
Address: 100 Nickerson Rd, Marlborough, MA
Phone: 413-272-9539
Email: jon.fiore@tetratech.com

Additional Project Information:

Project Information

Project Name: Cypress St Boston
Project Location: Cypress St. South Boston
Project #: 143-278997-19001
Project Manager: Mike Billig
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 _____

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; TPH: ☐ Quant Only ☐ Fingerprint; Herbicides / Pesticides

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	EPH	VPH	PCB	Herbicides / Pesticides	Sample Comments	Total # Bottles
38617-01	TT-13 (2-4')	8/26/19	1110	Soil	JWF	X	X	X	X	X	X			7/8
02	TT-13 (4-4.75')		1120			X	X	X	X	X	X		Hold	
03	TT-14 (0-2')		1200			X	X	X	X	X	X			
04	TT-14 (4-6')		1220			X	X	X	X	X	X			5
05	TT-15 (0-2')		1240			X	X	X	X	X	X			
06	TT-15 (4-6')		1255			X	X	X	X	X	X			5
07	TT-19 (0-2')		1400			X	X	X	X	X	X	X		
08	TT-19 (2-4')		1420											

Container Type: P/A
Preservative: N/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
[signature]	8/26/19 1445	[signature] AMC	8/26/19 1445
[signature]	8/26/19 1832	[signature]	8/26/19 1835

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

Method Blank Summary
Form 4
Volatiles

Client	: Tetra Tech Rizzo	**Lab Number**	: L1938617
Project Name	: CYPHER ST., BOSTON	**Project Number**	: 143-278997-19001
Lab Sample ID	: WG1281074-5	**Lab File ID**	: V17190905N04
Instrument ID	: VOA117		
Matrix	: SOIL	**Analysis Date**	: 09/05/19 19:23

Client Sample No.	Lab Sample ID	Analysis Date
WG1281074-3LCS	WG1281074-3	09/05/19 18:04
WG1281074-4LCSD	WG1281074-4	09/05/19 18:30
TRIP BLANK	L1938617-09	09/05/19 19:49
TT-13 (2-4')	L1938617-01	09/05/19 22:52
TT-19 (0-2')	L1938617-07	09/05/19 23:18

Method Blank Summary
Form 4
Volatiles

Client	: Tetra Tech Rizzo	**Lab Number**	: L1938617
Project Name	: CYPHER ST., BOSTON	**Project Number**	: 143-278997-19001
Lab Sample ID	: WG1281075-5	**Lab File ID**	: V17190905N04
Instrument ID	: VOA117		
Matrix	: SOIL	**Analysis Date**	: 09/05/19 19:23

Client Sample No.	Lab Sample ID	Analysis Date
WG1281075-3LCS	WG1281075-3	09/05/19 18:04
WG1281075-4LCSD	WG1281075-4	09/05/19 18:30
TRIP BLANK	L1938617-09	09/05/19 20:15
TT-14 (0-2')	L1938617-03	09/05/19 20:41
TT-14 (4-6')	L1938617-04	09/05/19 21:07
TT-15 (4-6')	L1938617-06	09/05/19 21:59
TT-19 (2-4')	L1938617-08	09/05/19 22:26

Method Blank Summary
Form 4
Volatiles

Client	: Tetra Tech Rizzo	**Lab Number**	: L1938617
Project Name	: CYPHER ST., BOSTON	**Project Number**	: 143-278997-19001
Lab Sample ID	: WG1281075-10	**Lab File ID**	: V17190906A05
Instrument ID	: VOA117		
Matrix	: SOIL	**Analysis Date**	: 09/06/19 08:08

Client Sample No.	Lab Sample ID	Analysis Date
WG1281075-8LCS	WG1281075-8	09/06/19 06:24
WG1281075-9LCSD	WG1281075-9	09/06/19 06:50
TT-14 (0-2')	L1938617-03R	09/06/19 10:45
TT-15 (0-2')	L1938617-05	09/06/19 11:12

Method Blank Summary
Form 4
Volatiles

Client	: Tetra Tech Rizzo	**Lab Number**	: L1938617
Project Name	: CYPHER ST., BOSTON	**Project Number**	: 143-278997-19001
Lab Sample ID	: WG1281854-5	**Lab File ID**	: V23190908A05
Instrument ID	: VOA123		
Matrix	: SOIL	**Analysis Date**	: 09/08/19 09:38

Client Sample No.	Lab Sample ID	Analysis Date
WG1281854-3LCS	WG1281854-3	09/08/19 08:25
WG1281854-4LCSD	WG1281854-4	09/08/19 08:50
TT-13 (4-4.75')	L1938617-02	09/08/19 17:32

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1938617
Project Name	: CYPHER ST., BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA117	Calibration Date	: 09/05/19 18:04
Lab File ID	: V17190905N01	Init. Calib. Date(s)	: 07/26/19 07/26/19
Sample No	: WG1281074-2	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	71	0
Dichlorodifluoromethane	0.158	0.157	-	0.6	20	69	0
Chloromethane	0.23	0.266	-	-15.7	20	88	0
Vinyl chloride	0.21	0.257	-	-22.4*	20	89	0
Bromomethane	0.135	0.16	-	-18.5	20	97	0
Chloroethane	0.13	0.167	-	-28.5*	20	98	0
Trichlorofluoromethane	0.261	0.353	-	-35.2*	20	98	0
Ethyl ether	0.092	0.106	-	-15.2	20	87	0
1,1-Dichloroethene	0.198	0.201	-	-1.5	20	74	0
Carbon disulfide	0.66	0.659	-	0.2	20	75	0
Freon-113	0.194	0.214	-	-10.3	20	79	0
Acrolein	0.03	0.028*	-	6.7	20	69	0
Methylene chloride	0.219	0.211	-	3.7	20	73	0
Acetone	20	23.661	-	-18.3	20	76	0
trans-1,2-Dichloroethene	0.229	0.223	-	2.6	20	72	0
Methyl acetate	0.094	0.097*	-	-3.2	20	83	0
Methyl tert-butyl ether	0.503	0.508	-	-1	20	72	0
tert-Butyl alcohol	0.017	0.018*	-	-5.9	20	73	0
Diisopropyl ether	0.721	0.736	-	-2.1	20	74	0
1,1-Dichloroethane	0.421	0.433	-	-2.9	20	76	0
Halothane	0.188	0.179	-	4.8	20	70	0
Acrylonitrile	0.044	0.047*	-	-6.8	20	78	0
Ethyl tert-butyl ether	0.703	0.706	-	-0.4	20	72	0
Vinyl acetate	0.414	0.417	-	-0.7	20	72	0
cis-1,2-Dichloroethene	0.247	0.235	-	4.9	20	71	0
2,2-Dichloropropane	0.376	0.38	-	-1.1	20	75	0
Bromochloromethane	0.098	0.094	-	4.1	20	70	0
Cyclohexane	0.393	0.402	-	-2.3	20	74	0
Chloroform	0.417	0.423	-	-1.4	20	73	0
Ethyl acetate	0.153	0.152	-	0.7	20	74	0
Carbon tetrachloride	0.334	0.342	-	-2.4	20	74	0
Tetrahydrofuran	20	22.229	-	-11.1	20	73	0
Dibromofluoromethane	0.245	0.244	-	0.4	20	70	0
1,1,1-Trichloroethane	0.382	0.39	-	-2.1	20	75	-.01
2-Butanone	20	20.992	-	-5	20	80	0
1,1-Dichloropropene	0.316	0.314	-	0.6	20	73	0
Benzene	0.93	0.846	-	9	20	70	-.01
tert-Amyl methyl ether	0.589	0.548	-	7	20	67	0
1,2-Dichloroethane-d4	0.249	0.269	-	-8	20	77	0
1,2-Dichloroethane	0.268	0.283	-	-5.6	20	77	0
Methyl cyclohexane	0.395	0.379	-	4.1	20	69	0
Trichloroethene	0.248	0.231	-	6.9	20	71	0
Dibromomethane	0.112	0.113	-	-0.9	20	73	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1938617
Project Name	: CYPHER ST., BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA117	Calibration Date	: 09/05/19 18:04
Lab File ID	: V17190905N01	Init. Calib. Date(s)	: 07/26/19 07/26/19
Sample No	: WG1281074-2	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	0.216	-	4.8	20	70	0
2-Chloroethyl vinyl ether	0.109	0.1	-	8.3	20	64	0
Bromodichloromethane	0.312	0.291	-	6.7	20	70	0
1,4-Dioxane	0.00149	0.00127*	-	14.8	20	63	0
cis-1,3-Dichloropropene	0.358	0.33	-	7.8	20	68	0
Chlorobenzene-d5	1	1	-	0	20	70	0
Toluene-d8	1.374	1.336	-	2.8	20	69	0
Toluene	0.82	0.766	-	6.6	20	68	0
4-Methyl-2-pentanone	0.079	0.075*	-	5.1	20	64	-.01
Tetrachloroethene	0.328	0.309	-	5.8	20	68	0
trans-1,3-Dichloropropene	0.414	0.405	-	2.2	20	69	0
Ethyl methacrylate	0.316	0.272	-	13.9	20	63	0
1,1,2-Trichloroethane	0.186	0.181	-	2.7	20	70	0
Chlorodibromomethane	0.279	0.263	-	5.7	20	68	0
1,3-Dichloropropane	0.389	0.383	-	1.5	20	70	0
1,2-Dibromoethane	0.215	0.21	-	2.3	20	70	0
2-Hexanone	0.142	0.126	-	11.3	20	64	0
Chlorobenzene	0.904	0.826	-	8.6	20	68	0
Ethylbenzene	1.578	1.512	-	4.2	20	69	0
1,1,1,2-Tetrachloroethane	0.315	0.281	-	10.8	20	67	0
p/m Xylene	0.614	0.565	-	8	20	67	0
o Xylene	0.596	0.541	-	9.2	20	67	0
Styrene	0.957	0.856	-	10.6	20	65	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	71	0
Bromoform	0.312	0.303	-	2.9	20	68	0
Isopropylbenzene	3.228	3.06	-	5.2	20	68	0
4-Bromofluorobenzene	1.085	1.01	-	6.9	20	66	0
Bromobenzene	0.692	0.629	-	9.1	20	65	0
n-Propylbenzene	3.81	3.731	-	2.1	20	70	0
1,4-Dichlorobutane	0.842	0.827	-	1.8	20	72	0
1,1,2,2-Tetrachloroethane	0.56	0.535	-	4.5	20	70	0
4-Ethyltoluene	3.347	3.188	-	4.8	20	69	0
2-Chlorotoluene	2.218	2.127	-	4.1	20	70	-.01
1,3,5-Trimethylbenzene	2.697	2.525	-	6.4	20	68	0
1,2,3-Trichloropropane	0.423	0.42	-	0.7	20	71	0
trans-1,4-Dichloro-2-buten	0.159	0.162	-	-1.9	20	73	0
4-Chlorotoluene	2.339	2.215	-	5.3	20	69	0
tert-Butylbenzene	2.305	2.16	-	6.3	20	68	0
1,2,4-Trimethylbenzene	2.653	2.464	-	7.1	20	67	0
sec-Butylbenzene	3.508	3.34	-	4.8	20	68	0
p-Isopropyltoluene	2.943	2.777	-	5.6	20	68	0
1,3-Dichlorobenzene	1.397	1.322	-	5.4	20	69	0
1,4-Dichlorobenzene	1.386	1.315	-	5.1	20	69	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1938617
Project Name	: CYPHER ST., BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA117	Calibration Date	: 09/05/19 18:04
Lab File ID	: V17190905N01	Init. Calib. Date(s)	: 07/26/19 07/26/19
Sample No	: WG1281074-2	Init. Calib. Times	: 20:19 23:46
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.837	1.744	-	5.1	20	69	0
n-Butylbenzene	2.767	2.743	-	0.9	20	71	0
1,2-Dichlorobenzene	1.247	1.156	-	7.3	20	67	0
1,2,4,5-Tetramethylbenzene	2.774	2.536	-	8.6	20	66	0
1,2-Dibromo-3-chloropropan	0.076	0.071	-	6.6	20	66	0
1,3,5-Trichlorobenzene	1.032	0.979	-	5.1	20	70	0
Hexachlorobutadiene	0.472	0.436	-	7.6	20	67	0
1,2,4-Trichlorobenzene	0.835	0.803	-	3.8	20	70	0
Naphthalene	1.699	1.608	-	5.4	20	69	0
1,2,3-Trichlorobenzene	0.731	0.692	-	5.3	20	69	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1938617
Project Name	: CYPHER ST., BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA117	Calibration Date	: 09/05/19 18:04
Lab File ID	: V17190905N01	Init. Calib. Date(s)	: 07/26/19 07/26/19
Sample No	: WG1281075-2	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	71	0
Dichlorodifluoromethane	0.158	0.157	-	0.6	20	69	0
Chloromethane	0.23	0.266	-	-15.7	20	88	0
Vinyl chloride	0.21	0.257	-	-22.4*	20	89	0
Bromomethane	0.135	0.16	-	-18.5	20	97	0
Chloroethane	0.13	0.167	-	-28.5*	20	98	0
Trichlorofluoromethane	0.261	0.353	-	-35.2*	20	98	0
Ethyl ether	0.092	0.106	-	-15.2	20	87	0
1,1-Dichloroethene	0.198	0.201	-	-1.5	20	74	0
Carbon disulfide	0.66	0.659	-	0.2	20	75	0
Freon-113	0.194	0.214	-	-10.3	20	79	0
Acrolein	0.03	0.028*	-	6.7	20	69	0
Methylene chloride	0.219	0.211	-	3.7	20	73	0
Acetone	20	23.661	-	-18.3	20	76	0
trans-1,2-Dichloroethene	0.229	0.223	-	2.6	20	72	0
Methyl acetate	0.094	0.097*	-	-3.2	20	83	0
Methyl tert-butyl ether	0.503	0.508	-	-1	20	72	0
tert-Butyl alcohol	0.017	0.018*	-	-5.9	20	73	0
Diisopropyl ether	0.721	0.736	-	-2.1	20	74	0
1,1-Dichloroethane	0.421	0.433	-	-2.9	20	76	0
Halothane	0.188	0.179	-	4.8	20	70	0
Acrylonitrile	0.044	0.047*	-	-6.8	20	78	0
Ethyl tert-butyl ether	0.703	0.706	-	-0.4	20	72	0
Vinyl acetate	0.414	0.417	-	-0.7	20	72	0
cis-1,2-Dichloroethene	0.247	0.235	-	4.9	20	71	0
2,2-Dichloropropane	0.376	0.38	-	-1.1	20	75	0
Bromochloromethane	0.098	0.094	-	4.1	20	70	0
Cyclohexane	0.393	0.402	-	-2.3	20	74	0
Chloroform	0.417	0.423	-	-1.4	20	73	0
Ethyl acetate	0.153	0.152	-	0.7	20	74	0
Carbon tetrachloride	0.334	0.342	-	-2.4	20	74	0
Tetrahydrofuran	20	22.229	-	-11.1	20	73	0
Dibromofluoromethane	0.245	0.244	-	0.4	20	70	0
1,1,1-Trichloroethane	0.382	0.39	-	-2.1	20	75	-.01
2-Butanone	20	20.992	-	-5	20	80	0
1,1-Dichloropropene	0.316	0.314	-	0.6	20	73	0
Benzene	0.93	0.846	-	9	20	70	-.01
tert-Amyl methyl ether	0.589	0.548	-	7	20	67	0
1,2-Dichloroethane-d4	0.249	0.269	-	-8	20	77	0
1,2-Dichloroethane	0.268	0.283	-	-5.6	20	77	0
Methyl cyclohexane	0.395	0.379	-	4.1	20	69	0
Trichloroethene	0.248	0.231	-	6.9	20	71	0
Dibromomethane	0.112	0.113	-	-0.9	20	73	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1938617
Project Name	: CYPHER ST., BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA117	Calibration Date	: 09/05/19 18:04
Lab File ID	: V17190905N01	Init. Calib. Date(s)	: 07/26/19 07/26/19
Sample No	: WG1281075-2	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	0.216	-	4.8	20	70	0
2-Chloroethyl vinyl ether	0.109	0.1	-	8.3	20	64	0
Bromodichloromethane	0.312	0.291	-	6.7	20	70	0
1,4-Dioxane	0.00149	0.00127*	-	14.8	20	63	0
cis-1,3-Dichloropropene	0.358	0.33	-	7.8	20	68	0
Chlorobenzene-d5	1	1	-	0	20	70	0
Toluene-d8	1.374	1.336	-	2.8	20	69	0
Toluene	0.82	0.766	-	6.6	20	68	0
4-Methyl-2-pentanone	0.079	0.075*	-	5.1	20	64	-.01
Tetrachloroethene	0.328	0.309	-	5.8	20	68	0
trans-1,3-Dichloropropene	0.414	0.405	-	2.2	20	69	0
Ethyl methacrylate	0.316	0.272	-	13.9	20	63	0
1,1,2-Trichloroethane	0.186	0.181	-	2.7	20	70	0
Chlorodibromomethane	0.279	0.263	-	5.7	20	68	0
1,3-Dichloropropane	0.389	0.383	-	1.5	20	70	0
1,2-Dibromoethane	0.215	0.21	-	2.3	20	70	0
2-Hexanone	0.142	0.126	-	11.3	20	64	0
Chlorobenzene	0.904	0.826	-	8.6	20	68	0
Ethylbenzene	1.578	1.512	-	4.2	20	69	0
1,1,1,2-Tetrachloroethane	0.315	0.281	-	10.8	20	67	0
p/m Xylene	0.614	0.565	-	8	20	67	0
o Xylene	0.596	0.541	-	9.2	20	67	0
Styrene	0.957	0.856	-	10.6	20	65	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	71	0
Bromoform	0.312	0.303	-	2.9	20	68	0
Isopropylbenzene	3.228	3.06	-	5.2	20	68	0
4-Bromofluorobenzene	1.085	1.01	-	6.9	20	66	0
Bromobenzene	0.692	0.629	-	9.1	20	65	0
n-Propylbenzene	3.81	3.731	-	2.1	20	70	0
1,4-Dichlorobutane	0.842	0.827	-	1.8	20	72	0
1,1,2,2-Tetrachloroethane	0.56	0.535	-	4.5	20	70	0
4-Ethyltoluene	3.347	3.188	-	4.8	20	69	0
2-Chlorotoluene	2.218	2.127	-	4.1	20	70	-.01
1,3,5-Trimethylbenzene	2.697	2.525	-	6.4	20	68	0
1,2,3-Trichloropropane	0.423	0.42	-	0.7	20	71	0
trans-1,4-Dichloro-2-buten	0.159	0.162	-	-1.9	20	73	0
4-Chlorotoluene	2.339	2.215	-	5.3	20	69	0
tert-Butylbenzene	2.305	2.16	-	6.3	20	68	0
1,2,4-Trimethylbenzene	2.653	2.464	-	7.1	20	67	0
sec-Butylbenzene	3.508	3.34	-	4.8	20	68	0
p-Isopropyltoluene	2.943	2.777	-	5.6	20	68	0
1,3-Dichlorobenzene	1.397	1.322	-	5.4	20	69	0
1,4-Dichlorobenzene	1.386	1.315	-	5.1	20	69	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1938617
Project Name	: CYPHER ST., BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA117	Calibration Date	: 09/05/19 18:04
Lab File ID	: V17190905N01	Init. Calib. Date(s)	: 07/26/19 07/26/19
Sample No	: WG1281075-2	Init. Calib. Times	: 20:19 23:46
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.837	1.744	-	5.1	20	69	0
n-Butylbenzene	2.767	2.743	-	0.9	20	71	0
1,2-Dichlorobenzene	1.247	1.156	-	7.3	20	67	0
1,2,4,5-Tetramethylbenzene	2.774	2.536	-	8.6	20	66	0
1,2-Dibromo-3-chloropropan	0.076	0.071	-	6.6	20	66	0
1,3,5-Trichlorobenzene	1.032	0.979	-	5.1	20	70	0
Hexachlorobutadiene	0.472	0.436	-	7.6	20	67	0
1,2,4-Trichlorobenzene	0.835	0.803	-	3.8	20	70	0
Naphthalene	1.699	1.608	-	5.4	20	69	0
1,2,3-Trichlorobenzene	0.731	0.692	-	5.3	20	69	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1938617
Project Name	: CYPHER ST., BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA117	Calibration Date	: 09/06/19 06:24
Lab File ID	: V17190906A01	Init. Calib. Date(s)	: 07/26/19 07/26/19
Sample No	: WG1281075-7	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	69	0
Dichlorodifluoromethane	0.158	0.133	-	15.8	20	56	0
Chloromethane	0.23	0.244	-	-6.1	20	77	0
Vinyl chloride	0.21	0.216	-	-2.9	20	72	0
Bromomethane	0.135	0.137	-	-1.5	20	80	0
Chloroethane	0.13	0.143	-	-10	20	80	0
Trichlorofluoromethane	0.261	0.295	-	-13	20	78	0
Ethyl ether	0.092	0.097	-	-5.4	20	77	0
1,1-Dichloroethene	0.198	0.177	-	10.6	20	62	0
Carbon disulfide	0.66	0.575	-	12.9	20	63	0
Freon-113	0.194	0.181	-	6.7	20	64	0
Acrolein	0.03	0.028*	-	6.7	20	66	0
Methylene chloride	0.219	0.201	-	8.2	20	67	0
Acetone	20	23.384	-	-16.9	20	73	-.01
trans-1,2-Dichloroethene	0.229	0.201	-	12.2	20	62	0
Methyl acetate	0.094	0.099*	-	-5.3	20	80	0
Methyl tert-butyl ether	0.503	0.485	-	3.6	20	66	0
tert-Butyl alcohol	0.017	0.017*	-	0	20	65	-.01
Diisopropyl ether	0.721	0.72	-	0.1	20	69	0
1,1-Dichloroethane	0.421	0.399	-	5.2	20	67	0
Halothane	0.188	0.153	-	18.6	20	58	0
Acrylonitrile	0.044	0.045*	-	-2.3	20	73	0
Ethyl tert-butyl ether	0.703	0.681	-	3.1	20	67	-.01
Vinyl acetate	0.414	0.394	-	4.8	20	65	0
cis-1,2-Dichloroethene	0.247	0.215	-	13	20	62	0
2,2-Dichloropropane	0.376	0.333	-	11.4	20	63	0
Bromochloromethane	0.098	0.089	-	9.2	20	64	0
Cyclohexane	0.393	0.341	-	13.2	20	60	-.01
Chloroform	0.417	0.392	-	6	20	65	0
Ethyl acetate	0.153	0.149	-	2.6	20	69	0
Carbon tetrachloride	0.334	0.299	-	10.5	20	62	-.01
Tetrahydrofuran	20	21.337	-	-6.7	20	67	0
Dibromofluoromethane	0.245	0.243	-	0.8	20	67	0
1,1,1-Trichloroethane	0.382	0.339	-	11.3	20	62	0
2-Butanone	20	19.33	-	3.4	20	71	0
1,1-Dichloropropene	0.316	0.271	-	14.2	20	60	0
Benzene	0.93	0.771	-	17.1	20	61	-.01
tert-Amyl methyl ether	0.589	0.52	-	11.7	20	61	0
1,2-Dichloroethane-d4	0.249	0.27	-	-8.4	20	74	0
1,2-Dichloroethane	0.268	0.273	-	-1.9	20	71	0
Methyl cyclohexane	0.395	0.299	-	24.3*	20	52	-.01
Trichloroethene	0.248	0.207	-	16.5	20	61	0
Dibromomethane	0.112	0.106	-	5.4	20	65	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1938617
Project Name	: CYPHER ST., BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA117	Calibration Date	: 09/06/19 06:24
Lab File ID	: V17190906A01	Init. Calib. Date(s)	: 07/26/19 07/26/19
Sample No	: WG1281075-7	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	0.204	-	10.1	20	64	0
2-Chloroethyl vinyl ether	0.109	0.092	-	15.6	20	57	0
Bromodichloromethane	0.312	0.275	-	11.9	20	63	-.01
1,4-Dioxane	0.00149	0.00145*	-	2.7	20	69	-.01
cis-1,3-Dichloropropene	0.358	0.306	-	14.5	20	61	0
Chlorobenzene-d5	1	1	-	0	20	66	0
Toluene-d8	1.374	1.335	-	2.8	20	65	0
Toluene	0.82	0.698	-	14.9	20	59	0
4-Methyl-2-pentanone	0.079	0.069*	-	12.7	20	56	0
Tetrachloroethene	0.328	0.271	-	17.4	20	57	0
trans-1,3-Dichloropropene	0.414	0.385	-	7	20	62	0
Ethyl methacrylate	0.316	0.258	-	18.4	20	56	0
1,1,2-Trichloroethane	0.186	0.176	-	5.4	20	64	0
Chlorodibromomethane	0.279	0.252	-	9.7	20	62	0
1,3-Dichloropropane	0.389	0.369	-	5.1	20	64	0
1,2-Dibromoethane	0.215	0.197	-	8.4	20	62	0
2-Hexanone	0.142	0.117	-	17.6	20	57	-.01
Chlorobenzene	0.904	0.758	-	16.2	20	59	0
Ethylbenzene	1.578	1.363	-	13.6	20	59	0
1,1,1,2-Tetrachloroethane	0.315	0.268	-	14.9	20	60	0
p/m Xylene	0.614	0.513	-	16.4	20	58	0
o Xylene	0.596	0.5	-	16.1	20	58	-.01
Styrene	0.957	0.802	-	16.2	20	58	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	67	0
Bromoform	0.312	0.291	-	6.7	20	62	0
Isopropylbenzene	3.228	2.721	-	15.7	20	57	0
4-Bromofluorobenzene	1.085	1.034	-	4.7	20	64	0
Bromobenzene	0.692	0.587	-	15.2	20	57	0
n-Propylbenzene	3.81	3.289	-	13.7	20	58	0
1,4-Dichlorobutane	0.842	0.817	-	3	20	67	0
1,1,2,2-Tetrachloroethane	0.56	0.507	-	9.5	20	62	0
4-Ethyltoluene	3.347	2.831	-	15.4	20	58	0
2-Chlorotoluene	2.218	1.952	-	12	20	60	0
1,3,5-Trimethylbenzene	2.697	2.276	-	15.6	20	58	0
1,2,3-Trichloropropane	0.423	0.422	-	0.2	20	67	0
trans-1,4-Dichloro-2-buten	0.159	0.156	-	1.9	20	66	0
4-Chlorotoluene	2.339	2.052	-	12.3	20	60	0
tert-Butylbenzene	2.305	1.857	-	19.4	20	55	0
1,2,4-Trimethylbenzene	2.653	2.265	-	14.6	20	58	0
sec-Butylbenzene	3.508	2.871	-	18.2	20	55	0
p-Isopropyltoluene	2.943	2.365	-	19.6	20	54	0
1,3-Dichlorobenzene	1.397	1.225	-	12.3	20	60	0
1,4-Dichlorobenzene	1.386	1.212	-	12.6	20	60	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1938617
Project Name	: CYPHER ST., BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA117	Calibration Date	: 09/06/19 06:24
Lab File ID	: V17190906A01	Init. Calib. Date(s)	: 07/26/19 07/26/19
Sample No	: WG1281075-7	Init. Calib. Times	: 20:19 23:46
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.837	1.461	-	20.5*	20	54	0
n-Butylbenzene	2.767	2.262	-	18.3	20	55	0
1,2-Dichlorobenzene	1.247	1.094	-	12.3	20	60	0
1,2,4,5-Tetramethylbenzene	2.774	2.232	-	19.5	20	55	0
1,2-Dibromo-3-chloropropan	0.076	0.066	-	13.2	20	58	0
1,3,5-Trichlorobenzene	1.032	0.819	-	20.6*	20	55	0
Hexachlorobutadiene	0.472	0.328	-	30.5*	20	48	0
1,2,4-Trichlorobenzene	0.835	0.687	-	17.7	20	56	0
Naphthalene	1.699	1.424	-	16.2	20	57	0
1,2,3-Trichlorobenzene	0.731	0.608	-	16.8	20	57	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1938617
Project Name	: CYPHER ST., BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA123	Calibration Date	: 09/08/19 08:25
Lab File ID	: V23190908A02	Init. Calib. Date(s)	: 06/21/19 06/21/19
Sample No	: WG1281854-2	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	101	-.01
Dichlorodifluoromethane	0.268	0.307	-	-14.6	20	98	0
Chloromethane	0.275	0.295	-	-7.3	20	95	0
Vinyl chloride	0.312	0.301	-	3.5	20	83	0
Bromomethane	0.233	0.21	-	9.9	20	86	0
Chloroethane	0.235	0.196	-	16.6	20	76	0
Trichlorofluoromethane	0.429	0.45	-	-4.9	20	89	0
Ethyl ether	0.143	0.125	-	12.6	20	79	0
1,1-Dichloroethene	0.214	0.218	-	-1.9	20	88	0
Carbon disulfide	0.725	0.696	-	4	20	88	0
Freon-113	0.216	0.228	-	-5.6	20	90	0
Acrolein	0.05	0.046*	-	8	20	87	0
Methylene chloride	0.28	0.362	-	-29.3*	20	126	0
Acetone	20	19.678	-	1.6	20	89	-.01
trans-1,2-Dichloroethene	0.245	0.241	-	1.6	20	86	0
Methyl acetate	0.187	0.185	-	1.1	20	89	-.01
Methyl tert-butyl ether	0.725	0.609	-	16	20	74	0
tert-Butyl alcohol	0.038	0.031*	-	18.4	20	74	-.01
Diisopropyl ether	0.748	0.734	-	1.9	20	87	-.01
1,1-Dichloroethane	0.436	0.419	-	3.9	20	84	0
Halothane	0.182	0.181	-	0.5	20	86	0
Acrylonitrile	0.093	0.087	-	6.5	20	83	0
Ethyl tert-butyl ether	0.763	0.652	-	14.5	20	76	-.01
Vinyl acetate	0.662	0.64	-	3.3	20	87	0
cis-1,2-Dichloroethene	0.275	0.262	-	4.7	20	85	0
2,2-Dichloropropane	0.366	0.36	-	1.6	20	86	-.01
Bromochloromethane	0.134	0.128	-	4.5	20	84	-.01
Cyclohexane	0.39	0.387	-	0.8	20	86	0
Chloroform	0.43	0.418	-	2.8	20	86	0
Ethyl acetate	0.3	0.28	-	6.7	20	86	-.01
Carbon tetrachloride	0.331	0.351	-	-6	20	93	0
Tetrahydrofuran	0.106	0.103	-	2.8	20	88	-.02
Dibromofluoromethane	0.262	0.248	-	5.3	20	95	-.01
1,1,1-Trichloroethane	0.365	0.386	-	-5.8	20	89	-.01
2-Butanone	0.139	0.125	-	10.1	20	89	-.01
1,1-Dichloropropene	0.318	0.325	-	-2.2	20	87	0
Benzene	0.959	0.918	-	4.3	20	83	0
tert-Amyl methyl ether	0.734	0.601	-	18.1	20	73	-.01
1,2-Dichloroethane-d4	0.29	0.275	-	5.2	20	99	-.01
1,2-Dichloroethane	0.342	0.314	-	8.2	20	82	-.01
Methyl cyclohexane	0.415	0.402	-	3.1	20	84	-.01
Trichloroethene	0.249	0.251	-	-0.8	20	87	-.01
Dibromomethane	0.164	0.148	-	9.8	20	81	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1938617
Project Name	: CYPHER ST., BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA123	Calibration Date	: 09/08/19 08:25
Lab File ID	: V23190908A02	Init. Calib. Date(s)	: 06/21/19 06/21/19
Sample No	: WG1281854-2	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	0.231	-	9.1	20	80	0
2-Chloroethyl vinyl ether	0.185	0.159	-	14.1	20	76	-.01
Bromodichloromethane	0.327	0.322	-	1.5	20	86	-.01
1,4-Dioxane	0.00343	0.00348*	-	-1.5	20	94	-.01
cis-1,3-Dichloropropene	0.404	0.378	-	6.4	20	81	0
Chlorobenzene-d5	1	1	-	0	20	96	-.01
Toluene-d8	1.211	1.231	-	-1.7	20	97	-.01
Toluene	0.75	0.759	-	-1.2	20	85	-.01
4-Methyl-2-pentanone	0.137	0.119	-	13.1	20	74	-.01
Tetrachloroethene	0.306	0.335	-	-9.5	20	88	-.01
trans-1,3-Dichloropropene	0.447	0.437	-	2.2	20	80	-.01
Ethyl methacrylate	0.415	0.351	-	15.4	20	71	-.02
1,1,2-Trichloroethane	0.237	0.22	-	7.2	20	78	-.01
Chlorodibromomethane	0.311	0.316	-	-1.6	20	84	-.01
1,3-Dichloropropane	0.475	0.445	-	6.3	20	78	-.01
1,2-Dibromoethane	0.286	0.28	-	2.1	20	81	-.01
2-Hexanone	0.245	0.236	-	3.7	20	84	-.02
Chlorobenzene	0.845	0.873	-	-3.3	20	86	-.01
Ethylbenzene	1.401	1.46	-	-4.2	20	86	-.01
1,1,1,2-Tetrachloroethane	0.297	0.308	-	-3.7	20	84	-.01
p/m Xylene	0.545	0.578	-	-6.1	20	87	-.01
o Xylene	0.539	0.552	-	-2.4	20	85	-.01
Styrene	0.876	0.9	-	-2.7	20	84	-.01
1,4-Dichlorobenzene-d4	1	1	-	0	20	96	-.01
Bromoform	0.424	0.394	-	7.1	20	85	-.01
Isopropylbenzene	2.578	2.79	-	-8.2	20	88	-.01
4-Bromofluorobenzene	0.913	0.883	-	3.3	20	92	-.01
Bromobenzene	0.679	0.677	-	0.3	20	84	-.01
n-Propylbenzene	3.032	3.286	-	-8.4	20	88	0
1,4-Dichlorobutane	0.91	0.848	-	6.8	20	80	-.01
1,1,2,2-Tetrachloroethane	0.726	0.698	-	3.9	20	78	0
4-Ethyltoluene	2.552	2.719	-	-6.5	20	86	-.01
2-Chlorotoluene	2.106	2.216	-	-5.2	20	87	-.01
1,3,5-Trimethylbenzene	2.162	2.312	-	-6.9	20	88	-.01
1,2,3-Trichloropropane	0.612	0.578	-	5.6	20	80	-.01
trans-1,4-Dichloro-2-buten	0.212	0.211	-	0.5	20	84	-.01
4-Chlorotoluene	1.897	1.998	-	-5.3	20	88	-.01
tert-Butylbenzene	1.876	2.031	-	-8.3	20	88	-.01
1,2,4-Trimethylbenzene	2.172	2.321	-	-6.9	20	88	-.01
sec-Butylbenzene	2.799	3.059	-	-9.3	20	88	0
p-Isopropyltoluene	2.388	2.615	-	-9.5	20	88	-.01
1,3-Dichlorobenzene	1.306	1.383	-	-5.9	20	89	-.01
1,4-Dichlorobenzene	1.32	1.386	-	-5	20	88	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1938617
Project Name	: CYPHER ST., BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA123	Calibration Date	: 09/08/19 08:25
Lab File ID	: V23190908A02	Init. Calib. Date(s)	: 06/21/19 06/21/19
Sample No	: WG1281854-2	Init. Calib. Times	: 03:09 06:33
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.466	1.545	-	-5.4	20	87	-.01
n-Butylbenzene	2.231	2.477	-	-11	20	90	-.01
1,2-Dichlorobenzene	1.255	1.279	-	-1.9	20	86	0
1,2,4,5-Tetramethylbenzene	2.325	2.373	-	-2.1	20	84	-.01
1,2-Dibromo-3-chloropropan	0.136	0.128	-	5.9	20	83	-.01
1,3,5-Trichlorobenzene	0.913	0.974	-	-6.7	20	89	-.01
Hexachlorobutadiene	0.428	0.451	-	-5.4	20	88	0
1,2,4-Trichlorobenzene	0.862	0.903	-	-4.8	20	87	-.01
Naphthalene	2.486	2.404	-	3.3	20	80	-.01
1,2,3-Trichlorobenzene	0.842	0.844	-	-0.2	20	84	-.01

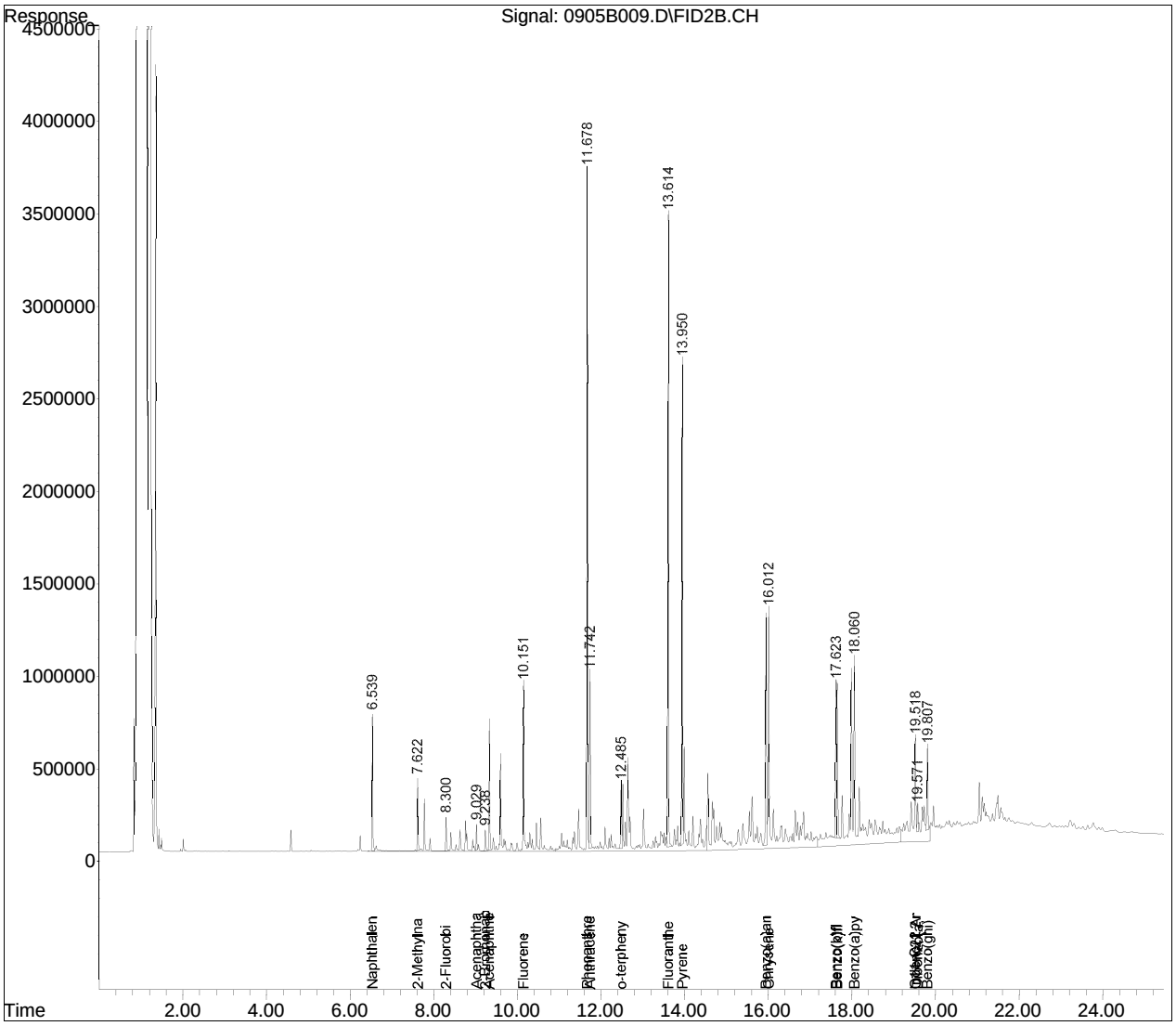
* Value outside of QC limits.

Sub List : Default - All compounds listed Reviewed)

Data Path : I:\Petro10\190905.sec\
Data File : 0905B009.D
Signal(s) : FID2B.CH
Acq On : 05 Sep 2019 11:35 am
Operator : Petro10b:meo
Sample : l1938617-01d,42,5, 5xa
Misc : wg1280490,wg1279395,ical12178
ALS Vial : 59 Sample Multiplier: 1

Integration File: events.e
Quant Time: Sep 05 12:37:20 2019
Quant Method : I:\Petro10\190905.sec\MAARO160318.M
Quant Title : MA EPH Aromatic
QLast Update : Wed Aug 28 23:51:56 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



ANALYTICAL REPORT

Lab Number:	L1938825
Client:	Tetra Tech Rizzo Marlborough Technology Park 100 Nickerson Road Marlborough, MA 01752
ATTN:	Mike Billa
Phone:	(508) 786-2200
Project Name:	CYPHER ST., S. BOSTON
Project Number:	143-278997-19001
Report Date:	09/10/19

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Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1938825
Report Date: 09/10/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1938825-01	TT-18 (0-2')	SOIL	CYPHER ST., S. BOSTON	08/27/19 09:00	08/27/19
L1938825-02	TT-17 (1-3')	SOIL	CYPHER ST., S. BOSTON	08/27/19 11:00	08/27/19
L1938825-03	TT-17 (7')	SOIL	CYPHER ST., S. BOSTON	08/27/19 11:30	08/27/19
L1938825-04	TT-12 (2-4')	SOIL	CYPHER ST., S. BOSTON	08/27/19 13:00	08/27/19
L1938825-05	TT-12 (4-6')	SOIL	CYPHER ST., S. BOSTON	08/27/19 13:30	08/27/19

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1938825

Project Number: 143-278997-19001 **Report Date:** 09/10/19

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?	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:	CYPHER ST., S. BOSTON	**Lab Number:**	L1938825
Project Number:	143-278997-19001	**Report Date:**	09/10/19

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:	CYPHER ST., S. BOSTON	**Lab Number:**	L1938825
Project Number:	143-278997-19001	**Report Date:**	09/10/19

Case Narrative (continued)

Sample Receipt

L1938825-04: At the client's request, the analyses of Petroleum Hydrocarbon Quantitation, Ignitability, pH, and Reactivity were performed.

MCP Related Narratives

Sample Receipt

In reference to question H:

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

Volatile Organics

L1938825-04 and -05: The analysis of Volatile Organics by EPA Method 5035/8260 Low Level could not be performed due to the elevated concentrations of non-target compounds in the sample.

In reference to question G:

L1938825-04 and -05: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The WG1281043-3/-4 LCS/LCSD recoveries, associated with L1938825-01, -02, and -03, are outside the acceptance criteria for individual target compounds, but within the overall method allowances. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for dichlorodifluoromethane (51%/49%) and a potentially high bias for methyl isobutyl ketone (LCS 131%).

The WG1281268-3/-4 LCS/LCSD recoveries, associated with L1938825-04 and -05, are outside the acceptance criteria for individual target compounds, but within the overall method allowances. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for dichlorodifluoromethane (51%/49%) and a potentially high bias for methyl isobutyl ketone (LCS 131%).

The initial calibration, associated with L1938825-01 through -05, did not meet the method required minimum response factor on the lowest calibration standard for 2-butanone (0.0803), 4-methyl-2-pentanone (0.0799), and 1,4-dioxane (0.0013), as well as the average response factor for 2-butanone, 4-methyl-2-pentanone, and 1,4-dioxane.

Project Name:	CYPHER ST., S. BOSTON	**Lab Number:**	L1938825
Project Number:	143-278997-19001	**Report Date:**	09/10/19

Case Narrative (continued)

The continuing calibration standards, associated with L1938825-01 through -05, 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.

PAHs

In reference to question I:

L1938825-01, -02, -03, and -05 were analyzed for a subset of MCP analytes per client request.

Semivolatile Organics

L1938825-04: The initial calibration utilized a quadratic fit for pentachlorophenol,

L1938825-04: The sample was re-analyzed on dilution in order to quantify the results within the calibration range. The result(s) should be considered estimated, and are qualified with an E flag, for any compound(s) that exceeded the calibration range in the initial analysis. The re-analysis was performed only for the compound(s) that exceeded the calibration range.

VPH

In reference to question I:

All samples were analyzed for a subset of MCP analytes per client request.

EPH

L1938825-01: The sample has elevated detection limits due to the dilution required by matrix interferences encountered during the concentration of the sample.

In reference to question I:

All samples were analyzed for a subset of MCP analytes per client request.

Pesticides

In reference to question G:

Project Name:	CYPHER ST., S. BOSTON	**Lab Number:**	L1938825
Project Number:	143-278997-19001	**Report Date:**	09/10/19

Case Narrative (continued)

One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

L1938825-04: One or more dual column RPDs are above the acceptance criteria; however, obvious column interferences are present. The result is qualified with a "P" if the higher of the two results is reported. The result is qualified with an "IP" if the lower of the two results is reported.

L1938825-04: The surrogate recovery is outside the individual acceptance criteria for decachlorobiphenyl (206%), but within the overall method allowances. The results of the original analysis are reported; however, all associated compounds are considered to have a potential bias.

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: 09/10/19

QC OUTLIER SUMMARY REPORT

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1938825
Report Date: 09/10/19

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	WG1281268-3	Dichlorodifluoromethane	LCS	51	70-130	04-05	potential low bias
8260C	Batch QC	WG1281268-3	Methyl isobutyl ketone	LCS	131	70-130	04-05	potential high bias
8260C	Batch QC	WG1281268-4	Dichlorodifluoromethane	LCSD	49	70-130	04-05	potential low bias
MCP Volatile Organics by EPA 5035 Low - Westborough Lab								
8260C	Batch QC	WG1281043-3	Dichlorodifluoromethane	LCS	51	70-130	01-03	potential low bias
8260C	Batch QC	WG1281043-3	Methyl isobutyl ketone	LCS	131	70-130	01-03	potential high bias
8260C	Batch QC	WG1281043-4	Dichlorodifluoromethane	LCSD	49	70-130	01-03	potential low bias
MCP Organochlorine Pesticides - Westborough Lab								
8081B	TT-12 (2-4')	L1938825-04	Decachlorobiphenyl (B)	Surrogate	206	30-150	-	potential high bias

ORGANICS

VOLATILES

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1938825

Project Number: 143-278997-19001 **Report Date:** 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-01
Client ID: TT-18 (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/27/19 09:00
Date Received: 08/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/06/19 13:01
Analyst: MKS
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.1	--	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	0.41	--	1
Chlorobenzene	ND		ug/kg	0.41	--	1
Trichlorofluoromethane	ND		ug/kg	3.3	--	1
1,2-Dichloroethane	ND		ug/kg	0.83	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.41	--	1
Bromodichloromethane	ND		ug/kg	0.41	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.83	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.41	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.41	--	1
1,1-Dichloropropene	ND		ug/kg	0.41	--	1
Bromoform	ND		ug/kg	3.3	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.41	--	1
Benzene	ND		ug/kg	0.41	--	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	1.6	--	1
Vinyl chloride	ND		ug/kg	0.83	--	1
Chloroethane	ND		ug/kg	1.6	--	1
1,1-Dichloroethene	ND		ug/kg	0.83	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.2	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1938825

Project Number: 143-278997-19001 **Report Date:** 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-01 Date Collected: 08/27/19 09:00

Client ID: TT-18 (0-2') Date Received: 08/27/19

Sample Location: CYPHER ST., S. BOSTON 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	0.41	--	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	0.83	--	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	1.6	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.6	--	1
Styrene	ND		ug/kg	0.83	--	1
Dichlorodifluoromethane	ND		ug/kg	8.3	--	1
Acetone	24		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	1.6	--	1
Tetrahydrofuran	ND		ug/kg	3.3	--	1
2,2-Dichloropropane	ND		ug/kg	1.6	--	1
1,2-Dibromoethane	ND		ug/kg	0.83	--	1
1,3-Dichloropropane	ND		ug/kg	1.6	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.41	--	1
Bromobenzene	ND		ug/kg	1.6	--	1
n-Butylbenzene	ND		ug/kg	0.83	--	1
sec-Butylbenzene	ND		ug/kg	0.83	--	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	2.5	--	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: CYPHER ST., S. BOSTON **Lab Number:** L1938825

Project Number: 143-278997-19001 **Report Date:** 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-01 Date Collected: 08/27/19 09:00

Client ID: TT-18 (0-2') Date Received: 08/27/19

Sample Location: CYPHER ST., S. BOSTON 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	66	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	92		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1938825

Project Number: 143-278997-19001 **Report Date:** 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-02
Client ID: TT-17 (1-3')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/27/19 11:00
Date Received: 08/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/06/19 13:26
Analyst: MKS
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	4.5	--	1
1,1-Dichloroethane	ND		ug/kg	0.90	--	1
Chloroform	ND		ug/kg	1.4	--	1
Carbon tetrachloride	ND		ug/kg	0.90	--	1
1,2-Dichloropropane	ND		ug/kg	0.90	--	1
Dibromochloromethane	ND		ug/kg	0.90	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.90	--	1
Tetrachloroethene	ND		ug/kg	0.45	--	1
Chlorobenzene	ND		ug/kg	0.45	--	1
Trichlorofluoromethane	ND		ug/kg	3.6	--	1
1,2-Dichloroethane	ND		ug/kg	0.90	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.45	--	1
Bromodichloromethane	ND		ug/kg	0.45	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.90	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.45	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.45	--	1
1,1-Dichloropropene	ND		ug/kg	0.45	--	1
Bromoform	ND		ug/kg	3.6	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.45	--	1
Benzene	ND		ug/kg	0.45	--	1
Toluene	0.98		ug/kg	0.90	--	1
Ethylbenzene	ND		ug/kg	0.90	--	1
Chloromethane	ND		ug/kg	3.6	--	1
Bromomethane	ND		ug/kg	1.8	--	1
Vinyl chloride	ND		ug/kg	0.90	--	1
Chloroethane	ND		ug/kg	1.8	--	1
1,1-Dichloroethene	ND		ug/kg	0.90	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.4	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1938825

Project Number: 143-278997-19001 **Report Date:** 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-02 Date Collected: 08/27/19 11:00

Client ID: TT-17 (1-3') Date Received: 08/27/19

Sample Location: CYPHER ST., S. BOSTON 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	0.45	--	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	0.90	--	1
Xylenes, Total	ND		ug/kg	0.90	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.90	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.90	--	1
Dibromomethane	ND		ug/kg	1.8	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.8	--	1
Styrene	ND		ug/kg	0.90	--	1
Dichlorodifluoromethane	ND		ug/kg	9.0	--	1
Acetone	31		ug/kg	9.0	--	1
Carbon disulfide	ND		ug/kg	9.0	--	1
Methyl ethyl ketone	ND		ug/kg	9.0	--	1
Methyl isobutyl ketone	ND		ug/kg	9.0	--	1
2-Hexanone	ND		ug/kg	9.0	--	1
Bromochloromethane	ND		ug/kg	1.8	--	1
Tetrahydrofuran	ND		ug/kg	3.6	--	1
2,2-Dichloropropane	ND		ug/kg	1.8	--	1
1,2-Dibromoethane	ND		ug/kg	0.90	--	1
1,3-Dichloropropane	ND		ug/kg	1.8	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.45	--	1
Bromobenzene	ND		ug/kg	1.8	--	1
n-Butylbenzene	ND		ug/kg	0.90	--	1
sec-Butylbenzene	ND		ug/kg	0.90	--	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	2.7	--	1
Hexachlorobutadiene	ND		ug/kg	3.6	--	1
Isopropylbenzene	ND		ug/kg	0.90	--	1
p-Isopropyltoluene	ND		ug/kg	0.90	--	1
Naphthalene	ND		ug/kg	3.6	--	1
n-Propylbenzene	ND		ug/kg	0.90	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1938825

Project Number: 143-278997-19001 **Report Date:** 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-02 Date Collected: 08/27/19 11:00

Client ID: TT-17 (1-3') Date Received: 08/27/19

Sample Location: CYPHER ST., S. BOSTON 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	72	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	92		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1938825

Project Number: 143-278997-19001 **Report Date:** 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-03
Client ID: TT-17 (7')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/27/19 11:30
Date Received: 08/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/06/19 12:35
Analyst: MKS
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.2	--	1
1,1-Dichloroethane	ND		ug/kg	0.64	--	1
Chloroform	ND		ug/kg	0.97	--	1
Carbon tetrachloride	ND		ug/kg	0.64	--	1
1,2-Dichloropropane	ND		ug/kg	0.64	--	1
Dibromochloromethane	ND		ug/kg	0.64	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.64	--	1
Tetrachloroethene	ND		ug/kg	0.32	--	1
Chlorobenzene	ND		ug/kg	0.32	--	1
Trichlorofluoromethane	ND		ug/kg	2.6	--	1
1,2-Dichloroethane	ND		ug/kg	0.64	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.32	--	1
Bromodichloromethane	ND		ug/kg	0.32	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.64	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.32	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.32	--	1
1,1-Dichloropropene	ND		ug/kg	0.32	--	1
Bromoform	ND		ug/kg	2.6	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.32	--	1
Benzene	ND		ug/kg	0.32	--	1
Toluene	ND		ug/kg	0.64	--	1
Ethylbenzene	ND		ug/kg	0.64	--	1
Chloromethane	ND		ug/kg	2.6	--	1
Bromomethane	ND		ug/kg	1.3	--	1
Vinyl chloride	ND		ug/kg	0.64	--	1
Chloroethane	ND		ug/kg	1.3	--	1
1,1-Dichloroethene	ND		ug/kg	0.64	--	1
trans-1,2-Dichloroethene	ND		ug/kg	0.97	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1938825

Project Number: 143-278997-19001 **Report Date:** 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-03 Date Collected: 08/27/19 11:30

Client ID: TT-17 (7') Date Received: 08/27/19

Sample Location: CYPHER ST., S. BOSTON 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	0.32	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.3	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.3	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.3	--	1
Methyl tert butyl ether	ND		ug/kg	1.3	--	1
p/m-Xylene	ND		ug/kg	1.3	--	1
o-Xylene	ND		ug/kg	0.64	--	1
Xylenes, Total	ND		ug/kg	0.64	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.64	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.64	--	1
Dibromomethane	ND		ug/kg	1.3	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.3	--	1
Styrene	ND		ug/kg	0.64	--	1
Dichlorodifluoromethane	ND		ug/kg	6.4	--	1
Acetone	16		ug/kg	6.4	--	1
Carbon disulfide	ND		ug/kg	6.4	--	1
Methyl ethyl ketone	ND		ug/kg	6.4	--	1
Methyl isobutyl ketone	ND		ug/kg	6.4	--	1
2-Hexanone	ND		ug/kg	6.4	--	1
Bromochloromethane	ND		ug/kg	1.3	--	1
Tetrahydrofuran	ND		ug/kg	2.6	--	1
2,2-Dichloropropane	ND		ug/kg	1.3	--	1
1,2-Dibromoethane	ND		ug/kg	0.64	--	1
1,3-Dichloropropane	ND		ug/kg	1.3	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.32	--	1
Bromobenzene	ND		ug/kg	1.3	--	1
n-Butylbenzene	ND		ug/kg	0.64	--	1
sec-Butylbenzene	ND		ug/kg	0.64	--	1
tert-Butylbenzene	ND		ug/kg	1.3	--	1
o-Chlorotoluene	ND		ug/kg	1.3	--	1
p-Chlorotoluene	ND		ug/kg	1.3	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	1.9	--	1
Hexachlorobutadiene	ND		ug/kg	2.6	--	1
Isopropylbenzene	ND		ug/kg	0.64	--	1
p-Isopropyltoluene	ND		ug/kg	0.64	--	1
Naphthalene	ND		ug/kg	2.6	--	1
n-Propylbenzene	ND		ug/kg	0.64	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1938825

Project Number: 143-278997-19001 **Report Date:** 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-03 Date Collected: 08/27/19 11:30

Client ID: TT-17 (7') Date Received: 08/27/19

Sample Location: CYPHER ST., S. BOSTON Field Prep: Not Specified

Sample Depth:

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	92		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1938825

Project Number: 143-278997-19001 **Report Date:** 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-04
Client ID: TT-12 (2-4')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/27/19 13:00
Date Received: 08/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/06/19 11:44
Analyst: MKS
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	360	--	1
1,1-Dichloroethane	ND		ug/kg	71	--	1
Chloroform	ND		ug/kg	110	--	1
Carbon tetrachloride	ND		ug/kg	71	--	1
1,2-Dichloropropane	ND		ug/kg	71	--	1
Dibromochloromethane	ND		ug/kg	71	--	1
1,1,2-Trichloroethane	ND		ug/kg	71	--	1
Tetrachloroethene	ND		ug/kg	36	--	1
Chlorobenzene	ND		ug/kg	36	--	1
Trichlorofluoromethane	ND		ug/kg	280	--	1
1,2-Dichloroethane	ND		ug/kg	71	--	1
1,1,1-Trichloroethane	ND		ug/kg	36	--	1
Bromodichloromethane	ND		ug/kg	36	--	1
trans-1,3-Dichloropropene	ND		ug/kg	71	--	1
cis-1,3-Dichloropropene	ND		ug/kg	36	--	1
1,3-Dichloropropene, Total	ND		ug/kg	36	--	1
1,1-Dichloropropene	ND		ug/kg	36	--	1
Bromoform	ND		ug/kg	280	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	36	--	1
Benzene	ND		ug/kg	36	--	1
Toluene	ND		ug/kg	71	--	1
Ethylbenzene	ND		ug/kg	71	--	1
Chloromethane	ND		ug/kg	280	--	1
Bromomethane	ND		ug/kg	140	--	1
Vinyl chloride	ND		ug/kg	71	--	1
Chloroethane	ND		ug/kg	140	--	1
1,1-Dichloroethene	ND		ug/kg	71	--	1
trans-1,2-Dichloroethene	ND		ug/kg	110	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1938825

Project Number: 143-278997-19001 **Report Date:** 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-04 Date Collected: 08/27/19 13:00

Client ID: TT-12 (2-4') Date Received: 08/27/19

Sample Location: CYPHER ST., S. BOSTON 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	36	--	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	71	--	1
Xylenes, Total	ND		ug/kg	71	--	1
cis-1,2-Dichloroethene	ND		ug/kg	71	--	1
1,2-Dichloroethene, Total	ND		ug/kg	71	--	1
Dibromomethane	ND		ug/kg	140	--	1
1,2,3-Trichloropropane	ND		ug/kg	140	--	1
Styrene	ND		ug/kg	71	--	1
Dichlorodifluoromethane	ND		ug/kg	710	--	1
Acetone	ND		ug/kg	710	--	1
Carbon disulfide	ND		ug/kg	710	--	1
Methyl ethyl ketone	ND		ug/kg	710	--	1
Methyl isobutyl ketone	ND		ug/kg	710	--	1
2-Hexanone	ND		ug/kg	710	--	1
Bromochloromethane	ND		ug/kg	140	--	1
Tetrahydrofuran	ND		ug/kg	280	--	1
2,2-Dichloropropane	ND		ug/kg	140	--	1
1,2-Dibromoethane	ND		ug/kg	71	--	1
1,3-Dichloropropane	ND		ug/kg	140	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	36	--	1
Bromobenzene	ND		ug/kg	140	--	1
n-Butylbenzene	96		ug/kg	71	--	1
sec-Butylbenzene	88		ug/kg	71	--	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	210	--	1
Hexachlorobutadiene	ND		ug/kg	280	--	1
Isopropylbenzene	ND		ug/kg	71	--	1
p-Isopropyltoluene	ND		ug/kg	71	--	1
Naphthalene	ND		ug/kg	280	--	1
n-Propylbenzene	ND		ug/kg	71	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1938825

Project Number: 143-278997-19001 **Report Date:** 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-04 Date Collected: 08/27/19 13:00

Client ID: TT-12 (2-4') Date Received: 08/27/19

Sample Location: CYPHER ST., S. BOSTON 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	150		ug/kg	140	--	1
1,2,4-Trimethylbenzene	320		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	5700	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	88		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1938825

Project Number: 143-278997-19001 **Report Date:** 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-05
Client ID: TT-12 (4-6')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/27/19 13:30
Date Received: 08/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/06/19 12:09
Analyst: MKS
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	400	--	1
1,1-Dichloroethane	ND		ug/kg	81	--	1
Chloroform	ND		ug/kg	120	--	1
Carbon tetrachloride	ND		ug/kg	81	--	1
1,2-Dichloropropane	ND		ug/kg	81	--	1
Dibromochloromethane	ND		ug/kg	81	--	1
1,1,2-Trichloroethane	ND		ug/kg	81	--	1
Tetrachloroethene	ND		ug/kg	40	--	1
Chlorobenzene	ND		ug/kg	40	--	1
Trichlorofluoromethane	ND		ug/kg	320	--	1
1,2-Dichloroethane	ND		ug/kg	81	--	1
1,1,1-Trichloroethane	ND		ug/kg	40	--	1
Bromodichloromethane	ND		ug/kg	40	--	1
trans-1,3-Dichloropropene	ND		ug/kg	81	--	1
cis-1,3-Dichloropropene	ND		ug/kg	40	--	1
1,3-Dichloropropene, Total	ND		ug/kg	40	--	1
1,1-Dichloropropene	ND		ug/kg	40	--	1
Bromoform	ND		ug/kg	320	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	40	--	1
Benzene	ND		ug/kg	40	--	1
Toluene	ND		ug/kg	81	--	1
Ethylbenzene	ND		ug/kg	81	--	1
Chloromethane	ND		ug/kg	320	--	1
Bromomethane	ND		ug/kg	160	--	1
Vinyl chloride	ND		ug/kg	81	--	1
Chloroethane	ND		ug/kg	160	--	1
1,1-Dichloroethene	ND		ug/kg	81	--	1
trans-1,2-Dichloroethene	ND		ug/kg	120	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1938825

Project Number: 143-278997-19001 **Report Date:** 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-05 Date Collected: 08/27/19 13:30

Client ID: TT-12 (4-6') Date Received: 08/27/19

Sample Location: CYPHER ST., S. BOSTON 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	40	--	1
1,2-Dichlorobenzene	ND		ug/kg	160	--	1
1,3-Dichlorobenzene	ND		ug/kg	160	--	1
1,4-Dichlorobenzene	ND		ug/kg	160	--	1
Methyl tert butyl ether	ND		ug/kg	160	--	1
p/m-Xylene	ND		ug/kg	160	--	1
o-Xylene	ND		ug/kg	81	--	1
Xylenes, Total	ND		ug/kg	81	--	1
cis-1,2-Dichloroethene	ND		ug/kg	81	--	1
1,2-Dichloroethene, Total	ND		ug/kg	81	--	1
Dibromomethane	ND		ug/kg	160	--	1
1,2,3-Trichloropropane	ND		ug/kg	160	--	1
Styrene	ND		ug/kg	81	--	1
Dichlorodifluoromethane	ND		ug/kg	810	--	1
Acetone	ND		ug/kg	810	--	1
Carbon disulfide	ND		ug/kg	810	--	1
Methyl ethyl ketone	ND		ug/kg	810	--	1
Methyl isobutyl ketone	ND		ug/kg	810	--	1
2-Hexanone	ND		ug/kg	810	--	1
Bromochloromethane	ND		ug/kg	160	--	1
Tetrahydrofuran	ND		ug/kg	320	--	1
2,2-Dichloropropane	ND		ug/kg	160	--	1
1,2-Dibromoethane	ND		ug/kg	81	--	1
1,3-Dichloropropane	ND		ug/kg	160	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	40	--	1
Bromobenzene	ND		ug/kg	160	--	1
n-Butylbenzene	ND		ug/kg	81	--	1
sec-Butylbenzene	ND		ug/kg	81	--	1
tert-Butylbenzene	ND		ug/kg	160	--	1
o-Chlorotoluene	ND		ug/kg	160	--	1
p-Chlorotoluene	ND		ug/kg	160	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	240	--	1
Hexachlorobutadiene	ND		ug/kg	320	--	1
Isopropylbenzene	ND		ug/kg	81	--	1
p-Isopropyltoluene	ND		ug/kg	81	--	1
Naphthalene	ND		ug/kg	320	--	1
n-Propylbenzene	ND		ug/kg	81	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1938825

Project Number: 143-278997-19001 **Report Date:** 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-05 Date Collected: 08/27/19 13:30

Client ID: TT-12 (4-6') Date Received: 08/27/19

Sample Location: CYPHER ST., S. BOSTON 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	160	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	160	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	160	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	160	--	1
Diethyl ether	ND		ug/kg	160	--	1
Diisopropyl Ether	ND		ug/kg	160	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	160	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	160	--	1
1,4-Dioxane	ND		ug/kg	6400	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	89		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1938825

Project Number: 143-278997-19001 **Report Date:** 09/10/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/06/19 07:04
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-03 Batch: WG1281043-5					
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: CYPHER ST., S. BOSTON **Lab Number:** L1938825

Project Number: 143-278997-19001 **Report Date:** 09/10/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/06/19 07:04
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-03 Batch: WG1281043-5					
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: CYPHER ST., S. BOSTON **Lab Number:** L1938825

Project Number: 143-278997-19001 **Report Date:** 09/10/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/06/19 07:04
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-03 Batch: WG1281043-5					
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	106		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	90		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1938825

Project Number: 143-278997-19001 **Report Date:** 09/10/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/06/19 07:04
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 04-05 Batch: WG1281268-5					
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: CYPHER ST., S. BOSTON **Lab Number:** L1938825

Project Number: 143-278997-19001 **Report Date:** 09/10/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/06/19 07:04
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 04-05 Batch: WG1281268-5					
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: CYPHER ST., S. BOSTON **Lab Number:** L1938825

Project Number: 143-278997-19001 **Report Date:** 09/10/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/06/19 07:04
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 04-05 Batch: WG1281268-5					
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	106		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	91		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-03 Batch: WG1281043-3 WG1281043-4

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Methylene chloride	93		92		70-130	1		20
1,1-Dichloroethane	112		110		70-130	2		20
Chloroform	105		104		70-130	1		20
Carbon tetrachloride	109		107		70-130	2		20
1,2-Dichloropropane	111		112		70-130	1		20
Dibromochloromethane	105		104		70-130	1		20
1,1,2-Trichloroethane	106		103		70-130	3		20
Tetrachloroethene	104		102		70-130	2		20
Chlorobenzene	102		101		70-130	1		20
Trichlorofluoromethane	100		99		70-130	1		20
1,2-Dichloroethane	111		111		70-130	0		20
1,1,1-Trichloroethane	107		106		70-130	1		20
Bromodichloromethane	105		104		70-130	1		20
trans-1,3-Dichloropropene	112		110		70-130	2		20
cis-1,3-Dichloropropene	108		110		70-130	2		20
1,1-Dichloropropene	108		107		70-130	1		20
Bromoform	108		104		70-130	4		20
1,1,2,2-Tetrachloroethane	104		101		70-130	3		20
Benzene	101		101		70-130	0		20
Toluene	106		103		70-130	3		20
Ethylbenzene	108		105		70-130	3		20
Chloromethane	110		92		70-130	18		20
Bromomethane	73		72		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

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): 01-03 Batch: WG1281043-3 WG1281043-4								
Vinyl chloride	82		80		70-130	2		20
Chloroethane	80		80		70-130	0		20
1,1-Dichloroethene	97		95		70-130	2		20
trans-1,2-Dichloroethene	101		99		70-130	2		20
Trichloroethene	101		98		70-130	3		20
1,2-Dichlorobenzene	103		102		70-130	1		20
1,3-Dichlorobenzene	106		102		70-130	4		20
1,4-Dichlorobenzene	105		101		70-130	4		20
Methyl tert butyl ether	107		105		70-130	2		20
p/m-Xylene	108		106		70-130	2		20
o-Xylene	108		106		70-130	2		20
cis-1,2-Dichloroethene	101		99		70-130	2		20
Dibromomethane	102		102		70-130	0		20
1,2,3-Trichloropropane	108		105		70-130	3		20
Styrene	114		113		70-130	1		20
Dichlorodifluoromethane	**51**	Q	**49**	Q	70-130	4		20
Acetone	116		111		70-130	4		20
Carbon disulfide	91		88		70-130	3		20
Methyl ethyl ketone	125		130		70-130	4		20
Methyl isobutyl ketone	**131**	Q	127		70-130	3		20
2-Hexanone	124		119		70-130	4		20
Bromochloromethane	98		98		70-130	0		20
Tetrahydrofuran	125		122		70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

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): 01-03 Batch: WG1281043-3 WG1281043-4								
2,2-Dichloropropane	110		108		70-130	2		20
1,2-Dibromoethane	104		103		70-130	1		20
1,3-Dichloropropane	107		106		70-130	1		20
1,1,1,2-Tetrachloroethane	105		103		70-130	2		20
Bromobenzene	102		99		70-130	3		20
n-Butylbenzene	115		110		70-130	4		20
sec-Butylbenzene	110		106		70-130	4		20
tert-Butylbenzene	108		106		70-130	2		20
o-Chlorotoluene	111		106		70-130	5		20
p-Chlorotoluene	112		106		70-130	6		20
1,2-Dibromo-3-chloropropane	107		105		70-130	2		20
Hexachlorobutadiene	110		108		70-130	2		20
Isopropylbenzene	107		104		70-130	3		20
p-Isopropyltoluene	112		108		70-130	4		20
Naphthalene	108		106		70-130	2		20
n-Propylbenzene	108		105		70-130	3		20
1,2,3-Trichlorobenzene	109		106		70-130	3		20
1,2,4-Trichlorobenzene	108		106		70-130	2		20
1,3,5-Trimethylbenzene	110		107		70-130	3		20
1,2,4-Trimethylbenzene	112		108		70-130	4		20
Diethyl ether	101		99		70-130	2		20
Diisopropyl Ether	125		126		70-130	1		20
Ethyl-Tert-Butyl-Ether	124		124		70-130	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST., S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1938825

Report Date: 09/10/19

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): 01-03 Batch: WG1281043-3 WG1281043-4								
Tertiary-Amyl Methyl Ether	115		114		70-130	1		20
1,4-Dioxane	113		113		70-130	0		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	105		104		70-130
Toluene-d8	97		97		70-130
4-Bromofluorobenzene	98		96		70-130
Dibromofluoromethane	93		92		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

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): 04-05 Batch: WG1281268-3 WG1281268-4								
Methylene chloride	93		92		70-130	1		20
1,1-Dichloroethane	112		110		70-130	2		20
Chloroform	105		104		70-130	1		20
Carbon tetrachloride	109		107		70-130	2		20
1,2-Dichloropropane	111		112		70-130	1		20
Dibromochloromethane	105		104		70-130	1		20
1,1,2-Trichloroethane	106		103		70-130	3		20
Tetrachloroethene	104		102		70-130	2		20
Chlorobenzene	102		101		70-130	1		20
Trichlorofluoromethane	100		99		70-130	1		20
1,2-Dichloroethane	111		111		70-130	0		20
1,1,1-Trichloroethane	107		106		70-130	1		20
Bromodichloromethane	105		104		70-130	1		20
trans-1,3-Dichloropropene	112		110		70-130	2		20
cis-1,3-Dichloropropene	108		110		70-130	2		20
1,1-Dichloropropene	108		107		70-130	1		20
Bromoform	108		104		70-130	4		20
1,1,2,2-Tetrachloroethane	104		101		70-130	3		20
Benzene	101		101		70-130	0		20
Toluene	106		103		70-130	3		20
Ethylbenzene	108		105		70-130	3		20
Chloromethane	110		92		70-130	18		20
Bromomethane	73		72		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

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): 04-05 Batch: WG1281268-3 WG1281268-4								
Vinyl chloride	82		80		70-130	2		20
Chloroethane	80		80		70-130	0		20
1,1-Dichloroethene	97		95		70-130	2		20
trans-1,2-Dichloroethene	101		99		70-130	2		20
Trichloroethene	101		98		70-130	3		20
1,2-Dichlorobenzene	103		102		70-130	1		20
1,3-Dichlorobenzene	106		102		70-130	4		20
1,4-Dichlorobenzene	105		101		70-130	4		20
Methyl tert butyl ether	107		105		70-130	2		20
p/m-Xylene	108		106		70-130	2		20
o-Xylene	108		106		70-130	2		20
cis-1,2-Dichloroethene	101		99		70-130	2		20
Dibromomethane	102		102		70-130	0		20
1,2,3-Trichloropropane	108		105		70-130	3		20
Styrene	114		113		70-130	1		20
Dichlorodifluoromethane	**51**	Q	**49**	Q	70-130	4		20
Acetone	116		111		70-130	4		20
Carbon disulfide	91		88		70-130	3		20
Methyl ethyl ketone	125		130		70-130	4		20
Methyl isobutyl ketone	**131**	Q	127		70-130	3		20
2-Hexanone	124		119		70-130	4		20
Bromochloromethane	98		98		70-130	0		20
Tetrahydrofuran	125		122		70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

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): 04-05 Batch: WG1281268-3 WG1281268-4								
2,2-Dichloropropane	110		108		70-130	2		20
1,2-Dibromoethane	104		103		70-130	1		20
1,3-Dichloropropane	107		106		70-130	1		20
1,1,1,2-Tetrachloroethane	105		103		70-130	2		20
Bromobenzene	102		99		70-130	3		20
n-Butylbenzene	115		110		70-130	4		20
sec-Butylbenzene	110		106		70-130	4		20
tert-Butylbenzene	108		106		70-130	2		20
o-Chlorotoluene	111		106		70-130	5		20
p-Chlorotoluene	112		106		70-130	6		20
1,2-Dibromo-3-chloropropane	107		105		70-130	2		20
Hexachlorobutadiene	110		108		70-130	2		20
Isopropylbenzene	107		104		70-130	3		20
p-Isopropyltoluene	112		108		70-130	4		20
Naphthalene	108		106		70-130	2		20
n-Propylbenzene	108		105		70-130	3		20
1,2,3-Trichlorobenzene	109		106		70-130	3		20
1,2,4-Trichlorobenzene	108		106		70-130	2		20
1,3,5-Trimethylbenzene	110		107		70-130	3		20
1,2,4-Trimethylbenzene	112		108		70-130	4		20
Diethyl ether	101		99		70-130	2		20
Diisopropyl Ether	125		126		70-130	1		20
Ethyl-Tert-Butyl-Ether	124		124		70-130	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST., S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1938825

Report Date: 09/10/19

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): 04-05 Batch: WG1281268-3 WG1281268-4								
Tertiary-Amyl Methyl Ether	115		114		70-130	1		20
1,4-Dioxane	113		113		70-130	0		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	104		104		70-130
Toluene-d8	97		97		70-130
4-Bromofluorobenzene	98		96		70-130
Dibromofluoromethane	93		92		70-130

SEMIVOLATILES

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-01
Client ID: TT-18 (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/27/19 09:00
Date Received: 08/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/06/19 05:46
Analyst: KR
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 09/04/19 10:04

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Acenaphthene	ND		ug/kg	140	--	1
Fluoranthene	3100		ug/kg	100	--	1
Naphthalene	ND		ug/kg	170	--	1
Benzo(a)anthracene	1800		ug/kg	100	--	1
Benzo(a)pyrene	1800		ug/kg	140	--	1
Benzo(b)fluoranthene	2400		ug/kg	100	--	1
Benzo(k)fluoranthene	740		ug/kg	100	--	1
Chrysene	1700		ug/kg	100	--	1
Acenaphthylene	200		ug/kg	140	--	1
Anthracene	460		ug/kg	100	--	1
Benzo(ghi)perylene	1000		ug/kg	140	--	1
Fluorene	ND		ug/kg	170	--	1
Phenanthrene	1800		ug/kg	100	--	1
Dibenzo(a,h)anthracene	220		ug/kg	100	--	1
Indeno(1,2,3-cd)pyrene	1000		ug/kg	140	--	1
Pyrene	3100		ug/kg	100	--	1
2-Methylnaphthalene	ND		ug/kg	210	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	57		30-130
2-Fluorobiphenyl	53		30-130
4-Terphenyl-d14	47		30-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-02
Client ID: TT-17 (1-3')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/27/19 11:00
Date Received: 08/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/06/19 06:09
Analyst: KR
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 09/04/19 10:04

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Acenaphthene	ND		ug/kg	140	--	1
Fluoranthene	150		ug/kg	100	--	1
Naphthalene	ND		ug/kg	180	--	1
Benzo(a)anthracene	ND		ug/kg	100	--	1
Benzo(a)pyrene	ND		ug/kg	140	--	1
Benzo(b)fluoranthene	100		ug/kg	100	--	1
Benzo(k)fluoranthene	ND		ug/kg	100	--	1
Chrysene	ND		ug/kg	100	--	1
Acenaphthylene	ND		ug/kg	140	--	1
Anthracene	ND		ug/kg	100	--	1
Benzo(ghi)perylene	ND		ug/kg	140	--	1
Fluorene	ND		ug/kg	180	--	1
Phenanthrene	ND		ug/kg	100	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	100	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	140	--	1
Pyrene	150		ug/kg	100	--	1
2-Methylnaphthalene	ND		ug/kg	210	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	64		30-130
2-Fluorobiphenyl	62		30-130
4-Terphenyl-d14	56		30-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-03
Client ID: TT-17 (7')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/27/19 11:30
Date Received: 08/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/06/19 06:32
Analyst: KR
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 09/04/19 10:04

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Acenaphthene	440		ug/kg	160	--	1
Fluoranthene	2800		ug/kg	120	--	1
Naphthalene	220		ug/kg	200	--	1
Benzo(a)anthracene	1400		ug/kg	120	--	1
Benzo(a)pyrene	1100		ug/kg	160	--	1
Benzo(b)fluoranthene	1400		ug/kg	120	--	1
Benzo(k)fluoranthene	470		ug/kg	120	--	1
Chrysene	1200		ug/kg	120	--	1
Acenaphthylene	ND		ug/kg	160	--	1
Anthracene	810		ug/kg	120	--	1
Benzo(ghi)perylene	590		ug/kg	160	--	1
Fluorene	400		ug/kg	200	--	1
Phenanthrene	2900		ug/kg	120	--	1
Dibenzo(a,h)anthracene	150		ug/kg	120	--	1
Indeno(1,2,3-cd)pyrene	610		ug/kg	160	--	1
Pyrene	2500		ug/kg	120	--	1
2-Methylnaphthalene	ND		ug/kg	240	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	67		30-130
2-Fluorobiphenyl	66		30-130
4-Terphenyl-d14	56		30-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-04
Client ID: TT-12 (2-4')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/27/19 13:00
Date Received: 08/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/06/19 05:28
Analyst: RC
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 09/04/19 19:13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	400		ug/kg	150	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	190	--	1
Hexachlorobenzene	ND		ug/kg	120	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	170	--	1
2-Chloronaphthalene	ND		ug/kg	190	--	1
1,2-Dichlorobenzene	ND		ug/kg	190	--	1
1,3-Dichlorobenzene	ND		ug/kg	190	--	1
1,4-Dichlorobenzene	ND		ug/kg	190	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	--	1
2,4-Dinitrotoluene	ND		ug/kg	190	--	1
2,6-Dinitrotoluene	ND		ug/kg	190	--	1
Azobenzene	ND		ug/kg	190	--	1
Fluoranthene	9500	E	ug/kg	120	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	230	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	210	--	1
Hexachlorobutadiene	ND		ug/kg	190	--	1
Hexachloroethane	ND		ug/kg	150	--	1
Isophorone	ND		ug/kg	170	--	1
Naphthalene	640		ug/kg	190	--	1
Nitrobenzene	ND		ug/kg	170	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	190	--	1
Butyl benzyl phthalate	ND		ug/kg	190	--	1
Di-n-butylphthalate	ND		ug/kg	190	--	1
Di-n-octylphthalate	ND		ug/kg	190	--	1
Diethyl phthalate	ND		ug/kg	190	--	1
Dimethyl phthalate	ND		ug/kg	190	--	1
Benzo(a)anthracene	5700		ug/kg	120	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1938825

Project Number: 143-278997-19001 **Report Date:** 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-04 Date Collected: 08/27/19 13:00

Client ID: TT-12 (2-4') Date Received: 08/27/19

Sample Location: CYPHER ST., S. BOSTON Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	5600		ug/kg	150	--	1
Benzo(b)fluoranthene	6500		ug/kg	120	--	1
Benzo(k)fluoranthene	2000		ug/kg	120	--	1
Chrysene	5200		ug/kg	120	--	1
Acenaphthylene	ND		ug/kg	150	--	1
Anthracene	1800		ug/kg	120	--	1
Benzo(ghi)perylene	3300		ug/kg	150	--	1
Fluorene	530		ug/kg	190	--	1
Phenanthrene	5400		ug/kg	120	--	1
Dibenzo(a,h)anthracene	710		ug/kg	120	--	1
Indeno(1,2,3-cd)pyrene	3400		ug/kg	150	--	1
Pyrene	8600	E	ug/kg	120	--	1
Aniline	ND		ug/kg	230	--	1
4-Chloroaniline	ND		ug/kg	190	--	1
Dibenzofuran	500		ug/kg	190	--	1
2-Methylnaphthalene	780		ug/kg	230	--	1
Acetophenone	ND		ug/kg	190	--	1
2,4,6-Trichlorophenol	ND		ug/kg	120	--	1
2-Chlorophenol	ND		ug/kg	190	--	1
2,4-Dichlorophenol	ND		ug/kg	170	--	1
2,4-Dimethylphenol	ND		ug/kg	190	--	1
2-Nitrophenol	ND		ug/kg	420	--	1
4-Nitrophenol	ND		ug/kg	270	--	1
2,4-Dinitrophenol	ND		ug/kg	920	--	1
Pentachlorophenol	ND		ug/kg	380	--	1
Phenol	ND		ug/kg	190	--	1
2-Methylphenol	ND		ug/kg	190	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	280	--	1
2,4,5-Trichlorophenol	ND		ug/kg	190	--	1
Pyridine	ND		ug/kg	210	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1938825

Project Number: 143-278997-19001 **Report Date:** 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-04 Date Collected: 08/27/19 13:00

Client ID: TT-12 (2-4') Date Received: 08/27/19

Sample Location: CYPHER ST., S. BOSTON Field Prep: Not Specified

Sample Depth:

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	64		30-130
Phenol-d6	67		30-130
Nitrobenzene-d5	66		30-130
2-Fluorobiphenyl	53		30-130
2,4,6-Tribromophenol	71		30-130
4-Terphenyl-d14	58		30-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-04 D
Client ID: TT-12 (2-4')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/27/19 13:00
Date Received: 08/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/09/19 17:06
Analyst: HL
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 09/04/19 19:13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Fluoranthene	8700		ug/kg	230	--	2
Pyrene	8000		ug/kg	230	--	2

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-05
Client ID: TT-12 (4-6')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/27/19 13:30
Date Received: 08/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/06/19 06:55
Analyst: KR
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 09/04/19 10:04

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Acenaphthene	370		ug/kg	160	--	1
Fluoranthene	4700		ug/kg	120	--	1
Naphthalene	260		ug/kg	200	--	1
Benzo(a)anthracene	2500		ug/kg	120	--	1
Benzo(a)pyrene	2200		ug/kg	160	--	1
Benzo(b)fluoranthene	2700		ug/kg	120	--	1
Benzo(k)fluoranthene	850		ug/kg	120	--	1
Chrysene	2300		ug/kg	120	--	1
Acenaphthylene	ND		ug/kg	160	--	1
Anthracene	1000		ug/kg	120	--	1
Benzo(ghi)perylene	1100		ug/kg	160	--	1
Fluorene	510		ug/kg	200	--	1
Phenanthrene	4300		ug/kg	120	--	1
Dibenzo(a,h)anthracene	290		ug/kg	120	--	1
Indeno(1,2,3-cd)pyrene	1200		ug/kg	160	--	1
Pyrene	4200		ug/kg	120	--	1
2-Methylnaphthalene	430		ug/kg	240	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	77		30-130
2-Fluorobiphenyl	75		30-130
4-Terphenyl-d14	66		30-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1938825
Report Date: 09/10/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 09/05/19 22:23
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 09/04/19 10:04

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-05 Batch: WG1280036-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	99	--
Bis(2-chloroethyl)ether	ND		ug/kg	150	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	160	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	160	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	99	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	200	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	130	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	160	--
Benzo(a)anthracene	ND		ug/kg	99	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 09/05/19 22:23
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 09/04/19 10:04

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-05 Batch: WG1280036-1					
Benzo(b)fluoranthene	ND		ug/kg	99	--
Benzo(k)fluoranthene	ND		ug/kg	99	--
Chrysene	ND		ug/kg	99	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	99	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	99	--
Dibenzo(a,h)anthracene	ND		ug/kg	99	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	99	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	200	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	99	--
2-Chlorophenol	ND		ug/kg	160	--
2,4-Dichlorophenol	ND		ug/kg	150	--
2,4-Dimethylphenol	ND		ug/kg	160	--
2-Nitrophenol	ND		ug/kg	360	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	790	--
Pentachlorophenol	ND		ug/kg	330	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 09/05/19 22:23
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 09/04/19 10:04

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-05 Batch: WG1280036-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	74		30-130
Phenol-d6	76		30-130
Nitrobenzene-d5	72		30-130
2-Fluorobiphenyl	69		30-130
2,4,6-Tribromophenol	75		30-130
4-Terphenyl-d14	76		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-05 Batch: WG1280036-2 WG1280036-3								
Acenaphthene	73		72		40-140	1		30
1,2,4-Trichlorobenzene	72		69		40-140	4		30
Hexachlorobenzene	72		74		40-140	3		30
Bis(2-chloroethyl)ether	76		74		40-140	3		30
2-Chloronaphthalene	71		69		40-140	3		30
1,2-Dichlorobenzene	76		74		40-140	3		30
1,3-Dichlorobenzene	72		69		40-140	4		30
1,4-Dichlorobenzene	73		70		40-140	4		30
3,3'-Dichlorobenzidine	66		68		40-140	3		30
2,4-Dinitrotoluene	83		84		40-140	1		30
2,6-Dinitrotoluene	81		81		40-140	0		30
Azobenzene	80		75		40-140	6		30
Fluoranthene	72		75		40-140	4		30
4-Bromophenyl phenyl ether	69		72		40-140	4		30
Bis(2-chloroisopropyl)ether	61		60		40-140	2		30
Bis(2-chloroethoxy)methane	75		75		40-140	0		30
Hexachlorobutadiene	72		70		40-140	3		30
Hexachloroethane	77		75		40-140	3		30
Isophorone	81		80		40-140	1		30
Naphthalene	73		72		40-140	1		30
Nitrobenzene	75		74		40-140	1		30
Bis(2-ethylhexyl)phthalate	88		90		40-140	2		30
Butyl benzyl phthalate	86		89		40-140	5		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-05 Batch: WG1280036-2 WG1280036-3								
Di-n-butylphthalate	89		91		40-140	3		30
Di-n-octylphthalate	96		98		40-140	2		30
Diethyl phthalate	78		78		40-140	0		30
Dimethyl phthalate	76		74		40-140	3		30
Benzo(a)anthracene	75		75		40-140	0		30
Benzo(a)pyrene	68		65		40-140	5		30
Benzo(b)fluoranthene	73		72		40-140	1		30
Benzo(k)fluoranthene	72		68		40-140	6		30
Chrysene	73		73		40-140	0		30
Acenaphthylene	73		71		40-140	3		30
Anthracene	80		80		40-140	1		30
Benzo(ghi)perylene	75		78		40-140	4		30
Fluorene	74		76		40-140	3		30
Phenanthrene	73		72		40-140	1		30
Dibenzo(a,h)anthracene	79		82		40-140	4		30
Indeno(1,2,3-cd)pyrene	77		77		40-140	1		30
Pyrene	70		73		40-140	6		30
Aniline	64		61		40-140	5		30
4-Chloroaniline	67		62		40-140	8		30
Dibenzofuran	75		74		40-140	1		30
2-Methylnaphthalene	72		70		40-140	3		30
Acetophenone	80		79		40-140	1		30
2,4,6-Trichlorophenol	77		74		30-130	4		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-05 Batch: WG1280036-2 WG1280036-3								
2-Chlorophenol	85		82		30-130	4		30
2,4-Dichlorophenol	80		79		30-130	1		30
2,4-Dimethylphenol	78		78		30-130	0		30
2-Nitrophenol	84		84		30-130	0		30
4-Nitrophenol	76		74		30-130	3		30
2,4-Dinitrophenol	64		66		30-130	3		30
Pentachlorophenol	64		64		30-130	0		30
Phenol	74		73		30-130	1		30
2-Methylphenol	85		85		30-130	0		30
3-Methylphenol/4-Methylphenol	91		88		30-130	3		30
2,4,5-Trichlorophenol	81		80		30-130	1		30
Pyridine	55		56		30-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	83		79		30-130
Phenol-d6	86		84		30-130
Nitrobenzene-d5	82		76		30-130
2-Fluorobiphenyl	70		69		30-130
2,4,6-Tribromophenol	80		79		30-130
4-Terphenyl-d14	69		72		30-130

PETROLEUM HYDROCARBONS

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-04
Client ID: TT-12 (2-4')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/27/19 13:00
Date Received: 08/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 09/05/19 02:25
Analyst: MEO
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 09/04/19 08:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	612000		ug/kg	38800	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	82		40-140

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 09/05/19 00:46
Analyst: MEO

Extraction Method: EPA 3546
Extraction Date: 09/04/19 08:34

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 04 Batch: WG1279985-1					
TPH	ND		ug/kg	31700	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	79		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST., S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1938825

Report Date: 09/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 04 Batch: WG1279985-2								
TPH	67		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	65				40-140

Lab Duplicate Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1938825
Report Date: 09/10/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 04 QC Batch ID: WG1279985-3 QC Sample: L1938825-04 Client ID: TT-12 (2-4')						
TPH	612000	501000	ug/kg	20		40

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	82		69		40-140

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1938825

Project Number: 143-278997-19001 **Report Date:** 09/10/19

SAMPLE RESULTS

Lab ID:	L1938825-01	Date Collected:	08/27/19 09:00
Client ID:	TT-18 (0-2')	Date Received:	08/27/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	09/05/19 18:55
Analyst:	BAD
Percent Solids:	96%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1:1 +/- 25%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	4.63	--	1
C9-C12 Aliphatics	ND		mg/kg	4.63	--	1
C9-C10 Aromatics	ND		mg/kg	4.63	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	4.63	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	4.63	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	103		70-130
2,5-Dibromotoluene-FID	103		70-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

SAMPLE RESULTS

Lab ID:	L1938825-01	Date Collected:	08/27/19 09:00
Client ID:	TT-18 (0-2')	Date Received:	08/27/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/04/19 02:04
Analytical Date:	09/07/19 13:00	Cleanup Method1:	EPH-04-1
Analyst:	LL	Cleanup Date1:	09/06/19
Percent Solids:	96%		

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	19.6	--	3
C19-C36 Aliphatics	152		mg/kg	19.6	--	3
C11-C22 Aromatics	177		mg/kg	19.6	--	3
C11-C22 Aromatics, Adjusted	143		mg/kg	19.6	--	3

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	87		40-140
o-Terphenyl	96		40-140
2-Fluorobiphenyl	75		40-140
2-Bromonaphthalene	74		40-140

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1938825

Project Number: 143-278997-19001 **Report Date:** 09/10/19

SAMPLE RESULTS

Lab ID:	L1938825-02	Date Collected:	08/27/19 11:00
Client ID:	TT-17 (1-3')	Date Received:	08/27/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	09/05/19 19:26
Analyst:	BAD
Percent Solids:	94%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1:1 +/- 25%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	5.12	--	1
C9-C12 Aliphatics	ND		mg/kg	5.12	--	1
C9-C10 Aromatics	ND		mg/kg	5.12	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	5.12	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	5.12	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	116		70-130
2,5-Dibromotoluene-FID	119		70-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

SAMPLE RESULTS

Lab ID:	L1938825-02	Date Collected:	08/27/19 11:00
Client ID:	TT-17 (1-3')	Date Received:	08/27/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/04/19 02:04
Analytical Date:	09/06/19 22:17	Cleanup Method1:	EPH-04-1
Analyst:	LL	Cleanup Date1:	09/06/19
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	6.73	--	1
C19-C36 Aliphatics	ND		mg/kg	6.73	--	1
C11-C22 Aromatics	ND		mg/kg	6.73	--	1
C11-C22 Aromatics, Adjusted	ND		mg/kg	6.73	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	42		40-140
o-Terphenyl	47		40-140
2-Fluorobiphenyl	94		40-140
2-Bromonaphthalene	92		40-140

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1938825

Project Number: 143-278997-19001 **Report Date:** 09/10/19

SAMPLE RESULTS

Lab ID:	L1938825-03	Date Collected:	08/27/19 11:30
Client ID:	TT-17 (7')	Date Received:	08/27/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	09/05/19 19:57
Analyst:	BAD
Percent Solids:	84%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1:1 +/- 25%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	6.85	--	1
C9-C12 Aliphatics	ND		mg/kg	6.85	--	1
C9-C10 Aromatics	ND		mg/kg	6.85	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	6.85	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	6.85	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	117		70-130
2,5-Dibromotoluene-FID	120		70-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

SAMPLE RESULTS

Lab ID:	L1938825-03	Date Collected:	08/27/19 11:30
Client ID:	TT-17 (7')	Date Received:	08/27/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/04/19 02:04
Analytical Date:	09/06/19 22:55	Cleanup Method1:	EPH-04-1
Analyst:	LL	Cleanup Date1:	09/06/19
Percent Solids:	84%		

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	7.89	--	1
C19-C36 Aliphatics	14.3		mg/kg	7.89	--	1
C11-C22 Aromatics	29.7		mg/kg	7.89	--	1
C11-C22 Aromatics, Adjusted	24.2		mg/kg	7.89	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	51		40-140
o-Terphenyl	63		40-140
2-Fluorobiphenyl	94		40-140
2-Bromonaphthalene	94		40-140

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1938825

Project Number: 143-278997-19001 **Report Date:** 09/10/19

SAMPLE RESULTS

Lab ID:	L1938825-04	Date Collected:	08/27/19 13:00
Client ID:	TT-12 (2-4')	Date Received:	08/27/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	09/06/19 19:30
Analyst:	BAD
Percent Solids:	84%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1:1 +/- 25%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	10.7		mg/kg	7.28	--	1
C9-C12 Aliphatics	24.5		mg/kg	7.28	--	1
C9-C10 Aromatics	16.8		mg/kg	7.28	--	1
C5-C8 Aliphatics, Adjusted	10.7		mg/kg	7.28	--	1
C9-C12 Aliphatics, Adjusted	7.65		mg/kg	7.28	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	110		70-130
2,5-Dibromotoluene-FID	114		70-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

SAMPLE RESULTS

Lab ID:	L1938825-04	Date Collected:	08/27/19 13:00
Client ID:	TT-12 (2-4')	Date Received:	08/27/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/04/19 08:20
Analytical Date:	09/06/19 23:34	Cleanup Method1:	EPH-04-1
Analyst:	LL	Cleanup Date1:	09/06/19
Percent Solids:	84%		

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	46.3		mg/kg	7.85	--	1
C19-C36 Aliphatics	88.2		mg/kg	7.85	--	1
C11-C22 Aromatics	183		mg/kg	7.85	--	1
C11-C22 Aromatics, Adjusted	140		mg/kg	7.85	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	60		40-140
o-Terphenyl	61		40-140
2-Fluorobiphenyl	75		40-140
2-Bromonaphthalene	75		40-140

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1938825

Project Number: 143-278997-19001 **Report Date:** 09/10/19

SAMPLE RESULTS

Lab ID:	L1938825-05	Date Collected:	08/27/19 13:30
Client ID:	TT-12 (4-6')	Date Received:	08/27/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	09/05/19 20:27
Analyst:	BAD
Percent Solids:	82%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1:1 +/- 25%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	13.4		mg/kg	8.07	--	1
C9-C12 Aliphatics	ND		mg/kg	8.07	--	1
C9-C10 Aromatics	ND		mg/kg	8.07	--	1
C5-C8 Aliphatics, Adjusted	13.4		mg/kg	8.07	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	8.07	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	123		70-130
2,5-Dibromotoluene-FID	125		70-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

SAMPLE RESULTS

Lab ID:	L1938825-05	Date Collected:	08/27/19 13:30
Client ID:	TT-12 (4-6')	Date Received:	08/27/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/04/19 02:04
Analytical Date:	09/07/19 00:12	Cleanup Method1:	EPH-04-1
Analyst:	LL	Cleanup Date1:	09/06/19
Percent Solids:	82%		

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	16.2		mg/kg	7.94	--	1
C19-C36 Aliphatics	25.3		mg/kg	7.94	--	1
C11-C22 Aromatics	84.4		mg/kg	7.94	--	1
C11-C22 Aromatics, Adjusted	71.1		mg/kg	7.94	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	60		40-140
o-Terphenyl	62		40-140
2-Fluorobiphenyl	80		40-140
2-Bromonaphthalene	79		40-140

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1938825
Report Date: 09/10/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 09/05/19 21:25
Analyst: MEO

Extraction Method: EPA 3546
Extraction Date: 09/04/19 03:01
Cleanup Method: EPH-04-1
Cleanup Date: 09/05/19

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-05 Batch: WG1279868-1					
C9-C18 Aliphatics	ND		mg/kg	6.52	--
C19-C36 Aliphatics	ND		mg/kg	6.52	--
C11-C22 Aromatics	ND		mg/kg	6.52	--
C11-C22 Aromatics, Adjusted	ND		mg/kg	6.52	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	56		40-140
o-Terphenyl	65		40-140
2-Fluorobiphenyl	84		40-140
2-Bromonaphthalene	81		40-140

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1938825

Project Number: 143-278997-19001 **Report Date:** 09/10/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 131,VPH-18-2.1
Analytical Date: 09/05/19 09:33
Analyst: BAD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-03,05 Batch: WG1280702-4					
C5-C8 Aliphatics	ND		mg/kg	5.00	--
C9-C12 Aliphatics	ND		mg/kg	5.00	--
C9-C10 Aromatics	ND		mg/kg	5.00	--
C5-C8 Aliphatics, Adjusted	ND		mg/kg	5.00	--
C9-C12 Aliphatics, Adjusted	ND		mg/kg	5.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	107		70-130
2,5-Dibromotoluene-FID	108		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1938825

Project Number: 143-278997-19001 **Report Date:** 09/10/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 131,VPH-18-2.1
Analytical Date: 09/06/19 09:39
Analyst: BAD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 04 Batch: WG1281524-4					
C5-C8 Aliphatics	ND		mg/kg	5.00	--
C9-C12 Aliphatics	ND		mg/kg	5.00	--
C9-C10 Aromatics	ND		mg/kg	5.00	--
C5-C8 Aliphatics, Adjusted	ND		mg/kg	5.00	--
C9-C12 Aliphatics, Adjusted	ND		mg/kg	5.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	104		70-130
2,5-Dibromotoluene-FID	106		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-05 Batch: WG1279868-2 WG1279868-3								
C9-C18 Aliphatics	86		78		40-140	10		25
C19-C36 Aliphatics	105		95		40-140	10		25
C11-C22 Aromatics	98		103		40-140	5		25
Naphthalene	76		80		40-140	5		25
2-Methylnaphthalene	76		79		40-140	4		25
Acenaphthylene	83		86		40-140	4		25
Acenaphthene	86		90		40-140	5		25
Fluorene	87		91		40-140	4		25
Phenanthrene	90		94		40-140	4		25
Anthracene	93		96		40-140	3		25
Fluoranthene	95		99		40-140	4		25
Pyrene	97		100		40-140	3		25
Benzo(a)anthracene	96		99		40-140	3		25
Chrysene	98		104		40-140	6		25
Benzo(b)fluoranthene	98		104		40-140	6		25
Benzo(k)fluoranthene	101		106		40-140	5		25
Benzo(a)pyrene	94		98		40-140	4		25
Indeno(1,2,3-cd)Pyrene	96		100		40-140	4		25
Dibenzo(a,h)anthracene	93		104		40-140	11		25
Benzo(ghi)perylene	89		98		40-140	10		25
Nonane (C9)	66		61		30-140	8		25
Decane (C10)	73		67		40-140	9		25
Dodecane (C12)	76		68		40-140	11		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-05 Batch: WG1279868-2 WG1279868-3								
Tetradecane (C14)	80		72		40-140	11		25
Hexadecane (C16)	86		78		40-140	10		25
Octadecane (C18)	93		84		40-140	10		25
Nonadecane (C19)	94		84		40-140	11		25
Eicosane (C20)	96		85		40-140	12		25
Docosane (C22)	96		86		40-140	11		25
Tetracosane (C24)	96		86		40-140	11		25
Hexacosane (C26)	96		86		40-140	11		25
Octacosane (C28)	96		86		40-140	11		25
Triacontane (C30)	97		85		40-140	13		25
Hexatriacontane (C36)	99		90		40-140	10		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	76		69		40-140
o-Terphenyl	76		81		40-140
2-Fluorobiphenyl	76		83		40-140
2-Bromonaphthalene	74		83		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-03,05 Batch: WG1280702-2 WG1280702-3								
C5-C8 Aliphatics	101		101		70-130	0		25
C9-C12 Aliphatics	101		102		70-130	1		25
C9-C10 Aromatics	98		100		70-130	2		25
Benzene	102		103		70-130	1		25
Toluene	102		103		70-130	1		25
Ethylbenzene	103		104		70-130	1		25
p/m-Xylene	103		104		70-130	1		25
o-Xylene	98		99		70-130	1		25
Methyl tert butyl ether	102		102		70-130	0		25
Naphthalene	103		105		70-130	2		25
1,2,4-Trimethylbenzene	98		100		70-130	2		25
Pentane	97		97		70-130	0		25
2-Methylpentane	104		105		70-130	1		25
2,2,4-Trimethylpentane	100		101		70-130	1		25
n-Nonane	103		105		30-130	2		25
n-Decane	96		97		70-130	1		25
n-Butylcyclohexane	103		105		70-130	2		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	101		103		70-130
2,5-Dibromotoluene-FID	102		104		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 04 Batch: WG1281524-2 WG1281524-3								
C5-C8 Aliphatics	99		98		70-130	0		25
C9-C12 Aliphatics	100		100		70-130	0		25
C9-C10 Aromatics	97		96		70-130	0		25
Benzene	100		100		70-130	0		25
Toluene	101		100		70-130	1		25
Ethylbenzene	102		101		70-130	1		25
p/m-Xylene	102		102		70-130	0		25
o-Xylene	97		97		70-130	0		25
Methyl tert butyl ether	104		103		70-130	1		25
Naphthalene	106		104		70-130	2		25
1,2,4-Trimethylbenzene	97		96		70-130	1		25
Pentane	95		94		70-130	1		25
2-Methylpentane	102		102		70-130	0		25
2,2,4-Trimethylpentane	99		99		70-130	0		25
n-Nonane	102		102		30-130	0		25
n-Decane	96		96		70-130	0		25
n-Butylcyclohexane	103		103		70-130	0		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	102		100		70-130
2,5-Dibromotoluene-FID	103		102		70-130

PCBS

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-01
Client ID: TT-18 (0-2')
Sample Location: CYPHER ST., S. BOSTON

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/06/19 20:32
Analyst: WR
Percent Solids: 96%

Date Collected: 08/27/19 09:00
Date Received: 08/27/19
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 09/04/19 01:38
Cleanup Method: EPA 3665A
Cleanup Date: 09/04/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/05/19

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	44.2		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	44.2		ug/kg	33.1	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	42		30-150	B
Decachlorobiphenyl	37		30-150	B
2,4,5,6-Tetrachloro-m-xylene	50		30-150	A
Decachlorobiphenyl	40		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-02
Client ID: TT-17 (1-3')
Sample Location: CYPHER ST., S. BOSTON

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/06/19 20:45
Analyst: WR
Percent Solids: 94%

Date Collected: 08/27/19 11:00
Date Received: 08/27/19
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 09/04/19 01:38
Cleanup Method: EPA 3665A
Cleanup Date: 09/04/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/05/19

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	A
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	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	65		30-150	B
Decachlorobiphenyl	50		30-150	B
2,4,5,6-Tetrachloro-m-xylene	67		30-150	A
Decachlorobiphenyl	51		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-03
Client ID: TT-17 (7')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/27/19 11:30
Date Received: 08/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/06/19 20:57
Analyst: WR
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 09/04/19 01:38
Cleanup Method: EPA 3665A
Cleanup Date: 09/04/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/05/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	39.4	--	1	A
Aroclor 1221	ND		ug/kg	39.4	--	1	A
Aroclor 1232	ND		ug/kg	39.4	--	1	A
Aroclor 1242	ND		ug/kg	39.4	--	1	A
Aroclor 1248	ND		ug/kg	39.4	--	1	A
Aroclor 1254	ND		ug/kg	39.4	--	1	A
Aroclor 1260	ND		ug/kg	39.4	--	1	A
Aroclor 1262	ND		ug/kg	39.4	--	1	A
Aroclor 1268	ND		ug/kg	39.4	--	1	A
PCBs, Total	ND		ug/kg	39.4	--	1	A

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	75		30-150	A
Decachlorobiphenyl	63		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-04
Client ID: TT-12 (2-4')
Sample Location: CYPHER ST., S. BOSTON

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/06/19 21:09
Analyst: WR
Percent Solids: 84%

Date Collected: 08/27/19 13:00
Date Received: 08/27/19
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 09/04/19 01:38
Cleanup Method: EPA 3665A
Cleanup Date: 09/04/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/05/19

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	52		30-150	B
Decachlorobiphenyl	55		30-150	B
2,4,5,6-Tetrachloro-m-xylene	69		30-150	A
Decachlorobiphenyl	60		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-05
Client ID: TT-12 (4-6')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/27/19 13:30
Date Received: 08/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/06/19 21:22
Analyst: WR
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 09/04/19 01:38
Cleanup Method: EPA 3665A
Cleanup Date: 09/04/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/05/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	39.6	--	1	A
Aroclor 1221	ND		ug/kg	39.6	--	1	A
Aroclor 1232	ND		ug/kg	39.6	--	1	A
Aroclor 1242	ND		ug/kg	39.6	--	1	A
Aroclor 1248	ND		ug/kg	39.6	--	1	A
Aroclor 1254	ND		ug/kg	39.6	--	1	A
Aroclor 1260	ND		ug/kg	39.6	--	1	A
Aroclor 1262	ND		ug/kg	39.6	--	1	A
Aroclor 1268	ND		ug/kg	39.6	--	1	A
PCBs, Total	ND		ug/kg	39.6	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	49		30-150	B
Decachlorobiphenyl	51		30-150	B
2,4,5,6-Tetrachloro-m-xylene	63		30-150	A
Decachlorobiphenyl	55		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1938825
Report Date: 09/10/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 09/03/19 22:07
Analyst: KB

Extraction Method: EPA 3546
Extraction Date: 09/03/19 11:52
Cleanup Method: EPA 3665A
Cleanup Date: 09/03/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/03/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01-05 Batch: WG1279618-1						
Aroclor 1016	ND		ug/kg	31.9	--	A
Aroclor 1221	ND		ug/kg	31.9	--	A
Aroclor 1232	ND		ug/kg	31.9	--	A
Aroclor 1242	ND		ug/kg	31.9	--	A
Aroclor 1248	ND		ug/kg	31.9	--	A
Aroclor 1254	ND		ug/kg	31.9	--	A
Aroclor 1260	ND		ug/kg	31.9	--	A
Aroclor 1262	ND		ug/kg	31.9	--	A
Aroclor 1268	ND		ug/kg	31.9	--	A
PCBs, Total	ND		ug/kg	31.9	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	75		30-150	B
Decachlorobiphenyl	82		30-150	B
2,4,5,6-Tetrachloro-m-xylene	73		30-150	A
Decachlorobiphenyl	80		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST., S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1938825

Report Date: 09/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01-05 Batch: WG1279618-2 WG1279618-3									
Aroclor 1016	68		79		40-140	15		30	A
Aroclor 1260	65		76		40-140	16		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	68		76		30-150	B
Decachlorobiphenyl	78		88		30-150	B
2,4,5,6-Tetrachloro-m-xylene	67		75		30-150	A
Decachlorobiphenyl	68		75		30-150	A

PESTICIDES

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-04
Client ID: TT-12 (2-4')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/27/19 13:00
Date Received: 08/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8081B
Analytical Date: 09/05/19 17:05
Analyst: AMC
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 09/04/19 10:53
Cleanup Method: EPA 3620B
Cleanup Date: 09/05/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Organochlorine Pesticides - Westborough Lab							
Delta-BHC	ND		ug/kg	1.87	--	1	A
Lindane	ND		ug/kg	0.623	--	1	A
Alpha-BHC	ND		ug/kg	0.779	--	1	A
Beta-BHC	ND		ug/kg	1.87	--	1	A
Heptachlor	ND		ug/kg	0.935	--	1	A
Aldrin	ND		ug/kg	1.87	--	1	A
Heptachlor epoxide	ND	IP	ug/kg	3.50	--	1	B
Endrin	ND		ug/kg	0.779	--	1	A
Endrin ketone	ND		ug/kg	1.87	--	1	A
Dieldrin	ND		ug/kg	1.17	--	1	A
4,4'-DDE	ND		ug/kg	1.87	--	1	A
4,4'-DDD	ND	IP	ug/kg	1.87	--	1	A
4,4'-DDT	ND		ug/kg	3.50	--	1	A
Endosulfan I	ND		ug/kg	1.87	--	1	A
Endosulfan II	2.89	IP	ug/kg	1.87	--	1	A
Endosulfan sulfate	ND		ug/kg	0.779	--	1	A
Methoxychlor	ND		ug/kg	3.50	--	1	A
Chlordane	ND		ug/kg	15.2	--	1	A
Hexachlorobenzene	ND		ug/kg	1.87	--	1	A
Toxaphene	ND		ug/kg	35.0	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	92		30-150	B
Decachlorobiphenyl	**206**	Q	30-150	B
2,4,5,6-Tetrachloro-m-xylene	102		30-150	A
Decachlorobiphenyl	84		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-04
Client ID: TT-12 (2-4')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/27/19 13:00
Date Received: 08/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8151A
Analytical Date: 09/06/19 22:25
Analyst: BM
Percent Solids: 84%
Methylation Date: 09/05/19 20:22

Extraction Method: EPA 8151A
Extraction Date: 09/04/19 16:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Chlorinated Herbicides - Westborough Lab							
MCPP	ND		ug/kg	3900	--	1	A
MCPA	ND		ug/kg	3900	--	1	B
Dalapon	ND		ug/kg	39	--	1	A
Dicamba	ND		ug/kg	39	--	1	A
Dichloroprop	ND		ug/kg	39	--	1	B
2,4-D	ND		ug/kg	39	--	1	A
2,4-DB	ND		ug/kg	39	--	1	A
2,4,5-T	ND		ug/kg	39	--	1	A
2,4,5-TP (Silvex)	ND		ug/kg	39	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	45		30-150	A
DCAA	37		30-150	B

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1938825
Report Date: 09/10/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8081B
Analytical Date: 09/05/19 16:30
Analyst: AMC

Extraction Method: EPA 3546
Extraction Date: 09/04/19 10:53
Cleanup Method: EPA 3620B
Cleanup Date: 09/05/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Organochlorine Pesticides - Westborough Lab for sample(s): 04 Batch: WG1280078-1						
Delta-BHC	ND		ug/kg	1.55	--	A
Lindane	ND		ug/kg	0.517	--	A
Alpha-BHC	ND		ug/kg	0.647	--	A
Beta-BHC	ND		ug/kg	1.55	--	A
Heptachlor	ND		ug/kg	0.776	--	A
Aldrin	ND		ug/kg	1.55	--	A
Heptachlor epoxide	ND		ug/kg	2.91	--	A
Endrin	ND		ug/kg	0.647	--	A
Endrin ketone	ND		ug/kg	1.55	--	A
Dieldrin	ND		ug/kg	0.970	--	A
4,4'-DDE	ND		ug/kg	1.55	--	A
4,4'-DDD	ND		ug/kg	1.55	--	A
4,4'-DDT	ND		ug/kg	2.91	--	A
Endosulfan I	ND		ug/kg	1.55	--	A
Endosulfan II	ND		ug/kg	1.55	--	A
Endosulfan sulfate	ND		ug/kg	0.647	--	A
Methoxychlor	ND		ug/kg	2.91	--	A
Chlordane	ND		ug/kg	12.6	--	A
Hexachlorobenzene	ND		ug/kg	1.55	--	A
Toxaphene	ND		ug/kg	29.1	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	99		30-150	B
Decachlorobiphenyl	85		30-150	B
2,4,5,6-Tetrachloro-m-xylene	93		30-150	A
Decachlorobiphenyl	70		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8151A
Analytical Date: 09/05/19 15:36
Analyst: DGM

Extraction Method: EPA 8151A
Extraction Date: 09/04/19 16:27

Methylation Date: 09/05/19 12:14

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Chlorinated Herbicides - Westborough Lab for sample(s): 04 Batch: WG1280235-1						
MCPP	ND		ug/kg	3300	--	A
MCPA	ND		ug/kg	3300	--	A
Dalapon	ND		ug/kg	33	--	A
Dicamba	ND		ug/kg	33	--	A
Dichloroprop	ND		ug/kg	33	--	A
2,4-D	ND		ug/kg	33	--	A
2,4-DB	ND		ug/kg	33	--	A
2,4,5-T	ND		ug/kg	33	--	A
2,4,5-TP (Silvex)	ND		ug/kg	33	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	73		30-150	A
DCAA	69		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 04 Batch: WG1280078-2 WG1280078-3									
Delta-BHC	85		103		40-140	19		30	A
Lindane	86		98		40-140	13		30	A
Alpha-BHC	92		105		40-140	13		30	A
Beta-BHC	83		95		40-140	13		30	A
Heptachlor	91		102		40-140	11		30	A
Aldrin	86		97		40-140	12		30	A
Heptachlor epoxide	82		97		40-140	17		30	A
Endrin	96		108		40-140	12		30	A
Endrin ketone	86		101		40-140	16		30	A
Dieldrin	98		109		40-140	11		30	A
4,4'-DDE	91		102		40-140	11		30	A
4,4'-DDD	98		110		40-140	12		30	A
4,4'-DDT	96		109		40-140	13		30	A
Endosulfan I	84		94		40-140	11		30	A
Endosulfan II	93		105		40-140	12		30	A
Endosulfan sulfate	82		98		40-140	18		30	A
Methoxychlor	84		97		40-140	14		30	A
Hexachlorobenzene	74		83		40-140	11		30	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST., S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1938825

Report Date: 09/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 04 Batch: WG1280078-2 WG1280078-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	89		101		30-150	B
Decachlorobiphenyl	74		82		30-150	B
2,4,5,6-Tetrachloro-m-xylene	84		94		30-150	A
Decachlorobiphenyl	70		65		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST., S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1938825

Report Date: 09/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Chlorinated Herbicides - Westborough Lab Associated sample(s): 04 Batch: WG1280235-2 WG1280235-3									
MCPP	103		104		40-140	1		30	A
MCPA	74		73		40-140	1		30	A
Dalapon	63		63		40-140	0		30	A
Dicamba	83		81		40-140	2		30	A
Dichloroprop	87		89		40-140	2		30	A
2,4-D	84		83		40-140	1		30	A
2,4-DB	72		68		40-140	6		30	A
2,4,5-T	88		91		40-140	3		30	A
2,4,5-TP (Silvex)	89		89		40-140	0		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	82		78		30-150	A
DCAA	77		77		30-150	B

METALS

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-01
Client ID: TT-18 (0-2')
Sample Location: CYPHER ST., S. BOSTON
Date Collected: 08/27/19 09:00
Date Received: 08/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.00	--	1	09/05/19 00:13	09/06/19 16:26	EPA 3050B	97,6010D	AB
Arsenic, Total	2.64		mg/kg	0.399	--	1	09/05/19 00:13	09/06/19 16:26	EPA 3050B	97,6010D	AB
Barium, Total	21.5		mg/kg	0.399	--	1	09/05/19 00:13	09/06/19 16:26	EPA 3050B	97,6010D	AB
Beryllium, Total	0.255		mg/kg	0.200	--	1	09/05/19 00:13	09/06/19 16:26	EPA 3050B	97,6010D	AB
Cadmium, Total	0.691		mg/kg	0.399	--	1	09/05/19 00:13	09/06/19 16:26	EPA 3050B	97,6010D	AB
Chromium, Total	8.98		mg/kg	0.399	--	1	09/05/19 00:13	09/06/19 16:26	EPA 3050B	97,6010D	AB
Lead, Total	66.9		mg/kg	2.00	--	1	09/05/19 00:13	09/06/19 16:26	EPA 3050B	97,6010D	AB
Mercury, Total	ND		mg/kg	0.079	--	1	09/05/19 08:00	09/05/19 15:04	EPA 7471B	97,7471B	AL
Nickel, Total	9.97		mg/kg	0.998	--	1	09/05/19 00:13	09/06/19 16:26	EPA 3050B	97,6010D	AB
Selenium, Total	ND		mg/kg	2.00	--	1	09/05/19 00:13	09/06/19 16:26	EPA 3050B	97,6010D	AB
Silver, Total	ND		mg/kg	0.399	--	1	09/05/19 00:13	09/06/19 16:26	EPA 3050B	97,6010D	AB
Thallium, Total	ND		mg/kg	2.00	--	1	09/05/19 00:13	09/06/19 16:26	EPA 3050B	97,6010D	AB
Vanadium, Total	13.1		mg/kg	0.399	--	1	09/05/19 00:13	09/06/19 16:26	EPA 3050B	97,6010D	AB
Zinc, Total	81.6		mg/kg	2.00	--	1	09/05/19 00:13	09/06/19 16:26	EPA 3050B	97,6010D	AB

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-02
Client ID: TT-17 (1-3')
Sample Location: CYPHER ST., S. BOSTON
Date Collected: 08/27/19 11:00
Date Received: 08/27/19
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											
Antimony, Total	ND		mg/kg	2.08	--	1	09/05/19 00:13	09/06/19 16:30	EPA 3050B	97,6010D	AB
Arsenic, Total	1.71		mg/kg	0.415	--	1	09/05/19 00:13	09/06/19 16:30	EPA 3050B	97,6010D	AB
Barium, Total	22.1		mg/kg	0.415	--	1	09/05/19 00:13	09/06/19 16:30	EPA 3050B	97,6010D	AB
Beryllium, Total	0.369		mg/kg	0.208	--	1	09/05/19 00:13	09/06/19 16:30	EPA 3050B	97,6010D	AB
Cadmium, Total	0.440		mg/kg	0.415	--	1	09/05/19 00:13	09/06/19 16:30	EPA 3050B	97,6010D	AB
Chromium, Total	7.37		mg/kg	0.415	--	1	09/05/19 00:13	09/06/19 16:30	EPA 3050B	97,6010D	AB
Lead, Total	15.1		mg/kg	2.08	--	1	09/05/19 00:13	09/06/19 16:30	EPA 3050B	97,6010D	AB
Mercury, Total	ND		mg/kg	0.082	--	1	09/05/19 08:00	09/05/19 15:05	EPA 7471B	97,7471B	AL
Nickel, Total	9.88		mg/kg	1.04	--	1	09/05/19 00:13	09/06/19 16:30	EPA 3050B	97,6010D	AB
Selenium, Total	ND		mg/kg	2.08	--	1	09/05/19 00:13	09/06/19 16:30	EPA 3050B	97,6010D	AB
Silver, Total	ND		mg/kg	0.415	--	1	09/05/19 00:13	09/06/19 16:30	EPA 3050B	97,6010D	AB
Thallium, Total	ND		mg/kg	2.08	--	1	09/05/19 00:13	09/06/19 16:30	EPA 3050B	97,6010D	AB
Vanadium, Total	15.0		mg/kg	0.415	--	1	09/05/19 00:13	09/06/19 16:30	EPA 3050B	97,6010D	AB
Zinc, Total	27.3		mg/kg	2.08	--	1	09/05/19 00:13	09/06/19 16:30	EPA 3050B	97,6010D	AB

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-03
Client ID: TT-17 (7')
Sample Location: CYPHER ST., S. BOSTON
Date Collected: 08/27/19 11:30
Date Received: 08/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.26	--	1	09/05/19 00:13	09/06/19 16:35	EPA 3050B	97,6010D	AB
Arsenic, Total	8.54		mg/kg	0.453	--	1	09/05/19 00:13	09/06/19 16:35	EPA 3050B	97,6010D	AB
Barium, Total	98.9		mg/kg	0.453	--	1	09/05/19 00:13	09/06/19 16:35	EPA 3050B	97,6010D	AB
Beryllium, Total	0.254		mg/kg	0.226	--	1	09/05/19 00:13	09/06/19 16:35	EPA 3050B	97,6010D	AB
Cadmium, Total	0.756		mg/kg	0.453	--	1	09/05/19 00:13	09/06/19 16:35	EPA 3050B	97,6010D	AB
Chromium, Total	8.37		mg/kg	0.453	--	1	09/05/19 00:13	09/06/19 16:35	EPA 3050B	97,6010D	AB
Lead, Total	386		mg/kg	2.26	--	1	09/05/19 00:13	09/06/19 16:35	EPA 3050B	97,6010D	AB
Mercury, Total	2.57		mg/kg	0.087	--	1	09/05/19 08:00	09/05/19 15:11	EPA 7471B	97,7471B	AL
Nickel, Total	8.04		mg/kg	1.13	--	1	09/05/19 00:13	09/06/19 16:35	EPA 3050B	97,6010D	AB
Selenium, Total	ND		mg/kg	2.26	--	1	09/05/19 00:13	09/06/19 16:35	EPA 3050B	97,6010D	AB
Silver, Total	ND		mg/kg	0.453	--	1	09/05/19 00:13	09/06/19 16:35	EPA 3050B	97,6010D	AB
Thallium, Total	ND		mg/kg	2.26	--	1	09/05/19 00:13	09/06/19 16:35	EPA 3050B	97,6010D	AB
Vanadium, Total	18.0		mg/kg	0.453	--	1	09/05/19 00:13	09/06/19 16:35	EPA 3050B	97,6010D	AB
Zinc, Total	193		mg/kg	2.26	--	1	09/05/19 00:13	09/06/19 16:35	EPA 3050B	97,6010D	AB

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-04
Client ID: TT-12 (2-4')
Sample Location: CYPHER ST., S. BOSTON
Date Collected: 08/27/19 13:00
Date Received: 08/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	6.54		mg/kg	2.37	--	1	09/05/19 00:13	09/06/19 16:39	EPA 3050B	97,6010D	AB
Arsenic, Total	10.4		mg/kg	0.474	--	1	09/05/19 00:13	09/06/19 16:39	EPA 3050B	97,6010D	AB
Barium, Total	105		mg/kg	0.474	--	1	09/05/19 00:13	09/06/19 16:39	EPA 3050B	97,6010D	AB
Beryllium, Total	0.289		mg/kg	0.237	--	1	09/05/19 00:13	09/06/19 16:39	EPA 3050B	97,6010D	AB
Cadmium, Total	1.65		mg/kg	0.474	--	1	09/05/19 00:13	09/06/19 16:39	EPA 3050B	97,6010D	AB
Chromium, Total	6.56		mg/kg	0.474	--	1	09/05/19 00:13	09/06/19 16:39	EPA 3050B	97,6010D	AB
Lead, Total	869		mg/kg	2.37	--	1	09/05/19 00:13	09/06/19 16:39	EPA 3050B	97,6010D	AB
Mercury, Total	1.06		mg/kg	0.089	--	1	09/05/19 08:00	09/05/19 15:13	EPA 7471B	97,7471B	AL
Nickel, Total	20.6		mg/kg	1.18	--	1	09/05/19 00:13	09/06/19 16:39	EPA 3050B	97,6010D	AB
Selenium, Total	ND		mg/kg	2.37	--	1	09/05/19 00:13	09/06/19 16:39	EPA 3050B	97,6010D	AB
Silver, Total	26.1		mg/kg	0.474	--	1	09/05/19 00:13	09/06/19 16:39	EPA 3050B	97,6010D	AB
Thallium, Total	ND		mg/kg	2.37	--	1	09/05/19 00:13	09/06/19 16:39	EPA 3050B	97,6010D	AB
Vanadium, Total	11.5		mg/kg	0.474	--	1	09/05/19 00:13	09/06/19 16:39	EPA 3050B	97,6010D	AB
Zinc, Total	416		mg/kg	2.37	--	1	09/05/19 00:13	09/06/19 16:39	EPA 3050B	97,6010D	AB

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-05
Client ID: TT-12 (4-6')
Sample Location: CYPHER ST., S. BOSTON
Date Collected: 08/27/19 13:30
Date Received: 08/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	3.29		mg/kg	2.38	--	1	09/05/19 00:13	09/06/19 16:43	EPA 3050B	97,6010D	AB
Arsenic, Total	12.5		mg/kg	0.476	--	1	09/05/19 00:13	09/06/19 16:43	EPA 3050B	97,6010D	AB
Barium, Total	74.4		mg/kg	0.476	--	1	09/05/19 00:13	09/06/19 16:43	EPA 3050B	97,6010D	AB
Beryllium, Total	0.257		mg/kg	0.238	--	1	09/05/19 00:13	09/06/19 16:43	EPA 3050B	97,6010D	AB
Cadmium, Total	0.972		mg/kg	0.476	--	1	09/05/19 00:13	09/06/19 16:43	EPA 3050B	97,6010D	AB
Chromium, Total	8.35		mg/kg	0.476	--	1	09/05/19 00:13	09/06/19 16:43	EPA 3050B	97,6010D	AB
Lead, Total	213		mg/kg	2.38	--	1	09/05/19 00:13	09/06/19 16:43	EPA 3050B	97,6010D	AB
Mercury, Total	0.351		mg/kg	0.092	--	1	09/05/19 08:00	09/05/19 15:15	EPA 7471B	97,7471B	AL
Nickel, Total	15.7		mg/kg	1.19	--	1	09/05/19 00:13	09/06/19 16:43	EPA 3050B	97,6010D	AB
Selenium, Total	ND		mg/kg	2.38	--	1	09/05/19 00:13	09/06/19 16:43	EPA 3050B	97,6010D	AB
Silver, Total	ND		mg/kg	0.476	--	1	09/05/19 00:13	09/06/19 16:43	EPA 3050B	97,6010D	AB
Thallium, Total	ND		mg/kg	2.38	--	1	09/05/19 00:13	09/06/19 16:43	EPA 3050B	97,6010D	AB
Vanadium, Total	12.3		mg/kg	0.476	--	1	09/05/19 00:13	09/06/19 16:43	EPA 3050B	97,6010D	AB
Zinc, Total	183		mg/kg	2.38	--	1	09/05/19 00:13	09/06/19 16:43	EPA 3050B	97,6010D	AB

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1938825

Project Number: 143-278997-19001 **Report Date:** 09/10/19

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): 01-05 Batch: WG1280285-1										
Antimony, Total	ND		mg/kg	2.00	--	1	09/05/19 00:13	09/06/19 15:31	97,6010D	LC
Arsenic, Total	ND		mg/kg	0.400	--	1	09/05/19 00:13	09/06/19 15:31	97,6010D	LC
Barium, Total	ND		mg/kg	0.400	--	1	09/05/19 00:13	09/06/19 15:31	97,6010D	LC
Beryllium, Total	ND		mg/kg	0.200	--	1	09/05/19 00:13	09/06/19 15:31	97,6010D	LC
Cadmium, Total	ND		mg/kg	0.400	--	1	09/05/19 00:13	09/06/19 15:31	97,6010D	LC
Chromium, Total	ND		mg/kg	0.400	--	1	09/05/19 00:13	09/06/19 15:31	97,6010D	LC
Lead, Total	ND		mg/kg	2.00	--	1	09/05/19 00:13	09/06/19 15:31	97,6010D	LC
Nickel, Total	ND		mg/kg	1.00	--	1	09/05/19 00:13	09/06/19 15:31	97,6010D	LC
Selenium, Total	ND		mg/kg	2.00	--	1	09/05/19 00:13	09/06/19 15:31	97,6010D	LC
Silver, Total	ND		mg/kg	0.400	--	1	09/05/19 00:13	09/06/19 15:31	97,6010D	LC
Thallium, Total	ND		mg/kg	2.00	--	1	09/05/19 00:13	09/06/19 15:31	97,6010D	LC
Vanadium, Total	ND		mg/kg	0.400	--	1	09/05/19 00:13	09/06/19 15:31	97,6010D	LC
Zinc, Total	ND		mg/kg	2.00	--	1	09/05/19 00:13	09/06/19 15:31	97,6010D	LC

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): 01-05 Batch: WG1280459-1										
Mercury, Total	ND		mg/kg	0.083	--	1	09/05/19 08:00	09/05/19 14:57	97,7471B	AL

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1938825
Report Date: 09/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01-05 Batch: WG1280285-2 WG1280285-3 SRM Lot Number: D105-540								
Antimony, Total	148		144		19-249	3		30
Arsenic, Total	94		94		70-130	0		30
Barium, Total	86		85		75-125	1		30
Beryllium, Total	89		89		75-125	0		30
Cadmium, Total	84		84		75-125	0		30
Chromium, Total	84		83		70-130	1		30
Lead, Total	89		86		71-128	3		30
Nickel, Total	85		85		70-131	0		30
Selenium, Total	90		92		63-137	2		30
Silver, Total	86		86		69-131	0		30
Thallium, Total	82		85		68-132	4		30
Vanadium, Total	84		82		65-135	2		30
Zinc, Total	87		88		70-130	1		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01-05 Batch: WG1280459-2 WG1280459-3 SRM Lot Number: D105-540								
Mercury, Total	98		97		60-141	1		30

INORGANICS
&
MISCELLANEOUS

Project Name:	CYPHER ST., S. BOSTON	**Lab Number:**	L1938825
Project Number:	143-278997-19001	**Report Date:**	09/10/19

SAMPLE RESULTS

Lab ID:	L1938825-04	Date Collected:	08/27/19 13:00
Client ID:	TT-12 (2-4')	Date Received:	08/27/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

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

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	09/03/19 05:15	1,1030	BR

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1938825
Report Date: 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-01
Client ID: TT-18 (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/27/19 09:00
Date Received: 08/27/19
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	95.9		%	0.100	NA	1	-	08/28/19 03:31	121,2540G	YA

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1938825
Report Date: 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-02
Client ID: TT-17 (1-3')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/27/19 11:00
Date Received: 08/27/19
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	93.8		%	0.100	NA	1	-	08/28/19 03:31	121,2540G	YA

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1938825
Report Date: 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-03
Client ID: TT-17 (7')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/27/19 11:30
Date Received: 08/27/19
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	83.8		%	0.100	NA	1	-	08/28/19 03:31	121,2540G	YA

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1938825
Report Date: 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-04
Client ID: TT-12 (2-4')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/27/19 13:00
Date Received: 08/27/19
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	84.0		%	0.100	NA	1	-	08/28/19 03:31	121,2540G	YA
pH (H)	7.2		SU	-	NA	1	-	08/27/19 21:47	1,9045D	AS
Cyanide, Reactive	ND		mg/kg	10	--	1	08/28/19 18:10	08/28/19 20:40	125,7.3	TL
Sulfide, Reactive	ND		mg/kg	10	--	1	08/28/19 18:10	08/28/19 20:21	125,7.3	TL

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1938825
Report Date: 09/10/19

SAMPLE RESULTS

Lab ID: L1938825-05
Client ID: TT-12 (4-6')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/27/19 13:30
Date Received: 08/27/19
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	82.2		%	0.100	NA	1	-	08/28/19 03:31	121,2540G	YA

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1938825

Project Number: 143-278997-19001 **Report Date:** 09/10/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 04 Batch: WG1277896-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	08/28/19 18:10	08/28/19 20:20	125,7.3	TL
General Chemistry - Westborough Lab for sample(s): 04 Batch: WG1277898-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	08/28/19 18:10	08/28/19 20:38	125,7.3	TL

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1938825
Report Date: 09/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 04 Batch: WG1277455-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 04 Batch: WG1277896-2								
Sulfide, Reactive	92		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 04 Batch: WG1277898-2								
Cyanide, Reactive	104		-		30-125	-		40

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1938825
Report Date: 09/10/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1938825-01A	Vial MeOH preserved	A	NA		3.6	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1938825-01A1	Vial MeOH preserved	A	NA		3.6	Y	Absent		VPH-18(28)
L1938825-01B	Vial water preserved	A	NA		3.6	Y	Absent	27-AUG-19 20:44	MCP-8260HLW-10(14)
L1938825-01C	Vial water preserved	A	NA		3.6	Y	Absent	27-AUG-19 20:44	MCP-8260HLW-10(14)
L1938825-01D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.6	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1938825-01E	Plastic 2oz unpreserved for TS	A	NA		3.6	Y	Absent		TS(7)
L1938825-01F	Glass 500ml/16oz unpreserved	A	NA		3.6	Y	Absent		EPH-10(14),MCP-8082-10(365),MCP-PAH-10(14)
L1938825-02A	Vial MeOH preserved	A	NA		3.6	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1938825-02A1	Vial MeOH preserved	A	NA		3.6	Y	Absent		VPH-18(28)
L1938825-02B	Vial water preserved	A	NA		3.6	Y	Absent	27-AUG-19 20:44	MCP-8260HLW-10(14)
L1938825-02C	Vial water preserved	A	NA		3.6	Y	Absent	27-AUG-19 20:44	MCP-8260HLW-10(14)
L1938825-02D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.6	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1938825-02E	Plastic 2oz unpreserved for TS	A	NA		3.6	Y	Absent		TS(7)
L1938825-02F	Glass 500ml/16oz unpreserved	A	NA		3.6	Y	Absent		EPH-10(14),MCP-8082-10(365),MCP-PAH-10(14)
L1938825-03A	Vial MeOH preserved	A	NA		3.6	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)

*Values in parentheses indicate holding time in days

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1938825
Report Date: 09/10/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1938825-03B	Vial water preserved	A	NA		3.6	Y	Absent	27-AUG-19 20:44	MCP-8260HLW-10(14)
L1938825-03C	Vial water preserved	A	NA		3.6	Y	Absent	27-AUG-19 20:44	MCP-8260HLW-10(14)
L1938825-03D	Plastic 2oz unpreserved for TS	A	NA		3.6	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1938825-03E	Glass 500ml/16oz unpreserved	A	NA		3.6	Y	Absent		EPH-10(14),MCP-8082-10(365),TS(7),MCP-PAH-10(14)
L1938825-04A	Vial MeOH preserved	A	NA		3.6	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1938825-04A1	Vial MeOH preserved	A	NA		3.6	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1938825-04B	Vial water preserved	A	NA		3.6	Y	Absent	27-AUG-19 20:44	MCP-8260HLW-10(14)
L1938825-04C	Vial water preserved	A	NA		3.6	Y	Absent	27-AUG-19 20:44	MCP-8260HLW-10(14)
L1938825-04D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.6	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1938825-04E	Glass 60mL/2oz unpreserved	A	NA		3.6	Y	Absent		EPH-10(14),IGNIT-1030(14),MCP-8082-10(365),REACTS(14),MCP-8081-10(14),MCP-8151-10(14),MCP-8270-10(14),PH-9045(1),REACTCN(14),TPH-DRO-D(14)
L1938825-04F	Plastic 2oz unpreserved for TS	A	NA		3.6	Y	Absent		TS(7)
L1938825-04G	Glass 500ml/16oz unpreserved	A	NA		3.6	Y	Absent		EPH-10(14),IGNIT-1030(14),MCP-8082-10(365),REACTS(14),MCP-8081-10(14),MCP-8151-10(14),MCP-8270-10(14),PH-9045(1),REACTCN(14),TPH-DRO-D(14)
L1938825-05A	Vial MeOH preserved	A	NA		3.6	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1938825-05A1	Vial MeOH preserved	A	NA		3.6	Y	Absent		VPH-18(28)
L1938825-05B	Vial water preserved	A	NA		3.6	Y	Absent	27-AUG-19 20:44	MCP-8260HLW-10(14)
L1938825-05C	Vial water preserved	A	NA		3.6	Y	Absent	27-AUG-19 20:44	MCP-8260HLW-10(14)

*Values in parentheses indicate holding time in days

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1938825
Report Date: 09/10/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1938825-05D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.6	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1938825-05E	Plastic 2oz unpreserved for TS	A	NA		3.6	Y	Absent		TS(7)
L1938825-05F	Glass 500ml/16oz unpreserved	A	NA		3.6	Y	Absent		EPH-10(14),MCP-8082-10(365),MCP-PAH-10(14)

*Values in parentheses indicate holding time in days

Project Name:	CYPHER ST., S. BOSTON	**Lab Number:**	L1938825
Project Number:	143-278997-19001	**Report Date:**	09/10/19

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:	CYPHER ST., S. BOSTON	**Lab Number:**	L1938825
Project Number:	143-278997-19001	**Report Date:**	09/10/19

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:	CYPHER ST., S. BOSTON	**Lab Number:**	L1938825
Project Number:	143-278997-19001	**Report Date:**	09/10/19

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

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.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

131 Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, February 2018, Revision 2.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, June 1, 2018.

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 1

Date Rec'd in Lab: 8/27/19

ALPHA Job #: L1938825

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: Tetra Tech
Address: 100 Nickerson Rd, Marlborough, MA
Phone: 413-272-9539
Email: jon.fiore@tetratech.com

Project Information

Project Name: Cypher St. S. Boston
Project Location: Cypher St. S. Boston
Project #: Mike Billa
Project Manager: 413-278997-19001
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:

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; TPH: ☐ Quant Only ☐ Fingerprint; Pesticides + Herbicides

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	Pesticides + Herbicides						Sample Comments	Total # Bottles
38825-01	TT-18 (0-2)	8/27/19	0900	Soil	JWF	X	X	X		X	X	X								* for	7
02	TT-17 (1-3')	↓	1100	↓	↓	X	X	X		X	X	X								TT-12 (2-4')	7
03	TT-17 (7')	↓	1130	↓	↓	X	X	X		X	X	X								Run ABN	5
04	TT-12 (2-4')	↓	1300	↓	↓	X	X	X		X	X	X		X						for SVOC	8
05	TT-12 (4-6')	↓	1330	↓	↓	X	X	X		X	X	X								for two	7
																				extra	
																				Pest/Herb	
																				analytes	

Container Type	P14																
Preservative	A/C																

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
TTEC	8/27/19 1400	TTEC-ANL	8/27/19 1420
	8-27-19 1214		

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

Method Blank Summary
Form 4
Volatiles

Client	: Tetra Tech Rizzo	**Lab Number**	: L1938825
Project Name	: CYPHER ST. S. BOSTON	**Project Number**	: 143-278997-19001
Lab Sample ID	: WG1281268-5	**Lab File ID**	: V11190906A05
Instrument ID	: VOA111		
Matrix	: SOIL	**Analysis Date**	: 09/06/19 07:04

Client Sample No.	Lab Sample ID	Analysis Date
WG1281268-3LCS	WG1281268-3	09/06/19 05:24
WG1281268-4LCSD	WG1281268-4	09/06/19 05:49
TT-12 (2-4')	L1938825-04	09/06/19 11:44
TT-12 (4-6')	L1938825-05	09/06/19 12:09

Method Blank Summary
Form 4
Volatiles

Client	: Tetra Tech Rizzo	**Lab Number**	: L1938825
Project Name	: CYPHER ST. S. BOSTON	**Project Number**	: 143-278997-19001
Lab Sample ID	: WG1281043-5	**Lab File ID**	: V11190906A05
Instrument ID	: VOA111		
Matrix	: SOIL	**Analysis Date**	: 09/06/19 07:04

Client Sample No.	Lab Sample ID	Analysis Date
WG1281043-3LCS	WG1281043-3	09/06/19 05:24
WG1281043-4LCSD	WG1281043-4	09/06/19 05:49
TT-17 (7')	L1938825-03	09/06/19 12:35
TT-18 (0-2')	L1938825-01	09/06/19 13:01
TT-17 (1-3')	L1938825-02	09/06/19 13:26

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1938825
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA111	Calibration Date	: 09/06/19 05:24
Lab File ID	: V11190906A01	Init. Calib. Date(s)	: 06/15/19 06/17/19
Sample No	: WG1281043-2	Init. Calib. Times	: 06:59 11:20
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	62	-.01
Dichlorodifluoromethane	0.224	0.114	-	49.1*	20	37	0
Chloromethane	0.293	0.322	-	-9.9	20	80	0
Vinyl chloride	0.22	0.181	-	17.7	20	60	0
Bromomethane	0.166	0.121	-	27.1*	20	55	0
Chloroethane	0.141	0.113	-	19.9	20	55	0
Trichlorofluoromethane	0.266	0.264	-	0.8	20	71	0
Ethyl ether	0.109	0.11	-	-0.9	20	66	0
1,1-Dichloroethene	0.163	0.159	-	2.5	20	70	0
Carbon disulfide	0.615	0.559	-	9.1	20	69	0
Methylene chloride	0.237	0.219	-	7.6	20	63	0
Acetone	20	23.147	-	-15.7	20	71	-.01
trans-1,2-Dichloroethene	0.192	0.195	-	-1.6	20	71	0
Methyl tert-butyl ether	0.536	0.575	-	-7.3	20	71	0
Diisopropyl ether	0.805	1.008	-	-25.2*	20	83	-.01
1,1-Dichloroethane	0.397	0.444	-	-11.8	20	77	0
Ethyl tert-butyl ether	0.684	0.852	-	-24.6*	20	81	-.01
cis-1,2-Dichloroethene	0.222	0.225	-	-1.4	20	70	-.01
2,2-Dichloropropane	0.295	0.325	-	-10.2	20	79	-.01
Bromochloromethane	0.112	0.11	-	1.8	20	63	0
Chloroform	0.375	0.394	-	-5.1	20	72	0
Carbon tetrachloride	0.263	0.286	-	-8.7	20	77	-.01
Tetrahydrofuran	0.071	0.089	-	-25.4*	20	76	-.01
Dibromofluoromethane	0.261	0.243	-	6.9	20	58	-.01
1,1,1-Trichloroethane	0.304	0.324	-	-6.6	20	76	-.01
2-Butanone	0.09	0.112	-	-24.4*	20	81	-.01
1,1-Dichloropropene	0.245	0.265	-	-8.2	20	76	-.01
Benzene	0.803	0.813	-	-1.2	20	71	-.01
tert-Amyl methyl ether	0.544	0.623	-	-14.5	20	75	-.01
1,2-Dichloroethane-d4	0.268	0.28	-	-4.5	20	66	-.01
1,2-Dichloroethane	0.299	0.333	-	-11.4	20	74	-.01
Trichloroethene	0.208	0.211	-	-1.4	20	73	-.01
Dibromomethane	0.126	0.128	-	-1.6	20	66	-.01
1,2-Dichloropropane	0.23	0.254	-	-10.4	20	75	-.01
Bromodichloromethane	0.296	0.311	-	-5.1	20	71	-.01
1,4-Dioxane	0.00178	0.00202*	-	-13.5	20	62	0
cis-1,3-Dichloropropene	0.334	0.362	-	-8.4	20	71	0
Chlorobenzene-d5	1	1	-	0	20	61	0
Toluene-d8	1.303	1.267	-	2.8	20	58	-.01
Toluene	0.662	0.702	-	-6	20	72	-.01
4-Methyl-2-pentanone	0.092	0.121	-	-31.5*	20	82	-.01
Tetrachloroethene	0.27	0.281	-	-4.1	20	72	-.01
trans-1,3-Dichloropropene	0.399	0.447	-	-12	20	72	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1938825
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA111	Calibration Date	: 09/06/19 05:24
Lab File ID	: V11190906A01	Init. Calib. Date(s)	: 06/15/19 06/17/19
Sample No	: WG1281043-2	Init. Calib. Times	: 06:59 11:20
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,1,2-Trichloroethane	0.199	0.209	-	-5	20	66	-.01
Chlorodibromomethane	0.3	0.315	-	-5	20	67	0
1,3-Dichloropropane	0.403	0.433	-	-7.4	20	68	-.01
1,2-Dibromoethane	0.234	0.243	-	-3.8	20	66	0
2-Hexanone	0.171	0.211	-	-23.4*	20	81	-.01
Chlorobenzene	0.791	0.811	-	-2.5	20	69	-.01
Ethylbenzene	1.221	1.325	-	-8.5	20	73	-.01
1,1,1,2-Tetrachloroethane	0.298	0.313	-	-5	20	71	-.01
p/m Xylene	0.473	0.511	-	-8	20	72	-.01
o Xylene	0.463	0.501	-	-8.2	20	70	-.01
Styrene	0.743	0.845	-	-13.7	20	71	-.01
1,4-Dichlorobenzene-d4	1	1	-	0	20	61	0
Bromoform	0.353	0.382	-	-8.2	20	69	0
Isopropylbenzene	2.328	2.494	-	-7.1	20	73	0
4-Bromofluorobenzene	0.928	0.914	-	1.5	20	61	0
Bromobenzene	0.662	0.672	-	-1.5	20	69	0
n-Propylbenzene	2.844	3.06	-	-7.6	20	74	0
1,1,2,2-Tetrachloroethane	0.6	0.624	-	-4	20	67	0
2-Chlorotoluene	2.012	2.232	-	-10.9	20	75	-.01
1,3,5-Trimethylbenzene	2.009	2.205	-	-9.8	20	73	-.01
1,2,3-Trichloropropane	0.468	0.505	-	-7.9	20	69	0
4-Chlorotoluene	1.807	2.016	-	-11.6	20	75	0
tert-Butylbenzene	1.686	1.825	-	-8.2	20	74	0
1,2,4-Trimethylbenzene	1.994	2.244	-	-12.5	20	75	0
sec-Butylbenzene	2.506	2.764	-	-10.3	20	75	0
p-Isopropyltoluene	2.114	2.365	-	-11.9	20	75	0
1,3-Dichlorobenzene	1.276	1.353	-	-6	20	71	0
1,4-Dichlorobenzene	1.31	1.376	-	-5	20	72	0
n-Butylbenzene	1.989	2.289	-	-15.1	20	78	-.01
1,2-Dichlorobenzene	1.2	1.24	-	-3.3	20	69	0
1,2-Dibromo-3-chloropropan	0.087	0.093	-	-6.9	20	68	-.01
Hexachlorobutadiene	0.372	0.409	-	-9.9	20	79	0
1,2,4-Trichlorobenzene	0.765	0.828	-	-8.2	20	74	0
Naphthalene	1.669	1.811	-	-8.5	20	72	0
1,2,3-Trichlorobenzene	0.69	0.75	-	-8.7	20	73	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1938825
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA111	Calibration Date	: 09/06/19 05:24
Lab File ID	: V11190906A01	Init. Calib. Date(s)	: 06/15/19 06/17/19
Sample No	: WG1281268-2	Init. Calib. Times	: 06:59 11:20
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	62	-.01
Dichlorodifluoromethane	0.224	0.114	-	49.1*	20	37	0
Chloromethane	0.293	0.322	-	-9.9	20	80	0
Vinyl chloride	0.22	0.181	-	17.7	20	60	0
Bromomethane	0.166	0.121	-	27.1*	20	55	0
Chloroethane	0.141	0.113	-	19.9	20	55	0
Trichlorofluoromethane	0.266	0.264	-	0.8	20	71	0
Ethyl ether	0.109	0.11	-	-0.9	20	66	0
1,1-Dichloroethene	0.163	0.159	-	2.5	20	70	0
Carbon disulfide	0.615	0.559	-	9.1	20	69	0
Methylene chloride	0.237	0.219	-	7.6	20	63	0
Acetone	20	23.147	-	-15.7	20	71	-.01
trans-1,2-Dichloroethene	0.192	0.195	-	-1.6	20	71	0
Methyl tert-butyl ether	0.536	0.575	-	-7.3	20	71	0
Diisopropyl ether	0.805	1.008	-	-25.2*	20	83	-.01
1,1-Dichloroethane	0.397	0.444	-	-11.8	20	77	0
Ethyl tert-butyl ether	0.684	0.852	-	-24.6*	20	81	-.01
cis-1,2-Dichloroethene	0.222	0.225	-	-1.4	20	70	-.01
2,2-Dichloropropane	0.295	0.325	-	-10.2	20	79	-.01
Bromochloromethane	0.112	0.11	-	1.8	20	63	0
Chloroform	0.375	0.394	-	-5.1	20	72	0
Carbon tetrachloride	0.263	0.286	-	-8.7	20	77	-.01
Tetrahydrofuran	0.071	0.089	-	-25.4*	20	76	-.01
Dibromofluoromethane	0.261	0.243	-	6.9	20	58	-.01
1,1,1-Trichloroethane	0.304	0.324	-	-6.6	20	76	-.01
2-Butanone	0.09	0.112	-	-24.4*	20	81	-.01
1,1-Dichloropropene	0.245	0.265	-	-8.2	20	76	-.01
Benzene	0.803	0.813	-	-1.2	20	71	-.01
tert-Amyl methyl ether	0.544	0.623	-	-14.5	20	75	-.01
1,2-Dichloroethane-d4	0.268	0.28	-	-4.5	20	66	-.01
1,2-Dichloroethane	0.299	0.333	-	-11.4	20	74	-.01
Trichloroethene	0.208	0.211	-	-1.4	20	73	-.01
Dibromomethane	0.126	0.128	-	-1.6	20	66	-.01
1,2-Dichloropropane	0.23	0.254	-	-10.4	20	75	-.01
Bromodichloromethane	0.296	0.311	-	-5.1	20	71	-.01
1,4-Dioxane	0.00178	0.00202*	-	-13.5	20	62	0
cis-1,3-Dichloropropene	0.334	0.362	-	-8.4	20	71	0
Chlorobenzene-d5	1	1	-	0	20	61	0
Toluene-d8	1.303	1.267	-	2.8	20	58	-.01
Toluene	0.662	0.702	-	-6	20	72	-.01
4-Methyl-2-pentanone	0.092	0.121	-	-31.5*	20	82	-.01
Tetrachloroethene	0.27	0.281	-	-4.1	20	72	-.01
trans-1,3-Dichloropropene	0.399	0.447	-	-12	20	72	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1938825
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA111	Calibration Date	: 09/06/19 05:24
Lab File ID	: V11190906A01	Init. Calib. Date(s)	: 06/15/19 06/17/19
Sample No	: WG1281268-2	Init. Calib. Times	: 06:59 11:20
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,1,2-Trichloroethane	0.199	0.209	-	-5	20	66	-.01
Chlorodibromomethane	0.3	0.315	-	-5	20	67	0
1,3-Dichloropropane	0.403	0.433	-	-7.4	20	68	-.01
1,2-Dibromoethane	0.234	0.243	-	-3.8	20	66	0
2-Hexanone	0.171	0.211	-	-23.4*	20	81	-.01
Chlorobenzene	0.791	0.811	-	-2.5	20	69	-.01
Ethylbenzene	1.221	1.325	-	-8.5	20	73	-.01
1,1,1,2-Tetrachloroethane	0.298	0.313	-	-5	20	71	-.01
p/m Xylene	0.473	0.511	-	-8	20	72	-.01
o Xylene	0.463	0.501	-	-8.2	20	70	-.01
Styrene	0.743	0.845	-	-13.7	20	71	-.01
1,4-Dichlorobenzene-d4	1	1	-	0	20	61	0
Bromoform	0.353	0.382	-	-8.2	20	69	0
Isopropylbenzene	2.328	2.494	-	-7.1	20	73	0
4-Bromofluorobenzene	0.928	0.914	-	1.5	20	61	0
Bromobenzene	0.662	0.672	-	-1.5	20	69	0
n-Propylbenzene	2.844	3.06	-	-7.6	20	74	0
1,1,2,2-Tetrachloroethane	0.6	0.624	-	-4	20	67	0
2-Chlorotoluene	2.012	2.232	-	-10.9	20	75	-.01
1,3,5-Trimethylbenzene	2.009	2.205	-	-9.8	20	73	-.01
1,2,3-Trichloropropane	0.468	0.505	-	-7.9	20	69	0
4-Chlorotoluene	1.807	2.016	-	-11.6	20	75	0
tert-Butylbenzene	1.686	1.825	-	-8.2	20	74	0
1,2,4-Trimethylbenzene	1.994	2.244	-	-12.5	20	75	0
sec-Butylbenzene	2.506	2.764	-	-10.3	20	75	0
p-Isopropyltoluene	2.114	2.365	-	-11.9	20	75	0
1,3-Dichlorobenzene	1.276	1.353	-	-6	20	71	0
1,4-Dichlorobenzene	1.31	1.376	-	-5	20	72	0
n-Butylbenzene	1.989	2.289	-	-15.1	20	78	-.01
1,2-Dichlorobenzene	1.2	1.24	-	-3.3	20	69	0
1,2-Dibromo-3-chloropropan	0.087	0.093	-	-6.9	20	68	-.01
Hexachlorobutadiene	0.372	0.409	-	-9.9	20	79	0
1,2,4-Trichlorobenzene	0.765	0.828	-	-8.2	20	74	0
Naphthalene	1.669	1.811	-	-8.5	20	72	0
1,2,3-Trichlorobenzene	0.69	0.75	-	-8.7	20	73	0

* Value outside of QC limits.

Performance Evaluation Mixture Summary
Form 15
Pesticides

Client	: Tetra Tech Rizzo	**Lab Number**	: L1938825
Project Name	: CYPHER ST. S. BOSTON	**Project Number**	: 143-278997-19001
Instrument ID	: PEST20	**Analysis Date**	: 09/05/19 09:07
PEM Standard	: R1227471-1		
Column 1	: RTX-5	**Column 2**	: RTX-CLPPesticides2

Parameter	Signal 1	Signal 2
4,4'-DDE	3062226.2888	3783031.391
Endrin	338589873.6196	131281720.80585
4,4'-DDD	3991620.67141	740523.138
4,4'-DDT	629406518.5929	297399477.18295
Endrin Aldehyde	5909667.0676	895999.01824
Endrin Ketone	4526220.6409	1190357.60226

Parameter	%Breakdown 1	%Breakdown 2
Endrin	2.99	1.56
DDT	1.11	1.50

ANALYTICAL REPORT

Lab Number:	L1939114
Client:	Tetra Tech Rizzo Marlborough Technology Park 100 Nickerson Road Marlborough, MA 01752
ATTN:	Mike Billa
Phone:	(508) 786-2200
Project Name:	CYPHER ST., S. BOSTON
Project Number:	143-278997-19001
Report Date:	09/16/19

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

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

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939114
Report Date: 09/16/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1939114-01	TT-16 (0-2')	SOIL	CYPHER ST., S. BOSTON	08/28/19 08:20	08/28/19
L1939114-02	TT-1 (0.5-2.5')	SOIL	CYPHER ST., S. BOSTON	08/28/19 09:30	08/28/19
L1939114-03	TT-1 (2.5-4.5')	SOIL	CYPHER ST., S. BOSTON	08/28/19 10:00	08/28/19
L1939114-04	TT-2 (0.75'-2.75')	SOIL	CYPHER ST., S. BOSTON	08/28/19 11:45	08/28/19
L1939114-05	TT-2 (2.75'-4.75')	SOIL	CYPHER ST., S. BOSTON	08/28/19 12:00	08/28/19

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

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?	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:	CYPHER ST., S. BOSTON	**Lab Number:**	L1939114
Project Number:	143-278997-19001	**Report Date:**	09/16/19

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:	CYPHER ST., S. BOSTON	**Lab Number:**	L1939114
Project Number:	143-278997-19001	**Report Date:**	09/16/19

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

L1939114-04: The full list of Semivolatile Organics is reported, at the client's request.

In reference to question H:

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

Volatile Organics

L1939114-02 and -05: The analysis of Volatile Organics by EPA Method 5035/8260 Low Level could not be performed due to the elevated concentrations of target compounds in the sample.

A copy of the continuing calibration standards, associated with L1939114-01 through -05, are included as an addendum to this report.

In reference to question G:

L1939114-02 and -05: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

L1939114-01: The internal standard (IS) response for 1,4-dichlorobenzene-d4 (44%) was below the acceptance criteria; however, re-analysis achieved a similar result: 1,4-dichlorobenzene-d4 (45%). The results of both analyses are reported; however, since the IS response was below method criteria (but not <20% of applicable calibration standard area counts), all associated compounds are considered to have a potentially high bias.

The initial calibration, associated with L1939114-01 through -05, 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.

Semivolatile Organics

L1939114-01, -02, -03 and -05: The sample has elevated detection limits due to the dilution required by the sample matrix.

WG1280379-1/-2/-3: The initial calibration utilized a quadratic fit for Pentachlorophenol.

Project Name:	CYPHER ST., S. BOSTON	**Lab Number:**	L1939114
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Case Narrative (continued)

In reference to question G:

L1939114-01, -02, -03 and -05: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question I:

L1939114-01, -02, -03 and -05 were analyzed for a subset of MCP analytes per client request.

VPH

In reference to question I:

All samples were analyzed for a subset of MCP analytes per client request.

EPH

L1939114-01 and -05: The sample has elevated detection limits due to the dilution required by the sample matrix.

L1939114-02 and -04: The sample has elevated detection limits due to the dilution required by matrix interferences encountered during the concentration of the sample.

In reference to question I:

All samples were analyzed for a subset of MCP analytes per client request.

PCBs

In reference to question H:

The WG1280363-2/-3 LCS/LCSD RPDs, associated with L1939114-01 through -05, are above the acceptance criteria for aroclor 1016 (39%) and aroclor 1260 (39%).

Pesticides

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

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: Amita Naik

Title: Technical Director/Representative

Date: 09/16/19

QC OUTLIER SUMMARY REPORT

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939114
Report Date: 09/16/19

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
Extractable Petroleum Hydrocarbons - Westborough Lab								
EPH-04-1.1	Batch QC	WG1280544-3	Benzo(b)fluoranthene	LCSD	26	25	01-05	non-directional bias
EPH-04-1.1	Batch QC	WG1280544-3	Dibenzo(a,h)anthracene	LCSD	26	25	01-05	non-directional bias
MCP Polychlorinated Biphenyls - Westborough Lab								
8082A	Batch QC	WG1280363-3	Aroclor 1016 (A)	LCSD	39	30	01-05	non-directional bias
8082A	Batch QC	WG1280363-3	Aroclor 1260 (A)	LCSD	39	30	01-05	non-directional bias

ORGANICS

VOLATILES

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-01
Client ID: TT-16 (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/28/19 08:20
Date Received: 08/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/07/19 11:47
Analyst: JC
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	0.96	--	1
Chloroform	ND		ug/kg	1.4	--	1
Carbon tetrachloride	ND		ug/kg	0.96	--	1
1,2-Dichloropropane	ND		ug/kg	0.96	--	1
Dibromochloromethane	ND		ug/kg	0.96	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.96	--	1
Tetrachloroethene	ND		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	0.96	--	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	0.96	--	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	0.96	--	1
Ethylbenzene	ND		ug/kg	0.96	--	1
Chloromethane	ND		ug/kg	3.8	--	1
Bromomethane	ND		ug/kg	1.9	--	1
Vinyl chloride	ND		ug/kg	0.96	--	1
Chloroethane	ND		ug/kg	1.9	--	1
1,1-Dichloroethene	ND		ug/kg	0.96	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.4	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-01 Date Collected: 08/28/19 08:20

Client ID: TT-16 (0-2') Date Received: 08/28/19

Sample Location: CYPHER ST., S. BOSTON 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	0.96	--	1
Xylenes, Total	ND		ug/kg	0.96	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.96	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.96	--	1
Dibromomethane	ND		ug/kg	1.9	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.9	--	1
Styrene	ND		ug/kg	0.96	--	1
Dichlorodifluoromethane	ND		ug/kg	9.6	--	1
Acetone	38		ug/kg	9.6	--	1
Carbon disulfide	ND		ug/kg	9.6	--	1
Methyl ethyl ketone	ND		ug/kg	9.6	--	1
Methyl isobutyl ketone	ND		ug/kg	9.6	--	1
2-Hexanone	ND		ug/kg	9.6	--	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	0.96	--	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	0.96	--	1
sec-Butylbenzene	ND		ug/kg	0.96	--	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	3.8	--	1
Isopropylbenzene	ND		ug/kg	0.96	--	1
p-Isopropyltoluene	ND		ug/kg	0.96	--	1
Naphthalene	ND		ug/kg	3.8	--	1
n-Propylbenzene	ND		ug/kg	0.96	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-01 Date Collected: 08/28/19 08:20

Client ID: TT-16 (0-2') Date Received: 08/28/19

Sample Location: CYPHER ST., S. BOSTON 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	103		70-130
Toluene-d8	112		70-130
4-Bromofluorobenzene	118		70-130
Dibromofluoromethane	97		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-01 R
Client ID: TT-16 (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/28/19 08:20
Date Received: 08/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/09/19 10:58
Analyst: JC
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	4.6	--	1
1,1-Dichloroethane	ND		ug/kg	0.92	--	1
Chloroform	ND		ug/kg	1.4	--	1
Carbon tetrachloride	ND		ug/kg	0.92	--	1
1,2-Dichloropropane	ND		ug/kg	0.92	--	1
Dibromochloromethane	ND		ug/kg	0.92	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.92	--	1
Tetrachloroethene	ND		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	0.92	--	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	0.92	--	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	0.92	--	1
Ethylbenzene	ND		ug/kg	0.92	--	1
Chloromethane	ND		ug/kg	3.7	--	1
Bromomethane	ND		ug/kg	1.8	--	1
Vinyl chloride	ND		ug/kg	0.92	--	1
Chloroethane	ND		ug/kg	1.8	--	1
1,1-Dichloroethene	ND		ug/kg	0.92	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.4	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-01 R Date Collected: 08/28/19 08:20

Client ID: TT-16 (0-2') Date Received: 08/28/19

Sample Location: CYPHER ST., S. BOSTON 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	1.8	--	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	0.92	--	1
Xylenes, Total	ND		ug/kg	0.92	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.92	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.92	--	1
Dibromomethane	ND		ug/kg	1.8	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.8	--	1
Styrene	ND		ug/kg	0.92	--	1
Dichlorodifluoromethane	ND		ug/kg	9.2	--	1
Acetone	30		ug/kg	9.2	--	1
Carbon disulfide	ND		ug/kg	9.2	--	1
Methyl ethyl ketone	ND		ug/kg	9.2	--	1
Methyl isobutyl ketone	ND		ug/kg	9.2	--	1
2-Hexanone	ND		ug/kg	9.2	--	1
Bromochloromethane	ND		ug/kg	1.8	--	1
Tetrahydrofuran	ND		ug/kg	3.7	--	1
2,2-Dichloropropane	ND		ug/kg	1.8	--	1
1,2-Dibromoethane	ND		ug/kg	0.92	--	1
1,3-Dichloropropane	ND		ug/kg	1.8	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.46	--	1
Bromobenzene	ND		ug/kg	1.8	--	1
n-Butylbenzene	ND		ug/kg	0.92	--	1
sec-Butylbenzene	ND		ug/kg	0.92	--	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	2.8	--	1
Hexachlorobutadiene	ND		ug/kg	3.7	--	1
Isopropylbenzene	ND		ug/kg	0.92	--	1
p-Isopropyltoluene	ND		ug/kg	0.92	--	1
Naphthalene	ND		ug/kg	3.7	--	1
n-Propylbenzene	ND		ug/kg	0.92	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-01 R Date Collected: 08/28/19 08:20

Client ID: TT-16 (0-2') Date Received: 08/28/19

Sample Location: CYPHER ST., S. BOSTON 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	74	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	111		70-130
4-Bromofluorobenzene	116		70-130
Dibromofluoromethane	96		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-02
Client ID: TT-1 (0.5-2.5')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/28/19 09:30
Date Received: 08/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/07/19 15:24
Analyst: JC
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	77	--	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	ND		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	77	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-02 Date Collected: 08/28/19 09:30

Client ID: TT-1 (0.5-2.5') Date Received: 08/28/19

Sample Location: CYPHER ST., S. BOSTON 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	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	150	--	1
Hexachlorobutadiene	ND		ug/kg	210	--	1
Isopropylbenzene	ND		ug/kg	52	--	1
p-Isopropyltoluene	ND		ug/kg	52	--	1
Naphthalene	1100		ug/kg	210	--	1
n-Propylbenzene	ND		ug/kg	52	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-02 Date Collected: 08/28/19 09:30

Client ID: TT-1 (0.5-2.5') Date Received: 08/28/19

Sample Location: CYPHER ST., S. BOSTON 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	96		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	91		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-03
Client ID: TT-1 (2.5-4.5')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/28/19 10:00
Date Received: 08/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/07/19 12:11
Analyst: JC
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	4.3	--	1
1,1-Dichloroethane	ND		ug/kg	0.86	--	1
Chloroform	ND		ug/kg	1.3	--	1
Carbon tetrachloride	ND		ug/kg	0.86	--	1
1,2-Dichloropropane	ND		ug/kg	0.86	--	1
Dibromochloromethane	ND		ug/kg	0.86	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.86	--	1
Tetrachloroethene	ND		ug/kg	0.43	--	1
Chlorobenzene	ND		ug/kg	0.43	--	1
Trichlorofluoromethane	ND		ug/kg	3.4	--	1
1,2-Dichloroethane	ND		ug/kg	0.86	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.43	--	1
Bromodichloromethane	ND		ug/kg	0.43	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.86	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.43	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.43	--	1
1,1-Dichloropropene	ND		ug/kg	0.43	--	1
Bromoform	ND		ug/kg	3.4	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.43	--	1
Benzene	ND		ug/kg	0.43	--	1
Toluene	ND		ug/kg	0.86	--	1
Ethylbenzene	ND		ug/kg	0.86	--	1
Chloromethane	ND		ug/kg	3.4	--	1
Bromomethane	ND		ug/kg	1.7	--	1
Vinyl chloride	ND		ug/kg	0.86	--	1
Chloroethane	ND		ug/kg	1.7	--	1
1,1-Dichloroethene	ND		ug/kg	0.86	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.3	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-03 Date Collected: 08/28/19 10:00

Client ID: TT-1 (2.5-4.5') Date Received: 08/28/19

Sample Location: CYPHER ST., S. BOSTON 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	0.43	--	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	0.86	--	1
Xylenes, Total	ND		ug/kg	0.86	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.86	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.86	--	1
Dibromomethane	ND		ug/kg	1.7	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.7	--	1
Styrene	ND		ug/kg	0.86	--	1
Dichlorodifluoromethane	ND		ug/kg	8.6	--	1
Acetone	52		ug/kg	8.6	--	1
Carbon disulfide	ND		ug/kg	8.6	--	1
Methyl ethyl ketone	ND		ug/kg	8.6	--	1
Methyl isobutyl ketone	ND		ug/kg	8.6	--	1
2-Hexanone	ND		ug/kg	8.6	--	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	0.86	--	1
1,3-Dichloropropane	ND		ug/kg	1.7	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.43	--	1
Bromobenzene	ND		ug/kg	1.7	--	1
n-Butylbenzene	ND		ug/kg	0.86	--	1
sec-Butylbenzene	ND		ug/kg	0.86	--	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	2.6	--	1
Hexachlorobutadiene	ND		ug/kg	3.4	--	1
Isopropylbenzene	ND		ug/kg	0.86	--	1
p-Isopropyltoluene	ND		ug/kg	0.86	--	1
Naphthalene	ND		ug/kg	3.4	--	1
n-Propylbenzene	ND		ug/kg	0.86	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-03 Date Collected: 08/28/19 10:00

Client ID: TT-1 (2.5-4.5') Date Received: 08/28/19

Sample Location: CYPHER ST., S. BOSTON 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	69	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	110		70-130
Dibromofluoromethane	95		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-04
Client ID: TT-2 (0.75'-2.75')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/28/19 11:45
Date Received: 08/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/09/19 11:22
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	5.2	--	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	ND		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: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-04 Date Collected: 08/28/19 11:45

Client ID: TT-2 (0.75'-2.75') Date Received: 08/28/19

Sample Location: CYPHER ST., S. BOSTON 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	32		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: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-04 Date Collected: 08/28/19 11:45

Client ID: TT-2 (0.75'-2.75') Date Received: 08/28/19

Sample Location: CYPHER ST., S. BOSTON 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	99		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	95		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-05
Client ID: TT-2 (2.75'-4.75')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/28/19 12:00
Date Received: 08/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/07/19 15:48
Analyst: JC
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	410	--	1
1,1-Dichloroethane	ND		ug/kg	81	--	1
Chloroform	ND		ug/kg	120	--	1
Carbon tetrachloride	ND		ug/kg	81	--	1
1,2-Dichloropropane	ND		ug/kg	81	--	1
Dibromochloromethane	ND		ug/kg	81	--	1
1,1,2-Trichloroethane	ND		ug/kg	81	--	1
Tetrachloroethene	ND		ug/kg	41	--	1
Chlorobenzene	ND		ug/kg	41	--	1
Trichlorofluoromethane	ND		ug/kg	320	--	1
1,2-Dichloroethane	ND		ug/kg	81	--	1
1,1,1-Trichloroethane	ND		ug/kg	41	--	1
Bromodichloromethane	ND		ug/kg	41	--	1
trans-1,3-Dichloropropene	ND		ug/kg	81	--	1
cis-1,3-Dichloropropene	ND		ug/kg	41	--	1
1,3-Dichloropropene, Total	ND		ug/kg	41	--	1
1,1-Dichloropropene	ND		ug/kg	41	--	1
Bromoform	ND		ug/kg	320	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	41	--	1
Benzene	ND		ug/kg	41	--	1
Toluene	140		ug/kg	81	--	1
Ethylbenzene	140		ug/kg	81	--	1
Chloromethane	ND		ug/kg	320	--	1
Bromomethane	ND		ug/kg	160	--	1
Vinyl chloride	ND		ug/kg	81	--	1
Chloroethane	ND		ug/kg	160	--	1
1,1-Dichloroethene	ND		ug/kg	81	--	1
trans-1,2-Dichloroethene	ND		ug/kg	120	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-05 Date Collected: 08/28/19 12:00

Client ID: TT-2 (2.75'-4.75') Date Received: 08/28/19

Sample Location: CYPHER ST., S. BOSTON 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	41	--	1
1,2-Dichlorobenzene	ND		ug/kg	160	--	1
1,3-Dichlorobenzene	ND		ug/kg	160	--	1
1,4-Dichlorobenzene	ND		ug/kg	160	--	1
Methyl tert butyl ether	ND		ug/kg	160	--	1
p/m-Xylene	440		ug/kg	160	--	1
o-Xylene	180		ug/kg	81	--	1
Xylenes, Total	620		ug/kg	81	--	1
cis-1,2-Dichloroethene	ND		ug/kg	81	--	1
1,2-Dichloroethene, Total	ND		ug/kg	81	--	1
Dibromomethane	ND		ug/kg	160	--	1
1,2,3-Trichloropropane	ND		ug/kg	160	--	1
Styrene	ND		ug/kg	81	--	1
Dichlorodifluoromethane	ND		ug/kg	810	--	1
Acetone	ND		ug/kg	810	--	1
Carbon disulfide	ND		ug/kg	810	--	1
Methyl ethyl ketone	ND		ug/kg	810	--	1
Methyl isobutyl ketone	ND		ug/kg	810	--	1
2-Hexanone	ND		ug/kg	810	--	1
Bromochloromethane	ND		ug/kg	160	--	1
Tetrahydrofuran	ND		ug/kg	320	--	1
2,2-Dichloropropane	ND		ug/kg	160	--	1
1,2-Dibromoethane	ND		ug/kg	81	--	1
1,3-Dichloropropane	ND		ug/kg	160	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	41	--	1
Bromobenzene	ND		ug/kg	160	--	1
n-Butylbenzene	86		ug/kg	81	--	1
sec-Butylbenzene	ND		ug/kg	81	--	1
tert-Butylbenzene	ND		ug/kg	160	--	1
o-Chlorotoluene	ND		ug/kg	160	--	1
p-Chlorotoluene	ND		ug/kg	160	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	240	--	1
Hexachlorobutadiene	ND		ug/kg	320	--	1
Isopropylbenzene	ND		ug/kg	81	--	1
p-Isopropyltoluene	150		ug/kg	81	--	1
Naphthalene	1700		ug/kg	320	--	1
n-Propylbenzene	90		ug/kg	81	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-05 Date Collected: 08/28/19 12:00

Client ID: TT-2 (2.75'-4.75') Date Received: 08/28/19

Sample Location: CYPHER ST., S. BOSTON 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	160	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	160	--	1
1,3,5-Trimethylbenzene	340		ug/kg	160	--	1
1,2,4-Trimethylbenzene	580		ug/kg	160	--	1
Diethyl ether	ND		ug/kg	160	--	1
Diisopropyl Ether	ND		ug/kg	160	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	160	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	160	--	1
1,4-Dioxane	ND		ug/kg	6500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	90		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/09/19 09:22
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1281736-10					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/09/19 09:22
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1281736-10					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	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: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/09/19 09:22
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1281736-10					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	91		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/07/19 08:33
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01,03 Batch: WG1281736-5					
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: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/07/19 08:33
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01,03 Batch: WG1281736-5					
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: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/07/19 08:33
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01,03 Batch: WG1281736-5					
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	97		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	90		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/07/19 08:33
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 02,05 Batch: WG1281744-5					
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: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/07/19 08:33
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 02,05 Batch: WG1281744-5					
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: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/07/19 08:33
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 02,05 Batch: WG1281744-5					
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	97		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	90		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/09/19 09:22
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 04 Batch: WG1281986-5					
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: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/09/19 09:22
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 04 Batch: WG1281986-5					
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: CYPHER ST., S. BOSTON **Lab Number:** L1939114
Project Number: 143-278997-19001 **Report Date:** 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/09/19 09:22
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 04 Batch: WG1281986-5					
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	97		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	91		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

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): 01,03 Batch: WG1281736-3 WG1281736-4								
Methylene chloride	83		78		70-130	6		20
1,1-Dichloroethane	94		88		70-130	7		20
Chloroform	96		92		70-130	4		20
Carbon tetrachloride	100		94		70-130	6		20
1,2-Dichloropropane	89		87		70-130	2		20
Dibromochloromethane	102		100		70-130	2		20
1,1,2-Trichloroethane	95		93		70-130	2		20
Tetrachloroethene	103		98		70-130	5		20
Chlorobenzene	101		97		70-130	4		20
Trichlorofluoromethane	101		94		70-130	7		20
1,2-Dichloroethane	92		90		70-130	2		20
1,1,1-Trichloroethane	101		95		70-130	6		20
Bromodichloromethane	98		94		70-130	4		20
trans-1,3-Dichloropropene	98		97		70-130	1		20
cis-1,3-Dichloropropene	93		89		70-130	4		20
1,1-Dichloropropene	97		92		70-130	5		20
Bromoform	92		90		70-130	2		20
1,1,2,2-Tetrachloroethane	97		97		70-130	0		20
Benzene	94		90		70-130	4		20
Toluene	98		94		70-130	4		20
Ethylbenzene	102		98		70-130	4		20
Chloromethane	109		101		70-130	8		20
Bromomethane	90		84		70-130	7		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939114
Report Date: 09/16/19

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): 01,03 Batch: WG1281736-3 WG1281736-4								
Vinyl chloride	93		86		70-130	8		20
Chloroethane	84		78		70-130	7		20
1,1-Dichloroethene	97		90		70-130	7		20
trans-1,2-Dichloroethene	96		89		70-130	8		20
Trichloroethene	96		91		70-130	5		20
1,2-Dichlorobenzene	100		97		70-130	3		20
1,3-Dichlorobenzene	104		100		70-130	4		20
1,4-Dichlorobenzene	103		99		70-130	4		20
Methyl tert butyl ether	85		83		70-130	2		20
p/m-Xylene	103		98		70-130	5		20
o-Xylene	101		97		70-130	4		20
cis-1,2-Dichloroethene	94		88		70-130	7		20
Dibromomethane	92		89		70-130	3		20
1,2,3-Trichloropropane	93		95		70-130	2		20
Styrene	102		98		70-130	4		20
Dichlorodifluoromethane	109		103		70-130	6		20
Acetone	96		102		70-130	6		20
Carbon disulfide	93		87		70-130	7		20
Methyl ethyl ketone	92		90		70-130	2		20
Methyl isobutyl ketone	84		87		70-130	4		20
2-Hexanone	94		97		70-130	3		20
Bromochloromethane	95		92		70-130	3		20
Tetrahydrofuran	83		85		70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

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): 01,03 Batch: WG1281736-3 WG1281736-4								
2,2-Dichloropropane	96		88		70-130	9		20
1,2-Dibromoethane	97		96		70-130	1		20
1,3-Dichloropropane	94		94		70-130	0		20
1,1,1,2-Tetrachloroethane	103		101		70-130	2		20
Bromobenzene	98		96		70-130	2		20
n-Butylbenzene	110		105		70-130	5		20
sec-Butylbenzene	106		102		70-130	4		20
tert-Butylbenzene	105		99		70-130	6		20
o-Chlorotoluene	103		100		70-130	3		20
p-Chlorotoluene	104		101		70-130	3		20
1,2-Dibromo-3-chloropropane	90		91		70-130	1		20
Hexachlorobutadiene	99		94		70-130	5		20
Isopropylbenzene	104		100		70-130	4		20
p-Isopropyltoluene	107		103		70-130	4		20
Naphthalene	96		96		70-130	0		20
n-Propylbenzene	106		101		70-130	5		20
1,2,3-Trichlorobenzene	101		99		70-130	2		20
1,2,4-Trichlorobenzene	106		102		70-130	4		20
1,3,5-Trimethylbenzene	105		101		70-130	4		20
1,2,4-Trimethylbenzene	105		101		70-130	4		20
Diethyl ether	86		85		70-130	1		20
Diisopropyl Ether	99		96		70-130	3		20
Ethyl-Tert-Butyl-Ether	87		84		70-130	4		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST., S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939114

Report Date: 09/16/19

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): 01,03 Batch: WG1281736-3 WG1281736-4								
Tertiary-Amyl Methyl Ether	82		80		70-130	2		20
1,4-Dioxane	84		93		70-130	10		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		98		70-130
Toluene-d8	102		103		70-130
4-Bromofluorobenzene	97		97		70-130
Dibromofluoromethane	96		96		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

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): 01 Batch: WG1281736-8 WG1281736-9								
Methylene chloride	85		84		70-130	1		20
1,1-Dichloroethane	94		89		70-130	5		20
Chloroform	97		93		70-130	4		20
Carbon tetrachloride	101		96		70-130	5		20
1,2-Dichloropropane	92		88		70-130	4		20
Dibromochloromethane	103		100		70-130	3		20
1,1,2-Trichloroethane	94		93		70-130	1		20
Tetrachloroethene	104		100		70-130	4		20
Chlorobenzene	101		98		70-130	3		20
Trichlorofluoromethane	96		92		70-130	4		20
1,2-Dichloroethane	93		91		70-130	2		20
1,1,1-Trichloroethane	102		97		70-130	5		20
Bromodichloromethane	98		95		70-130	3		20
trans-1,3-Dichloropropene	99		97		70-130	2		20
cis-1,3-Dichloropropene	94		92		70-130	2		20
1,1-Dichloropropene	100		94		70-130	6		20
Bromoform	91		91		70-130	0		20
1,1,2,2-Tetrachloroethane	97		97		70-130	0		20
Benzene	94		91		70-130	3		20
Toluene	99		95		70-130	4		20
Ethylbenzene	102		98		70-130	4		20
Chloromethane	105		100		70-130	5		20
Bromomethane	85		82		70-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

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): 01 Batch: WG1281736-8 WG1281736-9								
Vinyl chloride	93		86		70-130	8		20
Chloroethane	82		76		70-130	8		20
1,1-Dichloroethene	97		90		70-130	7		20
trans-1,2-Dichloroethene	97		91		70-130	6		20
Trichloroethene	98		93		70-130	5		20
1,2-Dichlorobenzene	100		98		70-130	2		20
1,3-Dichlorobenzene	103		100		70-130	3		20
1,4-Dichlorobenzene	102		99		70-130	3		20
Methyl tert butyl ether	86		85		70-130	1		20
p/m-Xylene	104		100		70-130	4		20
o-Xylene	102		98		70-130	4		20
cis-1,2-Dichloroethene	94		91		70-130	3		20
Dibromomethane	92		90		70-130	2		20
1,2,3-Trichloropropane	94		93		70-130	1		20
Styrene	101		99		70-130	2		20
Dichlorodifluoromethane	104		99		70-130	5		20
Acetone	100		104		70-130	4		20
Carbon disulfide	93		88		70-130	6		20
Methyl ethyl ketone	95		94		70-130	1		20
Methyl isobutyl ketone	91		89		70-130	2		20
2-Hexanone	99		98		70-130	1		20
Bromochloromethane	95		93		70-130	2		20
Tetrahydrofuran	99		98		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1281736-8 WG1281736-9

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
2,2-Dichloropropane	96		90		70-130	6		20
1,2-Dibromoethane	98		98		70-130	0		20
1,3-Dichloropropane	95		93		70-130	2		20
1,1,1,2-Tetrachloroethane	102		100		70-130	2		20
Bromobenzene	98		95		70-130	3		20
n-Butylbenzene	108		104		70-130	4		20
sec-Butylbenzene	106		102		70-130	4		20
tert-Butylbenzene	104		100		70-130	4		20
o-Chlorotoluene	102		98		70-130	4		20
p-Chlorotoluene	103		99		70-130	4		20
1,2-Dibromo-3-chloropropane	93		91		70-130	2		20
Hexachlorobutadiene	101		97		70-130	4		20
Isopropylbenzene	104		100		70-130	4		20
p-Isopropyltoluene	107		102		70-130	5		20
Naphthalene	98		98		70-130	0		20
n-Propylbenzene	105		101		70-130	4		20
1,2,3-Trichlorobenzene	100		100		70-130	0		20
1,2,4-Trichlorobenzene	105		100		70-130	5		20
1,3,5-Trimethylbenzene	104		101		70-130	3		20
1,2,4-Trimethylbenzene	104		101		70-130	3		20
Diethyl ether	87		86		70-130	1		20
Diisopropyl Ether	100		98		70-130	2		20
Ethyl-Tert-Butyl-Ether	88		86		70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

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): 01 Batch: WG1281736-8 WG1281736-9								
Tertiary-Amyl Methyl Ether	84		83		70-130	1		20
1,4-Dioxane	96		95		70-130	1		20

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

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

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): 02,05 Batch: WG1281744-3 WG1281744-4								
Methylene chloride	83		78		70-130	6		20
1,1-Dichloroethane	94		88		70-130	7		20
Chloroform	96		92		70-130	4		20
Carbon tetrachloride	100		94		70-130	6		20
1,2-Dichloropropane	89		87		70-130	2		20
Dibromochloromethane	102		100		70-130	2		20
1,1,2-Trichloroethane	95		93		70-130	2		20
Tetrachloroethene	103		98		70-130	5		20
Chlorobenzene	101		97		70-130	4		20
Trichlorofluoromethane	101		94		70-130	7		20
1,2-Dichloroethane	92		90		70-130	2		20
1,1,1-Trichloroethane	101		95		70-130	6		20
Bromodichloromethane	98		94		70-130	4		20
trans-1,3-Dichloropropene	98		97		70-130	1		20
cis-1,3-Dichloropropene	93		89		70-130	4		20
1,1-Dichloropropene	97		92		70-130	5		20
Bromoform	92		90		70-130	2		20
1,1,2,2-Tetrachloroethane	97		97		70-130	0		20
Benzene	94		90		70-130	4		20
Toluene	98		94		70-130	4		20
Ethylbenzene	102		98		70-130	4		20
Chloromethane	109		101		70-130	8		20
Bromomethane	90		84		70-130	7		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

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): 02,05 Batch: WG1281744-3 WG1281744-4								
Vinyl chloride	93		86		70-130	8		20
Chloroethane	84		78		70-130	7		20
1,1-Dichloroethene	97		90		70-130	7		20
trans-1,2-Dichloroethene	96		89		70-130	8		20
Trichloroethene	96		91		70-130	5		20
1,2-Dichlorobenzene	100		97		70-130	3		20
1,3-Dichlorobenzene	104		100		70-130	4		20
1,4-Dichlorobenzene	103		99		70-130	4		20
Methyl tert butyl ether	85		83		70-130	2		20
p/m-Xylene	103		98		70-130	5		20
o-Xylene	101		97		70-130	4		20
cis-1,2-Dichloroethene	94		88		70-130	7		20
Dibromomethane	92		89		70-130	3		20
1,2,3-Trichloropropane	93		95		70-130	2		20
Styrene	102		98		70-130	4		20
Dichlorodifluoromethane	109		103		70-130	6		20
Acetone	96		102		70-130	6		20
Carbon disulfide	93		87		70-130	7		20
Methyl ethyl ketone	92		90		70-130	2		20
Methyl isobutyl ketone	84		87		70-130	4		20
2-Hexanone	94		97		70-130	3		20
Bromochloromethane	95		92		70-130	3		20
Tetrahydrofuran	83		85		70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

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): 02,05 Batch: WG1281744-3 WG1281744-4								
2,2-Dichloropropane	96		88		70-130	9		20
1,2-Dibromoethane	97		96		70-130	1		20
1,3-Dichloropropane	94		94		70-130	0		20
1,1,1,2-Tetrachloroethane	103		101		70-130	2		20
Bromobenzene	98		96		70-130	2		20
n-Butylbenzene	110		105		70-130	5		20
sec-Butylbenzene	106		102		70-130	4		20
tert-Butylbenzene	105		99		70-130	6		20
o-Chlorotoluene	103		100		70-130	3		20
p-Chlorotoluene	104		101		70-130	3		20
1,2-Dibromo-3-chloropropane	90		91		70-130	1		20
Hexachlorobutadiene	99		94		70-130	5		20
Isopropylbenzene	104		100		70-130	4		20
p-Isopropyltoluene	107		103		70-130	4		20
Naphthalene	96		96		70-130	0		20
n-Propylbenzene	106		101		70-130	5		20
1,2,3-Trichlorobenzene	101		99		70-130	2		20
1,2,4-Trichlorobenzene	106		102		70-130	4		20
1,3,5-Trimethylbenzene	105		101		70-130	4		20
1,2,4-Trimethylbenzene	105		101		70-130	4		20
Diethyl ether	86		85		70-130	1		20
Diisopropyl Ether	99		96		70-130	3		20
Ethyl-Tert-Butyl-Ether	87		84		70-130	4		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST., S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939114

Report Date: 09/16/19

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): 02,05 Batch: WG1281744-3 WG1281744-4								
Tertiary-Amyl Methyl Ether	82		80		70-130	2		20
1,4-Dioxane	84		93		70-130	10		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		98		70-130
Toluene-d8	102		103		70-130
4-Bromofluorobenzene	97		97		70-130
Dibromofluoromethane	96		96		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

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): 04 Batch: WG1281986-3 WG1281986-4								
Methylene chloride	85		84		70-130	1		20
1,1-Dichloroethane	94		89		70-130	5		20
Chloroform	97		93		70-130	4		20
Carbon tetrachloride	101		96		70-130	5		20
1,2-Dichloropropane	92		88		70-130	4		20
Dibromochloromethane	103		100		70-130	3		20
1,1,2-Trichloroethane	94		93		70-130	1		20
Tetrachloroethene	104		100		70-130	4		20
Chlorobenzene	101		98		70-130	3		20
Trichlorofluoromethane	96		92		70-130	4		20
1,2-Dichloroethane	93		91		70-130	2		20
1,1,1-Trichloroethane	102		97		70-130	5		20
Bromodichloromethane	98		95		70-130	3		20
trans-1,3-Dichloropropene	99		97		70-130	2		20
cis-1,3-Dichloropropene	94		92		70-130	2		20
1,1-Dichloropropene	100		94		70-130	6		20
Bromoform	91		91		70-130	0		20
1,1,2,2-Tetrachloroethane	97		97		70-130	0		20
Benzene	94		91		70-130	3		20
Toluene	99		95		70-130	4		20
Ethylbenzene	102		98		70-130	4		20
Chloromethane	105		100		70-130	5		20
Bromomethane	85		82		70-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

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): 04 Batch: WG1281986-3 WG1281986-4								
Vinyl chloride	93		86		70-130	8		20
Chloroethane	82		76		70-130	8		20
1,1-Dichloroethene	97		90		70-130	7		20
trans-1,2-Dichloroethene	97		91		70-130	6		20
Trichloroethene	98		93		70-130	5		20
1,2-Dichlorobenzene	100		98		70-130	2		20
1,3-Dichlorobenzene	103		100		70-130	3		20
1,4-Dichlorobenzene	102		99		70-130	3		20
Methyl tert butyl ether	86		85		70-130	1		20
p/m-Xylene	104		100		70-130	4		20
o-Xylene	102		98		70-130	4		20
cis-1,2-Dichloroethene	94		91		70-130	3		20
Dibromomethane	92		90		70-130	2		20
1,2,3-Trichloropropane	94		93		70-130	1		20
Styrene	101		99		70-130	2		20
Dichlorodifluoromethane	104		99		70-130	5		20
Acetone	100		104		70-130	4		20
Carbon disulfide	93		88		70-130	6		20
Methyl ethyl ketone	95		94		70-130	1		20
Methyl isobutyl ketone	91		89		70-130	2		20
2-Hexanone	99		98		70-130	1		20
Bromochloromethane	95		93		70-130	2		20
Tetrahydrofuran	99		98		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

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): 04 Batch: WG1281986-3 WG1281986-4								
2,2-Dichloropropane	96		90		70-130	6		20
1,2-Dibromoethane	98		98		70-130	0		20
1,3-Dichloropropane	95		93		70-130	2		20
1,1,1,2-Tetrachloroethane	102		100		70-130	2		20
Bromobenzene	98		95		70-130	3		20
n-Butylbenzene	108		104		70-130	4		20
sec-Butylbenzene	106		102		70-130	4		20
tert-Butylbenzene	104		100		70-130	4		20
o-Chlorotoluene	102		98		70-130	4		20
p-Chlorotoluene	103		99		70-130	4		20
1,2-Dibromo-3-chloropropane	93		91		70-130	2		20
Hexachlorobutadiene	101		97		70-130	4		20
Isopropylbenzene	104		100		70-130	4		20
p-Isopropyltoluene	107		102		70-130	5		20
Naphthalene	98		98		70-130	0		20
n-Propylbenzene	105		101		70-130	4		20
1,2,3-Trichlorobenzene	100		100		70-130	0		20
1,2,4-Trichlorobenzene	105		100		70-130	5		20
1,3,5-Trimethylbenzene	104		101		70-130	3		20
1,2,4-Trimethylbenzene	104		101		70-130	3		20
Diethyl ether	87		86		70-130	1		20
Diisopropyl Ether	100		98		70-130	2		20
Ethyl-Tert-Butyl-Ether	88		86		70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

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): 04 Batch: WG1281986-3 WG1281986-4								
Tertiary-Amyl Methyl Ether	84		83		70-130	1		20
1,4-Dioxane	96		95		70-130	1		20

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

SEMIVOLATILES

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-01 D
Client ID: TT-16 (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/28/19 08:20
Date Received: 08/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/08/19 20:13
Analyst: JG
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 09/05/19 13:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Acenaphthene	ND		ug/kg	700	--	5
Fluoranthene	8600		ug/kg	530	--	5
Naphthalene	ND		ug/kg	880	--	5
Benzo(a)anthracene	3800		ug/kg	530	--	5
Benzo(a)pyrene	3400		ug/kg	700	--	5
Benzo(b)fluoranthene	5300		ug/kg	530	--	5
Benzo(k)fluoranthene	2100		ug/kg	530	--	5
Chrysene	4800		ug/kg	530	--	5
Acenaphthylene	1800		ug/kg	700	--	5
Anthracene	1600		ug/kg	530	--	5
Benzo(ghi)perylene	2500		ug/kg	700	--	5
Fluorene	ND		ug/kg	880	--	5
Phenanthrene	3800		ug/kg	530	--	5
Dibenzo(a,h)anthracene	610		ug/kg	530	--	5
Indeno(1,2,3-cd)pyrene	2500		ug/kg	700	--	5
Pyrene	7500		ug/kg	530	--	5
2-Methylnaphthalene	ND		ug/kg	1000	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	78		30-130
2-Fluorobiphenyl	56		30-130
4-Terphenyl-d14	50		30-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-02 D
Client ID: TT-1 (0.5-2.5')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/28/19 09:30
Date Received: 08/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/08/19 20:38
Analyst: JG
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 09/05/19 13:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Acenaphthene	830		ug/kg	710	--	5
Fluoranthene	8000		ug/kg	530	--	5
Naphthalene	ND		ug/kg	890	--	5
Benzo(a)anthracene	4000		ug/kg	530	--	5
Benzo(a)pyrene	3400		ug/kg	710	--	5
Benzo(b)fluoranthene	4200		ug/kg	530	--	5
Benzo(k)fluoranthene	1800		ug/kg	530	--	5
Chrysene	3800		ug/kg	530	--	5
Acenaphthylene	ND		ug/kg	710	--	5
Anthracene	2000		ug/kg	530	--	5
Benzo(ghi)perylene	2200		ug/kg	710	--	5
Fluorene	1100		ug/kg	890	--	5
Phenanthrene	7200		ug/kg	530	--	5
Dibenzo(a,h)anthracene	610		ug/kg	530	--	5
Indeno(1,2,3-cd)pyrene	2100		ug/kg	710	--	5
Pyrene	6200		ug/kg	530	--	5
2-Methylnaphthalene	ND		ug/kg	1100	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	61		30-130
2-Fluorobiphenyl	42		30-130
4-Terphenyl-d14	38		30-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-03 D
Client ID: TT-1 (2.5-4.5')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/28/19 10:00
Date Received: 08/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/08/19 21:04
Analyst: JG
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 09/05/19 13:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Acenaphthene	ND		ug/kg	710	--	5
Fluoranthene	8300		ug/kg	530	--	5
Naphthalene	ND		ug/kg	880	--	5
Benzo(a)anthracene	3400		ug/kg	530	--	5
Benzo(a)pyrene	2600		ug/kg	710	--	5
Benzo(b)fluoranthene	3700		ug/kg	530	--	5
Benzo(k)fluoranthene	1500		ug/kg	530	--	5
Chrysene	3400		ug/kg	530	--	5
Acenaphthylene	ND		ug/kg	710	--	5
Anthracene	1300		ug/kg	530	--	5
Benzo(ghi)perylene	1700		ug/kg	710	--	5
Fluorene	ND		ug/kg	880	--	5
Phenanthrene	5000		ug/kg	530	--	5
Dibenzo(a,h)anthracene	ND		ug/kg	530	--	5
Indeno(1,2,3-cd)pyrene	1800		ug/kg	710	--	5
Pyrene	6400		ug/kg	530	--	5
2-Methylnaphthalene	ND		ug/kg	1100	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	57		30-130
2-Fluorobiphenyl	41		30-130
4-Terphenyl-d14	38		30-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-04
Client ID: TT-2 (0.75'-2.75')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/28/19 11:45
Date Received: 08/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/12/19 11:49
Analyst: JG
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 09/05/19 02:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	290		ug/kg	140	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	180	--	1
Hexachlorobenzene	ND		ug/kg	100	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	160	--	1
2-Chloronaphthalene	ND		ug/kg	180	--	1
1,2-Dichlorobenzene	ND		ug/kg	180	--	1
1,3-Dichlorobenzene	ND		ug/kg	180	--	1
1,4-Dichlorobenzene	ND		ug/kg	180	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	180	--	1
2,4-Dinitrotoluene	ND		ug/kg	180	--	1
2,6-Dinitrotoluene	ND		ug/kg	180	--	1
Azobenzene	ND		ug/kg	180	--	1
Fluoranthene	5800		ug/kg	100	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	210	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	190	--	1
Hexachlorobutadiene	ND		ug/kg	180	--	1
Hexachloroethane	ND		ug/kg	140	--	1
Isophorone	ND		ug/kg	160	--	1
Naphthalene	280		ug/kg	180	--	1
Nitrobenzene	ND		ug/kg	160	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	--	1
Butyl benzyl phthalate	ND		ug/kg	180	--	1
Di-n-butylphthalate	ND		ug/kg	180	--	1
Di-n-octylphthalate	ND		ug/kg	180	--	1
Diethyl phthalate	ND		ug/kg	180	--	1
Dimethyl phthalate	ND		ug/kg	180	--	1
Benzo(a)anthracene	3700		ug/kg	100	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-04 Date Collected: 08/28/19 11:45

Client ID: TT-2 (0.75'-2.75') Date Received: 08/28/19

Sample Location: CYPHER ST., S. BOSTON Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	4200		ug/kg	140	--	1
Benzo(b)fluoranthene	4900		ug/kg	100	--	1
Benzo(k)fluoranthene	890		ug/kg	100	--	1
Chrysene	3800		ug/kg	100	--	1
Acenaphthylene	330		ug/kg	140	--	1
Anthracene	1300		ug/kg	100	--	1
Benzo(ghi)perylene	4000		ug/kg	140	--	1
Fluorene	440		ug/kg	180	--	1
Phenanthrene	4200		ug/kg	100	--	1
Dibenzo(a,h)anthracene	1700		ug/kg	100	--	1
Indeno(1,2,3-cd)pyrene	2300		ug/kg	140	--	1
Pyrene	5500		ug/kg	100	--	1
Aniline	ND		ug/kg	210	--	1
4-Chloroaniline	ND		ug/kg	180	--	1
Dibenzofuran	280		ug/kg	180	--	1
2-Methylnaphthalene	ND		ug/kg	210	--	1
Acetophenone	ND		ug/kg	180	--	1
2,4,6-Trichlorophenol	ND		ug/kg	100	--	1
2-Chlorophenol	ND		ug/kg	180	--	1
2,4-Dichlorophenol	ND		ug/kg	160	--	1
2,4-Dimethylphenol	ND		ug/kg	180	--	1
2-Nitrophenol	ND		ug/kg	380	--	1
4-Nitrophenol	ND		ug/kg	240	--	1
2,4-Dinitrophenol	ND		ug/kg	840	--	1
Pentachlorophenol	ND		ug/kg	350	--	1
Phenol	ND		ug/kg	180	--	1
2-Methylphenol	ND		ug/kg	180	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	250	--	1
2,4,5-Trichlorophenol	ND		ug/kg	180	--	1
Pyridine	ND		ug/kg	190	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-04 Date Collected: 08/28/19 11:45

Client ID: TT-2 (0.75'-2.75') Date Received: 08/28/19

Sample Location: CYPHER ST., S. BOSTON Field Prep: Not Specified

Sample Depth:

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	63		30-130
Phenol-d6	63		30-130
Nitrobenzene-d5	75		30-130
2-Fluorobiphenyl	67		30-130
2,4,6-Tribromophenol	65		30-130
4-Terphenyl-d14	60		30-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-05 D
Client ID: TT-2 (2.75'-4.75')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/28/19 12:00
Date Received: 08/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/16/19 17:46
Analyst: ALS
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 09/05/19 13:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Acenaphthene	1700		ug/kg	790	--	5
Fluoranthene	11000		ug/kg	600	--	5
Naphthalene	2800		ug/kg	990	--	5
Benzo(a)anthracene	11000		ug/kg	600	--	5
Benzo(a)pyrene	12000		ug/kg	790	--	5
Benzo(b)fluoranthene	12000		ug/kg	600	--	5
Benzo(k)fluoranthene	2700		ug/kg	600	--	5
Chrysene	14000		ug/kg	600	--	5
Acenaphthylene	970		ug/kg	790	--	5
Anthracene	2600		ug/kg	600	--	5
Benzo(ghi)perylene	11000		ug/kg	790	--	5
Fluorene	1600		ug/kg	990	--	5
Phenanthrene	7200		ug/kg	600	--	5
Dibenzo(a,h)anthracene	6100		ug/kg	600	--	5
Indeno(1,2,3-cd)pyrene	5200		ug/kg	790	--	5
Pyrene	11000		ug/kg	600	--	5
2-Methylnaphthalene	1400		ug/kg	1200	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	52		30-130
2-Fluorobiphenyl	59		30-130
4-Terphenyl-d14	49		30-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 09/05/19 12:43
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 09/04/19 20:01

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-03,05 Batch: WG1280299-1					
Acenaphthene	ND		ug/kg	130	--
Fluoranthene	ND		ug/kg	99	--
Naphthalene	ND		ug/kg	160	--
Benzo(a)anthracene	ND		ug/kg	99	--
Benzo(a)pyrene	ND		ug/kg	130	--
Benzo(b)fluoranthene	ND		ug/kg	99	--
Benzo(k)fluoranthene	ND		ug/kg	99	--
Chrysene	ND		ug/kg	99	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	99	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	99	--
Dibenzo(a,h)anthracene	ND		ug/kg	99	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	99	--
2-Methylnaphthalene	ND		ug/kg	200	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	69		30-130
2-Fluorobiphenyl	70		30-130
4-Terphenyl-d14	80		30-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 09/06/19 00:11
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 09/05/19 02:15

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 04 Batch: WG1280379-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	99	--
Bis(2-chloroethyl)ether	ND		ug/kg	150	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	160	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	160	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	99	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	200	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	130	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	160	--
Benzo(a)anthracene	ND		ug/kg	99	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 09/06/19 00:11
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 09/05/19 02:15

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 04 Batch: WG1280379-1					
Benzo(b)fluoranthene	ND		ug/kg	99	--
Benzo(k)fluoranthene	ND		ug/kg	99	--
Chrysene	ND		ug/kg	99	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	99	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	99	--
Dibenzo(a,h)anthracene	ND		ug/kg	99	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	99	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	200	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	99	--
2-Chlorophenol	ND		ug/kg	160	--
2,4-Dichlorophenol	ND		ug/kg	150	--
2,4-Dimethylphenol	ND		ug/kg	160	--
2-Nitrophenol	ND		ug/kg	360	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	790	--
Pentachlorophenol	ND		ug/kg	330	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 09/06/19 00:11
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 09/05/19 02:15

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 04 Batch: WG1280379-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	74		30-130
Phenol-d6	80		30-130
Nitrobenzene-d5	58		30-130
2-Fluorobiphenyl	53		30-130
2,4,6-Tribromophenol	70		30-130
4-Terphenyl-d14	60		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939114
Report Date: 09/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-03,05 Batch: WG1280299-2 WG1280299-3								
Acenaphthene	76		58		40-140	27		30
Fluoranthene	82		63		40-140	26		30
Naphthalene	68		56		40-140	19		30
Benzo(a)anthracene	76		59		40-140	25		30
Benzo(a)pyrene	77		59		40-140	26		30
Benzo(b)fluoranthene	84		62		40-140	30		30
Benzo(k)fluoranthene	78		64		40-140	20		30
Chrysene	77		60		40-140	25		30
Acenaphthylene	79		62		40-140	24		30
Anthracene	80		62		40-140	25		30
Benzo(ghi)perylene	77		59		40-140	26		30
Fluorene	80		62		40-140	25		30
Phenanthrene	76		58		40-140	27		30
Dibenzo(a,h)anthracene	77		60		40-140	25		30
Indeno(1,2,3-cd)pyrene	81		60		40-140	30		30
Pyrene	80		63		40-140	24		30
2-Methylnaphthalene	73		59		40-140	21		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST., S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939114

Report Date: 09/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-03,05 Batch: WG1280299-2 WG1280299-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	59		47		30-130
2-Fluorobiphenyl	61		50		30-130
4-Terphenyl-d14	66		50		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939114
Report Date: 09/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 04 Batch: WG1280379-2 WG1280379-3								
Acenaphthene	71		80		40-140	12		30
1,2,4-Trichlorobenzene	68		78		40-140	14		30
Hexachlorobenzene	69		79		40-140	14		30
Bis(2-chloroethyl)ether	71		77		40-140	8		30
2-Chloronaphthalene	74		83		40-140	11		30
1,2-Dichlorobenzene	66		73		40-140	10		30
1,3-Dichlorobenzene	68		73		40-140	7		30
1,4-Dichlorobenzene	66		71		40-140	7		30
3,3'-Dichlorobenzidine	56		64		40-140	13		30
2,4-Dinitrotoluene	84		96		40-140	13		30
2,6-Dinitrotoluene	86		96		40-140	11		30
Azobenzene	76		87		40-140	13		30
Fluoranthene	75		86		40-140	14		30
4-Bromophenyl phenyl ether	68		76		40-140	11		30
Bis(2-chloroisopropyl)ether	81		91		40-140	12		30
Bis(2-chloroethoxy)methane	66		77		40-140	15		30
Hexachlorobutadiene	69		78		40-140	12		30
Hexachloroethane	68		75		40-140	10		30
Isophorone	75		87		40-140	15		30
Naphthalene	70		79		40-140	12		30
Nitrobenzene	71		81		40-140	13		30
Bis(2-ethylhexyl)phthalate	87		101		40-140	15		30
Butyl benzyl phthalate	83		93		40-140	11		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

MCP Semivolatile Organics - Westborough Lab Associated sample(s): 04 Batch: WG1280379-2 WG1280379-3

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Di-n-butylphthalate	84		96		40-140	13		30
Di-n-octylphthalate	87		100		40-140	14		30
Diethyl phthalate	78		88		40-140	12		30
Dimethyl phthalate	79		90		40-140	13		30
Benzo(a)anthracene	75		86		40-140	14		30
Benzo(a)pyrene	76		87		40-140	13		30
Benzo(b)fluoranthene	75		85		40-140	13		30
Benzo(k)fluoranthene	80		92		40-140	14		30
Chrysene	73		84		40-140	14		30
Acenaphthylene	77		87		40-140	12		30
Anthracene	75		87		40-140	15		30
Benzo(ghi)perylene	75		86		40-140	14		30
Fluorene	74		84		40-140	13		30
Phenanthrene	70		82		40-140	16		30
Dibenzo(a,h)anthracene	75		85		40-140	13		30
Indeno(1,2,3-cd)pyrene	73		83		40-140	13		30
Pyrene	74		85		40-140	14		30
Aniline	63		65		40-140	3		30
4-Chloroaniline	58		66		40-140	13		30
Dibenzofuran	71		81		40-140	13		30
2-Methylnaphthalene	99		112		40-140	12		30
Acetophenone	74		86		40-140	15		30
2,4,6-Trichlorophenol	78		87		30-130	11		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 04 Batch: WG1280379-2 WG1280379-3								
2-Chlorophenol	78		85		30-130	9		30
2,4-Dichlorophenol	75		88		30-130	16		30
2,4-Dimethylphenol	72		84		30-130	15		30
2-Nitrophenol	76		87		30-130	13		30
4-Nitrophenol	76		86		30-130	12		30
2,4-Dinitrophenol	51		60		30-130	16		30
Pentachlorophenol	60		70		30-130	15		30
Phenol	79		88		30-130	11		30
2-Methylphenol	73		84		30-130	14		30
3-Methylphenol/4-Methylphenol	70		89		30-130	24		30
2,4,5-Trichlorophenol	79		90		30-130	13		30
Pyridine	45		48		30-130	6		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	75		88		30-130
Phenol-d6	85		94		30-130
Nitrobenzene-d5	58		66		30-130
2-Fluorobiphenyl	60		67		30-130
2,4,6-Tribromophenol	72		80		30-130
4-Terphenyl-d14	56		63		30-130

PETROLEUM HYDROCARBONS

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID:	L1939114-01	Date Collected:	08/28/19 08:20
Client ID:	TT-16 (0-2')	Date Received:	08/28/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	09/06/19 11:00
Analyst:	MKS
Percent Solids:	94%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1:1 +/- 25%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	5.15	--	1
C9-C12 Aliphatics	ND		mg/kg	5.15	--	1
C9-C10 Aromatics	ND		mg/kg	5.15	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	5.15	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	5.15	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	109		70-130
2,5-Dibromotoluene-FID	111		70-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID:	L1939114-01 D	Date Collected:	08/28/19 08:20
Client ID:	TT-16 (0-2')	Date Received:	08/28/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/05/19 09:41
Analytical Date:	09/10/19 13:12	Cleanup Method1:	EPH-04-1
Analyst:	LL	Cleanup Date1:	09/06/19
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	13.7	--	2
C19-C36 Aliphatics	251		mg/kg	13.7	--	2
C11-C22 Aromatics	400		mg/kg	13.7	--	2
C11-C22 Aromatics, Adjusted	254		mg/kg	13.7	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	67		40-140
o-Terphenyl	69		40-140
2-Fluorobiphenyl	78		40-140
2-Bromonaphthalene	77		40-140

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID:	L1939114-02	Date Collected:	08/28/19 09:30
Client ID:	TT-1 (0.5-2.5')	Date Received:	08/28/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	09/06/19 11:30
Analyst:	MKS
Percent Solids:	93%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1:1 +/- 25%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	5.15	--	1
C9-C12 Aliphatics	ND		mg/kg	5.15	--	1
C9-C10 Aromatics	ND		mg/kg	5.15	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	5.15	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	5.15	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	107		70-130
2,5-Dibromotoluene-FID	109		70-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID:	L1939114-02	Date Collected:	08/28/19 09:30
Client ID:	TT-1 (0.5-2.5')	Date Received:	08/28/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/05/19 09:41
Analytical Date:	09/07/19 22:15	Cleanup Method1:	EPH-04-1
Analyst:	LL	Cleanup Date1:	09/06/19
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	36.1		mg/kg	20.9	--	3
C19-C36 Aliphatics	330		mg/kg	20.9	--	3
C11-C22 Aromatics	323		mg/kg	20.9	--	3
C11-C22 Aromatics, Adjusted	290		mg/kg	20.9	--	3

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	64		40-140
o-Terphenyl	108		40-140
2-Fluorobiphenyl	86		40-140
2-Bromonaphthalene	84		40-140

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID:	L1939114-03	Date Collected:	08/28/19 10:00
Client ID:	TT-1 (2.5-4.5')	Date Received:	08/28/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	09/06/19 12:01
Analyst:	MKS
Percent Solids:	93%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1:1 +/- 25%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	5.67	--	1
C9-C12 Aliphatics	ND		mg/kg	5.67	--	1
C9-C10 Aromatics	ND		mg/kg	5.67	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	5.67	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	5.67	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	103		70-130
2,5-Dibromotoluene-FID	104		70-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID:	L1939114-03	Date Collected:	08/28/19 10:00
Client ID:	TT-1 (2.5-4.5')	Date Received:	08/28/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/05/19 09:41
Analytical Date:	09/07/19 23:01	Cleanup Method1:	EPH-04-1
Analyst:	LL	Cleanup Date1:	09/06/19
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	23.8		mg/kg	6.78	--	1
C19-C36 Aliphatics	221		mg/kg	6.78	--	1
C11-C22 Aromatics	222		mg/kg	6.78	--	1
C11-C22 Aromatics, Adjusted	199		mg/kg	6.78	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	45		40-140
o-Terphenyl	84		40-140
2-Fluorobiphenyl	89		40-140
2-Bromonaphthalene	85		40-140

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID:	L1939114-04	Date Collected:	08/28/19 11:45
Client ID:	TT-2 (0.75'-2.75')	Date Received:	08/28/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	09/06/19 12:31
Analyst:	MKS
Percent Solids:	92%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1:1 +/- 25%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	5.93	--	1
C9-C12 Aliphatics	ND		mg/kg	5.93	--	1
C9-C10 Aromatics	ND		mg/kg	5.93	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	5.93	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	5.93	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	98		70-130
2,5-Dibromotoluene-FID	101		70-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID:	L1939114-04	Date Collected:	08/28/19 11:45
Client ID:	TT-2 (0.75'-2.75')	Date Received:	08/28/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/05/19 09:41
Analytical Date:	09/07/19 23:47	Cleanup Method1:	EPH-04-1
Analyst:	LL	Cleanup Date1:	09/06/19
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	68.0		mg/kg	13.6	--	2
C19-C36 Aliphatics	529		mg/kg	13.6	--	2
C11-C22 Aromatics	534		mg/kg	13.6	--	2
C11-C22 Aromatics, Adjusted	521		mg/kg	13.6	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	52		40-140
o-Terphenyl	94		40-140
2-Fluorobiphenyl	90		40-140
2-Bromonaphthalene	89		40-140

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID:	L1939114-05	Date Collected:	08/28/19 12:00
Client ID:	TT-2 (2.75'-4.75')	Date Received:	08/28/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	09/06/19 13:02
Analyst:	MKS
Percent Solids:	83%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1:1 +/- 25%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	16.0		mg/kg	8.14	--	1
C9-C12 Aliphatics	55.2		mg/kg	8.14	--	1
C9-C10 Aromatics	32.9		mg/kg	8.14	--	1
C5-C8 Aliphatics, Adjusted	16.0		mg/kg	8.14	--	1
C9-C12 Aliphatics, Adjusted	21.7		mg/kg	8.14	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	79		70-130
2,5-Dibromotoluene-FID	76		70-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID:	L1939114-05 D	Date Collected:	08/28/19 12:00
Client ID:	TT-2 (2.75'-4.75')	Date Received:	08/28/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/05/19 09:41
Analytical Date:	09/10/19 12:33	Cleanup Method1:	EPH-04-1
Analyst:	LL	Cleanup Date1:	09/06/19
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	422		mg/kg	15.9	--	2
C19-C36 Aliphatics	2360		mg/kg	15.9	--	2
C11-C22 Aromatics	1060		mg/kg	15.9	--	2
C11-C22 Aromatics, Adjusted	983		mg/kg	15.9	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	97		40-140
o-Terphenyl	53		40-140
2-Fluorobiphenyl	80		40-140
2-Bromonaphthalene	69		40-140

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939114
Report Date: 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 09/06/19 07:02
Analyst: LL

Extraction Method: EPA 3546
Extraction Date: 09/05/19 09:41
Cleanup Method: EPH-04-1
Cleanup Date: 09/05/19

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-05 Batch: WG1280544-1					
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	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	51		40-140
o-Terphenyl	60		40-140
2-Fluorobiphenyl	80		40-140
2-Bromonaphthalene	80		40-140

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 131,VPH-18-2.1
Analytical Date: 09/06/19 09:39
Analyst: BAD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-05 Batch: WG1281524-4					
C5-C8 Aliphatics	ND		mg/kg	5.00	--
C9-C12 Aliphatics	ND		mg/kg	5.00	--
C9-C10 Aromatics	ND		mg/kg	5.00	--
C5-C8 Aliphatics, Adjusted	ND		mg/kg	5.00	--
C9-C12 Aliphatics, Adjusted	ND		mg/kg	5.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	104		70-130
2,5-Dibromotoluene-FID	106		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-05 Batch: WG1280544-2 WG1280544-3								
C9-C18 Aliphatics	54		51		40-140	6		25
C19-C36 Aliphatics	63		64		40-140	2		25
C11-C22 Aromatics	56		70		40-140	22		25
Naphthalene	48		57		40-140	17		25
2-Methylnaphthalene	48		57		40-140	17		25
Acenaphthylene	50		60		40-140	18		25
Acenaphthene	53		64		40-140	19		25
Fluorene	53		64		40-140	19		25
Phenanthrene	54		67		40-140	21		25
Anthracene	54		68		40-140	23		25
Fluoranthene	54		69		40-140	24		25
Pyrene	56		71		40-140	24		25
Benzo(a)anthracene	55		70		40-140	24		25
Chrysene	56		72		40-140	25		25
Benzo(b)fluoranthene	54		70		40-140	**26**	Q	25
Benzo(k)fluoranthene	54		69		40-140	24		25
Benzo(a)pyrene	52		67		40-140	25		25
Indeno(1,2,3-cd)Pyrene	50		64		40-140	25		25
Dibenzo(a,h)anthracene	51		66		40-140	**26**	Q	25
Benzo(ghi)perylene	48		62		40-140	25		25
Nonane (C9)	44		39		30-140	12		25
Decane (C10)	48		45		40-140	6		25
Dodecane (C12)	50		46		40-140	8		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-05 Batch: WG1280544-2 WG1280544-3								
Tetradecane (C14)	51		48		40-140	6		25
Hexadecane (C16)	52		51		40-140	2		25
Octadecane (C18)	56		55		40-140	2		25
Nonadecane (C19)	56		56		40-140	0		25
Eicosane (C20)	57		57		40-140	0		25
Docosane (C22)	59		60		40-140	2		25
Tetracosane (C24)	58		59		40-140	2		25
Hexacosane (C26)	59		59		40-140	0		25
Octacosane (C28)	60		60		40-140	0		25
Triacontane (C30)	61		61		40-140	0		25
Hexatriacontane (C36)	63		62		40-140	2		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	55		54		40-140
o-Terphenyl	54		66		40-140
2-Fluorobiphenyl	67		91		40-140
2-Bromonaphthalene	67		91		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-05 Batch: WG1281524-2 WG1281524-3								
C5-C8 Aliphatics	99		98		70-130	0		25
C9-C12 Aliphatics	100		100		70-130	0		25
C9-C10 Aromatics	97		96		70-130	0		25
Benzene	100		100		70-130	0		25
Toluene	101		100		70-130	1		25
Ethylbenzene	102		101		70-130	1		25
p/m-Xylene	102		102		70-130	0		25
o-Xylene	97		97		70-130	0		25
Methyl tert butyl ether	104		103		70-130	1		25
Naphthalene	106		104		70-130	2		25
1,2,4-Trimethylbenzene	97		96		70-130	1		25
Pentane	95		94		70-130	1		25
2-Methylpentane	102		102		70-130	0		25
2,2,4-Trimethylpentane	99		99		70-130	0		25
n-Nonane	102		102		30-130	0		25
n-Decane	96		96		70-130	0		25
n-Butylcyclohexane	103		103		70-130	0		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	102		100		70-130
2,5-Dibromotoluene-FID	103		102		70-130

PCBS

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-01
Client ID: TT-16 (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/28/19 08:20
Date Received: 08/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/07/19 05:48
Analyst: JM
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 09/05/19 00:49
Cleanup Method: EPA 3665A
Cleanup Date: 09/05/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/05/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	34.5	--	1	A
Aroclor 1221	ND		ug/kg	34.5	--	1	A
Aroclor 1232	ND		ug/kg	34.5	--	1	A
Aroclor 1242	ND		ug/kg	34.5	--	1	A
Aroclor 1248	ND		ug/kg	34.5	--	1	A
Aroclor 1254	ND		ug/kg	34.5	--	1	A
Aroclor 1260	ND		ug/kg	34.5	--	1	A
Aroclor 1262	251		ug/kg	34.5	--	1	B
Aroclor 1268	ND		ug/kg	34.5	--	1	A
PCBs, Total	251		ug/kg	34.5	--	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	57		30-150	A
Decachlorobiphenyl	84		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-02
Client ID: TT-1 (0.5-2.5')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/28/19 09:30
Date Received: 08/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/07/19 01:56
Analyst: JM
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 09/05/19 00:49
Cleanup Method: EPA 3665A
Cleanup Date: 09/05/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/05/19

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	B
Aroclor 1260	ND		ug/kg	34.0	--	1	B
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	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	49		30-150	B
Decachlorobiphenyl	75		30-150	B
2,4,5,6-Tetrachloro-m-xylene	48		30-150	A
Decachlorobiphenyl	68		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-03
Client ID: TT-1 (2.5-4.5')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/28/19 10:00
Date Received: 08/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/07/19 02:08
Analyst: JM
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 09/05/19 00:49
Cleanup Method: EPA 3665A
Cleanup Date: 09/05/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/05/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	34.5	--	1	A
Aroclor 1221	ND		ug/kg	34.5	--	1	A
Aroclor 1232	ND		ug/kg	34.5	--	1	A
Aroclor 1242	ND		ug/kg	34.5	--	1	A
Aroclor 1248	ND		ug/kg	34.5	--	1	A
Aroclor 1254	ND		ug/kg	34.5	--	1	B
Aroclor 1260	ND		ug/kg	34.5	--	1	B
Aroclor 1262	ND		ug/kg	34.5	--	1	A
Aroclor 1268	ND		ug/kg	34.5	--	1	A
PCBs, Total	ND		ug/kg	34.5	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	45		30-150	B
Decachlorobiphenyl	75		30-150	B
2,4,5,6-Tetrachloro-m-xylene	45		30-150	A
Decachlorobiphenyl	65		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-04
Client ID: TT-2 (0.75'-2.75')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/28/19 11:45
Date Received: 08/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/07/19 02:20
Analyst: JM
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 09/05/19 00:49
Cleanup Method: EPA 3665A
Cleanup Date: 09/05/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/05/19

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	B
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	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	44		30-150	B
Decachlorobiphenyl	66		30-150	B
2,4,5,6-Tetrachloro-m-xylene	43		30-150	A
Decachlorobiphenyl	63		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-05
Client ID: TT-2 (2.75'-4.75')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/28/19 12:00
Date Received: 08/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/07/19 02:32
Analyst: JM
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 09/05/19 00:49
Cleanup Method: EPA 3665A
Cleanup Date: 09/05/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/05/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	39.1	--	1	A
Aroclor 1221	ND		ug/kg	39.1	--	1	A
Aroclor 1232	ND		ug/kg	39.1	--	1	A
Aroclor 1242	ND		ug/kg	39.1	--	1	A
Aroclor 1248	ND		ug/kg	39.1	--	1	A
Aroclor 1254	ND		ug/kg	39.1	--	1	A
Aroclor 1260	ND		ug/kg	39.1	--	1	B
Aroclor 1262	ND		ug/kg	39.1	--	1	A
Aroclor 1268	ND		ug/kg	39.1	--	1	A
PCBs, Total	ND		ug/kg	39.1	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	41		30-150	B
Decachlorobiphenyl	65		30-150	B
2,4,5,6-Tetrachloro-m-xylene	41		30-150	A
Decachlorobiphenyl	66		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939114
Report Date: 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 09/07/19 04:47
Analyst: JM

Extraction Method: EPA 3546
Extraction Date: 09/05/19 00:49
Cleanup Method: EPA 3665A
Cleanup Date: 09/05/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/05/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01-05 Batch: WG1280363-1						
Aroclor 1016	ND		ug/kg	32.0	--	A
Aroclor 1221	ND		ug/kg	32.0	--	A
Aroclor 1232	ND		ug/kg	32.0	--	A
Aroclor 1242	ND		ug/kg	32.0	--	A
Aroclor 1248	ND		ug/kg	32.0	--	A
Aroclor 1254	ND		ug/kg	32.0	--	A
Aroclor 1260	ND		ug/kg	32.0	--	A
Aroclor 1262	ND		ug/kg	32.0	--	A
Aroclor 1268	ND		ug/kg	32.0	--	A
PCBs, Total	ND		ug/kg	32.0	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	71		30-150	B
Decachlorobiphenyl	84		30-150	B
2,4,5,6-Tetrachloro-m-xylene	69		30-150	A
Decachlorobiphenyl	77		30-150	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01-05 Batch: WG1280363-2 WG1280363-3									
Aroclor 1016	71		48		40-140	**39**	Q	30	A
Aroclor 1260	65		44		40-140	**39**	Q	30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	70		45		30-150	B
Decachlorobiphenyl	83		55		30-150	B
2,4,5,6-Tetrachloro-m-xylene	67		46		30-150	A
Decachlorobiphenyl	76		53		30-150	A

PESTICIDES

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-04
Client ID: TT-2 (0.75'-2.75')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/28/19 11:45
Date Received: 08/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8081B
Analytical Date: 09/07/19 15:40
Analyst: BM
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 09/05/19 04:50
Cleanup Method: EPA 3620B
Cleanup Date: 09/06/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Organochlorine Pesticides - Westborough Lab							
Delta-BHC	ND		ug/kg	1.70	--	1	A
Lindane	ND		ug/kg	0.567	--	1	A
Alpha-BHC	ND		ug/kg	0.709	--	1	A
Beta-BHC	ND		ug/kg	1.70	--	1	A
Heptachlor	ND		ug/kg	0.851	--	1	A
Aldrin	ND		ug/kg	1.70	--	1	A
Heptachlor epoxide	ND		ug/kg	3.19	--	1	A
Endrin	ND		ug/kg	0.709	--	1	A
Endrin ketone	ND		ug/kg	1.70	--	1	A
Dieldrin	ND		ug/kg	1.06	--	1	A
4,4'-DDE	ND		ug/kg	1.70	--	1	B
4,4'-DDD	ND		ug/kg	1.70	--	1	A
4,4'-DDT	ND		ug/kg	3.19	--	1	A
Endosulfan I	ND		ug/kg	1.70	--	1	A
Endosulfan II	ND		ug/kg	1.70	--	1	A
Endosulfan sulfate	ND		ug/kg	0.709	--	1	A
Methoxychlor	ND		ug/kg	3.19	--	1	A
Chlordane	ND		ug/kg	13.8	--	1	A
Hexachlorobenzene	ND		ug/kg	1.70	--	1	A
Toxaphene	ND		ug/kg	31.9	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	64		30-150	B
Decachlorobiphenyl	146		30-150	B
2,4,5,6-Tetrachloro-m-xylene	68		30-150	A
Decachlorobiphenyl	61		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-04
Client ID: TT-2 (0.75'-2.75')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/28/19 11:45
Date Received: 08/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8151A
Analytical Date: 09/07/19 13:01
Analyst: BM
Percent Solids: 92%
Methylation Date: 09/06/19 22:59

Extraction Method: EPA 8151A
Extraction Date: 09/05/19 16:16

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	54		30-150	A
DCAA	48		30-150	B

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939114
Report Date: 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8081B
Analytical Date: 09/05/19 16:30
Analyst: AMC

Extraction Method: EPA 3546
Extraction Date: 09/04/19 10:53
Cleanup Method: EPA 3620B
Cleanup Date: 09/05/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Organochlorine Pesticides - Westborough Lab for sample(s): 04 Batch: WG1280078-1						
Delta-BHC	ND		ug/kg	1.55	--	A
Lindane	ND		ug/kg	0.517	--	A
Alpha-BHC	ND		ug/kg	0.647	--	A
Beta-BHC	ND		ug/kg	1.55	--	A
Heptachlor	ND		ug/kg	0.776	--	A
Aldrin	ND		ug/kg	1.55	--	A
Heptachlor epoxide	ND		ug/kg	2.91	--	A
Endrin	ND		ug/kg	0.647	--	A
Endrin ketone	ND		ug/kg	1.55	--	A
Dieldrin	ND		ug/kg	0.970	--	A
4,4'-DDE	ND		ug/kg	1.55	--	A
4,4'-DDD	ND		ug/kg	1.55	--	A
4,4'-DDT	ND		ug/kg	2.91	--	A
Endosulfan I	ND		ug/kg	1.55	--	A
Endosulfan II	ND		ug/kg	1.55	--	A
Endosulfan sulfate	ND		ug/kg	0.647	--	A
Methoxychlor	ND		ug/kg	2.91	--	A
Chlordane	ND		ug/kg	12.6	--	A
Hexachlorobenzene	ND		ug/kg	1.55	--	A
Toxaphene	ND		ug/kg	29.1	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	99		30-150	B
Decachlorobiphenyl	85		30-150	B
2,4,5,6-Tetrachloro-m-xylene	93		30-150	A
Decachlorobiphenyl	70		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8151A
Analytical Date: 09/07/19 11:27
Analyst: BM

Extraction Method: EPA 8151A
Extraction Date: 09/05/19 16:16

Methylation Date: 09/06/19 22:54

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Chlorinated Herbicides - Westborough Lab for sample(s): 04 Batch: WG1280739-1						
MCPP	ND		ug/kg	3300	--	A
Dalapon	ND		ug/kg	33	--	A
Dicamba	ND		ug/kg	33	--	A
2,4-D	ND		ug/kg	33	--	A
2,4-DB	ND		ug/kg	33	--	A
2,4,5-T	ND		ug/kg	33	--	A
2,4,5-TP (Silvex)	ND		ug/kg	33	--	A
MCPA	ND		ug/kg	3300	--	B
Dichloroprop	ND		ug/kg	33	--	B

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	77		30-150	A
DCAA	73		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 04 Batch: WG1280078-2 WG1280078-3									
Delta-BHC	85		103		40-140	19		30	A
Lindane	86		98		40-140	13		30	A
Alpha-BHC	92		105		40-140	13		30	A
Beta-BHC	83		95		40-140	13		30	A
Heptachlor	91		102		40-140	11		30	A
Aldrin	86		97		40-140	12		30	A
Heptachlor epoxide	82		97		40-140	17		30	A
Endrin	96		108		40-140	12		30	A
Endrin ketone	86		101		40-140	16		30	A
Dieldrin	98		109		40-140	11		30	A
4,4'-DDE	91		102		40-140	11		30	A
4,4'-DDD	98		110		40-140	12		30	A
4,4'-DDT	96		109		40-140	13		30	A
Endosulfan I	84		94		40-140	11		30	A
Endosulfan II	93		105		40-140	12		30	A
Endosulfan sulfate	82		98		40-140	18		30	A
Methoxychlor	84		97		40-140	14		30	A
Hexachlorobenzene	74		83		40-140	11		30	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST., S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939114

Report Date: 09/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 04 Batch: WG1280078-2 WG1280078-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	89		101		30-150	B
Decachlorobiphenyl	74		82		30-150	B
2,4,5,6-Tetrachloro-m-xylene	84		94		30-150	A
Decachlorobiphenyl	70		65		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST., S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939114

Report Date: 09/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Chlorinated Herbicides - Westborough Lab Associated sample(s): 04 Batch: WG1280739-2 WG1280739-3									
MCPP	93		98		40-140	5		30	A
Dalapon	75		79		40-140	5		30	A
Dicamba	82		87		40-140	6		30	A
2,4-D	89		95		40-140	7		30	A
2,4-DB	70		74		40-140	6		30	A
2,4,5-T	86		94		40-140	9		30	A
2,4,5-TP (Silvex)	86		93		40-140	8		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	77		81		30-150	A
DCAA	78		83		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST., S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939114

Report Date: 09/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Chlorinated Herbicides - Westborough Lab Associated sample(s): 04 Batch: WG1280739-2 WG1280739-3									
MCPA	75		81		40-140	8		30	B
Dichloroprop	92		100		40-140	8		30	B

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	77		81		30-150	A
DCAA	78		83		30-150	B

METALS

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-01
Client ID: TT-16 (0-2')
Sample Location: CYPHER ST., S. BOSTON
Date Collected: 08/28/19 08:20
Date Received: 08/28/19
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											
Antimony, Total	2.99		mg/kg	2.12	--	1	09/06/19 00:30	09/06/19 21:33	EPA 3050B	97,6010D	AB
Arsenic, Total	6.72		mg/kg	0.424	--	1	09/06/19 00:30	09/06/19 21:33	EPA 3050B	97,6010D	AB
Barium, Total	39.7		mg/kg	0.424	--	1	09/06/19 00:30	09/06/19 21:33	EPA 3050B	97,6010D	AB
Beryllium, Total	0.246		mg/kg	0.212	--	1	09/06/19 00:30	09/06/19 21:33	EPA 3050B	97,6010D	AB
Cadmium, Total	1.16		mg/kg	0.424	--	1	09/06/19 00:30	09/06/19 21:33	EPA 3050B	97,6010D	AB
Chromium, Total	20.2		mg/kg	0.424	--	1	09/06/19 00:30	09/06/19 21:33	EPA 3050B	97,6010D	AB
Lead, Total	123		mg/kg	2.12	--	1	09/06/19 00:30	09/06/19 21:33	EPA 3050B	97,6010D	AB
Mercury, Total	0.191		mg/kg	0.079	--	1	09/06/19 06:00	09/06/19 22:23	EPA 7471B	97,7471B	AL
Nickel, Total	22.9		mg/kg	1.06	--	1	09/06/19 00:30	09/06/19 21:33	EPA 3050B	97,6010D	AB
Selenium, Total	ND		mg/kg	2.12	--	1	09/06/19 00:30	09/06/19 21:33	EPA 3050B	97,6010D	AB
Silver, Total	ND		mg/kg	0.424	--	1	09/06/19 00:30	09/06/19 21:33	EPA 3050B	97,6010D	AB
Thallium, Total	ND		mg/kg	2.12	--	1	09/06/19 00:30	09/06/19 21:33	EPA 3050B	97,6010D	AB
Vanadium, Total	27.4		mg/kg	0.424	--	1	09/06/19 00:30	09/06/19 21:33	EPA 3050B	97,6010D	AB
Zinc, Total	97.2		mg/kg	2.12	--	1	09/06/19 00:30	09/06/19 21:33	EPA 3050B	97,6010D	AB

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-02
Client ID: TT-1 (0.5-2.5')
Sample Location: CYPHER ST., S. BOSTON
Date Collected: 08/28/19 09:30
Date Received: 08/28/19
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											
Antimony, Total	ND		mg/kg	2.05	--	1	09/06/19 00:30	09/06/19 21:37	EPA 3050B	97,6010D	AB
Arsenic, Total	3.82		mg/kg	0.410	--	1	09/06/19 00:30	09/06/19 21:37	EPA 3050B	97,6010D	AB
Barium, Total	31.6		mg/kg	0.410	--	1	09/06/19 00:30	09/06/19 21:37	EPA 3050B	97,6010D	AB
Beryllium, Total	0.279		mg/kg	0.205	--	1	09/06/19 00:30	09/06/19 21:37	EPA 3050B	97,6010D	AB
Cadmium, Total	0.504		mg/kg	0.410	--	1	09/06/19 00:30	09/06/19 21:37	EPA 3050B	97,6010D	AB
Chromium, Total	11.1		mg/kg	0.410	--	1	09/06/19 00:30	09/06/19 21:37	EPA 3050B	97,6010D	AB
Lead, Total	30.2		mg/kg	2.05	--	1	09/06/19 00:30	09/06/19 21:37	EPA 3050B	97,6010D	AB
Mercury, Total	0.118		mg/kg	0.080	--	1	09/06/19 06:00	09/06/19 22:27	EPA 7471B	97,7471B	AL
Nickel, Total	7.63		mg/kg	1.02	--	1	09/06/19 00:30	09/06/19 21:37	EPA 3050B	97,6010D	AB
Selenium, Total	ND		mg/kg	2.05	--	1	09/06/19 00:30	09/06/19 21:37	EPA 3050B	97,6010D	AB
Silver, Total	ND		mg/kg	0.410	--	1	09/06/19 00:30	09/06/19 21:37	EPA 3050B	97,6010D	AB
Thallium, Total	ND		mg/kg	2.05	--	1	09/06/19 00:30	09/06/19 21:37	EPA 3050B	97,6010D	AB
Vanadium, Total	16.5		mg/kg	0.410	--	1	09/06/19 00:30	09/06/19 21:37	EPA 3050B	97,6010D	AB
Zinc, Total	65.0		mg/kg	2.05	--	1	09/06/19 00:30	09/06/19 21:37	EPA 3050B	97,6010D	AB

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-03
Client ID: TT-1 (2.5-4.5')
Sample Location: CYPHER ST., S. BOSTON
Date Collected: 08/28/19 10:00
Date Received: 08/28/19
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											
Antimony, Total	ND		mg/kg	2.13	--	1	09/06/19 00:30	09/06/19 21:59	EPA 3050B	97,6010D	AB
Arsenic, Total	3.30		mg/kg	0.425	--	1	09/06/19 00:30	09/06/19 21:59	EPA 3050B	97,6010D	AB
Barium, Total	27.6		mg/kg	0.425	--	1	09/06/19 00:30	09/06/19 21:59	EPA 3050B	97,6010D	AB
Beryllium, Total	0.217		mg/kg	0.213	--	1	09/06/19 00:30	09/06/19 21:59	EPA 3050B	97,6010D	AB
Cadmium, Total	0.527		mg/kg	0.425	--	1	09/06/19 00:30	09/06/19 21:59	EPA 3050B	97,6010D	AB
Chromium, Total	8.92		mg/kg	0.425	--	1	09/06/19 00:30	09/06/19 21:59	EPA 3050B	97,6010D	AB
Lead, Total	33.0		mg/kg	2.13	--	1	09/06/19 00:30	09/06/19 21:59	EPA 3050B	97,6010D	AB
Mercury, Total	ND		mg/kg	0.082	--	1	09/06/19 06:00	09/06/19 22:30	EPA 7471B	97,7471B	AL
Nickel, Total	6.41		mg/kg	1.06	--	1	09/06/19 00:30	09/06/19 21:59	EPA 3050B	97,6010D	AB
Selenium, Total	ND		mg/kg	2.13	--	1	09/06/19 00:30	09/06/19 21:59	EPA 3050B	97,6010D	AB
Silver, Total	ND		mg/kg	0.425	--	1	09/06/19 00:30	09/06/19 21:59	EPA 3050B	97,6010D	AB
Thallium, Total	ND		mg/kg	2.13	--	1	09/06/19 00:30	09/06/19 21:59	EPA 3050B	97,6010D	AB
Vanadium, Total	16.4		mg/kg	0.425	--	1	09/06/19 00:30	09/06/19 21:59	EPA 3050B	97,6010D	AB
Zinc, Total	53.3		mg/kg	2.13	--	1	09/06/19 00:30	09/06/19 21:59	EPA 3050B	97,6010D	AB

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-04
Client ID: TT-2 (0.75'-2.75')
Sample Location: CYPHER ST., S. BOSTON
Date Collected: 08/28/19 11:45
Date Received: 08/28/19
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											
Antimony, Total	ND		mg/kg	2.15	--	1	09/06/19 00:30	09/06/19 22:03	EPA 3050B	97,6010D	AB
Arsenic, Total	2.82		mg/kg	0.431	--	1	09/06/19 00:30	09/06/19 22:03	EPA 3050B	97,6010D	AB
Barium, Total	30.0		mg/kg	0.431	--	1	09/06/19 00:30	09/06/19 22:03	EPA 3050B	97,6010D	AB
Beryllium, Total	0.267		mg/kg	0.215	--	1	09/06/19 00:30	09/06/19 22:03	EPA 3050B	97,6010D	AB
Cadmium, Total	0.521		mg/kg	0.431	--	1	09/06/19 00:30	09/06/19 22:03	EPA 3050B	97,6010D	AB
Chromium, Total	9.19		mg/kg	0.431	--	1	09/06/19 00:30	09/06/19 22:03	EPA 3050B	97,6010D	AB
Lead, Total	41.9		mg/kg	2.15	--	1	09/06/19 00:30	09/06/19 22:03	EPA 3050B	97,6010D	AB
Mercury, Total	0.197		mg/kg	0.084	--	1	09/06/19 06:00	09/06/19 22:33	EPA 7471B	97,7471B	AL
Nickel, Total	7.56		mg/kg	1.08	--	1	09/06/19 00:30	09/06/19 22:03	EPA 3050B	97,6010D	AB
Selenium, Total	ND		mg/kg	2.15	--	1	09/06/19 00:30	09/06/19 22:03	EPA 3050B	97,6010D	AB
Silver, Total	ND		mg/kg	0.431	--	1	09/06/19 00:30	09/06/19 22:03	EPA 3050B	97,6010D	AB
Thallium, Total	ND		mg/kg	2.15	--	1	09/06/19 00:30	09/06/19 22:03	EPA 3050B	97,6010D	AB
Vanadium, Total	16.2		mg/kg	0.431	--	1	09/06/19 00:30	09/06/19 22:03	EPA 3050B	97,6010D	AB
Zinc, Total	61.5		mg/kg	2.15	--	1	09/06/19 00:30	09/06/19 22:03	EPA 3050B	97,6010D	AB

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-05
Client ID: TT-2 (2.75'-4.75')
Sample Location: CYPHER ST., S. BOSTON
Date Collected: 08/28/19 12:00
Date Received: 08/28/19
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											
Antimony, Total	4.89		mg/kg	2.34	--	1	09/06/19 00:30	09/06/19 22:07	EPA 3050B	97,6010D	AB
Arsenic, Total	8.48		mg/kg	0.468	--	1	09/06/19 00:30	09/06/19 22:07	EPA 3050B	97,6010D	AB
Barium, Total	66.3		mg/kg	0.468	--	1	09/06/19 00:30	09/06/19 22:07	EPA 3050B	97,6010D	AB
Beryllium, Total	0.314		mg/kg	0.234	--	1	09/06/19 00:30	09/06/19 22:07	EPA 3050B	97,6010D	AB
Cadmium, Total	1.42		mg/kg	0.468	--	1	09/06/19 00:30	09/06/19 22:07	EPA 3050B	97,6010D	AB
Chromium, Total	10.6		mg/kg	0.468	--	1	09/06/19 00:30	09/06/19 22:07	EPA 3050B	97,6010D	AB
Lead, Total	196		mg/kg	2.34	--	1	09/06/19 00:30	09/06/19 22:07	EPA 3050B	97,6010D	AB
Mercury, Total	1.26		mg/kg	0.090	--	1	09/06/19 06:00	09/06/19 22:41	EPA 7471B	97,7471B	AL
Nickel, Total	13.0		mg/kg	1.17	--	1	09/06/19 00:30	09/06/19 22:07	EPA 3050B	97,6010D	AB
Selenium, Total	ND		mg/kg	2.34	--	1	09/06/19 00:30	09/06/19 22:07	EPA 3050B	97,6010D	AB
Silver, Total	ND		mg/kg	0.468	--	1	09/06/19 00:30	09/06/19 22:07	EPA 3050B	97,6010D	AB
Thallium, Total	ND		mg/kg	2.34	--	1	09/06/19 00:30	09/06/19 22:07	EPA 3050B	97,6010D	AB
Vanadium, Total	19.4		mg/kg	0.468	--	1	09/06/19 00:30	09/06/19 22:07	EPA 3050B	97,6010D	AB
Zinc, Total	261		mg/kg	2.34	--	1	09/06/19 00:30	09/06/19 22:07	EPA 3050B	97,6010D	AB

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939114

Project Number: 143-278997-19001 **Report Date:** 09/16/19

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): 01-05 Batch: WG1280806-1										
Antimony, Total	ND		mg/kg	2.00	--	1	09/06/19 00:30	09/06/19 19:00	97,6010D	AB
Arsenic, Total	ND		mg/kg	0.400	--	1	09/06/19 00:30	09/06/19 19:00	97,6010D	AB
Barium, Total	ND		mg/kg	0.400	--	1	09/06/19 00:30	09/06/19 19:00	97,6010D	AB
Beryllium, Total	ND		mg/kg	0.200	--	1	09/06/19 00:30	09/06/19 19:00	97,6010D	AB
Cadmium, Total	ND		mg/kg	0.400	--	1	09/06/19 00:30	09/06/19 19:00	97,6010D	AB
Chromium, Total	ND		mg/kg	0.400	--	1	09/06/19 00:30	09/06/19 19:00	97,6010D	AB
Lead, Total	ND		mg/kg	2.00	--	1	09/06/19 00:30	09/06/19 19:00	97,6010D	AB
Nickel, Total	ND		mg/kg	1.00	--	1	09/06/19 00:30	09/06/19 19:00	97,6010D	AB
Selenium, Total	ND		mg/kg	2.00	--	1	09/06/19 00:30	09/06/19 19:00	97,6010D	AB
Silver, Total	ND		mg/kg	0.400	--	1	09/06/19 00:30	09/06/19 19:00	97,6010D	AB
Thallium, Total	ND		mg/kg	2.00	--	1	09/06/19 00:30	09/06/19 19:00	97,6010D	AB
Vanadium, Total	ND		mg/kg	0.400	--	1	09/06/19 00:30	09/06/19 19:00	97,6010D	AB
Zinc, Total	ND		mg/kg	2.00	--	1	09/06/19 00:30	09/06/19 19:00	97,6010D	AB

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): 01-05 Batch: WG1280948-1										
Mercury, Total	ND		mg/kg	0.083	--	1	09/06/19 06:00	09/06/19 11:35	97,7471B	GD

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939114
Report Date: 09/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01-05 Batch: WG1280806-2 WG1280806-3 SRM Lot Number: D105-540								
Antimony, Total	146		156		19-249	7		30
Arsenic, Total	94		103		70-130	9		30
Barium, Total	81		91		75-125	12		30
Beryllium, Total	89		95		75-125	7		30
Cadmium, Total	87		93		75-125	7		30
Chromium, Total	82		92		70-130	11		30
Lead, Total	84		92		71-128	9		30
Nickel, Total	88		92		70-131	4		30
Selenium, Total	94		100		63-137	6		30
Silver, Total	84		97		69-131	14		30
Thallium, Total	85		92		68-132	8		30
Vanadium, Total	83		93		65-135	11		30
Zinc, Total	88		94		70-130	7		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01-05 Batch: WG1280948-2 WG1280948-3 SRM Lot Number: D105-540								
Mercury, Total	89		89		60-141	0		30

INORGANICS
&
MISCELLANEOUS

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939114
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-01
Client ID: TT-16 (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/28/19 08:20
Date Received: 08/28/19
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	93.7		%	0.100	NA	1	-	08/29/19 02:25	121,2540G	YA

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939114
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-02
Client ID: TT-1 (0.5-2.5')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/28/19 09:30
Date Received: 08/28/19
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	92.7		%	0.100	NA	1	-	08/29/19 02:25	121,2540G	YA

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939114
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-03
Client ID: TT-1 (2.5-4.5')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/28/19 10:00
Date Received: 08/28/19
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	92.7		%	0.100	NA	1	-	08/29/19 02:25	121,2540G	YA

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939114
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-04
Client ID: TT-2 (0.75'-2.75')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/28/19 11:45
Date Received: 08/28/19
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	92.2		%	0.100	NA	1	-	08/29/19 02:25	121,2540G	YA

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939114
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1939114-05
Client ID: TT-2 (2.75'-4.75')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/28/19 12:00
Date Received: 08/28/19
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	83.1		%	0.100	NA	1	-	08/29/19 02:25	121,2540G	YA

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939114
Report Date: 09/16/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1939114-01A	Vial MeOH preserved	A	NA		2.8	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1939114-01B	Vial MeOH preserved	A	NA		2.8	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1939114-01C	Vial water preserved	A	NA		2.8	Y	Absent	28-AUG-19 22:00	MCP-8260HLW-10(14)
L1939114-01D	Vial water preserved	A	NA		2.8	Y	Absent	28-AUG-19 22:00	MCP-8260HLW-10(14)
L1939114-01E	Plastic 2oz unpreserved for TS	A	NA		2.8	Y	Absent		TS(7)
L1939114-01F	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.8	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1939114-01G	Glass 500ml/16oz unpreserved	A	NA		2.8	Y	Absent		EPH-10(14),MCP-8082-10(365),MCP-PAH-10(14)
L1939114-02A	Vial MeOH preserved	A	NA		2.8	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1939114-02B	Vial MeOH preserved	A	NA		2.8	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1939114-02C	Vial water preserved	A	NA		2.8	Y	Absent	28-AUG-19 22:00	MCP-8260HLW-10(14)
L1939114-02D	Vial water preserved	A	NA		2.8	Y	Absent	28-AUG-19 22:00	MCP-8260HLW-10(14)
L1939114-02E	Plastic 2oz unpreserved for TS	A	NA		2.8	Y	Absent		TS(7)
L1939114-02F	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.8	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1939114-02G	Glass 500ml/16oz unpreserved	A	NA		2.8	Y	Absent		EPH-10(14),MCP-8082-10(365),MCP-PAH-10(14)
L1939114-03A	Vial MeOH preserved	A	NA		2.8	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)

*Values in parentheses indicate holding time in days

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939114
Report Date: 09/16/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1939114-03B	Vial MeOH preserved	A	NA		2.8	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1939114-03C	Vial water preserved	A	NA		2.8	Y	Absent	28-AUG-19 22:00	MCP-8260HLW-10(14)
L1939114-03D	Vial water preserved	A	NA		2.8	Y	Absent	28-AUG-19 22:00	MCP-8260HLW-10(14)
L1939114-03E	Plastic 2oz unpreserved for TS	A	NA		2.8	Y	Absent		TS(7)
L1939114-03F	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.8	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1939114-03G	Glass 500ml/16oz unpreserved	A	NA		2.8	Y	Absent		EPH-10(14),MCP-8082-10(365),MCP-PAH-10(14)
L1939114-04A	Vial MeOH preserved	A	NA		2.8	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1939114-04B	Vial MeOH preserved	A	NA		2.8	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1939114-04C	Vial water preserved	A	NA		2.8	Y	Absent	28-AUG-19 22:00	MCP-8260HLW-10(14)
L1939114-04D	Vial water preserved	A	NA		2.8	Y	Absent	28-AUG-19 22:00	MCP-8260HLW-10(14)
L1939114-04E	Plastic 2oz unpreserved for TS	A	NA		2.8	Y	Absent		TS(7)
L1939114-04F	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.8	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1939114-04G	Glass 500ml/16oz unpreserved	A	NA		2.8	Y	Absent		EPH-10(14),MCP-8082-10(365),MCP-8081-10(14),MCP-8151-10(14),MCP-8270-10(14)
L1939114-05A	Vial MeOH preserved	A	NA		2.8	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1939114-05B	Vial MeOH preserved	A	NA		2.8	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1939114-05C	Vial water preserved	A	NA		2.8	Y	Absent	28-AUG-19 22:00	MCP-8260HLW-10(14)
L1939114-05D	Vial water preserved	A	NA		2.8	Y	Absent	28-AUG-19 22:00	MCP-8260HLW-10(14)
L1939114-05E	Plastic 2oz unpreserved for TS	A	NA		2.8	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939114
Report Date: 09/16/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1939114-05F	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.8	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1939114-05G	Glass 500ml/16oz unpreserved	A	NA		2.8	Y	Absent		EPH-10(14),MCP-8082-10(365),MCP-PAH-10(14)

*Values in parentheses indicate holding time in days

Project Name:	CYPHER ST., S. BOSTON	**Lab Number:**	L1939114
Project Number:	143-278997-19001	**Report Date:**	09/16/19

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:	CYPHER ST., S. BOSTON	**Lab Number:**	L1939114
Project Number:	143-278997-19001	**Report Date:**	09/16/19

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:	CYPHER ST., S. BOSTON	**Lab Number:**	L1939114
Project Number:	143-278997-19001	**Report Date:**	09/16/19

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.

131 Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, February 2018, Revision 2.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, June 1, 2018.

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 ____ OF ____

Date Rec'd in Lab: 8/28/19

ALPHA Job #: L1939114

ALPHA Analytical Laboratories
8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Client Information

Client: TetraTech
Address: 100 Nickerson Rd. Marlborough, MA
Phone: 413-273-9539
Email: jon.fiore@tetratech.com

Additional Project Information:

Project Information

Project Name: Cypher St. S. Boston
Project Location: Cypher St. S. Boston
Project #: 143-278997-19001
Project Manager: Mike Billa
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 _____

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 ☒ MCP 14 ☐ RCP 15	METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13	EPH: ☐ Ranges & Targets ☒ Ranges Only	VPH: ☐ Ranges & Targets ☒ Ranges Only	☐ PCB ☐ PEST	TPH: ☐ Quant Only ☐ Fingerprint	Pesticides (Herbicides)						Sample Comments	TOTAL # BOTTLES
39114-01	TT-16 (0-2')	8/28/19	0820	Soil	JWF	X	X	X		X	X	X									7
-02	TT-1 (0.5-2.5')		0930			X	X	X		X	X	X									7
-03	TT-1 (2.5-4.5')		1000			X	X	X		X	X	X									7
-04	TT-2 (0.75'-2.75')		1145			X	X	X		X	X	X		X							8
-05	TT-2 (2.75'-4.75')		1200			X	X	X		X	X	X									7

SAMPLE INFO
Filtration
☐ Field
☐ Lab to do
Preservation
☐ Lab to do

Container Type: VY
Preservative: A/E

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
[signature]	8/28/19 1425	[signature] ARL	8/28/19 1425
[signature]	8/28/19 1848	[signature] ARL	8/28/19 1848

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

Method Blank Summary
Form 4
Volatiles

Client	: Tetra Tech Rizzo	**Lab Number**	: L1939114
Project Name	: CYPHER ST. S. BOSTON	**Project Number**	: 143-278997-19001
Lab Sample ID	: WG1281736-5	**Lab File ID**	: V23190907A05
Instrument ID	: VOA123		
Matrix	: SOIL	**Analysis Date**	: 09/07/19 08:33

Client Sample No.	Lab Sample ID	Analysis Date
WG1281736-3LCS	WG1281736-3	09/07/19 06:57
WG1281736-4LCSD	WG1281736-4	09/07/19 07:21
TT-16 (0-2')	L1939114-01	09/07/19 11:47
TT-1 (2.5-4.5')	L1939114-03	09/07/19 12:11

Method Blank Summary
Form 4
Volatiles

Client	: Tetra Tech Rizzo	**Lab Number**	: L1939114
Project Name	: CYPHER ST. S. BOSTON	**Project Number**	: 143-278997-19001
Lab Sample ID	: WG1281744-5	**Lab File ID**	: V23190907A05
Instrument ID	: VOA123		
Matrix	: SOIL	**Analysis Date**	: 09/07/19 08:33

Client Sample No.	Lab Sample ID	Analysis Date
WG1281744-3LCS	WG1281744-3	09/07/19 06:57
WG1281744-4LCSD	WG1281744-4	09/07/19 07:21
TT-1 (0.5-2.5')	L1939114-02	09/07/19 15:24
TT-2 (2.75'-4.75')	L1939114-05	09/07/19 15:48

Method Blank Summary
Form 4
Volatiles

Client	: Tetra Tech Rizzo	**Lab Number**	: L1939114
Project Name	: CYPHER ST. S. BOSTON	**Project Number**	: 143-278997-19001
Lab Sample ID	: WG1281736-10	**Lab File ID**	: V23190909A06
Instrument ID	: VOA123		
Matrix	: SOIL	**Analysis Date**	: 09/09/19 09:22

Client Sample No.	Lab Sample ID	Analysis Date
WG1281736-8LCS	WG1281736-8	09/09/19 08:09
WG1281736-9LCSD	WG1281736-9	09/09/19 08:33
TT-16 (0-2')	L1939114-01R	09/09/19 10:58

Method Blank Summary
Form 4
Volatiles

Client	: Tetra Tech Rizzo	**Lab Number**	: L1939114
Project Name	: CYPHER ST. S. BOSTON	**Project Number**	: 143-278997-19001
Lab Sample ID	: WG1281986-5	**Lab File ID**	: V23190909A06
Instrument ID	: VOA123		
Matrix	: SOIL	**Analysis Date**	: 09/09/19 09:22

Client Sample No.	Lab Sample ID	Analysis Date
WG1281986-3LCS	WG1281986-3	09/09/19 08:09
WG1281986-4LCSD	WG1281986-4	09/09/19 08:33
TT-2 (0.75'-2.75')	L1939114-04	09/09/19 11:22

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1939114
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA123	Calibration Date	: 09/07/19 06:57
Lab File ID	: V23190907A01	Init. Calib. Date(s)	: 06/21/19 06/21/19
Sample No	: WG1281736-2	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	94	-.01
Dichlorodifluoromethane	0.268	0.293	-	-9.3	20	87	0
Chloromethane	0.275	0.3	-	-9.1	20	90	0
Vinyl chloride	0.312	0.291	-	6.7	20	75	0
Bromomethane	0.233	0.211	-	9.4	20	80	0
Chloroethane	0.235	0.198	-	15.7	20	71	0
Trichlorofluoromethane	0.429	0.434	-	-1.2	20	80	0
Ethyl ether	0.143	0.123	-	14	20	73	0
1,1-Dichloroethene	0.214	0.209	-	2.3	20	79	0
Carbon disulfide	0.725	0.676	-	6.8	20	80	0
Freon-113	0.216	0.214	-	0.9	20	79	0
Acrolein	0.05	0.045*	-	10	20	79	-.01
Methylene chloride	0.28	0.232	-	17.1	20	75	0
Acetone	20	19.108	-	4.5	20	81	-.01
trans-1,2-Dichloroethene	0.245	0.236	-	3.7	20	79	0
Methyl acetate	0.187	0.179	-	4.3	20	80	-.01
Methyl tert-butyl ether	0.725	0.619	-	14.6	20	71	-.01
tert-Butyl alcohol	0.038	0.029*	-	23.7*	20	63	-.01
Diisopropyl ether	0.748	0.737	-	1.5	20	82	-.01
1,1-Dichloroethane	0.436	0.409	-	6.2	20	77	0
Halothane	0.182	0.174	-	4.4	20	77	-.01
Acrylonitrile	0.093	0.082	-	11.8	20	73	-.01
Ethyl tert-butyl ether	0.763	0.662	-	13.2	20	72	-.02
Vinyl acetate	0.662	0.645	-	2.6	20	82	-.01
cis-1,2-Dichloroethene	0.275	0.257	-	6.5	20	78	-.01
2,2-Dichloropropane	0.366	0.35	-	4.4	20	78	-.01
Bromochloromethane	0.134	0.127	-	5.2	20	78	-.01
Cyclohexane	0.39	0.368	-	5.6	20	77	0
Chloroform	0.43	0.414	-	3.7	20	79	0
Ethyl acetate	0.3	0.711	-	-137*	20	203	-.02
Carbon tetrachloride	0.331	0.331	-	0	20	81	-.01
Tetrahydrofuran	0.106	0.088	-	17	20	70	-.02
Dibromofluoromethane	0.262	0.252	-	3.8	20	90	0
1,1,1-Trichloroethane	0.365	0.368	-	-0.8	20	79	-.01
2-Butanone	0.139	0.128	-	7.9	20	85	-.02
1,1-Dichloropropene	0.318	0.308	-	3.1	20	77	-.01
Benzene	0.959	0.9	-	6.2	20	76	0
tert-Amyl methyl ether	0.734	0.602	-	18	20	68	-.02
1,2-Dichloroethane-d4	0.29	0.279	-	3.8	20	93	-.01
1,2-Dichloroethane	0.342	0.314	-	8.2	20	77	-.01
Methyl cyclohexane	0.415	0.376	-	9.4	20	74	-.01
Trichloroethene	0.249	0.24	-	3.6	20	78	-.01
Dibromomethane	0.164	0.151	-	7.9	20	77	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1939114
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA123	Calibration Date	: 09/07/19 06:57
Lab File ID	: V23190907A01	Init. Calib. Date(s)	: 06/21/19 06/21/19
Sample No	: WG1281736-2	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	0.227	-	10.6	20	74	0
2-Chloroethyl vinyl ether	0.185	0.157	-	15.1	20	70	-.01
Bromodichloromethane	0.327	0.319	-	2.4	20	80	-.01
1,4-Dioxane	0.00343	0.0029*	-	15.5	20	73	-.02
cis-1,3-Dichloropropene	0.404	0.376	-	6.9	20	75	0
Chlorobenzene-d5	1	1	-	0	20	89	-.01
Toluene-d8	1.211	1.239	-	-2.3	20	90	-.01
Toluene	0.75	0.738	-	1.6	20	77	-.01
4-Methyl-2-pentanone	0.137	0.115	-	16.1	20	67	-.02
Tetrachloroethene	0.306	0.317	-	-3.6	20	77	-.01
trans-1,3-Dichloropropene	0.447	0.44	-	1.6	20	75	-.01
Ethyl methacrylate	0.415	0.355	-	14.5	20	67	-.02
1,1,2-Trichloroethane	0.237	0.224	-	5.5	20	74	-.01
Chlorodibromomethane	0.311	0.319	-	-2.6	20	79	-.02
1,3-Dichloropropane	0.475	0.447	-	5.9	20	73	-.01
1,2-Dibromoethane	0.286	0.278	-	2.8	20	74	-.01
2-Hexanone	0.245	0.229	-	6.5	20	76	-.02
Chlorobenzene	0.845	0.853	-	-0.9	20	78	-.01
Ethylbenzene	1.401	1.422	-	-1.5	20	78	-.01
1,1,1,2-Tetrachloroethane	0.297	0.305	-	-2.7	20	77	-.02
p/m Xylene	0.545	0.561	-	-2.9	20	79	-.01
o Xylene	0.539	0.544	-	-0.9	20	78	-.02
Styrene	0.876	0.89	-	-1.6	20	77	-.02
1,4-Dichlorobenzene-d4	1	1	-	0	20	89	-.01
Bromoform	0.424	0.392	-	7.5	20	78	-.01
Isopropylbenzene	2.578	2.693	-	-4.5	20	79	-.01
4-Bromofluorobenzene	0.913	0.883	-	3.3	20	85	-.01
Bromobenzene	0.679	0.666	-	1.9	20	76	-.01
n-Propylbenzene	3.032	3.225	-	-6.4	20	79	-.01
1,4-Dichlorobutane	0.91	0.869	-	4.5	20	76	-.01
1,1,2,2-Tetrachloroethane	0.726	0.706	-	2.8	20	73	-.01
4-Ethyltoluene	2.552	2.676	-	-4.9	20	78	-.01
2-Chlorotoluene	2.106	2.162	-	-2.7	20	79	-.01
1,3,5-Trimethylbenzene	2.162	2.278	-	-5.4	20	80	-.02
1,2,3-Trichloropropane	0.612	0.572	-	6.5	20	73	-.01
trans-1,4-Dichloro-2-buten	0.212	0.216	-	-1.9	20	79	0
4-Chlorotoluene	1.897	1.973	-	-4	20	80	-.01
tert-Butylbenzene	1.876	1.969	-	-5	20	79	-.01
1,2,4-Trimethylbenzene	2.172	2.282	-	-5.1	20	80	-.01
sec-Butylbenzene	2.799	2.975	-	-6.3	20	79	-.01
p-Isopropyltoluene	2.388	2.559	-	-7.2	20	80	-.01
1,3-Dichlorobenzene	1.306	1.357	-	-3.9	20	80	-.01
1,4-Dichlorobenzene	1.32	1.362	-	-3.2	20	80	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1939114
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA123	Calibration Date	: 09/07/19 06:57
Lab File ID	: V23190907A01	Init. Calib. Date(s)	: 06/21/19 06/21/19
Sample No	: WG1281736-2	Init. Calib. Times	: 03:09 06:33
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.466	1.511	-	-3.1	20	79	-.01
n-Butylbenzene	2.231	2.454	-	-10	20	82	-.01
1,2-Dichlorobenzene	1.255	1.257	-	-0.2	20	78	0
1,2,4,5-Tetramethylbenzene	2.325	2.363	-	-1.6	20	77	-.01
1,2-Dibromo-3-chloropropan	0.136	0.123	-	9.6	20	73	-.01
1,3,5-Trichlorobenzene	0.913	0.949	-	-3.9	20	80	-.01
Hexachlorobutadiene	0.428	0.425	-	0.7	20	77	0
1,2,4-Trichlorobenzene	0.862	0.915	-	-6.1	20	82	-.01
Naphthalene	2.486	2.384	-	4.1	20	74	-.01
1,2,3-Trichlorobenzene	0.842	0.852	-	-1.2	20	78	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1939114
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA123	Calibration Date	: 09/07/19 06:57
Lab File ID	: V23190907A01	Init. Calib. Date(s)	: 06/21/19 06/21/19
Sample No	: WG1281744-2	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	94	-.01
Dichlorodifluoromethane	0.268	0.293	-	-9.3	20	87	0
Chloromethane	0.275	0.3	-	-9.1	20	90	0
Vinyl chloride	0.312	0.291	-	6.7	20	75	0
Bromomethane	0.233	0.211	-	9.4	20	80	0
Chloroethane	0.235	0.198	-	15.7	20	71	0
Trichlorofluoromethane	0.429	0.434	-	-1.2	20	80	0
Ethyl ether	0.143	0.123	-	14	20	73	0
1,1-Dichloroethene	0.214	0.209	-	2.3	20	79	0
Carbon disulfide	0.725	0.676	-	6.8	20	80	0
Freon-113	0.216	0.214	-	0.9	20	79	0
Acrolein	0.05	0.045*	-	10	20	79	-.01
Methylene chloride	0.28	0.232	-	17.1	20	75	0
Acetone	20	19.108	-	4.5	20	81	-.01
trans-1,2-Dichloroethene	0.245	0.236	-	3.7	20	79	0
Methyl acetate	0.187	0.179	-	4.3	20	80	-.01
Methyl tert-butyl ether	0.725	0.619	-	14.6	20	71	-.01
tert-Butyl alcohol	0.038	0.029*	-	23.7*	20	63	-.01
Diisopropyl ether	0.748	0.737	-	1.5	20	82	-.01
1,1-Dichloroethane	0.436	0.409	-	6.2	20	77	0
Halothane	0.182	0.174	-	4.4	20	77	-.01
Acrylonitrile	0.093	0.082	-	11.8	20	73	-.01
Ethyl tert-butyl ether	0.763	0.662	-	13.2	20	72	-.02
Vinyl acetate	0.662	0.645	-	2.6	20	82	-.01
cis-1,2-Dichloroethene	0.275	0.257	-	6.5	20	78	-.01
2,2-Dichloropropane	0.366	0.35	-	4.4	20	78	-.01
Bromochloromethane	0.134	0.127	-	5.2	20	78	-.01
Cyclohexane	0.39	0.368	-	5.6	20	77	0
Chloroform	0.43	0.414	-	3.7	20	79	0
Ethyl acetate	0.3	0.711	-	-137*	20	203	-.02
Carbon tetrachloride	0.331	0.331	-	0	20	81	-.01
Tetrahydrofuran	0.106	0.088	-	17	20	70	-.02
Dibromofluoromethane	0.262	0.252	-	3.8	20	90	0
1,1,1-Trichloroethane	0.365	0.368	-	-0.8	20	79	-.01
2-Butanone	0.139	0.128	-	7.9	20	85	-.02
1,1-Dichloropropene	0.318	0.308	-	3.1	20	77	-.01
Benzene	0.959	0.9	-	6.2	20	76	0
tert-Amyl methyl ether	0.734	0.602	-	18	20	68	-.02
1,2-Dichloroethane-d4	0.29	0.279	-	3.8	20	93	-.01
1,2-Dichloroethane	0.342	0.314	-	8.2	20	77	-.01
Methyl cyclohexane	0.415	0.376	-	9.4	20	74	-.01
Trichloroethene	0.249	0.24	-	3.6	20	78	-.01
Dibromomethane	0.164	0.151	-	7.9	20	77	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1939114
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA123	Calibration Date	: 09/07/19 06:57
Lab File ID	: V23190907A01	Init. Calib. Date(s)	: 06/21/19 06/21/19
Sample No	: WG1281744-2	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	0.227	-	10.6	20	74	0
2-Chloroethyl vinyl ether	0.185	0.157	-	15.1	20	70	-.01
Bromodichloromethane	0.327	0.319	-	2.4	20	80	-.01
1,4-Dioxane	0.00343	0.0029*	-	15.5	20	73	-.02
cis-1,3-Dichloropropene	0.404	0.376	-	6.9	20	75	0
Chlorobenzene-d5	1	1	-	0	20	89	-.01
Toluene-d8	1.211	1.239	-	-2.3	20	90	-.01
Toluene	0.75	0.738	-	1.6	20	77	-.01
4-Methyl-2-pentanone	0.137	0.115	-	16.1	20	67	-.02
Tetrachloroethene	0.306	0.317	-	-3.6	20	77	-.01
trans-1,3-Dichloropropene	0.447	0.44	-	1.6	20	75	-.01
Ethyl methacrylate	0.415	0.355	-	14.5	20	67	-.02
1,1,2-Trichloroethane	0.237	0.224	-	5.5	20	74	-.01
Chlorodibromomethane	0.311	0.319	-	-2.6	20	79	-.02
1,3-Dichloropropane	0.475	0.447	-	5.9	20	73	-.01
1,2-Dibromoethane	0.286	0.278	-	2.8	20	74	-.01
2-Hexanone	0.245	0.229	-	6.5	20	76	-.02
Chlorobenzene	0.845	0.853	-	-0.9	20	78	-.01
Ethylbenzene	1.401	1.422	-	-1.5	20	78	-.01
1,1,1,2-Tetrachloroethane	0.297	0.305	-	-2.7	20	77	-.02
p/m Xylene	0.545	0.561	-	-2.9	20	79	-.01
o Xylene	0.539	0.544	-	-0.9	20	78	-.02
Styrene	0.876	0.89	-	-1.6	20	77	-.02
1,4-Dichlorobenzene-d4	1	1	-	0	20	89	-.01
Bromoform	0.424	0.392	-	7.5	20	78	-.01
Isopropylbenzene	2.578	2.693	-	-4.5	20	79	-.01
4-Bromofluorobenzene	0.913	0.883	-	3.3	20	85	-.01
Bromobenzene	0.679	0.666	-	1.9	20	76	-.01
n-Propylbenzene	3.032	3.225	-	-6.4	20	79	-.01
1,4-Dichlorobutane	0.91	0.869	-	4.5	20	76	-.01
1,1,2,2-Tetrachloroethane	0.726	0.706	-	2.8	20	73	-.01
4-Ethyltoluene	2.552	2.676	-	-4.9	20	78	-.01
2-Chlorotoluene	2.106	2.162	-	-2.7	20	79	-.01
1,3,5-Trimethylbenzene	2.162	2.278	-	-5.4	20	80	-.02
1,2,3-Trichloropropane	0.612	0.572	-	6.5	20	73	-.01
trans-1,4-Dichloro-2-buten	0.212	0.216	-	-1.9	20	79	0
4-Chlorotoluene	1.897	1.973	-	-4	20	80	-.01
tert-Butylbenzene	1.876	1.969	-	-5	20	79	-.01
1,2,4-Trimethylbenzene	2.172	2.282	-	-5.1	20	80	-.01
sec-Butylbenzene	2.799	2.975	-	-6.3	20	79	-.01
p-Isopropyltoluene	2.388	2.559	-	-7.2	20	80	-.01
1,3-Dichlorobenzene	1.306	1.357	-	-3.9	20	80	-.01
1,4-Dichlorobenzene	1.32	1.362	-	-3.2	20	80	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1939114
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA123	Calibration Date	: 09/07/19 06:57
Lab File ID	: V23190907A01	Init. Calib. Date(s)	: 06/21/19 06/21/19
Sample No	: WG1281744-2	Init. Calib. Times	: 03:09 06:33
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.466	1.511	-	-3.1	20	79	-.01
n-Butylbenzene	2.231	2.454	-	-10	20	82	-.01
1,2-Dichlorobenzene	1.255	1.257	-	-0.2	20	78	0
1,2,4,5-Tetramethylbenzene	2.325	2.363	-	-1.6	20	77	-.01
1,2-Dibromo-3-chloropropan	0.136	0.123	-	9.6	20	73	-.01
1,3,5-Trichlorobenzene	0.913	0.949	-	-3.9	20	80	-.01
Hexachlorobutadiene	0.428	0.425	-	0.7	20	77	0
1,2,4-Trichlorobenzene	0.862	0.915	-	-6.1	20	82	-.01
Naphthalene	2.486	2.384	-	4.1	20	74	-.01
1,2,3-Trichlorobenzene	0.842	0.852	-	-1.2	20	78	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1939114
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA123	Calibration Date	: 09/09/19 08:09
Lab File ID	: V23190909A03	Init. Calib. Date(s)	: 06/21/19 06/21/19
Sample No	: WG1281986-2	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	100	0
Dichlorodifluoromethane	0.268	0.279	-	-4.1	20	88	0
Chloromethane	0.275	0.29	-	-5.5	20	92	0
Vinyl chloride	0.312	0.291	-	6.7	20	79	0
Bromomethane	0.233	0.199	-	14.6	20	80	0
Chloroethane	0.235	0.192	-	18.3	20	73	0
Trichlorofluoromethane	0.429	0.414	-	3.5	20	81	0
Ethyl ether	0.143	0.125	-	12.6	20	78	0
1,1-Dichloroethene	0.214	0.207	-	3.3	20	83	0
Carbon disulfide	0.725	0.674	-	7	20	84	0
Freon-113	0.216	0.208	-	3.7	20	81	0
Acrolein	0.05	0.046*	-	8	20	86	-.01
Methylene chloride	0.28	0.238	-	15	20	82	0
Acetone	20	20.066	-	-0.3	20	90	-.01
trans-1,2-Dichloroethene	0.245	0.236	-	3.7	20	84	0
Methyl acetate	0.187	0.189	-	-1.1	20	90	-.01
Methyl tert-butyl ether	0.725	0.626	-	13.7	20	76	0
tert-Butyl alcohol	0.038	0.031*	-	18.4	20	73	-.01
Diisopropyl ether	0.748	0.748	-	0	20	88	-.01
1,1-Dichloroethane	0.436	0.41	-	6	20	81	0
Halothane	0.182	0.177	-	2.7	20	83	0
Acrylonitrile	0.093	0.086	-	7.5	20	81	0
Ethyl tert-butyl ether	0.763	0.675	-	11.5	20	78	-.01
Vinyl acetate	0.662	0.664	-	-0.3	20	89	0
cis-1,2-Dichloroethene	0.275	0.257	-	6.5	20	82	0
2,2-Dichloropropane	0.366	0.353	-	3.6	20	83	-.01
Bromochloromethane	0.134	0.127	-	5.2	20	82	-.01
Cyclohexane	0.39	0.364	-	6.7	20	80	0
Chloroform	0.43	0.418	-	2.8	20	85	0
Ethyl acetate	0.3	0.285	-	5	20	86	-.01
Carbon tetrachloride	0.331	0.334	-	-0.9	20	87	0
Tetrahydrofuran	0.106	0.105	-	0.9	20	89	-.02
Dibromofluoromethane	0.262	0.251	-	4.2	20	95	0
1,1,1-Trichloroethane	0.365	0.373	-	-2.2	20	85	-.01
2-Butanone	0.139	0.132	-	5	20	93	-.01
1,1-Dichloropropene	0.318	0.317	-	0.3	20	83	0
Benzene	0.959	0.905	-	5.6	20	81	0
tert-Amyl methyl ether	0.734	0.618	-	15.8	20	74	-.01
1,2-Dichloroethane-d4	0.29	0.282	-	2.8	20	100	-.01
1,2-Dichloroethane	0.342	0.319	-	6.7	20	82	-.01
Methyl cyclohexane	0.415	0.378	-	8.9	20	78	-.01
Trichloroethene	0.249	0.243	-	2.4	20	83	0
Dibromomethane	0.164	0.152	-	7.3	20	82	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1939114
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA123	Calibration Date	: 09/09/19 08:09
Lab File ID	: V23190909A03	Init. Calib. Date(s)	: 06/21/19 06/21/19
Sample No	: WG1281986-2	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	0.233	-	8.3	20	80	-.01
2-Chloroethyl vinyl ether	0.185	0.167	-	9.7	20	79	-.01
Bromodichloromethane	0.327	0.322	-	1.5	20	85	-.01
1,4-Dioxane	0.00343	0.0033*	-	3.8	20	88	-.01
cis-1,3-Dichloropropene	0.404	0.382	-	5.4	20	81	0
Chlorobenzene-d5	1	1	-	0	20	96	-.01
Toluene-d8	1.211	1.227	-	-1.3	20	96	-.01
Toluene	0.75	0.74	-	1.3	20	83	-.01
4-Methyl-2-pentanone	0.137	0.124	-	9.5	20	77	-.02
Tetrachloroethene	0.306	0.32	-	-4.6	20	84	-.01
trans-1,3-Dichloropropene	0.447	0.444	-	0.7	20	82	-.01
Ethyl methacrylate	0.415	0.357	-	14	20	72	-.01
1,1,2-Trichloroethane	0.237	0.222	-	6.3	20	79	-.01
Chlorodibromomethane	0.311	0.32	-	-2.9	20	85	-.01
1,3-Dichloropropane	0.475	0.452	-	4.8	20	80	-.01
1,2-Dibromoethane	0.286	0.281	-	1.7	20	81	-.01
2-Hexanone	0.245	0.241	-	1.6	20	86	-.02
Chlorobenzene	0.845	0.856	-	-1.3	20	84	-.01
Ethylbenzene	1.401	1.428	-	-1.9	20	85	-.01
1,1,1,2-Tetrachloroethane	0.297	0.302	-	-1.7	20	82	-.01
p/m Xylene	0.545	0.57	-	-4.6	20	86	-.01
o Xylene	0.539	0.549	-	-1.9	20	84	-.01
Styrene	0.876	0.889	-	-1.5	20	83	-.01
1,4-Dichlorobenzene-d4	1	1	-	0	20	98	-.01
Bromoform	0.424	0.386	-	9	20	85	-.01
Isopropylbenzene	2.578	2.687	-	-4.2	20	87	-.01
4-Bromofluorobenzene	0.913	0.865	-	5.3	20	92	-.01
Bromobenzene	0.679	0.667	-	1.8	20	84	-.01
n-Propylbenzene	3.032	3.183	-	-5	20	86	0
1,4-Dichlorobutane	0.91	0.856	-	5.9	20	82	-.01
1,1,2,2-Tetrachloroethane	0.726	0.706	-	2.8	20	80	0
4-Ethyltoluene	2.552	2.633	-	-3.2	20	85	-.01
2-Chlorotoluene	2.106	2.15	-	-2.1	20	86	-.01
1,3,5-Trimethylbenzene	2.162	2.25	-	-4.1	20	87	-.01
1,2,3-Trichloropropane	0.612	0.574	-	6.2	20	81	-.01
trans-1,4-Dichloro-2-buten	0.212	0.209	-	1.4	20	84	-.01
4-Chlorotoluene	1.897	1.954	-	-3	20	87	-.01
tert-Butylbenzene	1.876	1.952	-	-4.1	20	86	-.01
1,2,4-Trimethylbenzene	2.172	2.266	-	-4.3	20	87	-.01
sec-Butylbenzene	2.799	2.97	-	-6.1	20	87	-.01
p-Isopropyltoluene	2.388	2.546	-	-6.6	20	88	-.01
1,3-Dichlorobenzene	1.306	1.344	-	-2.9	20	88	-.01
1,4-Dichlorobenzene	1.32	1.353	-	-2.5	20	88	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1939114
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA123	Calibration Date	: 09/09/19 08:09
Lab File ID	: V23190909A03	Init. Calib. Date(s)	: 06/21/19 06/21/19
Sample No	: WG1281986-2	Init. Calib. Times	: 03:09 06:33
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.466	1.507	-	-2.8	20	86	-.01
n-Butylbenzene	2.231	2.415	-	-8.2	20	89	-.01
1,2-Dichlorobenzene	1.255	1.254	-	0.1	20	85	0
1,2,4,5-Tetramethylbenzene	2.325	2.34	-	-0.6	20	84	-.01
1,2-Dibromo-3-chloropropan	0.136	0.127	-	6.6	20	84	-.01
1,3,5-Trichlorobenzene	0.913	0.944	-	-3.4	20	88	-.01
Hexachlorobutadiene	0.428	0.433	-	-1.2	20	86	0
1,2,4-Trichlorobenzene	0.862	0.901	-	-4.5	20	89	-.01
Naphthalene	2.486	2.444	-	1.7	20	83	-.01
1,2,3-Trichlorobenzene	0.842	0.845	-	-0.4	20	85	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1939114
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA123	Calibration Date	: 09/09/19 08:09
Lab File ID	: V23190909A03	Init. Calib. Date(s)	: 06/21/19 06/21/19
Sample No	: WG1281736-7	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	100	0
Dichlorodifluoromethane	0.268	0.279	-	-4.1	20	88	0
Chloromethane	0.275	0.29	-	-5.5	20	92	0
Vinyl chloride	0.312	0.291	-	6.7	20	79	0
Bromomethane	0.233	0.199	-	14.6	20	80	0
Chloroethane	0.235	0.192	-	18.3	20	73	0
Trichlorofluoromethane	0.429	0.414	-	3.5	20	81	0
Ethyl ether	0.143	0.125	-	12.6	20	78	0
1,1-Dichloroethene	0.214	0.207	-	3.3	20	83	0
Carbon disulfide	0.725	0.674	-	7	20	84	0
Freon-113	0.216	0.208	-	3.7	20	81	0
Acrolein	0.05	0.046*	-	8	20	86	-.01
Methylene chloride	0.28	0.238	-	15	20	82	0
Acetone	20	20.066	-	-0.3	20	90	-.01
trans-1,2-Dichloroethene	0.245	0.236	-	3.7	20	84	0
Methyl acetate	0.187	0.189	-	-1.1	20	90	-.01
Methyl tert-butyl ether	0.725	0.626	-	13.7	20	76	0
tert-Butyl alcohol	0.038	0.031*	-	18.4	20	73	-.01
Diisopropyl ether	0.748	0.748	-	0	20	88	-.01
1,1-Dichloroethane	0.436	0.41	-	6	20	81	0
Halothane	0.182	0.177	-	2.7	20	83	0
Acrylonitrile	0.093	0.086	-	7.5	20	81	0
Ethyl tert-butyl ether	0.763	0.675	-	11.5	20	78	-.01
Vinyl acetate	0.662	0.664	-	-0.3	20	89	0
cis-1,2-Dichloroethene	0.275	0.257	-	6.5	20	82	0
2,2-Dichloropropane	0.366	0.353	-	3.6	20	83	-.01
Bromochloromethane	0.134	0.127	-	5.2	20	82	-.01
Cyclohexane	0.39	0.364	-	6.7	20	80	0
Chloroform	0.43	0.418	-	2.8	20	85	0
Ethyl acetate	0.3	0.285	-	5	20	86	-.01
Carbon tetrachloride	0.331	0.334	-	-0.9	20	87	0
Tetrahydrofuran	0.106	0.105	-	0.9	20	89	-.02
Dibromofluoromethane	0.262	0.251	-	4.2	20	95	0
1,1,1-Trichloroethane	0.365	0.373	-	-2.2	20	85	-.01
2-Butanone	0.139	0.132	-	5	20	93	-.01
1,1-Dichloropropene	0.318	0.317	-	0.3	20	83	0
Benzene	0.959	0.905	-	5.6	20	81	0
tert-Amyl methyl ether	0.734	0.618	-	15.8	20	74	-.01
1,2-Dichloroethane-d4	0.29	0.282	-	2.8	20	100	-.01
1,2-Dichloroethane	0.342	0.319	-	6.7	20	82	-.01
Methyl cyclohexane	0.415	0.378	-	8.9	20	78	-.01
Trichloroethene	0.249	0.243	-	2.4	20	83	0
Dibromomethane	0.164	0.152	-	7.3	20	82	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1939114
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA123	Calibration Date	: 09/09/19 08:09
Lab File ID	: V23190909A03	Init. Calib. Date(s)	: 06/21/19 06/21/19
Sample No	: WG1281736-7	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	0.233	-	8.3	20	80	-.01
2-Chloroethyl vinyl ether	0.185	0.167	-	9.7	20	79	-.01
Bromodichloromethane	0.327	0.322	-	1.5	20	85	-.01
1,4-Dioxane	0.00343	0.0033*	-	3.8	20	88	-.01
cis-1,3-Dichloropropene	0.404	0.382	-	5.4	20	81	0
Chlorobenzene-d5	1	1	-	0	20	96	-.01
Toluene-d8	1.211	1.227	-	-1.3	20	96	-.01
Toluene	0.75	0.74	-	1.3	20	83	-.01
4-Methyl-2-pentanone	0.137	0.124	-	9.5	20	77	-.02
Tetrachloroethene	0.306	0.32	-	-4.6	20	84	-.01
trans-1,3-Dichloropropene	0.447	0.444	-	0.7	20	82	-.01
Ethyl methacrylate	0.415	0.357	-	14	20	72	-.01
1,1,2-Trichloroethane	0.237	0.222	-	6.3	20	79	-.01
Chlorodibromomethane	0.311	0.32	-	-2.9	20	85	-.01
1,3-Dichloropropane	0.475	0.452	-	4.8	20	80	-.01
1,2-Dibromoethane	0.286	0.281	-	1.7	20	81	-.01
2-Hexanone	0.245	0.241	-	1.6	20	86	-.02
Chlorobenzene	0.845	0.856	-	-1.3	20	84	-.01
Ethylbenzene	1.401	1.428	-	-1.9	20	85	-.01
1,1,1,2-Tetrachloroethane	0.297	0.302	-	-1.7	20	82	-.01
p/m Xylene	0.545	0.57	-	-4.6	20	86	-.01
o Xylene	0.539	0.549	-	-1.9	20	84	-.01
Styrene	0.876	0.889	-	-1.5	20	83	-.01
1,4-Dichlorobenzene-d4	1	1	-	0	20	98	-.01
Bromoform	0.424	0.386	-	9	20	85	-.01
Isopropylbenzene	2.578	2.687	-	-4.2	20	87	-.01
4-Bromofluorobenzene	0.913	0.865	-	5.3	20	92	-.01
Bromobenzene	0.679	0.667	-	1.8	20	84	-.01
n-Propylbenzene	3.032	3.183	-	-5	20	86	0
1,4-Dichlorobutane	0.91	0.856	-	5.9	20	82	-.01
1,1,2,2-Tetrachloroethane	0.726	0.706	-	2.8	20	80	0
4-Ethyltoluene	2.552	2.633	-	-3.2	20	85	-.01
2-Chlorotoluene	2.106	2.15	-	-2.1	20	86	-.01
1,3,5-Trimethylbenzene	2.162	2.25	-	-4.1	20	87	-.01
1,2,3-Trichloropropane	0.612	0.574	-	6.2	20	81	-.01
trans-1,4-Dichloro-2-buten	0.212	0.209	-	1.4	20	84	-.01
4-Chlorotoluene	1.897	1.954	-	-3	20	87	-.01
tert-Butylbenzene	1.876	1.952	-	-4.1	20	86	-.01
1,2,4-Trimethylbenzene	2.172	2.266	-	-4.3	20	87	-.01
sec-Butylbenzene	2.799	2.97	-	-6.1	20	87	-.01
p-Isopropyltoluene	2.388	2.546	-	-6.6	20	88	-.01
1,3-Dichlorobenzene	1.306	1.344	-	-2.9	20	88	-.01
1,4-Dichlorobenzene	1.32	1.353	-	-2.5	20	88	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1939114
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA123	Calibration Date	: 09/09/19 08:09
Lab File ID	: V23190909A03	Init. Calib. Date(s)	: 06/21/19 06/21/19
Sample No	: WG1281736-7	Init. Calib. Times	: 03:09 06:33
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.466	1.507	-	-2.8	20	86	-.01
n-Butylbenzene	2.231	2.415	-	-8.2	20	89	-.01
1,2-Dichlorobenzene	1.255	1.254	-	0.1	20	85	0
1,2,4,5-Tetramethylbenzene	2.325	2.34	-	-0.6	20	84	-.01
1,2-Dibromo-3-chloropropan	0.136	0.127	-	6.6	20	84	-.01
1,3,5-Trichlorobenzene	0.913	0.944	-	-3.4	20	88	-.01
Hexachlorobutadiene	0.428	0.433	-	-1.2	20	86	0
1,2,4-Trichlorobenzene	0.862	0.901	-	-4.5	20	89	-.01
Naphthalene	2.486	2.444	-	1.7	20	83	-.01
1,2,3-Trichlorobenzene	0.842	0.845	-	-0.4	20	85	-.01

* Value outside of QC limits.

Performance Evaluation Mixture Summary
Form 15
Pesticides

Client	: Tetra Tech Rizzo	Lab Number	: L1939114
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: PEST20	Analysis Date	: 09/05/19 09:07
PEM Standard	: R1227471-1		
Column 1	: RTX-5	Column 2	: RTX-CLPPesticides2

Parameter	Signal 1	Signal 2
4,4'-DDE	3062226.2888	3783031.391
Endrin	338589873.6196	131281720.80585
4,4'-DDD	3991620.67141	740523.138
4,4'-DDT	629406518.5929	297399477.18295
Endrin Aldehyde	5909667.0676	895999.01824
Endrin Ketone	4526220.6409	1190357.60226

Parameter	%Breakdown 1	%Breakdown 2
Endrin	2.99	1.56
DDT	1.11	1.50

Performance Evaluation Mixture Summary
Form 15
Pesticides

Client	: Tetra Tech Rizzo	Lab Number	: L1939114
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: PEST20	Analysis Date	: 09/07/19 10:19
PEM Standard	: R1229117-1		
Column 1	: RTX-5	Column 2	: RTX-CLPPesticides2

Parameter	Signal 1	Signal 2
4,4'-DDE	4657203.34458	1810440.802
Endrin	443232561.0284	134608648.44188
4,4'-DDD	9439051.92779	1858103.9648
4,4'-DDT	800351630.5599	437863369.0007
Endrin Aldehyde	1065895.07988	155214.25132
Endrin Ketone	6232747.7899	899854.91423

Parameter	%Breakdown 1	%Breakdown 2
Endrin	1.62	0.778
DDT	1.73	0.831

ANALYTICAL REPORT

Lab Number:	L1939381
Client:	Tetra Tech Rizzo Marlborough Technology Park 100 Nickerson Road Marlborough, MA 01752
ATTN:	Mike Billa
Phone:	(508) 786-2200
Project Name:	CYPHER ST., S. BOSTON
Project Number:	143-278997-19001
Report Date:	09/13/19

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

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

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939381
Report Date: 09/13/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1939381-01	TT-21 (0-2')	SOIL	CYPHER ST., S. BOSTON	08/29/19 09:00	08/29/19
L1939381-02	TT-22A (0-2')	SOIL	CYPHER ST., S. BOSTON	08/29/19 09:30	08/29/19
L1939381-03	TT-22A (3')	SOIL	CYPHER ST., S. BOSTON	08/29/19 09:45	08/29/19
L1939381-04	MOND COMP	SOIL	CYPHER ST., S. BOSTON	08/29/19 10:45	08/29/19
L1939381-05	TT-20A (0-2')	SOIL	CYPHER ST., S. BOSTON	08/29/19 08:30	08/29/19
L1939381-06	TT-11 (0-2')	SOIL	CYPHER ST., S. BOSTON	08/29/19 09:50	08/29/19
L1939381-07	TT-11 (2-4')	SOIL	CYPHER ST., S. BOSTON	08/29/19 10:30	08/29/19
L1939381-08	TT-3 (0-2')	SOIL	CYPHER ST., S. BOSTON	08/29/19 11:45	08/29/19
L1939381-09	DC1112	SOIL	CYPHER ST., S. BOSTON	08/29/19 12:00	08/29/19
L1939381-10	DC20A18	SOIL	CYPHER ST., S. BOSTON	08/29/19 12:30	08/29/19
L1939381-11	DC123	SOIL	CYPHER ST., S. BOSTON	08/29/19 13:00	08/29/19

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

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?	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:	CYPHER ST., S. BOSTON	**Lab Number:**	L1939381
Project Number:	143-278997-19001	**Report Date:**	09/13/19

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:	CYPHER ST., S. BOSTON	**Lab Number:**	L1939381
Project Number:	143-278997-19001	**Report Date:**	09/13/19

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

All samples were analyzed at the client's request.

L1939381-01 through -04: The analysis of TCLP Lead was performed at the client's request.

In reference to question H:

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

Volatile Organics

L1939381-09 and -10: The analysis of Volatile Organics by EPA Method 5035/8260 Low Level could not be performed due to the elevated concentrations of non-target compounds in the sample.

In reference to question G:

L1939381-09 and -10: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

L1939381-03: The internal standard (IS) response for 1,4-dichlorobenzene-d4 (49%) was outside the acceptance criteria; however, re-analysis achieved a similar result: 1,4-dichlorobenzene-d4 (26%) and a high surrogate recovery for 4-bromofluorobenzene (140%). 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.

L1939381-06: The internal standard (IS) response for 1,4-dichlorobenzene-d4 (34%) was 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 (but not <20% of applicable calibration standard area counts), all associated compounds are considered to have a potentially high bias.

L1939381-08: The internal standard (IS) response for 1,4-dichlorobenzene-d4 (47%) and the surrogate recovery for 4-bromofluorobenzene (160%) were outside the acceptance criteria; however, re-analysis achieved a similar result: 1,4-dichlorobenzene-d4 (45%). The results of both analyses are reported; however, since the IS response was below method criteria, all associated compounds and surrogate recoveries are

Case Narrative (continued)

considered to have a potentially high bias.

L1939381-11: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (184%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

The WG1282220-3/-4 LCS/LCSD recoveries, associated with L1939381-08 and -11, are outside the acceptance criteria for individual target compounds, but within the overall method allowances. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for trichlorofluoromethane (62%/61%), bromomethane (68%/67%), chloroethane (63%/58%), and diethyl ether (67%/63%); and a potentially high bias for methyl ethyl ketone (138%/141%), tetrahydrofuran (LCSD 139%), and diisopropyl ether (137%/140%).

The WG1282224-3/-4 LCS/LCSD recoveries, associated with L1939381-09 and -10, are outside the acceptance criteria for individual target compounds, but within the overall method allowances. The results of the associated samples are reported; however, all results are considered to have a potentially high bias for trichlorofluoromethane (62%/61%), bromomethane (68%/67%), chloroethane (63%/58%), and diethyl ether (67%/63%); and a potentially high bias for methyl ethyl ketone (138%/141%), tetrahydrofuran (LCSD 139%), and diisopropyl ether (137%/140%).

The initial calibration, associated with L1939381-01 through -08, 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 L1939381-08 through -11, did not meet the method required minimum response factor on the lowest calibration standard for 1,4-dioxane (0.0032), as well as the average response factor for acetone and 1,4-dioxane. In addition, the initial calibration verification is outside acceptance criteria for dichlorodifluoromethane (150%) and 1,4-dioxane (66%).

The continuing calibration standards, associated with L1939381-01 through -11, 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.

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Project Number:	143-278997-19001	**Report Date:**	09/13/19

Case Narrative (continued)

PAHs

L1939381-07: The sample has elevated detection limits due to the limited sample volume utilized during extraction, as required by the sample matrix.

L1939381-08: The sample has elevated detection limits due to the dilution required by the sample matrix.

In reference to question G:

L1939381-07 and -08: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

L1939381-05: The surrogate recovery is outside the individual acceptance criteria for 4-terphenyl-d14 (27%), but within the overall method allowances. The results of the original analysis are reported; however, all associated compounds are considered to have a potential bias.

In reference to question I:

L1939381-01 and -05 through -08 were analyzed for a subset of MCP analytes per client request.

Semivolatile Organics

L1939381-02, -09, -10, and -11: The sample has elevated detection limits due to the dilution required by the sample matrix.

In reference to question G:

L1939381-02, -09, -10, and -11: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

L1939381-11: The surrogate recovery is outside the individual acceptance criteria for 4-terphenyl-d14 (28%), but within the overall method allowances. The results of the original analysis are reported; however, all associated compounds are considered to have a potential bias.

VPH

L1939381-05, -06, and -07: The sample was outside the recommended 1:1 methanol:soil ratio, due to the amount of soil provided in the sample vial.

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Case Narrative (continued)

In reference to question H:

L1939381-04: The surrogate recoveries are above the acceptance criteria for 2,5-dibromotoluene-pid (131%) and 2,5-dibromotoluene-fid (132%). Since the sample was non-detect for all target analytes, re-analysis was not required.

In reference to question I:

All samples were analyzed for a subset of MCP analytes per client request.

EPH

L1939381-03: The sample has elevated detection limits due to limited sample volume available for analysis.

In reference to question G:

L1939381-03: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question I:

All samples were analyzed for a subset of MCP analytes per client request.

PCBs

L1939381-08: The sample has elevated detection limits due to the dilution required by the sample matrix.

In reference to question G:

L1939381-08: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

L1939381-09: One or more dual column RPDs are above the acceptance criteria; however, obvious column interferences are present. The result is qualified with a "P" if the higher of the two results is reported. The result is qualified with an "IP" if the lower of the two results is reported.

L1939381-11: The surrogate recovery is outside the individual acceptance criteria for decachlorobiphenyl (27%), but within the overall method allowances. The results of the original analysis are reported; however, all associated compounds are considered to have a potential bias.

Pesticides

Project Name:	CYPHER ST., S. BOSTON	**Lab Number:**	L1939381
Project Number:	143-278997-19001	**Report Date:**	09/13/19

Case Narrative (continued)

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:

L1939381-02, -04, -09, and -11: One or more dual column RPDs are above the acceptance criteria; however, obvious column interferences are present. The result is qualified with a "P" if the higher of the two results is reported. The result is qualified with an "IP" if the lower of the two results is reported.

Metals

In reference to question I:

L1939381-09, -10, and -11 were analyzed for a subset of MCP analytes per client request.

Non-MCP Related Narratives

TPH

L1939381-09, -10, -11, and WG1280910-3: The sample has an elevated detection limit due to the dilution required by the sample matrix.

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

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative Date: 09/13/19

QC OUTLIER SUMMARY REPORT

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939381
Report Date: 09/13/19

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	WG1282224-3	Trichlorofluoromethane	LCS	62	70-130	09-10	potential low bias
8260C	Batch QC	WG1282224-3	Bromomethane	LCS	68	70-130	09-10	potential low bias
8260C	Batch QC	WG1282224-3	Chloroethane	LCS	63	70-130	09-10	potential low bias
8260C	Batch QC	WG1282224-3	Methyl ethyl ketone	LCS	138	70-130	09-10	potential high bias
8260C	Batch QC	WG1282224-3	Diethyl ether	LCS	67	70-130	09-10	potential low bias
8260C	Batch QC	WG1282224-3	Diisopropyl Ether	LCS	137	70-130	09-10	potential high bias
8260C	Batch QC	WG1282224-4	Trichlorofluoromethane	LCSD	61	70-130	09-10	potential low bias
8260C	Batch QC	WG1282224-4	Bromomethane	LCSD	67	70-130	09-10	potential low bias
8260C	Batch QC	WG1282224-4	Chloroethane	LCSD	58	70-130	09-10	potential low bias
8260C	Batch QC	WG1282224-4	Methyl ethyl ketone	LCSD	141	70-130	09-10	potential high bias
8260C	Batch QC	WG1282224-4	Tetrahydrofuran	LCSD	139	70-130	09-10	potential high bias
8260C	Batch QC	WG1282224-4	Diethyl ether	LCSD	63	70-130	09-10	potential low bias
8260C	Batch QC	WG1282224-4	Diisopropyl Ether	LCSD	140	70-130	09-10	potential high bias
MCP Volatile Organics by EPA 5035 Low - Westborough Lab								
8260C	TT-22A (3')	L1939381-03 R	4-Bromofluorobenzene	Surrogate	140	70-130	-	potential high bias
8260C	TT-3 (0-2')	L1939381-08	4-Bromofluorobenzene	Surrogate	160	70-130	-	potential high bias
8260C	DC123	L1939381-11	4-Bromofluorobenzene	Surrogate	184	70-130	-	potential high bias
8260C	Batch QC	WG1282220-3	Trichlorofluoromethane	LCS	62	70-130	08,11	potential low bias
8260C	Batch QC	WG1282220-3	Bromomethane	LCS	68	70-130	08,11	potential low bias
8260C	Batch QC	WG1282220-3	Chloroethane	LCS	63	70-130	08,11	potential low bias
8260C	Batch QC	WG1282220-3	Methyl ethyl ketone	LCS	138	70-130	08,11	potential high bias
8260C	Batch QC	WG1282220-3	Diethyl ether	LCS	67	70-130	08,11	potential low bias
8260C	Batch QC	WG1282220-3	Diisopropyl Ether	LCS	137	70-130	08,11	potential high bias
8260C	Batch QC	WG1282220-4	Trichlorofluoromethane	LCSD	61	70-130	08,11	potential low bias
8260C	Batch QC	WG1282220-4	Bromomethane	LCSD	67	70-130	08,11	potential low bias
8260C	Batch QC	WG1282220-4	Chloroethane	LCSD	58	70-130	08,11	potential low bias
8260C	Batch QC	WG1282220-4	Methyl ethyl ketone	LCSD	141	70-130	08,11	potential high bias
8260C	Batch QC	WG1282220-4	Tetrahydrofuran	LCSD	139	70-130	08,11	potential high bias

QC OUTLIER SUMMARY REPORT

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939381
Report Date: 09/13/19

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
8260C	Batch QC	WG1282220-4	Diethyl ether	LCSD	63	70-130	08,11	potential low bias
8260C	Batch QC	WG1282220-4	Diisopropyl Ether	LCSD	140	70-130	08,11	potential high bias
MCP PAHs - Westborough Lab								
8270D	TT-20A (0-2')	L1939381-05	4-Terphenyl-d14	Surrogate	27	30-130	-	potential low bias
MCP Semivolatile Organics - Westborough Lab								
8270D	DC123	L1939381-11 D	4-Terphenyl-d14	Surrogate	28	30-130	-	potential low bias
Volatile Petroleum Hydrocarbons - Westborough Lab								
VPH-18-2.1	MOND COMP	L1939381-04	2,5-Dibromotoluene-PID	Surrogate	131	70-130	-	potential high bias
VPH-18-2.1	MOND COMP	L1939381-04	2,5-Dibromotoluene-FID	Surrogate	132	70-130	-	potential high bias
MCP Polychlorinated Biphenyls - Westborough Lab								
8082A	DC123	L1939381-11	Decachlorobiphenyl (A)	Surrogate	27	30-150	-	potential low bias

ORGANICS

VOLATILES

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-01
Client ID: TT-21 (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 09:00
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/10/19 11:42
Analyst: NLK
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	4.8	--	1
1,1-Dichloroethane	ND		ug/kg	0.96	--	1
Chloroform	ND		ug/kg	1.4	--	1
Carbon tetrachloride	ND		ug/kg	0.96	--	1
1,2-Dichloropropane	ND		ug/kg	0.96	--	1
Dibromochloromethane	ND		ug/kg	0.96	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.96	--	1
Tetrachloroethene	ND		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	0.96	--	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	0.96	--	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	0.96	--	1
Ethylbenzene	ND		ug/kg	0.96	--	1
Chloromethane	ND		ug/kg	3.8	--	1
Bromomethane	ND		ug/kg	1.9	--	1
Vinyl chloride	ND		ug/kg	0.96	--	1
Chloroethane	ND		ug/kg	1.9	--	1
1,1-Dichloroethene	ND		ug/kg	0.96	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.4	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-01 Date Collected: 08/29/19 09:00

Client ID: TT-21 (0-2') Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON 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	0.96	--	1
Xylenes, Total	ND		ug/kg	0.96	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.96	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.96	--	1
Dibromomethane	ND		ug/kg	1.9	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.9	--	1
Styrene	ND		ug/kg	0.96	--	1
Dichlorodifluoromethane	ND		ug/kg	9.6	--	1
Acetone	25		ug/kg	9.6	--	1
Carbon disulfide	ND		ug/kg	9.6	--	1
Methyl ethyl ketone	ND		ug/kg	9.6	--	1
Methyl isobutyl ketone	ND		ug/kg	9.6	--	1
2-Hexanone	ND		ug/kg	9.6	--	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	0.96	--	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	0.96	--	1
sec-Butylbenzene	ND		ug/kg	0.96	--	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	3.8	--	1
Isopropylbenzene	ND		ug/kg	0.96	--	1
p-Isopropyltoluene	ND		ug/kg	0.96	--	1
Naphthalene	ND		ug/kg	3.8	--	1
n-Propylbenzene	ND		ug/kg	0.96	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-01 Date Collected: 08/29/19 09:00

Client ID: TT-21 (0-2') Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON 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	95		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	94		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-02
Client ID: TT-22A (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 09:30
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/10/19 12:06
Analyst: NLK
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.4	--	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	0.54	--	1
Chlorobenzene	ND		ug/kg	0.54	--	1
Trichlorofluoromethane	ND		ug/kg	4.3	--	1
1,2-Dichloroethane	ND		ug/kg	1.1	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.54	--	1
Bromodichloromethane	ND		ug/kg	0.54	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.1	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.54	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.54	--	1
1,1-Dichloropropene	ND		ug/kg	0.54	--	1
Bromoform	ND		ug/kg	4.3	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.54	--	1
Benzene	ND		ug/kg	0.54	--	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	2.2	--	1
Vinyl chloride	ND		ug/kg	1.1	--	1
Chloroethane	ND		ug/kg	2.2	--	1
1,1-Dichloroethene	ND		ug/kg	1.1	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.6	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-02 Date Collected: 08/29/19 09:30

Client ID: TT-22A (0-2') Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON 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	0.54	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.2	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.2	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.2	--	1
Methyl tert butyl ether	ND		ug/kg	2.2	--	1
p/m-Xylene	ND		ug/kg	2.2	--	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	2.2	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.2	--	1
Styrene	ND		ug/kg	1.1	--	1
Dichlorodifluoromethane	ND		ug/kg	11	--	1
Acetone	17		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	2.2	--	1
Tetrahydrofuran	ND		ug/kg	4.3	--	1
2,2-Dichloropropane	ND		ug/kg	2.2	--	1
1,2-Dibromoethane	ND		ug/kg	1.1	--	1
1,3-Dichloropropane	ND		ug/kg	2.2	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.54	--	1
Bromobenzene	ND		ug/kg	2.2	--	1
n-Butylbenzene	ND		ug/kg	1.1	--	1
sec-Butylbenzene	ND		ug/kg	1.1	--	1
tert-Butylbenzene	ND		ug/kg	2.2	--	1
o-Chlorotoluene	ND		ug/kg	2.2	--	1
p-Chlorotoluene	ND		ug/kg	2.2	--	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: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-02 Date Collected: 08/29/19 09:30

Client ID: TT-22A (0-2') Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON 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	2.2	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.2	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.2	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.2	--	1
Diethyl ether	ND		ug/kg	2.2	--	1
Diisopropyl Ether	ND		ug/kg	2.2	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.2	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.2	--	1
1,4-Dioxane	ND		ug/kg	86	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	95		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-03
Client ID: TT-22A (3')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 09:45
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/10/19 12:30
Analyst: NLK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.5	--	1
1,1-Dichloroethane	ND		ug/kg	0.90	--	1
Chloroform	ND		ug/kg	1.4	--	1
Carbon tetrachloride	ND		ug/kg	0.90	--	1
1,2-Dichloropropane	ND		ug/kg	0.90	--	1
Dibromochloromethane	ND		ug/kg	0.90	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.90	--	1
Tetrachloroethene	ND		ug/kg	0.45	--	1
Chlorobenzene	ND		ug/kg	0.45	--	1
Trichlorofluoromethane	ND		ug/kg	3.6	--	1
1,2-Dichloroethane	ND		ug/kg	0.90	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.45	--	1
Bromodichloromethane	ND		ug/kg	0.45	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.90	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.45	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.45	--	1
1,1-Dichloropropene	ND		ug/kg	0.45	--	1
Bromoform	ND		ug/kg	3.6	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.45	--	1
Benzene	ND		ug/kg	0.45	--	1
Toluene	ND		ug/kg	0.90	--	1
Ethylbenzene	ND		ug/kg	0.90	--	1
Chloromethane	ND		ug/kg	3.6	--	1
Bromomethane	ND		ug/kg	1.8	--	1
Vinyl chloride	ND		ug/kg	0.90	--	1
Chloroethane	ND		ug/kg	1.8	--	1
1,1-Dichloroethene	ND		ug/kg	0.90	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.4	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-03 Date Collected: 08/29/19 09:45

Client ID: TT-22A (3') Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON 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	0.45	--	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	0.90	--	1
Xylenes, Total	ND		ug/kg	0.90	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.90	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.90	--	1
Dibromomethane	ND		ug/kg	1.8	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.8	--	1
Styrene	ND		ug/kg	0.90	--	1
Dichlorodifluoromethane	ND		ug/kg	9.0	--	1
Acetone	87		ug/kg	9.0	--	1
Carbon disulfide	ND		ug/kg	9.0	--	1
Methyl ethyl ketone	ND		ug/kg	9.0	--	1
Methyl isobutyl ketone	ND		ug/kg	9.0	--	1
2-Hexanone	ND		ug/kg	9.0	--	1
Bromochloromethane	ND		ug/kg	1.8	--	1
Tetrahydrofuran	ND		ug/kg	3.6	--	1
2,2-Dichloropropane	ND		ug/kg	1.8	--	1
1,2-Dibromoethane	ND		ug/kg	0.90	--	1
1,3-Dichloropropane	ND		ug/kg	1.8	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.45	--	1
Bromobenzene	ND		ug/kg	1.8	--	1
n-Butylbenzene	ND		ug/kg	0.90	--	1
sec-Butylbenzene	ND		ug/kg	0.90	--	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	2.7	--	1
Hexachlorobutadiene	ND		ug/kg	3.6	--	1
Isopropylbenzene	ND		ug/kg	0.90	--	1
p-Isopropyltoluene	ND		ug/kg	0.90	--	1
Naphthalene	ND		ug/kg	3.6	--	1
n-Propylbenzene	ND		ug/kg	0.90	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-03 Date Collected: 08/29/19 09:45

Client ID: TT-22A (3') Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON 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	72	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	110		70-130
4-Bromofluorobenzene	113		70-130
Dibromofluoromethane	96		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-03 R
Client ID: TT-22A (3')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 09:45
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/10/19 23:18
Analyst: NLK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	8.7	--	1
1,1-Dichloroethane	ND		ug/kg	1.7	--	1
Chloroform	ND		ug/kg	2.6	--	1
Carbon tetrachloride	ND		ug/kg	1.7	--	1
1,2-Dichloropropane	ND		ug/kg	1.7	--	1
Dibromochloromethane	ND		ug/kg	1.7	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.7	--	1
Tetrachloroethene	ND		ug/kg	0.87	--	1
Chlorobenzene	ND		ug/kg	0.87	--	1
Trichlorofluoromethane	ND		ug/kg	7.0	--	1
1,2-Dichloroethane	ND		ug/kg	1.7	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.87	--	1
Bromodichloromethane	ND		ug/kg	0.87	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.7	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.87	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.87	--	1
1,1-Dichloropropene	ND		ug/kg	0.87	--	1
Bromoform	ND		ug/kg	7.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.87	--	1
Benzene	ND		ug/kg	0.87	--	1
Toluene	ND		ug/kg	1.7	--	1
Ethylbenzene	ND		ug/kg	1.7	--	1
Chloromethane	ND		ug/kg	7.0	--	1
Bromomethane	ND		ug/kg	3.5	--	1
Vinyl chloride	ND		ug/kg	1.7	--	1
Chloroethane	ND		ug/kg	3.5	--	1
1,1-Dichloroethene	ND		ug/kg	1.7	--	1
trans-1,2-Dichloroethene	ND		ug/kg	2.6	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-03 R Date Collected: 08/29/19 09:45

Client ID: TT-22A (3') Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON 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	0.87	--	1
1,2-Dichlorobenzene	ND		ug/kg	3.5	--	1
1,3-Dichlorobenzene	ND		ug/kg	3.5	--	1
1,4-Dichlorobenzene	ND		ug/kg	3.5	--	1
Methyl tert butyl ether	ND		ug/kg	3.5	--	1
p/m-Xylene	ND		ug/kg	3.5	--	1
o-Xylene	ND		ug/kg	1.7	--	1
Xylenes, Total	ND		ug/kg	1.7	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.7	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.7	--	1
Dibromomethane	ND		ug/kg	3.5	--	1
1,2,3-Trichloropropane	ND		ug/kg	3.5	--	1
Styrene	ND		ug/kg	1.7	--	1
Dichlorodifluoromethane	ND		ug/kg	17	--	1
Acetone	21		ug/kg	17	--	1
Carbon disulfide	ND		ug/kg	17	--	1
Methyl ethyl ketone	ND		ug/kg	17	--	1
Methyl isobutyl ketone	ND		ug/kg	17	--	1
2-Hexanone	ND		ug/kg	17	--	1
Bromochloromethane	ND		ug/kg	3.5	--	1
Tetrahydrofuran	ND		ug/kg	7.0	--	1
2,2-Dichloropropane	ND		ug/kg	3.5	--	1
1,2-Dibromoethane	ND		ug/kg	1.7	--	1
1,3-Dichloropropane	ND		ug/kg	3.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.87	--	1
Bromobenzene	ND		ug/kg	3.5	--	1
n-Butylbenzene	ND		ug/kg	1.7	--	1
sec-Butylbenzene	ND		ug/kg	1.7	--	1
tert-Butylbenzene	ND		ug/kg	3.5	--	1
o-Chlorotoluene	ND		ug/kg	3.5	--	1
p-Chlorotoluene	ND		ug/kg	3.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	5.2	--	1
Hexachlorobutadiene	ND		ug/kg	7.0	--	1
Isopropylbenzene	ND		ug/kg	1.7	--	1
p-Isopropyltoluene	ND		ug/kg	1.7	--	1
Naphthalene	ND		ug/kg	7.0	--	1
n-Propylbenzene	ND		ug/kg	1.7	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-03 R Date Collected: 08/29/19 09:45

Client ID: TT-22A (3') Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON 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	3.5	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	3.5	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	3.5	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	3.5	--	1
Diethyl ether	ND		ug/kg	3.5	--	1
Diisopropyl Ether	ND		ug/kg	3.5	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	3.5	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	3.5	--	1
1,4-Dioxane	ND		ug/kg	140	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	124		70-130
4-Bromofluorobenzene	**140**	Q	70-130
Dibromofluoromethane	101		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-04
Client ID: MOND COMP
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 10:45
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/10/19 12:54
Analyst: NLK
Percent Solids: 84%

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	ND		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: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-04 Date Collected: 08/29/19 10:45

Client ID: MOND COMP Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON 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	40		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: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-04 Date Collected: 08/29/19 10:45

Client ID: MOND COMP Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON 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	101		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	95		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-05
Client ID: TT-20A (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 08:30
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/10/19 13:18
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	3.6	--	1
1,1-Dichloroethane	ND		ug/kg	0.71	--	1
Chloroform	ND		ug/kg	1.1	--	1
Carbon tetrachloride	ND		ug/kg	0.71	--	1
1,2-Dichloropropane	ND		ug/kg	0.71	--	1
Dibromochloromethane	ND		ug/kg	0.71	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.71	--	1
Tetrachloroethene	ND		ug/kg	0.36	--	1
Chlorobenzene	ND		ug/kg	0.36	--	1
Trichlorofluoromethane	ND		ug/kg	2.8	--	1
1,2-Dichloroethane	ND		ug/kg	0.71	--	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	0.71	--	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	2.8	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.36	--	1
Benzene	ND		ug/kg	0.36	--	1
Toluene	ND		ug/kg	0.71	--	1
Ethylbenzene	ND		ug/kg	0.71	--	1
Chloromethane	ND		ug/kg	2.8	--	1
Bromomethane	ND		ug/kg	1.4	--	1
Vinyl chloride	ND		ug/kg	0.71	--	1
Chloroethane	ND		ug/kg	1.4	--	1
1,1-Dichloroethene	ND		ug/kg	0.71	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.1	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-05 Date Collected: 08/29/19 08:30

Client ID: TT-20A (0-2') Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON 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	0.71	--	1
Xylenes, Total	ND		ug/kg	0.71	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.71	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.71	--	1
Dibromomethane	ND		ug/kg	1.4	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.4	--	1
Styrene	ND		ug/kg	0.71	--	1
Dichlorodifluoromethane	ND		ug/kg	7.1	--	1
Acetone	12		ug/kg	7.1	--	1
Carbon disulfide	ND		ug/kg	7.1	--	1
Methyl ethyl ketone	ND		ug/kg	7.1	--	1
Methyl isobutyl ketone	ND		ug/kg	7.1	--	1
2-Hexanone	ND		ug/kg	7.1	--	1
Bromochloromethane	ND		ug/kg	1.4	--	1
Tetrahydrofuran	ND		ug/kg	2.8	--	1
2,2-Dichloropropane	ND		ug/kg	1.4	--	1
1,2-Dibromoethane	ND		ug/kg	0.71	--	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	0.71	--	1
sec-Butylbenzene	ND		ug/kg	0.71	--	1
tert-Butylbenzene	ND		ug/kg	1.4	--	1
o-Chlorotoluene	ND		ug/kg	1.4	--	1
p-Chlorotoluene	ND		ug/kg	1.4	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.1	--	1
Hexachlorobutadiene	ND		ug/kg	2.8	--	1
Isopropylbenzene	ND		ug/kg	0.71	--	1
p-Isopropyltoluene	ND		ug/kg	0.71	--	1
Naphthalene	ND		ug/kg	2.8	--	1
n-Propylbenzene	ND		ug/kg	0.71	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-05 Date Collected: 08/29/19 08:30

Client ID: TT-20A (0-2') Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON 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	100		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	96		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-06
Client ID: TT-11 (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 09:50
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/10/19 13:43
Analyst: NLK
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	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	ND		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: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-06 Date Collected: 08/29/19 09:50

Client ID: TT-11 (0-2') Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON 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	13		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	3.0	--	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: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-06 Date Collected: 08/29/19 09:50

Client ID: TT-11 (0-2') Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON 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	81	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	114		70-130
4-Bromofluorobenzene	121		70-130
Dibromofluoromethane	100		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-06 R
Client ID: TT-11 (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 09:50
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/10/19 23:42
Analyst: NLK
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	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	ND		ug/kg	0.51	--	1
Chlorobenzene	ND		ug/kg	0.51	--	1
Trichlorofluoromethane	ND		ug/kg	4.0	--	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	4.0	--	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	4.0	--	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: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-06 R Date Collected: 08/29/19 09:50

Client ID: TT-11 (0-2') Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON 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	12		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	4.0	--	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	3.0	--	1
Hexachlorobutadiene	ND		ug/kg	4.0	--	1
Isopropylbenzene	ND		ug/kg	1.0	--	1
p-Isopropyltoluene	ND		ug/kg	1.0	--	1
Naphthalene	ND		ug/kg	4.0	--	1
n-Propylbenzene	ND		ug/kg	1.0	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-06 R Date Collected: 08/29/19 09:50

Client ID: TT-11 (0-2') Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON 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	81	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	116		70-130
4-Bromofluorobenzene	125		70-130
Dibromofluoromethane	100		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-07
Client ID: TT-11 (2-4')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 10:30
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/10/19 14:07
Analyst: NLK
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	4.6	--	1
1,1-Dichloroethane	ND		ug/kg	0.92	--	1
Chloroform	ND		ug/kg	1.4	--	1
Carbon tetrachloride	ND		ug/kg	0.92	--	1
1,2-Dichloropropane	ND		ug/kg	0.92	--	1
Dibromochloromethane	ND		ug/kg	0.92	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.92	--	1
Tetrachloroethene	ND		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	0.92	--	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	0.92	--	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	0.92	--	1
Ethylbenzene	ND		ug/kg	0.92	--	1
Chloromethane	ND		ug/kg	3.7	--	1
Bromomethane	ND		ug/kg	1.8	--	1
Vinyl chloride	ND		ug/kg	0.92	--	1
Chloroethane	ND		ug/kg	1.8	--	1
1,1-Dichloroethene	ND		ug/kg	0.92	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.4	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-07 Date Collected: 08/29/19 10:30

Client ID: TT-11 (2-4') Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON 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	1.8	--	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	0.92	--	1
Xylenes, Total	ND		ug/kg	0.92	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.92	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.92	--	1
Dibromomethane	ND		ug/kg	1.8	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.8	--	1
Styrene	ND		ug/kg	0.92	--	1
Dichlorodifluoromethane	ND		ug/kg	9.2	--	1
Acetone	16		ug/kg	9.2	--	1
Carbon disulfide	ND		ug/kg	9.2	--	1
Methyl ethyl ketone	ND		ug/kg	9.2	--	1
Methyl isobutyl ketone	ND		ug/kg	9.2	--	1
2-Hexanone	ND		ug/kg	9.2	--	1
Bromochloromethane	ND		ug/kg	1.8	--	1
Tetrahydrofuran	ND		ug/kg	3.7	--	1
2,2-Dichloropropane	ND		ug/kg	1.8	--	1
1,2-Dibromoethane	ND		ug/kg	0.92	--	1
1,3-Dichloropropane	ND		ug/kg	1.8	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.46	--	1
Bromobenzene	ND		ug/kg	1.8	--	1
n-Butylbenzene	ND		ug/kg	0.92	--	1
sec-Butylbenzene	ND		ug/kg	0.92	--	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	2.8	--	1
Hexachlorobutadiene	ND		ug/kg	3.7	--	1
Isopropylbenzene	ND		ug/kg	0.92	--	1
p-Isopropyltoluene	ND		ug/kg	0.92	--	1
Naphthalene	ND		ug/kg	3.7	--	1
n-Propylbenzene	ND		ug/kg	0.92	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-07 Date Collected: 08/29/19 10:30

Client ID: TT-11 (2-4') Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON 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	73	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	97		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-08
Client ID: TT-3 (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 11:45
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/10/19 01:04
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	3.3	--	1
1,1-Dichloroethane	ND		ug/kg	0.67	--	1
Chloroform	ND		ug/kg	1.0	--	1
Carbon tetrachloride	ND		ug/kg	0.67	--	1
1,2-Dichloropropane	ND		ug/kg	0.67	--	1
Dibromochloromethane	ND		ug/kg	0.67	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.67	--	1
Tetrachloroethene	ND		ug/kg	0.33	--	1
Chlorobenzene	ND		ug/kg	0.33	--	1
Trichlorofluoromethane	ND		ug/kg	2.7	--	1
1,2-Dichloroethane	ND		ug/kg	0.67	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.33	--	1
Bromodichloromethane	ND		ug/kg	0.33	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.67	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.33	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.33	--	1
1,1-Dichloropropene	ND		ug/kg	0.33	--	1
Bromoform	ND		ug/kg	2.7	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.33	--	1
Benzene	0.40		ug/kg	0.33	--	1
Toluene	1.1		ug/kg	0.67	--	1
Ethylbenzene	0.80		ug/kg	0.67	--	1
Chloromethane	ND		ug/kg	2.7	--	1
Bromomethane	ND		ug/kg	1.3	--	1
Vinyl chloride	ND		ug/kg	0.67	--	1
Chloroethane	ND		ug/kg	1.3	--	1
1,1-Dichloroethene	ND		ug/kg	0.67	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.0	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-08 Date Collected: 08/29/19 11:45

Client ID: TT-3 (0-2') Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.33	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.3	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.3	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.3	--	1
Methyl tert butyl ether	ND		ug/kg	1.3	--	1
p/m-Xylene	2.4		ug/kg	1.3	--	1
o-Xylene	3.2		ug/kg	0.67	--	1
Xylenes, Total	5.6		ug/kg	0.67	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.67	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.67	--	1
Dibromomethane	ND		ug/kg	1.3	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.3	--	1
Styrene	ND		ug/kg	0.67	--	1
Dichlorodifluoromethane	ND		ug/kg	6.7	--	1
Acetone	28		ug/kg	6.7	--	1
Carbon disulfide	ND		ug/kg	6.7	--	1
Methyl ethyl ketone	ND		ug/kg	6.7	--	1
Methyl isobutyl ketone	ND		ug/kg	6.7	--	1
2-Hexanone	ND		ug/kg	6.7	--	1
Bromochloromethane	ND		ug/kg	1.3	--	1
Tetrahydrofuran	ND		ug/kg	2.7	--	1
2,2-Dichloropropane	ND		ug/kg	1.3	--	1
1,2-Dibromoethane	ND		ug/kg	0.67	--	1
1,3-Dichloropropane	ND		ug/kg	1.3	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.33	--	1
Bromobenzene	ND		ug/kg	1.3	--	1
n-Butylbenzene	ND		ug/kg	0.67	--	1
sec-Butylbenzene	ND		ug/kg	0.67	--	1
tert-Butylbenzene	ND		ug/kg	1.3	--	1
o-Chlorotoluene	ND		ug/kg	1.3	--	1
p-Chlorotoluene	ND		ug/kg	1.3	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.0	--	1
Hexachlorobutadiene	ND		ug/kg	2.7	--	1
Isopropylbenzene	0.87		ug/kg	0.67	--	1
p-Isopropyltoluene	1.8		ug/kg	0.67	--	1
Naphthalene	9.9		ug/kg	2.7	--	1
n-Propylbenzene	0.76		ug/kg	0.67	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-08 Date Collected: 08/29/19 11:45

Client ID: TT-3 (0-2') Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.3	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.3	--	1
1,3,5-Trimethylbenzene	8.9		ug/kg	1.3	--	1
1,2,4-Trimethylbenzene	11		ug/kg	1.3	--	1
Diethyl ether	ND		ug/kg	1.3	--	1
Diisopropyl Ether	ND		ug/kg	1.3	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.3	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.3	--	1
1,4-Dioxane	ND		ug/kg	53	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	117		70-130
4-Bromofluorobenzene	**160**	Q	70-130
Dibromofluoromethane	96		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-08 R
Client ID: TT-3 (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 11:45
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/10/19 11:17
Analyst: NLK
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	3.0	--	1
1,1-Dichloroethane	ND		ug/kg	0.60	--	1
Chloroform	ND		ug/kg	0.91	--	1
Carbon tetrachloride	ND		ug/kg	0.60	--	1
1,2-Dichloropropane	ND		ug/kg	0.60	--	1
Dibromochloromethane	ND		ug/kg	0.60	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.60	--	1
Tetrachloroethene	ND		ug/kg	0.30	--	1
Chlorobenzene	ND		ug/kg	0.30	--	1
Trichlorofluoromethane	ND		ug/kg	2.4	--	1
1,2-Dichloroethane	ND		ug/kg	0.60	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.30	--	1
Bromodichloromethane	ND		ug/kg	0.30	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.60	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.30	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.30	--	1
1,1-Dichloropropene	ND		ug/kg	0.30	--	1
Bromoform	ND		ug/kg	2.4	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.30	--	1
Benzene	ND		ug/kg	0.30	--	1
Toluene	ND		ug/kg	0.60	--	1
Ethylbenzene	ND		ug/kg	0.60	--	1
Chloromethane	ND		ug/kg	2.4	--	1
Bromomethane	ND		ug/kg	1.2	--	1
Vinyl chloride	ND		ug/kg	0.60	--	1
Chloroethane	ND		ug/kg	1.2	--	1
1,1-Dichloroethene	ND		ug/kg	0.60	--	1
trans-1,2-Dichloroethene	ND		ug/kg	0.91	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-08 R Date Collected: 08/29/19 11:45

Client ID: TT-3 (0-2') Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON 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	0.30	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.2	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.2	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.2	--	1
Methyl tert butyl ether	ND		ug/kg	1.2	--	1
p/m-Xylene	ND		ug/kg	1.2	--	1
o-Xylene	0.69		ug/kg	0.60	--	1
Xylenes, Total	0.69		ug/kg	0.60	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.60	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.60	--	1
Dibromomethane	ND		ug/kg	1.2	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.2	--	1
Styrene	ND		ug/kg	0.60	--	1
Dichlorodifluoromethane	ND		ug/kg	6.0	--	1
Acetone	14		ug/kg	6.0	--	1
Carbon disulfide	ND		ug/kg	6.0	--	1
Methyl ethyl ketone	ND		ug/kg	6.0	--	1
Methyl isobutyl ketone	ND		ug/kg	6.0	--	1
2-Hexanone	ND		ug/kg	6.0	--	1
Bromochloromethane	ND		ug/kg	1.2	--	1
Tetrahydrofuran	ND		ug/kg	2.4	--	1
2,2-Dichloropropane	ND		ug/kg	1.2	--	1
1,2-Dibromoethane	ND		ug/kg	0.60	--	1
1,3-Dichloropropane	ND		ug/kg	1.2	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.30	--	1
Bromobenzene	ND		ug/kg	1.2	--	1
n-Butylbenzene	ND		ug/kg	0.60	--	1
sec-Butylbenzene	ND		ug/kg	0.60	--	1
tert-Butylbenzene	ND		ug/kg	1.2	--	1
o-Chlorotoluene	ND		ug/kg	1.2	--	1
p-Chlorotoluene	ND		ug/kg	1.2	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	1.8	--	1
Hexachlorobutadiene	ND		ug/kg	2.4	--	1
Isopropylbenzene	ND		ug/kg	0.60	--	1
p-Isopropyltoluene	0.70		ug/kg	0.60	--	1
Naphthalene	3.6		ug/kg	2.4	--	1
n-Propylbenzene	ND		ug/kg	0.60	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-08 R Date Collected: 08/29/19 11:45

Client ID: TT-3 (0-2') Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.2	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.2	--	1
1,3,5-Trimethylbenzene	2.1		ug/kg	1.2	--	1
1,2,4-Trimethylbenzene	2.6		ug/kg	1.2	--	1
Diethyl ether	ND		ug/kg	1.2	--	1
Diisopropyl Ether	ND		ug/kg	1.2	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.2	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.2	--	1
1,4-Dioxane	ND		ug/kg	48	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	126		70-130
Dibromofluoromethane	96		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-09
Client ID: DC1112
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 12:00
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/09/19 23:42
Analyst: JC
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	460	--	1
1,1-Dichloroethane	ND		ug/kg	91	--	1
Chloroform	ND		ug/kg	140	--	1
Carbon tetrachloride	ND		ug/kg	91	--	1
1,2-Dichloropropane	ND		ug/kg	91	--	1
Dibromochloromethane	ND		ug/kg	91	--	1
1,1,2-Trichloroethane	ND		ug/kg	91	--	1
Tetrachloroethene	ND		ug/kg	46	--	1
Chlorobenzene	ND		ug/kg	46	--	1
Trichlorofluoromethane	ND		ug/kg	360	--	1
1,2-Dichloroethane	ND		ug/kg	91	--	1
1,1,1-Trichloroethane	ND		ug/kg	46	--	1
Bromodichloromethane	ND		ug/kg	46	--	1
trans-1,3-Dichloropropene	ND		ug/kg	91	--	1
cis-1,3-Dichloropropene	ND		ug/kg	46	--	1
1,3-Dichloropropene, Total	ND		ug/kg	46	--	1
1,1-Dichloropropene	ND		ug/kg	46	--	1
Bromoform	ND		ug/kg	360	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	46	--	1
Benzene	ND		ug/kg	46	--	1
Toluene	ND		ug/kg	91	--	1
Ethylbenzene	ND		ug/kg	91	--	1
Chloromethane	ND		ug/kg	360	--	1
Bromomethane	ND		ug/kg	180	--	1
Vinyl chloride	ND		ug/kg	91	--	1
Chloroethane	ND		ug/kg	180	--	1
1,1-Dichloroethene	ND		ug/kg	91	--	1
trans-1,2-Dichloroethene	ND		ug/kg	140	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-09 Date Collected: 08/29/19 12:00

Client ID: DC1112 Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON 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	46	--	1
1,2-Dichlorobenzene	ND		ug/kg	180	--	1
1,3-Dichlorobenzene	ND		ug/kg	180	--	1
1,4-Dichlorobenzene	ND		ug/kg	180	--	1
Methyl tert butyl ether	ND		ug/kg	180	--	1
p/m-Xylene	ND		ug/kg	180	--	1
o-Xylene	ND		ug/kg	91	--	1
Xylenes, Total	ND		ug/kg	91	--	1
cis-1,2-Dichloroethene	ND		ug/kg	91	--	1
1,2-Dichloroethene, Total	ND		ug/kg	91	--	1
Dibromomethane	ND		ug/kg	180	--	1
1,2,3-Trichloropropane	ND		ug/kg	180	--	1
Styrene	ND		ug/kg	91	--	1
Dichlorodifluoromethane	ND		ug/kg	910	--	1
Acetone	ND		ug/kg	910	--	1
Carbon disulfide	ND		ug/kg	910	--	1
Methyl ethyl ketone	ND		ug/kg	910	--	1
Methyl isobutyl ketone	ND		ug/kg	910	--	1
2-Hexanone	ND		ug/kg	910	--	1
Bromochloromethane	ND		ug/kg	180	--	1
Tetrahydrofuran	ND		ug/kg	360	--	1
2,2-Dichloropropane	ND		ug/kg	180	--	1
1,2-Dibromoethane	ND		ug/kg	91	--	1
1,3-Dichloropropane	ND		ug/kg	180	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	46	--	1
Bromobenzene	ND		ug/kg	180	--	1
n-Butylbenzene	ND		ug/kg	91	--	1
sec-Butylbenzene	ND		ug/kg	91	--	1
tert-Butylbenzene	ND		ug/kg	180	--	1
o-Chlorotoluene	ND		ug/kg	180	--	1
p-Chlorotoluene	ND		ug/kg	180	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	270	--	1
Hexachlorobutadiene	ND		ug/kg	360	--	1
Isopropylbenzene	ND		ug/kg	91	--	1
p-Isopropyltoluene	ND		ug/kg	91	--	1
Naphthalene	ND		ug/kg	360	--	1
n-Propylbenzene	ND		ug/kg	91	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-09 Date Collected: 08/29/19 12:00

Client ID: DC1112 Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON 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	180	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	180	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	180	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	180	--	1
Diethyl ether	ND		ug/kg	180	--	1
Diisopropyl Ether	ND		ug/kg	180	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	180	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	180	--	1
1,4-Dioxane	ND		ug/kg	7300	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	120		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	119		70-130
Dibromofluoromethane	103		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-10
Client ID: DC20A18
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 12:30
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/10/19 00:09
Analyst: JC
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	240	--	1
1,1-Dichloroethane	ND		ug/kg	48	--	1
Chloroform	ND		ug/kg	72	--	1
Carbon tetrachloride	ND		ug/kg	48	--	1
1,2-Dichloropropane	ND		ug/kg	48	--	1
Dibromochloromethane	ND		ug/kg	48	--	1
1,1,2-Trichloroethane	ND		ug/kg	48	--	1
Tetrachloroethene	ND		ug/kg	24	--	1
Chlorobenzene	ND		ug/kg	24	--	1
Trichlorofluoromethane	ND		ug/kg	190	--	1
1,2-Dichloroethane	ND		ug/kg	48	--	1
1,1,1-Trichloroethane	ND		ug/kg	24	--	1
Bromodichloromethane	ND		ug/kg	24	--	1
trans-1,3-Dichloropropene	ND		ug/kg	48	--	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	190	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	24	--	1
Benzene	ND		ug/kg	24	--	1
Toluene	ND		ug/kg	48	--	1
Ethylbenzene	ND		ug/kg	48	--	1
Chloromethane	ND		ug/kg	190	--	1
Bromomethane	ND		ug/kg	96	--	1
Vinyl chloride	ND		ug/kg	48	--	1
Chloroethane	ND		ug/kg	96	--	1
1,1-Dichloroethene	ND		ug/kg	48	--	1
trans-1,2-Dichloroethene	ND		ug/kg	72	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-10 Date Collected: 08/29/19 12:30

Client ID: DC20A18 Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON 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	96	--	1
1,3-Dichlorobenzene	ND		ug/kg	96	--	1
1,4-Dichlorobenzene	ND		ug/kg	96	--	1
Methyl tert butyl ether	ND		ug/kg	96	--	1
p/m-Xylene	ND		ug/kg	96	--	1
o-Xylene	ND		ug/kg	48	--	1
Xylenes, Total	ND		ug/kg	48	--	1
cis-1,2-Dichloroethene	ND		ug/kg	48	--	1
1,2-Dichloroethene, Total	ND		ug/kg	48	--	1
Dibromomethane	ND		ug/kg	96	--	1
1,2,3-Trichloropropane	ND		ug/kg	96	--	1
Styrene	ND		ug/kg	48	--	1
Dichlorodifluoromethane	ND		ug/kg	480	--	1
Acetone	ND		ug/kg	480	--	1
Carbon disulfide	ND		ug/kg	480	--	1
Methyl ethyl ketone	ND		ug/kg	480	--	1
Methyl isobutyl ketone	ND		ug/kg	480	--	1
2-Hexanone	ND		ug/kg	480	--	1
Bromochloromethane	ND		ug/kg	96	--	1
Tetrahydrofuran	ND		ug/kg	190	--	1
2,2-Dichloropropane	ND		ug/kg	96	--	1
1,2-Dibromoethane	ND		ug/kg	48	--	1
1,3-Dichloropropane	ND		ug/kg	96	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	24	--	1
Bromobenzene	ND		ug/kg	96	--	1
n-Butylbenzene	ND		ug/kg	48	--	1
sec-Butylbenzene	ND		ug/kg	48	--	1
tert-Butylbenzene	ND		ug/kg	96	--	1
o-Chlorotoluene	ND		ug/kg	96	--	1
p-Chlorotoluene	ND		ug/kg	96	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	140	--	1
Hexachlorobutadiene	ND		ug/kg	190	--	1
Isopropylbenzene	ND		ug/kg	48	--	1
p-Isopropyltoluene	ND		ug/kg	48	--	1
Naphthalene	ND		ug/kg	190	--	1
n-Propylbenzene	ND		ug/kg	48	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-10 Date Collected: 08/29/19 12:30

Client ID: DC20A18 Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON 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	96	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	96	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	96	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	96	--	1
Diethyl ether	ND		ug/kg	96	--	1
Diisopropyl Ether	ND		ug/kg	96	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	96	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	96	--	1
1,4-Dioxane	ND		ug/kg	3800	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	122		70-130
Dibromofluoromethane	100		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-11
Client ID: DC123
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 13:00
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/10/19 01:31
Analyst: JC
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	3.5	--	1
1,1-Dichloroethane	ND		ug/kg	0.71	--	1
Chloroform	ND		ug/kg	1.1	--	1
Carbon tetrachloride	ND		ug/kg	0.71	--	1
1,2-Dichloropropane	ND		ug/kg	0.71	--	1
Dibromochloromethane	ND		ug/kg	0.71	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.71	--	1
Tetrachloroethene	ND		ug/kg	0.35	--	1
Chlorobenzene	ND		ug/kg	0.35	--	1
Trichlorofluoromethane	ND		ug/kg	2.8	--	1
1,2-Dichloroethane	ND		ug/kg	0.71	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.35	--	1
Bromodichloromethane	ND		ug/kg	0.35	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.71	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.35	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.35	--	1
1,1-Dichloropropene	ND		ug/kg	0.35	--	1
Bromoform	ND		ug/kg	2.8	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.35	--	1
Benzene	ND		ug/kg	0.35	--	1
Toluene	ND		ug/kg	0.71	--	1
Ethylbenzene	ND		ug/kg	0.71	--	1
Chloromethane	ND		ug/kg	2.8	--	1
Bromomethane	ND		ug/kg	1.4	--	1
Vinyl chloride	ND		ug/kg	0.71	--	1
Chloroethane	ND		ug/kg	1.4	--	1
1,1-Dichloroethene	ND		ug/kg	0.71	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.1	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-11 Date Collected: 08/29/19 13:00

Client ID: DC123 Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON 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	0.35	--	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	0.87		ug/kg	0.71	--	1
Xylenes, Total	0.87		ug/kg	0.71	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.71	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.71	--	1
Dibromomethane	ND		ug/kg	1.4	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.4	--	1
Styrene	ND		ug/kg	0.71	--	1
Dichlorodifluoromethane	ND		ug/kg	7.1	--	1
Acetone	96		ug/kg	7.1	--	1
Carbon disulfide	ND		ug/kg	7.1	--	1
Methyl ethyl ketone	ND		ug/kg	7.1	--	1
Methyl isobutyl ketone	ND		ug/kg	7.1	--	1
2-Hexanone	ND		ug/kg	7.1	--	1
Bromochloromethane	ND		ug/kg	1.4	--	1
Tetrahydrofuran	ND		ug/kg	2.8	--	1
2,2-Dichloropropane	ND		ug/kg	1.4	--	1
1,2-Dibromoethane	ND		ug/kg	0.71	--	1
1,3-Dichloropropane	ND		ug/kg	1.4	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.35	--	1
Bromobenzene	ND		ug/kg	1.4	--	1
n-Butylbenzene	0.84		ug/kg	0.71	--	1
sec-Butylbenzene	3.3		ug/kg	0.71	--	1
tert-Butylbenzene	ND		ug/kg	1.4	--	1
o-Chlorotoluene	ND		ug/kg	1.4	--	1
p-Chlorotoluene	ND		ug/kg	1.4	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.1	--	1
Hexachlorobutadiene	ND		ug/kg	2.8	--	1
Isopropylbenzene	ND		ug/kg	0.71	--	1
p-Isopropyltoluene	ND		ug/kg	0.71	--	1
Naphthalene	6.9		ug/kg	2.8	--	1
n-Propylbenzene	ND		ug/kg	0.71	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-11 Date Collected: 08/29/19 13:00

Client ID: DC123 Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON 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	2.1		ug/kg	1.4	--	1
1,2,4-Trimethylbenzene	3.9		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	106		70-130
Toluene-d8	112		70-130
4-Bromofluorobenzene	**184**	Q	70-130
Dibromofluoromethane	97		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/10/19 10:05
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-02,04-05,07-08 Batch: WG1281986-10					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/10/19 10:05
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-02,04-05,07-08 Batch: WG1281986-10					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	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: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/10/19 10:05
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-02,04-05,07-08 Batch: WG1281986-10					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	92		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/09/19 16:55
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 08,11 Batch: WG1282220-5					
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: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/09/19 16:55
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 08,11 Batch: WG1282220-5					
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: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/09/19 16:55
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 08,11 Batch: WG1282220-5					
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	118		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	112		70-130
Dibromofluoromethane	102		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/09/19 16:55
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 09-10 Batch: WG1282224-5					
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: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/09/19 16:55
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 09-10 Batch: WG1282224-5					
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: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/09/19 16:55
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 09-10 Batch: WG1282224-5					
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	118		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	112		70-130
Dibromofluoromethane	102		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/10/19 20:04
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 03,06 Batch: WG1282641-10					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/10/19 20:04
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 03,06 Batch: WG1282641-10					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	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: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/10/19 20:04
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 03,06 Batch: WG1282641-10					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	92		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/10/19 10:05
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 03,06 Batch: WG1282641-5					
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: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/10/19 10:05
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 03,06 Batch: WG1282641-5					
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: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/10/19 10:05
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 03,06 Batch: WG1282641-5					
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	96		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	92		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

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): 01-02,04-05,07-08 Batch: WG1281986-8 WG1281986-9								
Methylene chloride	83		85		70-130	2		20
1,1-Dichloroethane	91		92		70-130	1		20
Chloroform	94		95		70-130	1		20
Carbon tetrachloride	96		97		70-130	1		20
1,2-Dichloropropane	88		90		70-130	2		20
Dibromochloromethane	99		101		70-130	2		20
1,1,2-Trichloroethane	90		93		70-130	3		20
Tetrachloroethene	101		100		70-130	1		20
Chlorobenzene	99		100		70-130	1		20
Trichlorofluoromethane	88		89		70-130	1		20
1,2-Dichloroethane	89		92		70-130	3		20
1,1,1-Trichloroethane	98		99		70-130	1		20
Bromodichloromethane	93		97		70-130	4		20
trans-1,3-Dichloropropene	95		97		70-130	2		20
cis-1,3-Dichloropropene	91		94		70-130	3		20
1,1-Dichloropropene	93		96		70-130	3		20
Bromoform	90		92		70-130	2		20
1,1,2,2-Tetrachloroethane	94		98		70-130	4		20
Benzene	91		93		70-130	2		20
Toluene	96		97		70-130	1		20
Ethylbenzene	100		101		70-130	1		20
Chloromethane	110		103		70-130	7		20
Bromomethane	90		89		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

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): 01-02,04-05,07-08 Batch: WG1281986-8 WG1281986-9								
Vinyl chloride	86		87		70-130	1		20
Chloroethane	76		76		70-130	0		20
1,1-Dichloroethene	93		94		70-130	1		20
trans-1,2-Dichloroethene	93		94		70-130	1		20
Trichloroethene	94		95		70-130	1		20
1,2-Dichlorobenzene	99		100		70-130	1		20
1,3-Dichlorobenzene	101		103		70-130	2		20
1,4-Dichlorobenzene	100		101		70-130	1		20
Methyl tert butyl ether	84		88		70-130	5		20
p/m-Xylene	104		105		70-130	1		20
o-Xylene	99		100		70-130	1		20
cis-1,2-Dichloroethene	91		92		70-130	1		20
Dibromomethane	89		92		70-130	3		20
1,2,3-Trichloropropane	89		96		70-130	8		20
Styrene	98		99		70-130	1		20
Dichlorodifluoromethane	96		95		70-130	1		20
Acetone	103		104		70-130	1		20
Carbon disulfide	92		90		70-130	2		20
Methyl ethyl ketone	86		94		70-130	9		20
Methyl isobutyl ketone	86		90		70-130	5		20
2-Hexanone	93		99		70-130	6		20
Bromochloromethane	93		96		70-130	3		20
Tetrahydrofuran	94		98		70-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

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): 01-02,04-05,07-08 Batch: WG1281986-8 WG1281986-9								
2,2-Dichloropropane	93		93		70-130	0		20
1,2-Dibromoethane	96		99		70-130	3		20
1,3-Dichloropropane	92		94		70-130	2		20
1,1,1,2-Tetrachloroethane	101		101		70-130	0		20
Bromobenzene	96		98		70-130	2		20
n-Butylbenzene	105		105		70-130	0		20
sec-Butylbenzene	102		103		70-130	1		20
tert-Butylbenzene	102		103		70-130	1		20
o-Chlorotoluene	100		101		70-130	1		20
p-Chlorotoluene	100		102		70-130	2		20
1,2-Dibromo-3-chloropropane	90		96		70-130	6		20
Hexachlorobutadiene	99		98		70-130	1		20
Isopropylbenzene	103		102		70-130	1		20
p-Isopropyltoluene	104		105		70-130	1		20
Naphthalene	96		100		70-130	4		20
n-Propylbenzene	102		103		70-130	1		20
1,2,3-Trichlorobenzene	100		100		70-130	0		20
1,2,4-Trichlorobenzene	102		104		70-130	2		20
1,3,5-Trimethylbenzene	102		103		70-130	1		20
1,2,4-Trimethylbenzene	102		103		70-130	1		20
Diethyl ether	85		88		70-130	3		20
Diisopropyl Ether	97		99		70-130	2		20
Ethyl-Tert-Butyl-Ether	85		89		70-130	5		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

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): 01-02,04-05,07-08 Batch: WG1281986-8 WG1281986-9								
Tertiary-Amyl Methyl Ether	81		85		70-130	5		20
1,4-Dioxane	92		100		70-130	8		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	94		97		70-130
Toluene-d8	101		100		70-130
4-Bromofluorobenzene	98		97		70-130
Dibromofluoromethane	95		96		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

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): 08,11 Batch: WG1282220-3 WG1282220-4								
Methylene chloride	93		94		70-130	1		20
1,1-Dichloroethane	110		112		70-130	2		20
Chloroform	102		105		70-130	3		20
Carbon tetrachloride	107		110		70-130	3		20
1,2-Dichloropropane	108		112		70-130	4		20
Dibromochloromethane	106		110		70-130	4		20
1,1,2-Trichloroethane	106		110		70-130	4		20
Tetrachloroethene	110		113		70-130	3		20
Chlorobenzene	101		104		70-130	3		20
Trichlorofluoromethane	**62**	Q	**61**	Q	70-130	2		20
1,2-Dichloroethane	114		117		70-130	3		20
1,1,1-Trichloroethane	111		112		70-130	1		20
Bromodichloromethane	108		111		70-130	3		20
trans-1,3-Dichloropropene	119		123		70-130	3		20
cis-1,3-Dichloropropene	114		117		70-130	3		20
1,1-Dichloropropene	106		108		70-130	2		20
Bromoform	110		112		70-130	2		20
1,1,2,2-Tetrachloroethane	100		104		70-130	4		20
Benzene	102		104		70-130	2		20
Toluene	107		110		70-130	3		20
Ethylbenzene	106		109		70-130	3		20
Chloromethane	125		126		70-130	1		20
Bromomethane	**68**	Q	**67**	Q	70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

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): 08,11 Batch: WG1282220-3 WG1282220-4								
Vinyl chloride	84		85		70-130	1		20
Chloroethane	**63**	Q	**58**	Q	70-130	8		20
1,1-Dichloroethene	91		96		70-130	5		20
trans-1,2-Dichloroethene	100		103		70-130	3		20
Trichloroethene	104		105		70-130	1		20
1,2-Dichlorobenzene	105		108		70-130	3		20
1,3-Dichlorobenzene	105		106		70-130	1		20
1,4-Dichlorobenzene	105		105		70-130	0		20
Methyl tert butyl ether	110		112		70-130	2		20
p/m-Xylene	107		111		70-130	4		20
o-Xylene	107		111		70-130	4		20
cis-1,2-Dichloroethene	103		106		70-130	3		20
Dibromomethane	99		102		70-130	3		20
1,2,3-Trichloropropane	103		106		70-130	3		20
Styrene	107		110		70-130	3		20
Dichlorodifluoromethane	76		76		70-130	0		20
Acetone	121		120		70-130	1		20
Carbon disulfide	95		100		70-130	5		20
Methyl ethyl ketone	**138**	Q	**141**	Q	70-130	2		20
Methyl isobutyl ketone	119		123		70-130	3		20
2-Hexanone	119		124		70-130	4		20
Bromochloromethane	99		103		70-130	4		20
Tetrahydrofuran	128		**139**	Q	70-130	8		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

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): 08,11 Batch: WG1282220-3 WG1282220-4								
2,2-Dichloropropane	116		119		70-130	3		20
1,2-Dibromoethane	108		112		70-130	4		20
1,3-Dichloropropane	107		110		70-130	3		20
1,1,1,2-Tetrachloroethane	110		113		70-130	3		20
Bromobenzene	106		108		70-130	2		20
n-Butylbenzene	105		106		70-130	1		20
sec-Butylbenzene	107		108		70-130	1		20
tert-Butylbenzene	109		111		70-130	2		20
o-Chlorotoluene	121		122		70-130	1		20
p-Chlorotoluene	109		111		70-130	2		20
1,2-Dibromo-3-chloropropane	96		102		70-130	6		20
Hexachlorobutadiene	108		112		70-130	4		20
Isopropylbenzene	108		110		70-130	2		20
p-Isopropyltoluene	109		112		70-130	3		20
Naphthalene	109		112		70-130	3		20
n-Propylbenzene	106		108		70-130	2		20
1,2,3-Trichlorobenzene	108		110		70-130	2		20
1,2,4-Trichlorobenzene	108		108		70-130	0		20
1,3,5-Trimethylbenzene	107		109		70-130	2		20
1,2,4-Trimethylbenzene	110		111		70-130	1		20
Diethyl ether	**67**	Q	**63**	Q	70-130	6		20
Diisopropyl Ether	**137**	Q	**140**	Q	70-130	2		20
Ethyl-Tert-Butyl-Ether	122		125		70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST., S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939381

Report Date: 09/13/19

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): 08,11 Batch: WG1282220-3 WG1282220-4								
Tertiary-Amyl Methyl Ether	111		114		70-130	3		20
1,4-Dioxane	108		113		70-130	5		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	105		106		70-130
Toluene-d8	101		103		70-130
4-Bromofluorobenzene	113		113		70-130
Dibromofluoromethane	99		99		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

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): 09-10 Batch: WG1282224-3 WG1282224-4								
Methylene chloride	93		94		70-130	1		20
1,1-Dichloroethane	110		112		70-130	2		20
Chloroform	102		105		70-130	3		20
Carbon tetrachloride	107		110		70-130	3		20
1,2-Dichloropropane	108		112		70-130	4		20
Dibromochloromethane	106		110		70-130	4		20
1,1,2-Trichloroethane	106		110		70-130	4		20
Tetrachloroethene	110		113		70-130	3		20
Chlorobenzene	101		104		70-130	3		20
Trichlorofluoromethane	**62**	Q	**61**	Q	70-130	2		20
1,2-Dichloroethane	114		117		70-130	3		20
1,1,1-Trichloroethane	111		112		70-130	1		20
Bromodichloromethane	108		111		70-130	3		20
trans-1,3-Dichloropropene	119		123		70-130	3		20
cis-1,3-Dichloropropene	114		117		70-130	3		20
1,1-Dichloropropene	106		108		70-130	2		20
Bromoform	110		112		70-130	2		20
1,1,2,2-Tetrachloroethane	100		104		70-130	4		20
Benzene	102		104		70-130	2		20
Toluene	107		110		70-130	3		20
Ethylbenzene	106		109		70-130	3		20
Chloromethane	125		126		70-130	1		20
Bromomethane	**68**	Q	**67**	Q	70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

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): 09-10 Batch: WG1282224-3 WG1282224-4								
Vinyl chloride	84		85		70-130	1		20
Chloroethane	**63**	Q	**58**	Q	70-130	8		20
1,1-Dichloroethene	91		96		70-130	5		20
trans-1,2-Dichloroethene	100		103		70-130	3		20
Trichloroethene	104		105		70-130	1		20
1,2-Dichlorobenzene	105		108		70-130	3		20
1,3-Dichlorobenzene	105		106		70-130	1		20
1,4-Dichlorobenzene	105		105		70-130	0		20
Methyl tert butyl ether	110		112		70-130	2		20
p/m-Xylene	107		111		70-130	4		20
o-Xylene	107		111		70-130	4		20
cis-1,2-Dichloroethene	103		106		70-130	3		20
Dibromomethane	99		102		70-130	3		20
1,2,3-Trichloropropane	103		106		70-130	3		20
Styrene	107		110		70-130	3		20
Dichlorodifluoromethane	76		76		70-130	0		20
Acetone	121		120		70-130	1		20
Carbon disulfide	95		100		70-130	5		20
Methyl ethyl ketone	**138**	Q	**141**	Q	70-130	2		20
Methyl isobutyl ketone	119		123		70-130	3		20
2-Hexanone	119		124		70-130	4		20
Bromochloromethane	99		103		70-130	4		20
Tetrahydrofuran	128		**139**	Q	70-130	8		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

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): 09-10 Batch: WG1282224-3 WG1282224-4								
2,2-Dichloropropane	116		119		70-130	3		20
1,2-Dibromoethane	108		112		70-130	4		20
1,3-Dichloropropane	107		110		70-130	3		20
1,1,1,2-Tetrachloroethane	110		113		70-130	3		20
Bromobenzene	106		108		70-130	2		20
n-Butylbenzene	105		106		70-130	1		20
sec-Butylbenzene	107		108		70-130	1		20
tert-Butylbenzene	109		111		70-130	2		20
o-Chlorotoluene	121		122		70-130	1		20
p-Chlorotoluene	109		111		70-130	2		20
1,2-Dibromo-3-chloropropane	96		102		70-130	6		20
Hexachlorobutadiene	108		112		70-130	4		20
Isopropylbenzene	108		110		70-130	2		20
p-Isopropyltoluene	109		112		70-130	3		20
Naphthalene	109		112		70-130	3		20
n-Propylbenzene	106		108		70-130	2		20
1,2,3-Trichlorobenzene	108		110		70-130	2		20
1,2,4-Trichlorobenzene	108		108		70-130	0		20
1,3,5-Trimethylbenzene	107		109		70-130	2		20
1,2,4-Trimethylbenzene	110		111		70-130	1		20
Diethyl ether	**67**	Q	**63**	Q	70-130	6		20
Diisopropyl Ether	**137**	Q	**140**	Q	70-130	2		20
Ethyl-Tert-Butyl-Ether	122		125		70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST., S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939381

Report Date: 09/13/19

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): 09-10 Batch: WG1282224-3 WG1282224-4								
Tertiary-Amyl Methyl Ether	111		114		70-130	3		20
1,4-Dioxane	108		113		70-130	5		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	105		106		70-130
Toluene-d8	101		103		70-130
4-Bromofluorobenzene	113		113		70-130
Dibromofluoromethane	99		99		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

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): 03,06 Batch: WG1282641-3 WG1282641-4								
Methylene chloride	83		85		70-130	2		20
1,1-Dichloroethane	91		92		70-130	1		20
Chloroform	94		95		70-130	1		20
Carbon tetrachloride	96		97		70-130	1		20
1,2-Dichloropropane	88		90		70-130	2		20
Dibromochloromethane	99		101		70-130	2		20
1,1,2-Trichloroethane	90		93		70-130	3		20
Tetrachloroethene	101		100		70-130	1		20
Chlorobenzene	99		100		70-130	1		20
Trichlorofluoromethane	88		89		70-130	1		20
1,2-Dichloroethane	89		92		70-130	3		20
1,1,1-Trichloroethane	98		99		70-130	1		20
Bromodichloromethane	93		97		70-130	4		20
trans-1,3-Dichloropropene	95		97		70-130	2		20
cis-1,3-Dichloropropene	91		94		70-130	3		20
1,1-Dichloropropene	93		96		70-130	3		20
Bromoform	90		92		70-130	2		20
1,1,2,2-Tetrachloroethane	94		98		70-130	4		20
Benzene	91		93		70-130	2		20
Toluene	96		97		70-130	1		20
Ethylbenzene	100		101		70-130	1		20
Chloromethane	110		103		70-130	7		20
Bromomethane	90		89		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

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): 03,06 Batch: WG1282641-3 WG1282641-4								
Vinyl chloride	86		87		70-130	1		20
Chloroethane	76		76		70-130	0		20
1,1-Dichloroethene	93		94		70-130	1		20
trans-1,2-Dichloroethene	93		94		70-130	1		20
Trichloroethene	94		95		70-130	1		20
1,2-Dichlorobenzene	99		100		70-130	1		20
1,3-Dichlorobenzene	101		103		70-130	2		20
1,4-Dichlorobenzene	100		101		70-130	1		20
Methyl tert butyl ether	84		88		70-130	5		20
p/m-Xylene	104		105		70-130	1		20
o-Xylene	99		100		70-130	1		20
cis-1,2-Dichloroethene	91		92		70-130	1		20
Dibromomethane	89		92		70-130	3		20
1,2,3-Trichloropropane	89		96		70-130	8		20
Styrene	98		99		70-130	1		20
Dichlorodifluoromethane	96		95		70-130	1		20
Acetone	103		104		70-130	1		20
Carbon disulfide	92		90		70-130	2		20
Methyl ethyl ketone	86		94		70-130	9		20
Methyl isobutyl ketone	86		90		70-130	5		20
2-Hexanone	93		99		70-130	6		20
Bromochloromethane	93		96		70-130	3		20
Tetrahydrofuran	94		98		70-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

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): 03,06 Batch: WG1282641-3 WG1282641-4								
2,2-Dichloropropane	93		93		70-130	0		20
1,2-Dibromoethane	96		99		70-130	3		20
1,3-Dichloropropane	92		94		70-130	2		20
1,1,1,2-Tetrachloroethane	101		101		70-130	0		20
Bromobenzene	96		98		70-130	2		20
n-Butylbenzene	105		105		70-130	0		20
sec-Butylbenzene	102		103		70-130	1		20
tert-Butylbenzene	102		103		70-130	1		20
o-Chlorotoluene	100		101		70-130	1		20
p-Chlorotoluene	100		102		70-130	2		20
1,2-Dibromo-3-chloropropane	90		96		70-130	6		20
Hexachlorobutadiene	99		98		70-130	1		20
Isopropylbenzene	103		102		70-130	1		20
p-Isopropyltoluene	104		105		70-130	1		20
Naphthalene	96		100		70-130	4		20
n-Propylbenzene	102		103		70-130	1		20
1,2,3-Trichlorobenzene	100		100		70-130	0		20
1,2,4-Trichlorobenzene	102		104		70-130	2		20
1,3,5-Trimethylbenzene	102		103		70-130	1		20
1,2,4-Trimethylbenzene	102		103		70-130	1		20
Diethyl ether	85		88		70-130	3		20
Diisopropyl Ether	97		99		70-130	2		20
Ethyl-Tert-Butyl-Ether	85		89		70-130	5		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST., S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939381

Report Date: 09/13/19

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): 03,06 Batch: WG1282641-3 WG1282641-4								
Tertiary-Amyl Methyl Ether	81		85		70-130	5		20
1,4-Dioxane	92		100		70-130	8		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	94		97		70-130
Toluene-d8	101		100		70-130
4-Bromofluorobenzene	98		97		70-130
Dibromofluoromethane	95		96		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

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): 03,06 Batch: WG1282641-8 WG1282641-9								
Methylene chloride	84		86		70-130	2		20
1,1-Dichloroethane	96		97		70-130	1		20
Chloroform	98		100		70-130	2		20
Carbon tetrachloride	97		99		70-130	2		20
1,2-Dichloropropane	92		94		70-130	2		20
Dibromochloromethane	101		104		70-130	3		20
1,1,2-Trichloroethane	95		96		70-130	1		20
Tetrachloroethene	102		103		70-130	1		20
Chlorobenzene	102		104		70-130	2		20
Trichlorofluoromethane	94		95		70-130	1		20
1,2-Dichloroethane	95		98		70-130	3		20
1,1,1-Trichloroethane	101		103		70-130	2		20
Bromodichloromethane	98		102		70-130	4		20
trans-1,3-Dichloropropene	100		101		70-130	1		20
cis-1,3-Dichloropropene	96		97		70-130	1		20
1,1-Dichloropropene	99		99		70-130	0		20
Bromoform	90		92		70-130	2		20
1,1,2,2-Tetrachloroethane	97		100		70-130	3		20
Benzene	96		98		70-130	2		20
Toluene	100		101		70-130	1		20
Ethylbenzene	103		104		70-130	1		20
Chloromethane	107		108		70-130	1		20
Bromomethane	97		95		70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

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): 03,06 Batch: WG1282641-8 WG1282641-9								
Vinyl chloride	94		94		70-130	0		20
Chloroethane	84		86		70-130	2		20
1,1-Dichloroethene	96		96		70-130	0		20
trans-1,2-Dichloroethene	96		97		70-130	1		20
Trichloroethene	99		101		70-130	2		20
1,2-Dichlorobenzene	99		102		70-130	3		20
1,3-Dichlorobenzene	104		105		70-130	1		20
1,4-Dichlorobenzene	104		105		70-130	1		20
Methyl tert butyl ether	86		89		70-130	3		20
p/m-Xylene	105		106		70-130	1		20
o-Xylene	102		104		70-130	2		20
cis-1,2-Dichloroethene	95		96		70-130	1		20
Dibromomethane	93		95		70-130	2		20
1,2,3-Trichloropropane	94		98		70-130	4		20
Styrene	102		104		70-130	2		20
Dichlorodifluoromethane	101		103		70-130	2		20
Acetone	108		108		70-130	0		20
Carbon disulfide	93		93		70-130	0		20
Methyl ethyl ketone	92		98		70-130	6		20
Methyl isobutyl ketone	89		92		70-130	3		20
2-Hexanone	98		103		70-130	5		20
Bromochloromethane	95		98		70-130	3		20
Tetrahydrofuran	98		100		70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

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): 03,06 Batch: WG1282641-8 WG1282641-9								
2,2-Dichloropropane	97		97		70-130	0		20
1,2-Dibromoethane	97		100		70-130	3		20
1,3-Dichloropropane	95		98		70-130	3		20
1,1,1,2-Tetrachloroethane	103		105		70-130	2		20
Bromobenzene	97		101		70-130	4		20
n-Butylbenzene	108		110		70-130	2		20
sec-Butylbenzene	105		106		70-130	1		20
tert-Butylbenzene	103		105		70-130	2		20
o-Chlorotoluene	104		106		70-130	2		20
p-Chlorotoluene	106		108		70-130	2		20
1,2-Dibromo-3-chloropropane	90		94		70-130	4		20
Hexachlorobutadiene	95		97		70-130	2		20
Isopropylbenzene	105		106		70-130	1		20
p-Isopropyltoluene	106		108		70-130	2		20
Naphthalene	97		100		70-130	3		20
n-Propylbenzene	106		107		70-130	1		20
1,2,3-Trichlorobenzene	100		101		70-130	1		20
1,2,4-Trichlorobenzene	104		105		70-130	1		20
1,3,5-Trimethylbenzene	106		107		70-130	1		20
1,2,4-Trimethylbenzene	106		108		70-130	2		20
Diethyl ether	87		88		70-130	1		20
Diisopropyl Ether	101		104		70-130	3		20
Ethyl-Tert-Butyl-Ether	89		91		70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

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): 03,06 Batch: WG1282641-8 WG1282641-9								
Tertiary-Amyl Methyl Ether	85		87		70-130	2		20
1,4-Dioxane	97		101		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		98		70-130
Toluene-d8	101		100		70-130
4-Bromofluorobenzene	99		97		70-130
Dibromofluoromethane	95		96		70-130

SEMIVOLATILES

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-01
Client ID: TT-21 (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 09:00
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/11/19 17:24
Analyst: PS
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 09:17

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Acenaphthene	380		ug/kg	140	--	1
Fluoranthene	4800		ug/kg	110	--	1
Naphthalene	250		ug/kg	180	--	1
Benzo(a)anthracene	2200		ug/kg	110	--	1
Benzo(a)pyrene	2100		ug/kg	140	--	1
Benzo(b)fluoranthene	2500		ug/kg	110	--	1
Benzo(k)fluoranthene	870		ug/kg	110	--	1
Chrysene	2100		ug/kg	110	--	1
Acenaphthylene	200		ug/kg	140	--	1
Anthracene	910		ug/kg	110	--	1
Benzo(ghi)perylene	1200		ug/kg	140	--	1
Fluorene	370		ug/kg	180	--	1
Phenanthrene	3900		ug/kg	110	--	1
Dibenzo(a,h)anthracene	310		ug/kg	110	--	1
Indeno(1,2,3-cd)pyrene	1300		ug/kg	140	--	1
Pyrene	5100		ug/kg	110	--	1
2-Methylnaphthalene	ND		ug/kg	220	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	48		30-130
2-Fluorobiphenyl	51		30-130
4-Terphenyl-d14	32		30-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-02 D
Client ID: TT-22A (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 09:30
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/10/19 04:42
Analyst: IM
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 02:36

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	750	--	5
1,2,4-Trichlorobenzene	ND		ug/kg	940	--	5
Hexachlorobenzene	ND		ug/kg	560	--	5
Bis(2-chloroethyl)ether	ND		ug/kg	840	--	5
2-Chloronaphthalene	ND		ug/kg	940	--	5
1,2-Dichlorobenzene	ND		ug/kg	940	--	5
1,3-Dichlorobenzene	ND		ug/kg	940	--	5
1,4-Dichlorobenzene	ND		ug/kg	940	--	5
3,3'-Dichlorobenzidine	ND		ug/kg	940	--	5
2,4-Dinitrotoluene	ND		ug/kg	940	--	5
2,6-Dinitrotoluene	ND		ug/kg	940	--	5
Azobenzene	ND		ug/kg	940	--	5
Fluoranthene	5500		ug/kg	560	--	5
4-Bromophenyl phenyl ether	ND		ug/kg	940	--	5
Bis(2-chloroisopropyl)ether	ND		ug/kg	1100	--	5
Bis(2-chloroethoxy)methane	ND		ug/kg	1000	--	5
Hexachlorobutadiene	ND		ug/kg	940	--	5
Hexachloroethane	ND		ug/kg	750	--	5
Isophorone	ND		ug/kg	840	--	5
Naphthalene	ND		ug/kg	940	--	5
Nitrobenzene	ND		ug/kg	840	--	5
Bis(2-ethylhexyl)phthalate	ND		ug/kg	940	--	5
Butyl benzyl phthalate	ND		ug/kg	940	--	5
Di-n-butylphthalate	ND		ug/kg	940	--	5
Di-n-octylphthalate	ND		ug/kg	940	--	5
Diethyl phthalate	ND		ug/kg	940	--	5
Dimethyl phthalate	ND		ug/kg	940	--	5
Benzo(a)anthracene	3100		ug/kg	560	--	5

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-02 D Date Collected: 08/29/19 09:30

Client ID: TT-22A (0-2') Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	2800		ug/kg	750	--	5
Benzo(b)fluoranthene	3300		ug/kg	560	--	5
Benzo(k)fluoranthene	1300		ug/kg	560	--	5
Chrysene	2700		ug/kg	560	--	5
Acenaphthylene	ND		ug/kg	750	--	5
Anthracene	1700		ug/kg	560	--	5
Benzo(ghi)perylene	1400		ug/kg	750	--	5
Fluorene	ND		ug/kg	940	--	5
Phenanthrene	4600		ug/kg	560	--	5
Dibenzo(a,h)anthracene	ND		ug/kg	560	--	5
Indeno(1,2,3-cd)pyrene	1500		ug/kg	750	--	5
Pyrene	4800		ug/kg	560	--	5
Aniline	ND		ug/kg	1100	--	5
4-Chloroaniline	ND		ug/kg	940	--	5
Dibenzofuran	ND		ug/kg	940	--	5
2-Methylnaphthalene	ND		ug/kg	1100	--	5
Acetophenone	ND		ug/kg	940	--	5
2,4,6-Trichlorophenol	ND		ug/kg	560	--	5
2-Chlorophenol	ND		ug/kg	940	--	5
2,4-Dichlorophenol	ND		ug/kg	840	--	5
2,4-Dimethylphenol	ND		ug/kg	940	--	5
2-Nitrophenol	ND		ug/kg	2000	--	5
4-Nitrophenol	ND		ug/kg	1300	--	5
2,4-Dinitrophenol	ND		ug/kg	4500	--	5
Pentachlorophenol	ND		ug/kg	1900	--	5
Phenol	ND		ug/kg	940	--	5
2-Methylphenol	ND		ug/kg	940	--	5
3-Methylphenol/4-Methylphenol	ND		ug/kg	1300	--	5
2,4,5-Trichlorophenol	ND		ug/kg	940	--	5
Pyridine	ND		ug/kg	1000	--	5

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-02 D Date Collected: 08/29/19 09:30

Client ID: TT-22A (0-2') Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON Field Prep: Not Specified

Sample Depth:

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	84		30-130
Phenol-d6	87		30-130
Nitrobenzene-d5	64		30-130
2-Fluorobiphenyl	74		30-130
2,4,6-Tribromophenol	113		30-130
4-Terphenyl-d14	61		30-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-03
Client ID: TT-22A (3')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 09:45
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/10/19 03:25
Analyst: IM
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 02:36

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	150	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	190	--	1
Hexachlorobenzene	ND		ug/kg	110	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	170	--	1
2-Chloronaphthalene	ND		ug/kg	190	--	1
1,2-Dichlorobenzene	ND		ug/kg	190	--	1
1,3-Dichlorobenzene	ND		ug/kg	190	--	1
1,4-Dichlorobenzene	ND		ug/kg	190	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	--	1
2,4-Dinitrotoluene	ND		ug/kg	190	--	1
2,6-Dinitrotoluene	ND		ug/kg	190	--	1
Azobenzene	ND		ug/kg	190	--	1
Fluoranthene	430		ug/kg	110	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	230	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	--	1
Hexachlorobutadiene	ND		ug/kg	190	--	1
Hexachloroethane	ND		ug/kg	150	--	1
Isophorone	ND		ug/kg	170	--	1
Naphthalene	ND		ug/kg	190	--	1
Nitrobenzene	ND		ug/kg	170	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	190	--	1
Butyl benzyl phthalate	ND		ug/kg	190	--	1
Di-n-butylphthalate	ND		ug/kg	190	--	1
Di-n-octylphthalate	ND		ug/kg	190	--	1
Diethyl phthalate	ND		ug/kg	190	--	1
Dimethyl phthalate	ND		ug/kg	190	--	1
Benzo(a)anthracene	280		ug/kg	110	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-03 Date Collected: 08/29/19 09:45

Client ID: TT-22A (3') Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	240		ug/kg	150	--	1
Benzo(b)fluoranthene	310		ug/kg	110	--	1
Benzo(k)fluoranthene	110		ug/kg	110	--	1
Chrysene	350		ug/kg	110	--	1
Acenaphthylene	ND		ug/kg	150	--	1
Anthracene	ND		ug/kg	110	--	1
Benzo(ghi)perylene	150		ug/kg	150	--	1
Fluorene	ND		ug/kg	190	--	1
Phenanthrene	410		ug/kg	110	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	110	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	150	--	1
Pyrene	420		ug/kg	110	--	1
Aniline	ND		ug/kg	230	--	1
4-Chloroaniline	ND		ug/kg	190	--	1
Dibenzofuran	ND		ug/kg	190	--	1
2-Methylnaphthalene	ND		ug/kg	230	--	1
Acetophenone	ND		ug/kg	190	--	1
2,4,6-Trichlorophenol	ND		ug/kg	110	--	1
2-Chlorophenol	ND		ug/kg	190	--	1
2,4-Dichlorophenol	ND		ug/kg	170	--	1
2,4-Dimethylphenol	ND		ug/kg	190	--	1
2-Nitrophenol	ND		ug/kg	410	--	1
4-Nitrophenol	ND		ug/kg	270	--	1
2,4-Dinitrophenol	ND		ug/kg	910	--	1
Pentachlorophenol	ND		ug/kg	380	--	1
Phenol	ND		ug/kg	190	--	1
2-Methylphenol	ND		ug/kg	190	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	270	--	1
2,4,5-Trichlorophenol	ND		ug/kg	190	--	1
Pyridine	ND		ug/kg	200	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-03 Date Collected: 08/29/19 09:45

Client ID: TT-22A (3') Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON Field Prep: Not Specified

Sample Depth:

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	33		30-130
Phenol-d6	36		30-130
Nitrobenzene-d5	44		30-130
2-Fluorobiphenyl	52		30-130
2,4,6-Tribromophenol	58		30-130
4-Terphenyl-d14	45		30-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-04
Client ID: MOND COMP
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 10:45
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/10/19 02:59
Analyst: IM
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 02:36

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	870		ug/kg	160	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	200	--	1
Hexachlorobenzene	ND		ug/kg	120	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	180	--	1
2-Chloronaphthalene	ND		ug/kg	200	--	1
1,2-Dichlorobenzene	ND		ug/kg	200	--	1
1,3-Dichlorobenzene	ND		ug/kg	200	--	1
1,4-Dichlorobenzene	ND		ug/kg	200	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	200	--	1
2,4-Dinitrotoluene	ND		ug/kg	200	--	1
2,6-Dinitrotoluene	ND		ug/kg	200	--	1
Azobenzene	ND		ug/kg	200	--	1
Fluoranthene	4800		ug/kg	120	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	200	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	240	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	210	--	1
Hexachlorobutadiene	ND		ug/kg	200	--	1
Hexachloroethane	ND		ug/kg	160	--	1
Isophorone	ND		ug/kg	180	--	1
Naphthalene	340		ug/kg	200	--	1
Nitrobenzene	ND		ug/kg	180	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	200	--	1
Butyl benzyl phthalate	ND		ug/kg	200	--	1
Di-n-butylphthalate	ND		ug/kg	200	--	1
Di-n-octylphthalate	ND		ug/kg	200	--	1
Diethyl phthalate	ND		ug/kg	200	--	1
Dimethyl phthalate	ND		ug/kg	200	--	1
Benzo(a)anthracene	2500		ug/kg	120	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-04 Date Collected: 08/29/19 10:45

Client ID: MOND COMP Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	2000		ug/kg	160	--	1
Benzo(b)fluoranthene	2400		ug/kg	120	--	1
Benzo(k)fluoranthene	830		ug/kg	120	--	1
Chrysene	2200		ug/kg	120	--	1
Acenaphthylene	ND		ug/kg	160	--	1
Anthracene	1600		ug/kg	120	--	1
Benzo(ghi)perylene	1000		ug/kg	160	--	1
Fluorene	790		ug/kg	200	--	1
Phenanthrene	5200		ug/kg	120	--	1
Dibenzo(a,h)anthracene	220		ug/kg	120	--	1
Indeno(1,2,3-cd)pyrene	1100		ug/kg	160	--	1
Pyrene	4300		ug/kg	120	--	1
Aniline	ND		ug/kg	240	--	1
4-Chloroaniline	ND		ug/kg	200	--	1
Dibenzofuran	580		ug/kg	200	--	1
2-Methylnaphthalene	250		ug/kg	240	--	1
Acetophenone	ND		ug/kg	200	--	1
2,4,6-Trichlorophenol	ND		ug/kg	120	--	1
2-Chlorophenol	ND		ug/kg	200	--	1
2,4-Dichlorophenol	ND		ug/kg	180	--	1
2,4-Dimethylphenol	ND		ug/kg	200	--	1
2-Nitrophenol	ND		ug/kg	420	--	1
4-Nitrophenol	ND		ug/kg	270	--	1
2,4-Dinitrophenol	ND		ug/kg	940	--	1
Pentachlorophenol	ND		ug/kg	390	--	1
Phenol	ND		ug/kg	200	--	1
2-Methylphenol	ND		ug/kg	200	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	280	--	1
2,4,5-Trichlorophenol	ND		ug/kg	200	--	1
Pyridine	ND		ug/kg	210	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID:	L1939381-04	Date Collected:	08/29/19 10:45
Client ID:	MOND COMP	Date Received:	08/29/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified

Sample Depth:

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	75		30-130
Phenol-d6	73		30-130
Nitrobenzene-d5	54		30-130
2-Fluorobiphenyl	68		30-130
2,4,6-Tribromophenol	101		30-130
4-Terphenyl-d14	58		30-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-05
Client ID: TT-20A (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 08:30
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/11/19 18:37
Analyst: PS
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 09:17

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Acenaphthene	ND		ug/kg	140	--	1
Fluoranthene	350		ug/kg	100	--	1
Naphthalene	ND		ug/kg	170	--	1
Benzo(a)anthracene	160		ug/kg	100	--	1
Benzo(a)pyrene	160		ug/kg	140	--	1
Benzo(b)fluoranthene	230		ug/kg	100	--	1
Benzo(k)fluoranthene	ND		ug/kg	100	--	1
Chrysene	170		ug/kg	100	--	1
Acenaphthylene	ND		ug/kg	140	--	1
Anthracene	ND		ug/kg	100	--	1
Benzo(ghi)perylene	ND		ug/kg	140	--	1
Fluorene	ND		ug/kg	170	--	1
Phenanthrene	210		ug/kg	100	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	100	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	140	--	1
Pyrene	310		ug/kg	100	--	1
2-Methylnaphthalene	ND		ug/kg	210	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	42		30-130
2-Fluorobiphenyl	45		30-130
4-Terphenyl-d14	**27**	Q	30-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-06
Client ID: TT-11 (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 09:50
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/11/19 19:01
Analyst: PS
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 09:17

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Acenaphthene	ND		ug/kg	440	--	1
Fluoranthene	2400		ug/kg	330	--	1
Naphthalene	ND		ug/kg	550	--	1
Benzo(a)anthracene	1200		ug/kg	330	--	1
Benzo(a)pyrene	1200		ug/kg	440	--	1
Benzo(b)fluoranthene	1400		ug/kg	330	--	1
Benzo(k)fluoranthene	510		ug/kg	330	--	1
Chrysene	1100		ug/kg	330	--	1
Acenaphthylene	ND		ug/kg	440	--	1
Anthracene	410		ug/kg	330	--	1
Benzo(ghi)perylene	720		ug/kg	440	--	1
Fluorene	ND		ug/kg	550	--	1
Phenanthrene	1700		ug/kg	330	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	330	--	1
Indeno(1,2,3-cd)pyrene	720		ug/kg	440	--	1
Pyrene	2300		ug/kg	330	--	1
2-Methylnaphthalene	ND		ug/kg	660	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	61		30-130
2-Fluorobiphenyl	71		30-130
4-Terphenyl-d14	49		30-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-07
Client ID: TT-11 (2-4')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 10:30
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/07/19 17:55
Analyst: IM
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 09:17

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Acenaphthene	790		ug/kg	470	--	1
Fluoranthene	7500		ug/kg	350	--	1
Naphthalene	ND		ug/kg	580	--	1
Benzo(a)anthracene	3600		ug/kg	350	--	1
Benzo(a)pyrene	3000		ug/kg	470	--	1
Benzo(b)fluoranthene	3700		ug/kg	350	--	1
Benzo(k)fluoranthene	1400		ug/kg	350	--	1
Chrysene	3200		ug/kg	350	--	1
Acenaphthylene	ND		ug/kg	470	--	1
Anthracene	1400		ug/kg	350	--	1
Benzo(ghi)perylene	2000		ug/kg	470	--	1
Fluorene	600		ug/kg	580	--	1
Phenanthrene	6200		ug/kg	350	--	1
Dibenzo(a,h)anthracene	420		ug/kg	350	--	1
Indeno(1,2,3-cd)pyrene	2000		ug/kg	470	--	1
Pyrene	6800		ug/kg	350	--	1
2-Methylnaphthalene	ND		ug/kg	700	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	72		30-130
2-Fluorobiphenyl	58		30-130
4-Terphenyl-d14	50		30-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-08 D
Client ID: TT-3 (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 11:45
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/11/19 19:25
Analyst: PS
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 09:17

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Acenaphthene	ND		ug/kg	710	--	5
Fluoranthene	1100		ug/kg	530	--	5
Naphthalene	ND		ug/kg	880	--	5
Benzo(a)anthracene	2700		ug/kg	530	--	5
Benzo(a)pyrene	2800		ug/kg	710	--	5
Benzo(b)fluoranthene	2700		ug/kg	530	--	5
Benzo(k)fluoranthene	ND		ug/kg	530	--	5
Chrysene	3300		ug/kg	530	--	5
Acenaphthylene	ND		ug/kg	710	--	5
Anthracene	ND		ug/kg	530	--	5
Benzo(ghi)perylene	1800		ug/kg	710	--	5
Fluorene	ND		ug/kg	880	--	5
Phenanthrene	1100		ug/kg	530	--	5
Dibenzo(a,h)anthracene	1400		ug/kg	530	--	5
Indeno(1,2,3-cd)pyrene	890		ug/kg	710	--	5
Pyrene	1500		ug/kg	530	--	5
2-Methylnaphthalene	ND		ug/kg	1100	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	44		30-130
2-Fluorobiphenyl	50		30-130
4-Terphenyl-d14	37		30-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-09 D
Client ID: DC1112
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 12:00
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/10/19 05:08
Analyst: IM
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 02:36

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	1600	--	10
1,2,4-Trichlorobenzene	ND		ug/kg	2000	--	10
Hexachlorobenzene	ND		ug/kg	1200	--	10
Bis(2-chloroethyl)ether	ND		ug/kg	1800	--	10
2-Chloronaphthalene	ND		ug/kg	2000	--	10
1,2-Dichlorobenzene	ND		ug/kg	2000	--	10
1,3-Dichlorobenzene	ND		ug/kg	2000	--	10
1,4-Dichlorobenzene	ND		ug/kg	2000	--	10
3,3'-Dichlorobenzidine	ND		ug/kg	2000	--	10
2,4-Dinitrotoluene	ND		ug/kg	2000	--	10
2,6-Dinitrotoluene	ND		ug/kg	2000	--	10
Azobenzene	ND		ug/kg	2000	--	10
Fluoranthene	2000		ug/kg	1200	--	10
4-Bromophenyl phenyl ether	ND		ug/kg	2000	--	10
Bis(2-chloroisopropyl)ether	ND		ug/kg	2400	--	10
Bis(2-chloroethoxy)methane	ND		ug/kg	2200	--	10
Hexachlorobutadiene	ND		ug/kg	2000	--	10
Hexachloroethane	ND		ug/kg	1600	--	10
Isophorone	ND		ug/kg	1800	--	10
Naphthalene	ND		ug/kg	2000	--	10
Nitrobenzene	ND		ug/kg	1800	--	10
Bis(2-ethylhexyl)phthalate	ND		ug/kg	2000	--	10
Butyl benzyl phthalate	ND		ug/kg	2000	--	10
Di-n-butylphthalate	ND		ug/kg	2000	--	10
Di-n-octylphthalate	ND		ug/kg	2000	--	10
Diethyl phthalate	ND		ug/kg	2000	--	10
Dimethyl phthalate	ND		ug/kg	2000	--	10
Benzo(a)anthracene	1300		ug/kg	1200	--	10

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-09 D Date Collected: 08/29/19 12:00

Client ID: DC1112 Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	ND		ug/kg	1600	--	10
Benzo(b)fluoranthene	1600		ug/kg	1200	--	10
Benzo(k)fluoranthene	ND		ug/kg	1200	--	10
Chrysene	1300		ug/kg	1200	--	10
Acenaphthylene	ND		ug/kg	1600	--	10
Anthracene	ND		ug/kg	1200	--	10
Benzo(ghi)perylene	ND		ug/kg	1600	--	10
Fluorene	ND		ug/kg	2000	--	10
Phenanthrene	1200		ug/kg	1200	--	10
Dibenzo(a,h)anthracene	ND		ug/kg	1200	--	10
Indeno(1,2,3-cd)pyrene	ND		ug/kg	1600	--	10
Pyrene	1900		ug/kg	1200	--	10
Aniline	ND		ug/kg	2400	--	10
4-Chloroaniline	ND		ug/kg	2000	--	10
Dibenzofuran	ND		ug/kg	2000	--	10
2-Methylnaphthalene	ND		ug/kg	2400	--	10
Acetophenone	ND		ug/kg	2000	--	10
2,4,6-Trichlorophenol	ND		ug/kg	1200	--	10
2-Chlorophenol	ND		ug/kg	2000	--	10
2,4-Dichlorophenol	ND		ug/kg	1800	--	10
2,4-Dimethylphenol	ND		ug/kg	2000	--	10
2-Nitrophenol	ND		ug/kg	4300	--	10
4-Nitrophenol	ND		ug/kg	2800	--	10
2,4-Dinitrophenol	ND		ug/kg	9600	--	10
Pentachlorophenol	ND		ug/kg	4000	--	10
Phenol	ND		ug/kg	2000	--	10
2-Methylphenol	ND		ug/kg	2000	--	10
3-Methylphenol/4-Methylphenol	ND		ug/kg	2900	--	10
2,4,5-Trichlorophenol	ND		ug/kg	2000	--	10
Pyridine	ND		ug/kg	2200	--	10

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-09 D Date Collected: 08/29/19 12:00

Client ID: DC1112 Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON Field Prep: Not Specified

Sample Depth:

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	44		30-130
Phenol-d6	41		30-130
Nitrobenzene-d5	31		30-130
2-Fluorobiphenyl	39		30-130
2,4,6-Tribromophenol	42		30-130
4-Terphenyl-d14	32		30-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-10 D
Client ID: DC20A18
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 12:30
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/10/19 05:34
Analyst: IM
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 02:36

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	1400	--	10
1,2,4-Trichlorobenzene	ND		ug/kg	1800	--	10
Hexachlorobenzene	ND		ug/kg	1100	--	10
Bis(2-chloroethyl)ether	ND		ug/kg	1600	--	10
2-Chloronaphthalene	ND		ug/kg	1800	--	10
1,2-Dichlorobenzene	ND		ug/kg	1800	--	10
1,3-Dichlorobenzene	ND		ug/kg	1800	--	10
1,4-Dichlorobenzene	ND		ug/kg	1800	--	10
3,3'-Dichlorobenzidine	ND		ug/kg	1800	--	10
2,4-Dinitrotoluene	ND		ug/kg	1800	--	10
2,6-Dinitrotoluene	ND		ug/kg	1800	--	10
Azobenzene	ND		ug/kg	1800	--	10
Fluoranthene	5000		ug/kg	1100	--	10
4-Bromophenyl phenyl ether	ND		ug/kg	1800	--	10
Bis(2-chloroisopropyl)ether	ND		ug/kg	2100	--	10
Bis(2-chloroethoxy)methane	ND		ug/kg	1900	--	10
Hexachlorobutadiene	ND		ug/kg	1800	--	10
Hexachloroethane	ND		ug/kg	1400	--	10
Isophorone	ND		ug/kg	1600	--	10
Naphthalene	ND		ug/kg	1800	--	10
Nitrobenzene	ND		ug/kg	1600	--	10
Bis(2-ethylhexyl)phthalate	ND		ug/kg	1800	--	10
Butyl benzyl phthalate	ND		ug/kg	1800	--	10
Di-n-butylphthalate	ND		ug/kg	1800	--	10
Di-n-octylphthalate	ND		ug/kg	1800	--	10
Diethyl phthalate	ND		ug/kg	1800	--	10
Dimethyl phthalate	ND		ug/kg	1800	--	10
Benzo(a)anthracene	2800		ug/kg	1100	--	10

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-10 D Date Collected: 08/29/19 12:30

Client ID: DC20A18 Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	2400		ug/kg	1400	--	10
Benzo(b)fluoranthene	3100		ug/kg	1100	--	10
Benzo(k)fluoranthene	ND		ug/kg	1100	--	10
Chrysene	2400		ug/kg	1100	--	10
Acenaphthylene	ND		ug/kg	1400	--	10
Anthracene	1400		ug/kg	1100	--	10
Benzo(ghi)perylene	ND		ug/kg	1400	--	10
Fluorene	ND		ug/kg	1800	--	10
Phenanthrene	4000		ug/kg	1100	--	10
Dibenzo(a,h)anthracene	ND		ug/kg	1100	--	10
Indeno(1,2,3-cd)pyrene	ND		ug/kg	1400	--	10
Pyrene	4400		ug/kg	1100	--	10
Aniline	ND		ug/kg	2100	--	10
4-Chloroaniline	ND		ug/kg	1800	--	10
Dibenzofuran	ND		ug/kg	1800	--	10
2-Methylnaphthalene	ND		ug/kg	2100	--	10
Acetophenone	ND		ug/kg	1800	--	10
2,4,6-Trichlorophenol	ND		ug/kg	1100	--	10
2-Chlorophenol	ND		ug/kg	1800	--	10
2,4-Dichlorophenol	ND		ug/kg	1600	--	10
2,4-Dimethylphenol	ND		ug/kg	1800	--	10
2-Nitrophenol	ND		ug/kg	3800	--	10
4-Nitrophenol	ND		ug/kg	2500	--	10
2,4-Dinitrophenol	ND		ug/kg	8500	--	10
Pentachlorophenol	ND		ug/kg	3500	--	10
Phenol	ND		ug/kg	1800	--	10
2-Methylphenol	ND		ug/kg	1800	--	10
3-Methylphenol/4-Methylphenol	ND		ug/kg	2600	--	10
2,4,5-Trichlorophenol	ND		ug/kg	1800	--	10
Pyridine	ND		ug/kg	1900	--	10

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-10 D Date Collected: 08/29/19 12:30

Client ID: DC20A18 Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON Field Prep: Not Specified

Sample Depth:

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	63		30-130
Phenol-d6	62		30-130
Nitrobenzene-d5	47		30-130
2-Fluorobiphenyl	54		30-130
2,4,6-Tribromophenol	77		30-130
4-Terphenyl-d14	48		30-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-11 D
Client ID: DC123
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 13:00
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/12/19 06:31
Analyst: RC
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 02:36

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	1400	--	10
1,2,4-Trichlorobenzene	ND		ug/kg	1700	--	10
Hexachlorobenzene	ND		ug/kg	1000	--	10
Bis(2-chloroethyl)ether	ND		ug/kg	1500	--	10
2-Chloronaphthalene	ND		ug/kg	1700	--	10
1,2-Dichlorobenzene	ND		ug/kg	1700	--	10
1,3-Dichlorobenzene	ND		ug/kg	1700	--	10
1,4-Dichlorobenzene	ND		ug/kg	1700	--	10
3,3'-Dichlorobenzidine	ND		ug/kg	1700	--	10
2,4-Dinitrotoluene	ND		ug/kg	1700	--	10
2,6-Dinitrotoluene	ND		ug/kg	1700	--	10
Azobenzene	ND		ug/kg	1700	--	10
Fluoranthene	ND		ug/kg	1000	--	10
4-Bromophenyl phenyl ether	ND		ug/kg	1700	--	10
Bis(2-chloroisopropyl)ether	ND		ug/kg	2100	--	10
Bis(2-chloroethoxy)methane	ND		ug/kg	1800	--	10
Hexachlorobutadiene	ND		ug/kg	1700	--	10
Hexachloroethane	ND		ug/kg	1400	--	10
Isophorone	ND		ug/kg	1500	--	10
Naphthalene	ND		ug/kg	1700	--	10
Nitrobenzene	ND		ug/kg	1500	--	10
Bis(2-ethylhexyl)phthalate	ND		ug/kg	1700	--	10
Butyl benzyl phthalate	ND		ug/kg	1700	--	10
Di-n-butylphthalate	ND		ug/kg	1700	--	10
Di-n-octylphthalate	ND		ug/kg	1700	--	10
Diethyl phthalate	ND		ug/kg	1700	--	10
Dimethyl phthalate	ND		ug/kg	1700	--	10
Benzo(a)anthracene	ND		ug/kg	1000	--	10

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-11 D Date Collected: 08/29/19 13:00

Client ID: DC123 Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	ND		ug/kg	1400	--	10
Benzo(b)fluoranthene	ND		ug/kg	1000	--	10
Benzo(k)fluoranthene	ND		ug/kg	1000	--	10
Chrysene	ND		ug/kg	1000	--	10
Acenaphthylene	ND		ug/kg	1400	--	10
Anthracene	ND		ug/kg	1000	--	10
Benzo(ghi)perylene	ND		ug/kg	1400	--	10
Fluorene	ND		ug/kg	1700	--	10
Phenanthrene	ND		ug/kg	1000	--	10
Dibenzo(a,h)anthracene	ND		ug/kg	1000	--	10
Indeno(1,2,3-cd)pyrene	ND		ug/kg	1400	--	10
Pyrene	ND		ug/kg	1000	--	10
Aniline	ND		ug/kg	2100	--	10
4-Chloroaniline	ND		ug/kg	1700	--	10
Dibenzofuran	ND		ug/kg	1700	--	10
2-Methylnaphthalene	ND		ug/kg	2100	--	10
Acetophenone	ND		ug/kg	1700	--	10
2,4,6-Trichlorophenol	ND		ug/kg	1000	--	10
2-Chlorophenol	ND		ug/kg	1700	--	10
2,4-Dichlorophenol	ND		ug/kg	1500	--	10
2,4-Dimethylphenol	ND		ug/kg	1700	--	10
2-Nitrophenol	ND		ug/kg	3700	--	10
4-Nitrophenol	ND		ug/kg	2400	--	10
2,4-Dinitrophenol	ND		ug/kg	8200	--	10
Pentachlorophenol	ND		ug/kg	3400	--	10
Phenol	ND		ug/kg	1700	--	10
2-Methylphenol	ND		ug/kg	1700	--	10
3-Methylphenol/4-Methylphenol	ND		ug/kg	2500	--	10
2,4,5-Trichlorophenol	ND		ug/kg	1700	--	10
Pyridine	ND		ug/kg	1800	--	10

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-11 D Date Collected: 08/29/19 13:00

Client ID: DC123 Date Received: 08/29/19

Sample Location: CYPHER ST., S. BOSTON Field Prep: Not Specified

Sample Depth:

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	31		30-130
Phenol-d6	31		30-130
Nitrobenzene-d5	32		30-130
2-Fluorobiphenyl	36		30-130
2,4,6-Tribromophenol	34		30-130
4-Terphenyl-d14	**28**	Q	30-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939381
Report Date: 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 09/09/19 14:00
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 09/06/19 02:36

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 02-04,09-11 Batch: WG1280891-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	99	--
Bis(2-chloroethyl)ether	ND		ug/kg	150	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	160	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	160	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	99	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	200	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	130	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	160	--
Benzo(a)anthracene	ND		ug/kg	99	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 09/09/19 14:00
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 09/06/19 02:36

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 02-04,09-11 Batch: WG1280891-1					
Benzo(b)fluoranthene	ND		ug/kg	99	--
Benzo(k)fluoranthene	ND		ug/kg	99	--
Chrysene	ND		ug/kg	99	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	99	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	99	--
Dibenzo(a,h)anthracene	ND		ug/kg	99	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	99	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	200	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	99	--
2-Chlorophenol	ND		ug/kg	160	--
2,4-Dichlorophenol	ND		ug/kg	150	--
2,4-Dimethylphenol	ND		ug/kg	160	--
2-Nitrophenol	ND		ug/kg	360	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	790	--
Pentachlorophenol	ND		ug/kg	330	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 09/09/19 14:00
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 09/06/19 02:36

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 02-04,09-11 Batch: WG1280891-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	47		30-130
Phenol-d6	43		30-130
Nitrobenzene-d5	39		30-130
2-Fluorobiphenyl	42		30-130
2,4,6-Tribromophenol	65		30-130
4-Terphenyl-d14	69		30-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 09/06/19 22:56
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 09/06/19 09:17

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01,05-08 Batch: WG1281069-1					
Acenaphthene	ND		ug/kg	130	--
Fluoranthene	ND		ug/kg	98	--
Naphthalene	ND		ug/kg	160	--
Benzo(a)anthracene	ND		ug/kg	98	--
Benzo(a)pyrene	ND		ug/kg	130	--
Benzo(b)fluoranthene	ND		ug/kg	98	--
Benzo(k)fluoranthene	ND		ug/kg	98	--
Chrysene	ND		ug/kg	98	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	98	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	98	--
Dibenzo(a,h)anthracene	ND		ug/kg	98	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	98	--
2-Methylnaphthalene	ND		ug/kg	200	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	56		30-130
2-Fluorobiphenyl	59		30-130
4-Terphenyl-d14	62		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 02-04,09-11 Batch: WG1280891-2 WG1280891-3								
Acenaphthene	95		83		40-140	13		30
1,2,4-Trichlorobenzene	88		88		40-140	0		30
Hexachlorobenzene	93		84		40-140	10		30
Bis(2-chloroethyl)ether	94		81		40-140	15		30
2-Chloronaphthalene	82		75		40-140	9		30
1,2-Dichlorobenzene	98		78		40-140	23		30
1,3-Dichlorobenzene	91		78		40-140	15		30
1,4-Dichlorobenzene	91		74		40-140	21		30
3,3'-Dichlorobenzidine	81		87		40-140	7		30
2,4-Dinitrotoluene	102		98		40-140	4		30
2,6-Dinitrotoluene	89		93		40-140	4		30
Azobenzene	92		86		40-140	7		30
Fluoranthene	87		87		40-140	0		30
4-Bromophenyl phenyl ether	85		80		40-140	6		30
Bis(2-chloroisopropyl)ether	74		65		40-140	13		30
Bis(2-chloroethoxy)methane	91		96		40-140	5		30
Hexachlorobutadiene	84		73		40-140	14		30
Hexachloroethane	94		86		40-140	9		30
Isophorone	100		87		40-140	14		30
Naphthalene	90		79		40-140	13		30
Nitrobenzene	94		81		40-140	15		30
Bis(2-ethylhexyl)phthalate	106		111		40-140	5		30
Butyl benzyl phthalate	98		101		40-140	3		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 02-04,09-11 Batch: WG1280891-2 WG1280891-3								
Di-n-butylphthalate	98		106		40-140	8		30
Di-n-octylphthalate	109		123		40-140	12		30
Diethyl phthalate	94		90		40-140	4		30
Dimethyl phthalate	80		83		40-140	4		30
Benzo(a)anthracene	97		97		40-140	0		30
Benzo(a)pyrene	78		83		40-140	6		30
Benzo(b)fluoranthene	72		85		40-140	17		30
Benzo(k)fluoranthene	81		93		40-140	14		30
Chrysene	89		90		40-140	1		30
Acenaphthylene	79		78		40-140	1		30
Anthracene	90		92		40-140	2		30
Benzo(ghi)perylene	94		94		40-140	0		30
Fluorene	102		85		40-140	18		30
Phenanthrene	85		87		40-140	2		30
Dibenzo(a,h)anthracene	91		99		40-140	8		30
Indeno(1,2,3-cd)pyrene	84		93		40-140	10		30
Pyrene	77		84		40-140	9		30
Aniline	76		72		40-140	5		30
4-Chloroaniline	72		70		40-140	3		30
Dibenzofuran	93		88		40-140	6		30
2-Methylnaphthalene	86		77		40-140	11		30
Acetophenone	100		87		40-140	14		30
2,4,6-Trichlorophenol	87		83		30-130	5		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 02-04,09-11 Batch: WG1280891-2 WG1280891-3								
2-Chlorophenol	106		93		30-130	13		30
2,4-Dichlorophenol	96		104		30-130	8		30
2,4-Dimethylphenol	92		98		30-130	6		30
2-Nitrophenol	105		93		30-130	12		30
4-Nitrophenol	88		86		30-130	2		30
2,4-Dinitrophenol	82		80		30-130	2		30
Pentachlorophenol	82		73		30-130	12		30
Phenol	93		86		30-130	8		30
2-Methylphenol	106		94		30-130	12		30
3-Methylphenol/4-Methylphenol	110		110		30-130	0		30
2,4,5-Trichlorophenol	89		91		30-130	2		30
Pyridine	78		59		30-130	28		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	107		99		30-130
Phenol-d6	108		100		30-130
Nitrobenzene-d5	101		90		30-130
2-Fluorobiphenyl	86		78		30-130
2,4,6-Tribromophenol	97		93		30-130
4-Terphenyl-d14	77		86		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01,05-08 Batch: WG1281069-2 WG1281069-3								
Acenaphthene	67		73		40-140	9		30
Fluoranthene	66		75		40-140	13		30
Naphthalene	60		70		40-140	15		30
Benzo(a)anthracene	68		77		40-140	12		30
Benzo(a)pyrene	67		76		40-140	13		30
Benzo(b)fluoranthene	73		81		40-140	10		30
Benzo(k)fluoranthene	69		79		40-140	14		30
Chrysene	64		73		40-140	13		30
Acenaphthylene	67		75		40-140	11		30
Anthracene	67		75		40-140	11		30
Benzo(ghi)perylene	68		78		40-140	14		30
Fluorene	69		76		40-140	10		30
Phenanthrene	64		71		40-140	10		30
Dibenzo(a,h)anthracene	73		83		40-140	13		30
Indeno(1,2,3-cd)pyrene	72		82		40-140	13		30
Pyrene	61		71		40-140	15		30
2-Methylnaphthalene	68		78		40-140	14		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST., S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939381

Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01,05-08 Batch: WG1281069-2 WG1281069-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	53		59		30-130
2-Fluorobiphenyl	55		59		30-130
4-Terphenyl-d14	54		60		30-130

PETROLEUM HYDROCARBONS

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-02
Client ID: TT-22A (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 09:30
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 09/07/19 15:14
Analyst: MEO
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 03:49

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	161000		ug/kg	37300	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	79		40-140

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-03
Client ID: TT-22A (3')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 09:45
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 09/07/19 15:48
Analyst: MEO
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 03:49

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	186000		ug/kg	37700	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	75		40-140

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-04
Client ID: MOND COMP
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 10:45
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 09/07/19 16:21
Analyst: MEO
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 03:49

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	225000		ug/kg	38900	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	76		40-140

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-09 D
Client ID: DC1112
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 12:00
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 09/07/19 19:08
Analyst: MEO
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 03:49

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	1540000		ug/kg	404000	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	81		40-140

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-10 D
Client ID: DC20A18
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 12:30
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 09/07/19 18:01
Analyst: MEO
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 03:49

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	902000		ug/kg	340000	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	92		40-140

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-11 D
Client ID: DC123
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 13:00
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 09/07/19 18:35
Analyst: MEO
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 03:49

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	1190000		ug/kg	335000	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	57		40-140

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 09/07/19 14:41
Analyst: MEO

Extraction Method: EPA 3546
Extraction Date: 09/06/19 03:49

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 02-04,09-11 Batch: WG1280910-1					
TPH	ND		ug/kg	32000	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	83		40-140

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 02-04,09-11 Batch: WG1280910-2								
TPH	79		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	73				40-140

Lab Duplicate Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939381
Report Date: 09/13/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 02-04,09-11 QC Batch ID: WG1280910-3 QC Sample: L1939381-09 Client ID: DC1112						
TPH	1540000	1260000	ug/kg	20		40

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	81		75		40-140

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID:	L1939381-01	Date Collected:	08/29/19 09:00
Client ID:	TT-21 (0-2')	Date Received:	08/29/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	09/10/19 22:38
Analyst:	BAD
Percent Solids:	91%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1:1 +/- 25%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	5.96	--	1
C9-C12 Aliphatics	ND		mg/kg	5.96	--	1
C9-C10 Aromatics	ND		mg/kg	5.96	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	5.96	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	5.96	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	107		70-130
2,5-Dibromotoluene-FID	108		70-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID:	L1939381-01	Date Collected:	08/29/19 09:00
Client ID:	TT-21 (0-2')	Date Received:	08/29/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/06/19 12:57
Analytical Date:	09/09/19 03:17	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/07/19
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	7.22	--	1
C19-C36 Aliphatics	29.4		mg/kg	7.22	--	1
C11-C22 Aromatics	120		mg/kg	7.22	--	1
C11-C22 Aromatics, Adjusted	83.2		mg/kg	7.22	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	61		40-140
o-Terphenyl	89		40-140
2-Fluorobiphenyl	89		40-140
2-Bromonaphthalene	89		40-140

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID:	L1939381-02	Date Collected:	08/29/19 09:30
Client ID:	TT-22A (0-2')	Date Received:	08/29/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	09/10/19 23:08
Analyst:	BAD
Percent Solids:	87%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1:1 +/- 25%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	7.11	--	1
C9-C12 Aliphatics	ND		mg/kg	7.11	--	1
C9-C10 Aromatics	ND		mg/kg	7.11	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	7.11	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	7.11	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	103		70-130
2,5-Dibromotoluene-FID	104		70-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID:	L1939381-02	Date Collected:	08/29/19 09:30
Client ID:	TT-22A (0-2')	Date Received:	08/29/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/06/19 12:57
Analytical Date:	09/09/19 04:02	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/07/19
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	7.62	--	1
C19-C36 Aliphatics	38.8		mg/kg	7.62	--	1
C11-C22 Aromatics	86.9		mg/kg	7.62	--	1
C11-C22 Aromatics, Adjusted	69.2		mg/kg	7.62	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	65		40-140
o-Terphenyl	96		40-140
2-Fluorobiphenyl	79		40-140
2-Bromonaphthalene	80		40-140

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID:	L1939381-03	Date Collected:	08/29/19 09:45
Client ID:	TT-22A (3')	Date Received:	08/29/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	09/10/19 23:38
Analyst:	BAD
Percent Solids:	86%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1:1 +/- 25%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	7.64	--	1
C9-C12 Aliphatics	ND		mg/kg	7.64	--	1
C9-C10 Aromatics	ND		mg/kg	7.64	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	7.64	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	7.64	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	124		70-130
2,5-Dibromotoluene-FID	124		70-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID:	L1939381-03	Date Collected:	08/29/19 09:45
Client ID:	TT-22A (3')	Date Received:	08/29/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/06/19 12:57
Analytical Date:	09/09/19 04:47	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/07/19
Percent Solids:	86%		

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	23.2	--	1
C19-C36 Aliphatics	ND		mg/kg	23.2	--	1
C11-C22 Aromatics	71.3		mg/kg	23.2	--	1
C11-C22 Aromatics, Adjusted	71.3		mg/kg	23.2	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	68		40-140
o-Terphenyl	79		40-140
2-Fluorobiphenyl	80		40-140
2-Bromonaphthalene	80		40-140

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID:	L1939381-04	Date Collected:	08/29/19 10:45
Client ID:	MOND COMP	Date Received:	08/29/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	09/11/19 00:08
Analyst:	BAD
Percent Solids:	84%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1:1 +/- 25%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	6.24	--	1
C9-C12 Aliphatics	ND		mg/kg	6.24	--	1
C9-C10 Aromatics	ND		mg/kg	6.24	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	6.24	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	6.24	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	**131**	Q	70-130
2,5-Dibromotoluene-FID	**132**	Q	70-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID:	L1939381-04	Date Collected:	08/29/19 10:45
Client ID:	MOND COMP	Date Received:	08/29/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/06/19 12:57
Analytical Date:	09/09/19 05:32	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/07/19
Percent Solids:	84%		

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	7.74	--	1
C19-C36 Aliphatics	15.0		mg/kg	7.74	--	1
C11-C22 Aromatics	88.2		mg/kg	7.74	--	1
C11-C22 Aromatics, Adjusted	63.8		mg/kg	7.74	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	59		40-140
o-Terphenyl	107		40-140
2-Fluorobiphenyl	87		40-140
2-Bromonaphthalene	88		40-140

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID:	L1939381-05	Date Collected:	08/29/19 08:30
Client ID:	TT-20A (0-2')	Date Received:	08/29/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	09/11/19 00:38
Analyst:	BAD
Percent Solids:	95%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1.8:1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	9.50	--	1
C9-C12 Aliphatics	ND		mg/kg	9.50	--	1
C9-C10 Aromatics	ND		mg/kg	9.50	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	9.50	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	9.50	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	100		70-130
2,5-Dibromotoluene-FID	101		70-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID:	L1939381-05	Date Collected:	08/29/19 08:30
Client ID:	TT-20A (0-2')	Date Received:	08/29/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/06/19 12:57
Analytical Date:	09/09/19 06:16	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/07/19
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	7.97		mg/kg	6.73	--	1
C19-C36 Aliphatics	22.0		mg/kg	6.73	--	1
C11-C22 Aromatics	35.0		mg/kg	6.73	--	1
C11-C22 Aromatics, Adjusted	29.5		mg/kg	6.73	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	73		40-140
o-Terphenyl	89		40-140
2-Fluorobiphenyl	88		40-140
2-Bromonaphthalene	88		40-140

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID:	L1939381-06	Date Collected:	08/29/19 09:50
Client ID:	TT-11 (0-2')	Date Received:	08/29/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	09/11/19 01:08
Analyst:	BAD
Percent Solids:	88%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	2.8:1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	16.5	--	1
C9-C12 Aliphatics	ND		mg/kg	16.5	--	1
C9-C10 Aromatics	ND		mg/kg	16.5	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	16.5	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	16.5	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	104		70-130
2,5-Dibromotoluene-FID	104		70-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID:	L1939381-06	Date Collected:	08/29/19 09:50
Client ID:	TT-11 (0-2')	Date Received:	08/29/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/06/19 12:57
Analytical Date:	09/09/19 07:01	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/07/19
Percent Solids:	88%		

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	7.48		mg/kg	7.43	--	1
C19-C36 Aliphatics	30.2		mg/kg	7.43	--	1
C11-C22 Aromatics	79.0		mg/kg	7.43	--	1
C11-C22 Aromatics, Adjusted	62.9		mg/kg	7.43	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	68		40-140
o-Terphenyl	107		40-140
2-Fluorobiphenyl	86		40-140
2-Bromonaphthalene	87		40-140

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID:	L1939381-07	Date Collected:	08/29/19 10:30
Client ID:	TT-11 (2-4')	Date Received:	08/29/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	09/11/19 01:38
Analyst:	BAD
Percent Solids:	81%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	2.0:1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	13.2	--	1
C9-C12 Aliphatics	ND		mg/kg	13.2	--	1
C9-C10 Aromatics	ND		mg/kg	13.2	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	13.2	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	13.2	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	110		70-130
2,5-Dibromotoluene-FID	111		70-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID:	L1939381-07	Date Collected:	08/29/19 10:30
Client ID:	TT-11 (2-4')	Date Received:	08/29/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/06/19 12:57
Analytical Date:	09/09/19 07:46	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/07/19
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	7.92	--	1
C19-C36 Aliphatics	48.1		mg/kg	7.92	--	1
C11-C22 Aromatics	105		mg/kg	7.92	--	1
C11-C22 Aromatics, Adjusted	78.0		mg/kg	7.92	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	66		40-140
o-Terphenyl	109		40-140
2-Fluorobiphenyl	83		40-140
2-Bromonaphthalene	84		40-140

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

SAMPLE RESULTS

Lab ID:	L1939381-08	Date Collected:	08/29/19 11:45
Client ID:	TT-3 (0-2')	Date Received:	08/29/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	09/11/19 02:09
Analyst:	BAD
Percent Solids:	91%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1:1 +/- 25%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	7.25	--	1
C9-C12 Aliphatics	ND		mg/kg	7.25	--	1
C9-C10 Aromatics	ND		mg/kg	7.25	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	7.25	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	7.25	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	95		70-130
2,5-Dibromotoluene-FID	94		70-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID:	L1939381-08	Date Collected:	08/29/19 11:45
Client ID:	TT-3 (0-2')	Date Received:	08/29/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/06/19 12:57
Analytical Date:	09/09/19 09:16	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/07/19
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	84.8		mg/kg	7.17	--	1
C19-C36 Aliphatics	467		mg/kg	7.17	--	1
C11-C22 Aromatics	518		mg/kg	7.17	--	1
C11-C22 Aromatics, Adjusted	492		mg/kg	7.17	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	47		40-140
o-Terphenyl	94		40-140
2-Fluorobiphenyl	87		40-140
2-Bromonaphthalene	93		40-140

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939381
Report Date: 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 09/09/19 01:01
Analyst: SC

Extraction Method: EPA 3546
Extraction Date: 09/06/19 12:57
Cleanup Method: EPH-04-1
Cleanup Date: 09/07/19

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-08 Batch: WG1281181-1					
C9-C18 Aliphatics	ND		mg/kg	6.48	--
C19-C36 Aliphatics	ND		mg/kg	6.48	--
C11-C22 Aromatics	ND		mg/kg	6.48	--
C11-C22 Aromatics, Adjusted	ND		mg/kg	6.48	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	68		40-140
o-Terphenyl	74		40-140
2-Fluorobiphenyl	86		40-140
2-Bromonaphthalene	85		40-140

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 131,VPH-18-2.1
Analytical Date: 09/10/19 18:05
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-08 Batch: WG1282817-4					
C5-C8 Aliphatics	ND		mg/kg	5.00	--
C9-C12 Aliphatics	ND		mg/kg	5.00	--
C9-C10 Aromatics	ND		mg/kg	5.00	--
C5-C8 Aliphatics, Adjusted	ND		mg/kg	5.00	--
C9-C12 Aliphatics, Adjusted	ND		mg/kg	5.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	102		70-130
2,5-Dibromotoluene-FID	102		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-08 Batch: WG1281181-2 WG1281181-3								
C9-C18 Aliphatics	58		54		40-140	7		25
C19-C36 Aliphatics	68		66		40-140	3		25
C11-C22 Aromatics	62		64		40-140	3		25
Naphthalene	51		51		40-140	0		25
2-Methylnaphthalene	51		51		40-140	0		25
Acenaphthylene	55		54		40-140	2		25
Acenaphthene	58		58		40-140	0		25
Fluorene	58		59		40-140	2		25
Phenanthrene	60		63		40-140	5		25
Anthracene	60		63		40-140	5		25
Fluoranthene	62		65		40-140	5		25
Pyrene	64		66		40-140	3		25
Benzo(a)anthracene	64		65		40-140	2		25
Chrysene	65		67		40-140	3		25
Benzo(b)fluoranthene	64		66		40-140	3		25
Benzo(k)fluoranthene	63		66		40-140	5		25
Benzo(a)pyrene	60		62		40-140	3		25
Indeno(1,2,3-cd)Pyrene	58		61		40-140	5		25
Dibenzo(a,h)anthracene	63		65		40-140	3		25
Benzo(ghi)perylene	57		60		40-140	5		25
Nonane (C9)	38		39		30-140	3		25
Decane (C10)	45		45		40-140	0		25
Dodecane (C12)	48		48		40-140	0		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-08 Batch: WG1281181-2 WG1281181-3								
Tetradecane (C14)	52		51		40-140	2		25
Hexadecane (C16)	56		57		40-140	2		25
Octadecane (C18)	60		61		40-140	2		25
Nonadecane (C19)	61		62		40-140	2		25
Eicosane (C20)	63		63		40-140	0		25
Docosane (C22)	63		63		40-140	0		25
Tetracosane (C24)	63		63		40-140	0		25
Hexacosane (C26)	64		63		40-140	2		25
Octacosane (C28)	64		64		40-140	0		25
Triacontane (C30)	65		65		40-140	0		25
Hexatriacontane (C36)	67		67		40-140	0		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	61		60		40-140
o-Terphenyl	59		61		40-140
2-Fluorobiphenyl	80		79		40-140
2-Bromonaphthalene	80		79		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-08 Batch: WG1282817-2 WG1282817-3								
C5-C8 Aliphatics	95		98		70-130	3		25
C9-C12 Aliphatics	98		110		70-130	12		25
C9-C10 Aromatics	98		100		70-130	2		25
Benzene	99		101		70-130	2		25
Toluene	100		102		70-130	2		25
Ethylbenzene	102		104		70-130	2		25
p/m-Xylene	102		104		70-130	2		25
o-Xylene	98		100		70-130	2		25
Methyl tert butyl ether	101		105		70-130	4		25
Naphthalene	103		106		70-130	3		25
1,2,4-Trimethylbenzene	98		100		70-130	2		25
Pentane	92		94		70-130	3		25
2-Methylpentane	98		102		70-130	4		25
2,2,4-Trimethylpentane	95		98		70-130	3		25
n-Nonane	99		101		30-130	2		25
n-Decane	93		94		70-130	1		25
n-Butylcyclohexane	102		104		70-130	2		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	102		102		70-130
2,5-Dibromotoluene-FID	102		103		70-130

PCBS

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-01
Client ID: TT-21 (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 09:00
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/09/19 03:04
Analyst: HT
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 01:29
Cleanup Method: EPA 3665A
Cleanup Date: 09/06/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/06/19

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	60		30-150	B
Decachlorobiphenyl	68		30-150	B
2,4,5,6-Tetrachloro-m-xylene	61		30-150	A
Decachlorobiphenyl	48		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-02
Client ID: TT-22A (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 09:30
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/09/19 03:17
Analyst: HT
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 01:29
Cleanup Method: EPA 3665A
Cleanup Date: 09/06/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/06/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	37.4	--	1	A
Aroclor 1221	ND		ug/kg	37.4	--	1	A
Aroclor 1232	ND		ug/kg	37.4	--	1	A
Aroclor 1242	ND		ug/kg	37.4	--	1	A
Aroclor 1248	ND		ug/kg	37.4	--	1	A
Aroclor 1254	109		ug/kg	37.4	--	1	B
Aroclor 1260	50.4		ug/kg	37.4	--	1	B
Aroclor 1262	ND		ug/kg	37.4	--	1	A
Aroclor 1268	ND		ug/kg	37.4	--	1	A
PCBs, Total	159		ug/kg	37.4	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	51		30-150	B
Decachlorobiphenyl	54		30-150	B
2,4,5,6-Tetrachloro-m-xylene	56		30-150	A
Decachlorobiphenyl	39		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-03
Client ID: TT-22A (3')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 09:45
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/09/19 03:29
Analyst: HT
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 01:29
Cleanup Method: EPA 3665A
Cleanup Date: 09/06/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/06/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	36.7	--	1	A
Aroclor 1221	ND		ug/kg	36.7	--	1	A
Aroclor 1232	ND		ug/kg	36.7	--	1	A
Aroclor 1242	ND		ug/kg	36.7	--	1	A
Aroclor 1248	ND		ug/kg	36.7	--	1	A
Aroclor 1254	ND		ug/kg	36.7	--	1	A
Aroclor 1260	ND		ug/kg	36.7	--	1	B
Aroclor 1262	ND		ug/kg	36.7	--	1	A
Aroclor 1268	ND		ug/kg	36.7	--	1	A
PCBs, Total	ND		ug/kg	36.7	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	43		30-150	B
Decachlorobiphenyl	46		30-150	B
2,4,5,6-Tetrachloro-m-xylene	48		30-150	A
Decachlorobiphenyl	34		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-04
Client ID: MOND COMP
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 10:45
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/09/19 03:41
Analyst: HT
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 01:29
Cleanup Method: EPA 3665A
Cleanup Date: 09/06/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/06/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	38.9	--	1	A
Aroclor 1221	ND		ug/kg	38.9	--	1	A
Aroclor 1232	ND		ug/kg	38.9	--	1	A
Aroclor 1242	ND		ug/kg	38.9	--	1	A
Aroclor 1248	ND		ug/kg	38.9	--	1	A
Aroclor 1254	ND		ug/kg	38.9	--	1	A
Aroclor 1260	ND		ug/kg	38.9	--	1	B
Aroclor 1262	ND		ug/kg	38.9	--	1	A
Aroclor 1268	ND		ug/kg	38.9	--	1	A
PCBs, Total	ND		ug/kg	38.9	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	45		30-150	B
Decachlorobiphenyl	46		30-150	B
2,4,5,6-Tetrachloro-m-xylene	49		30-150	A
Decachlorobiphenyl	34		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-05
Client ID: TT-20A (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 08:30
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/09/19 18:20
Analyst: JM
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 18:53
Cleanup Method: EPA 3665A
Cleanup Date: 09/07/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/07/19

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	58		30-150	B
Decachlorobiphenyl	68		30-150	B
2,4,5,6-Tetrachloro-m-xylene	58		30-150	A
Decachlorobiphenyl	59		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-06
Client ID: TT-11 (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 09:50
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/09/19 18:32
Analyst: JM
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 18:53
Cleanup Method: EPA 3665A
Cleanup Date: 09/07/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/07/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	36.6	--	1	A
Aroclor 1221	ND		ug/kg	36.6	--	1	A
Aroclor 1232	ND		ug/kg	36.6	--	1	A
Aroclor 1242	ND		ug/kg	36.6	--	1	A
Aroclor 1248	ND		ug/kg	36.6	--	1	A
Aroclor 1254	ND		ug/kg	36.6	--	1	A
Aroclor 1260	ND		ug/kg	36.6	--	1	B
Aroclor 1262	ND		ug/kg	36.6	--	1	A
Aroclor 1268	ND		ug/kg	36.6	--	1	A
PCBs, Total	ND		ug/kg	36.6	--	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	50		30-150	A
Decachlorobiphenyl	49		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-07
Client ID: TT-11 (2-4')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 10:30
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/09/19 18:43
Analyst: JM
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 18:53
Cleanup Method: EPA 3665A
Cleanup Date: 09/07/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/07/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	39.5	--	1	A
Aroclor 1221	ND		ug/kg	39.5	--	1	A
Aroclor 1232	ND		ug/kg	39.5	--	1	A
Aroclor 1242	ND		ug/kg	39.5	--	1	A
Aroclor 1248	ND		ug/kg	39.5	--	1	A
Aroclor 1254	ND		ug/kg	39.5	--	1	A
Aroclor 1260	ND		ug/kg	39.5	--	1	B
Aroclor 1262	ND		ug/kg	39.5	--	1	A
Aroclor 1268	ND		ug/kg	39.5	--	1	A
PCBs, Total	ND		ug/kg	39.5	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	58		30-150	B
Decachlorobiphenyl	64		30-150	B
2,4,5,6-Tetrachloro-m-xylene	58		30-150	A
Decachlorobiphenyl	57		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-08 D
Client ID: TT-3 (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 11:45
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/09/19 18:55
Analyst: JM
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 18:53
Cleanup Method: EPA 3665A
Cleanup Date: 09/07/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/07/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	176	--	5	A
Aroclor 1221	ND		ug/kg	176	--	5	A
Aroclor 1232	ND		ug/kg	176	--	5	A
Aroclor 1242	ND		ug/kg	176	--	5	A
Aroclor 1248	ND		ug/kg	176	--	5	A
Aroclor 1254	ND		ug/kg	176	--	5	A
Aroclor 1260	ND		ug/kg	176	--	5	A
Aroclor 1262	ND		ug/kg	176	--	5	A
Aroclor 1268	ND		ug/kg	176	--	5	A
PCBs, Total	ND		ug/kg	176	--	5	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	56		30-150	B
Decachlorobiphenyl	77		30-150	B
2,4,5,6-Tetrachloro-m-xylene	56		30-150	A
Decachlorobiphenyl	69		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-09
Client ID: DC1112
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 12:00
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/09/19 03:54
Analyst: HT
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 01:29
Cleanup Method: EPA 3665A
Cleanup Date: 09/06/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/06/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	39.8	--	1	A
Aroclor 1221	ND		ug/kg	39.8	--	1	A
Aroclor 1232	ND		ug/kg	39.8	--	1	A
Aroclor 1242	ND		ug/kg	39.8	--	1	A
Aroclor 1248	ND		ug/kg	39.8	--	1	A
Aroclor 1254	49.7		ug/kg	39.8	--	1	A
Aroclor 1260	60.8	P	ug/kg	39.8	--	1	B
Aroclor 1262	ND		ug/kg	39.8	--	1	A
Aroclor 1268	ND		ug/kg	39.8	--	1	A
PCBs, Total	111		ug/kg	39.8	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	55		30-150	B
Decachlorobiphenyl	52		30-150	B
2,4,5,6-Tetrachloro-m-xylene	62		30-150	A
Decachlorobiphenyl	37		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-10
Client ID: DC20A18
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 12:30
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/09/19 04:06
Analyst: HT
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 01:29
Cleanup Method: EPA 3665A
Cleanup Date: 09/06/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/06/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	34.5	--	1	A
Aroclor 1221	ND		ug/kg	34.5	--	1	A
Aroclor 1232	ND		ug/kg	34.5	--	1	A
Aroclor 1242	ND		ug/kg	34.5	--	1	A
Aroclor 1248	ND		ug/kg	34.5	--	1	A
Aroclor 1254	103		ug/kg	34.5	--	1	B
Aroclor 1260	197		ug/kg	34.5	--	1	B
Aroclor 1262	ND		ug/kg	34.5	--	1	A
Aroclor 1268	ND		ug/kg	34.5	--	1	A
PCBs, Total	300		ug/kg	34.5	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	58		30-150	B
Decachlorobiphenyl	58		30-150	B
2,4,5,6-Tetrachloro-m-xylene	67		30-150	A
Decachlorobiphenyl	38		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-11
Client ID: DC123
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 13:00
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/09/19 04:19
Analyst: HT
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 01:29
Cleanup Method: EPA 3665A
Cleanup Date: 09/06/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/06/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	33.3	--	1	A
Aroclor 1221	ND		ug/kg	33.3	--	1	A
Aroclor 1232	ND		ug/kg	33.3	--	1	A
Aroclor 1242	ND		ug/kg	33.3	--	1	A
Aroclor 1248	ND		ug/kg	33.3	--	1	A
Aroclor 1254	ND		ug/kg	33.3	--	1	A
Aroclor 1260	ND		ug/kg	33.3	--	1	B
Aroclor 1262	ND		ug/kg	33.3	--	1	A
Aroclor 1268	ND		ug/kg	33.3	--	1	A
PCBs, Total	ND		ug/kg	33.3	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	49		30-150	B
Decachlorobiphenyl	43		30-150	B
2,4,5,6-Tetrachloro-m-xylene	52		30-150	A
Decachlorobiphenyl	**27**	Q	30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939381
Report Date: 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 09/09/19 06:35
Analyst: HT

Extraction Method: EPA 3546
Extraction Date: 09/06/19 01:29
Cleanup Method: EPA 3665A
Cleanup Date: 09/06/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/06/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01-04,09-11 Batch: WG1280884-1						
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	65		30-150	B
Decachlorobiphenyl	60		30-150	B
2,4,5,6-Tetrachloro-m-xylene	67		30-150	A
Decachlorobiphenyl	37		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939381
Report Date: 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 09/07/19 16:25
Analyst: HT

Extraction Method: EPA 3546
Extraction Date: 09/06/19 18:49
Cleanup Method: EPA 3665A
Cleanup Date: 09/07/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/07/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 05-08 Batch: WG1281323-1						
Aroclor 1016	ND		ug/kg	31.4	--	A
Aroclor 1221	ND		ug/kg	31.4	--	A
Aroclor 1232	ND		ug/kg	31.4	--	A
Aroclor 1242	ND		ug/kg	31.4	--	A
Aroclor 1248	ND		ug/kg	31.4	--	A
Aroclor 1254	ND		ug/kg	31.4	--	A
Aroclor 1260	ND		ug/kg	31.4	--	A
Aroclor 1262	ND		ug/kg	31.4	--	A
Aroclor 1268	ND		ug/kg	31.4	--	A
PCBs, Total	ND		ug/kg	31.4	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	64		30-150	B
Decachlorobiphenyl	48		30-150	B
2,4,5,6-Tetrachloro-m-xylene	62		30-150	A
Decachlorobiphenyl	43		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST., S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939381

Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01-04,09-11 Batch: WG1280884-2 WG1280884-3									
Aroclor 1016	80		75		40-140	6		30	A
Aroclor 1260	54		50		40-140	8		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	72		67		30-150	B
Decachlorobiphenyl	67		62		30-150	B
2,4,5,6-Tetrachloro-m-xylene	74		70		30-150	A
Decachlorobiphenyl	41		39		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST., S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939381

Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 05-08 Batch: WG1281323-2 WG1281323-3									
Aroclor 1016	62		66		40-140	6		30	A
Aroclor 1260	50		55		40-140	10		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	61		67		30-150	B
Decachlorobiphenyl	47		52		30-150	B
2,4,5,6-Tetrachloro-m-xylene	60		65		30-150	A
Decachlorobiphenyl	44		46		30-150	A

PESTICIDES

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-02
Client ID: TT-22A (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 09:30
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8081B
Analytical Date: 09/09/19 10:41
Analyst: SL
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 02:25
Cleanup Method: EPA 3620B
Cleanup Date: 09/07/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Organochlorine Pesticides - Westborough Lab							
Delta-BHC	ND		ug/kg	1.81	--	1	A
Lindane	ND		ug/kg	0.604	--	1	A
Alpha-BHC	ND		ug/kg	0.755	--	1	A
Beta-BHC	ND		ug/kg	1.81	--	1	A
Heptachlor	ND		ug/kg	0.906	--	1	A
Aldrin	ND		ug/kg	1.81	--	1	A
Heptachlor epoxide	ND		ug/kg	3.40	--	1	A
Endrin	ND		ug/kg	0.755	--	1	A
Endrin ketone	ND		ug/kg	1.81	--	1	A
Dieldrin	ND		ug/kg	1.13	--	1	A
4,4'-DDE	6.10		ug/kg	1.81	--	1	A
4,4'-DDD	4.77		ug/kg	1.81	--	1	B
4,4'-DDT	7.22	IP	ug/kg	3.40	--	1	A
Endosulfan I	ND		ug/kg	1.81	--	1	A
Endosulfan II	ND		ug/kg	1.81	--	1	A
Endosulfan sulfate	ND		ug/kg	0.755	--	1	A
Methoxychlor	ND		ug/kg	3.40	--	1	A
Chlordane	ND		ug/kg	14.7	--	1	A
Hexachlorobenzene	ND		ug/kg	1.81	--	1	A
Toxaphene	ND		ug/kg	34.0	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	102		30-150	B
Decachlorobiphenyl	118		30-150	B
2,4,5,6-Tetrachloro-m-xylene	87		30-150	A
Decachlorobiphenyl	85		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-02
Client ID: TT-22A (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 09:30
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8151A
Analytical Date: 09/07/19 13:58
Analyst: BM
Percent Solids: 87%
Methylation Date: 09/06/19 22:59

Extraction Method: EPA 8151A
Extraction Date: 09/05/19 16:16

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	87		30-150	A
DCAA	79		30-150	B

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-03
Client ID: TT-22A (3')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 09:45
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8081B
Analytical Date: 09/09/19 10:52
Analyst: SL
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 02:25
Cleanup Method: EPA 3620B
Cleanup Date: 09/07/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Organochlorine Pesticides - Westborough Lab							
Delta-BHC	ND		ug/kg	1.81	--	1	A
Lindane	ND		ug/kg	0.603	--	1	A
Alpha-BHC	ND		ug/kg	0.754	--	1	A
Beta-BHC	ND		ug/kg	1.81	--	1	A
Heptachlor	ND		ug/kg	0.904	--	1	A
Aldrin	ND		ug/kg	1.81	--	1	A
Heptachlor epoxide	ND		ug/kg	3.39	--	1	A
Endrin	ND		ug/kg	0.754	--	1	A
Endrin ketone	ND		ug/kg	1.81	--	1	A
Dieldrin	ND		ug/kg	1.13	--	1	A
4,4'-DDE	ND		ug/kg	1.81	--	1	A
4,4'-DDD	ND		ug/kg	1.81	--	1	A
4,4'-DDT	ND		ug/kg	3.39	--	1	A
Endosulfan I	ND		ug/kg	1.81	--	1	A
Endosulfan II	ND		ug/kg	1.81	--	1	A
Endosulfan sulfate	ND		ug/kg	0.754	--	1	A
Methoxychlor	ND		ug/kg	3.39	--	1	A
Chlordane	ND		ug/kg	14.7	--	1	A
Hexachlorobenzene	ND		ug/kg	1.81	--	1	A
Toxaphene	ND		ug/kg	33.9	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	111		30-150	B
Decachlorobiphenyl	120		30-150	B
2,4,5,6-Tetrachloro-m-xylene	121		30-150	A
Decachlorobiphenyl	85		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-03
Client ID: TT-22A (3')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 09:45
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8151A
Analytical Date: 09/07/19 14:17
Analyst: BM
Percent Solids: 86%
Methylation Date: 09/06/19 22:59

Extraction Method: EPA 8151A
Extraction Date: 09/05/19 16:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Chlorinated Herbicides - Westborough Lab							
MCPP	ND		ug/kg	3900	--	1	A
MCPA	ND		ug/kg	3900	--	1	B
Dalapon	ND		ug/kg	39	--	1	A
Dicamba	ND		ug/kg	39	--	1	A
Dichloroprop	ND		ug/kg	39	--	1	B
2,4-D	ND		ug/kg	39	--	1	A
2,4-DB	ND		ug/kg	39	--	1	A
2,4,5-T	ND		ug/kg	39	--	1	A
2,4,5-TP (Silvex)	ND		ug/kg	39	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	118		30-150	A
DCAA	104		30-150	B

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-04
Client ID: MOND COMP
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 10:45
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8081B
Analytical Date: 09/09/19 11:04
Analyst: SL
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 02:25
Cleanup Method: EPA 3620B
Cleanup Date: 09/07/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Organochlorine Pesticides - Westborough Lab							
Delta-BHC	ND		ug/kg	1.80	--	1	A
Lindane	ND		ug/kg	0.602	--	1	A
Alpha-BHC	ND		ug/kg	0.752	--	1	A
Beta-BHC	ND		ug/kg	1.80	--	1	A
Heptachlor	ND		ug/kg	0.903	--	1	A
Aldrin	ND		ug/kg	1.80	--	1	A
Heptachlor epoxide	ND		ug/kg	3.38	--	1	A
Endrin	ND		ug/kg	0.752	--	1	A
Endrin ketone	ND		ug/kg	1.80	--	1	A
Dieldrin	ND		ug/kg	1.13	--	1	A
4,4'-DDE	ND		ug/kg	1.80	--	1	A
4,4'-DDD	ND		ug/kg	1.80	--	1	A
4,4'-DDT	ND	IP	ug/kg	3.38	--	1	A
Endosulfan I	ND		ug/kg	1.80	--	1	A
Endosulfan II	ND		ug/kg	1.80	--	1	A
Endosulfan sulfate	ND		ug/kg	0.752	--	1	A
Methoxychlor	ND		ug/kg	3.38	--	1	A
Chlordane	ND		ug/kg	14.7	--	1	A
Hexachlorobenzene	ND		ug/kg	1.80	--	1	A
Toxaphene	ND		ug/kg	33.8	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	103		30-150	B
Decachlorobiphenyl	125		30-150	B
2,4,5,6-Tetrachloro-m-xylene	108		30-150	A
Decachlorobiphenyl	92		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-04
Client ID: MOND COMP
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 10:45
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8151A
Analytical Date: 09/12/19 18:08
Analyst: DGM
Percent Solids: 84%
Methylation Date: 09/12/19 14:09

Extraction Method: EPA 8151A
Extraction Date: 09/11/19 16:03

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Chlorinated Herbicides - Westborough Lab							
MCPP	ND		ug/kg	4000	--	1	A
MCPA	ND		ug/kg	4000	--	1	A
Dalapon	ND		ug/kg	40	--	1	A
Dicamba	ND		ug/kg	40	--	1	A
Dichloroprop	ND		ug/kg	40	--	1	A
2,4-D	ND		ug/kg	40	--	1	A
2,4-DB	ND		ug/kg	40	--	1	A
2,4,5-T	ND		ug/kg	40	--	1	A
2,4,5-TP (Silvex)	ND		ug/kg	40	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	100		30-150	A
DCAA	93		30-150	B

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-09
Client ID: DC1112
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 12:00
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8081B
Analytical Date: 09/09/19 11:16
Analyst: SL
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 02:25
Cleanup Method: EPA 3620B
Cleanup Date: 09/07/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Organochlorine Pesticides - Westborough Lab							
Delta-BHC	ND		ug/kg	1.91	--	1	A
Lindane	ND		ug/kg	0.637	--	1	A
Alpha-BHC	ND		ug/kg	0.797	--	1	A
Beta-BHC	ND		ug/kg	1.91	--	1	A
Heptachlor	ND		ug/kg	0.956	--	1	A
Aldrin	ND		ug/kg	1.91	--	1	A
Heptachlor epoxide	ND		ug/kg	3.58	--	1	A
Endrin	ND		ug/kg	0.797	--	1	A
Endrin ketone	ND		ug/kg	1.91	--	1	A
Dieldrin	ND		ug/kg	1.19	--	1	A
4,4'-DDE	ND	IP	ug/kg	1.91	--	1	B
4,4'-DDD	ND		ug/kg	1.91	--	1	A
4,4'-DDT	ND		ug/kg	3.58	--	1	A
Endosulfan I	ND		ug/kg	1.91	--	1	A
Endosulfan II	ND		ug/kg	1.91	--	1	A
Endosulfan sulfate	ND		ug/kg	0.797	--	1	A
Methoxychlor	ND		ug/kg	3.58	--	1	A
Chlordane	ND		ug/kg	15.5	--	1	A
Hexachlorobenzene	ND		ug/kg	1.91	--	1	A
Toxaphene	ND		ug/kg	35.8	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	76		30-150	B
Decachlorobiphenyl	90		30-150	B
2,4,5,6-Tetrachloro-m-xylene	92		30-150	A
Decachlorobiphenyl	73		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-09
Client ID: DC1112
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 12:00
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8151A
Analytical Date: 09/10/19 16:29
Analyst: DGM
Percent Solids: 81%
Methylation Date: 09/08/19 10:54

Extraction Method: EPA 8151A
Extraction Date: 09/07/19 06:09

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Chlorinated Herbicides - Westborough Lab							
MCPP	ND		ug/kg	4000	--	1	A
MCPA	ND		ug/kg	4000	--	1	B
Dalapon	ND		ug/kg	40	--	1	A
Dicamba	ND		ug/kg	40	--	1	A
Dichloroprop	ND		ug/kg	40	--	1	A
2,4-D	ND		ug/kg	40	--	1	A
2,4-DB	ND		ug/kg	40	--	1	A
2,4,5-T	ND		ug/kg	40	--	1	A
2,4,5-TP (Silvex)	ND		ug/kg	40	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	92		30-150	A
DCAA	83		30-150	B

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-10
Client ID: DC20A18
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 12:30
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8081B
Analytical Date: 09/09/19 11:27
Analyst: SL
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 02:25
Cleanup Method: EPA 3620B
Cleanup Date: 09/07/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Organochlorine Pesticides - Westborough Lab							
Delta-BHC	ND		ug/kg	1.70	--	1	A
Lindane	ND		ug/kg	0.566	--	1	A
Alpha-BHC	ND		ug/kg	0.707	--	1	A
Beta-BHC	ND		ug/kg	1.70	--	1	A
Heptachlor	ND		ug/kg	0.848	--	1	A
Aldrin	ND		ug/kg	1.70	--	1	A
Heptachlor epoxide	ND		ug/kg	3.18	--	1	A
Endrin	ND		ug/kg	0.707	--	1	A
Endrin ketone	ND		ug/kg	1.70	--	1	A
Dieldrin	ND		ug/kg	1.06	--	1	A
4,4'-DDE	ND		ug/kg	1.70	--	1	A
4,4'-DDD	ND		ug/kg	1.70	--	1	A
4,4'-DDT	ND		ug/kg	3.18	--	1	A
Endosulfan I	ND		ug/kg	1.70	--	1	A
Endosulfan II	ND		ug/kg	1.70	--	1	A
Endosulfan sulfate	ND		ug/kg	0.707	--	1	A
Methoxychlor	ND		ug/kg	3.18	--	1	A
Chlordane	ND		ug/kg	13.8	--	1	A
Hexachlorobenzene	ND		ug/kg	1.70	--	1	A
Toxaphene	ND		ug/kg	31.8	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	81		30-150	B
Decachlorobiphenyl	139		30-150	B
2,4,5,6-Tetrachloro-m-xylene	101		30-150	A
Decachlorobiphenyl	88		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-10
Client ID: DC20A18
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 12:30
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8151A
Analytical Date: 09/10/19 16:48
Analyst: DGM
Percent Solids: 93%
Methylation Date: 09/08/19 10:54

Extraction Method: EPA 8151A
Extraction Date: 09/07/19 06:09

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	94		30-150	A
DCAA	82		30-150	B

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-11
Client ID: DC123
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 13:00
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8081B
Analytical Date: 09/09/19 11:39
Analyst: SL
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 09/06/19 02:25
Cleanup Method: EPA 3620B
Cleanup Date: 09/07/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Organochlorine Pesticides - Westborough Lab							
Delta-BHC	ND		ug/kg	1.62	--	1	A
Lindane	ND		ug/kg	0.539	--	1	A
Alpha-BHC	ND		ug/kg	0.674	--	1	A
Beta-BHC	ND		ug/kg	1.62	--	1	A
Heptachlor	ND		ug/kg	0.809	--	1	A
Aldrin	ND		ug/kg	1.62	--	1	A
Heptachlor epoxide	ND		ug/kg	3.03	--	1	A
Endrin	ND		ug/kg	0.674	--	1	A
Endrin ketone	ND		ug/kg	1.62	--	1	A
Dieldrin	ND		ug/kg	1.01	--	1	A
4,4'-DDE	ND	IP	ug/kg	1.62	--	1	B
4,4'-DDD	2.20	P	ug/kg	1.62	--	1	B
4,4'-DDT	3.19	P	ug/kg	3.03	--	1	B
Endosulfan I	ND		ug/kg	1.62	--	1	A
Endosulfan II	ND		ug/kg	1.62	--	1	A
Endosulfan sulfate	ND		ug/kg	0.674	--	1	A
Methoxychlor	ND		ug/kg	3.03	--	1	A
Chlordane	ND		ug/kg	13.1	--	1	A
Hexachlorobenzene	ND		ug/kg	1.62	--	1	A
Toxaphene	ND		ug/kg	30.3	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	78		30-150	B
Decachlorobiphenyl	109		30-150	B
2,4,5,6-Tetrachloro-m-xylene	82		30-150	A
Decachlorobiphenyl	57		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-11
Client ID: DC123
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 13:00
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8151A
Analytical Date: 09/10/19 17:07
Analyst: DGM
Percent Solids: 94%
Methylation Date: 09/08/19 10:54

Extraction Method: EPA 8151A
Extraction Date: 09/07/19 06:09

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Chlorinated Herbicides - Westborough Lab							
MCPP	ND		ug/kg	3400	--	1	A
MCPA	ND		ug/kg	3400	--	1	B
Dalapon	ND		ug/kg	34	--	1	A
Dicamba	ND		ug/kg	34	--	1	A
Dichloroprop	ND		ug/kg	34	--	1	A
2,4-D	ND		ug/kg	34	--	1	A
2,4-DB	ND		ug/kg	34	--	1	A
2,4,5-T	ND		ug/kg	34	--	1	A
2,4,5-TP (Silvex)	ND		ug/kg	34	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	83		30-150	A
DCAA	74		30-150	B

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8151A
Analytical Date: 09/07/19 11:27
Analyst: BM

Extraction Method: EPA 8151A
Extraction Date: 09/05/19 16:16

Methylation Date: 09/06/19 22:54

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Chlorinated Herbicides - Westborough Lab for sample(s): 02-03 Batch: WG1280739-1						
MCPP	ND		ug/kg	3300	--	A
Dalapon	ND		ug/kg	33	--	A
Dicamba	ND		ug/kg	33	--	A
2,4-D	ND		ug/kg	33	--	A
2,4-DB	ND		ug/kg	33	--	A
2,4,5-T	ND		ug/kg	33	--	A
2,4,5-TP (Silvex)	ND		ug/kg	33	--	A
MCPA	ND		ug/kg	3300	--	B
Dichloroprop	ND		ug/kg	33	--	B

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	77		30-150	A
DCAA	73		30-150	B

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939381
Report Date: 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8081B
Analytical Date: 09/09/19 10:06
Analyst: SL

Extraction Method: EPA 3546
Extraction Date: 09/06/19 02:25
Cleanup Method: EPA 3620B
Cleanup Date: 09/07/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Organochlorine Pesticides - Westborough Lab for sample(s): 02-04,09-11 Batch: WG1280888-1						
Delta-BHC	ND		ug/kg	1.52	--	A
Lindane	ND		ug/kg	0.506	--	A
Alpha-BHC	ND		ug/kg	0.633	--	A
Beta-BHC	ND		ug/kg	1.52	--	A
Heptachlor	ND		ug/kg	0.759	--	A
Aldrin	ND		ug/kg	1.52	--	A
Heptachlor epoxide	ND		ug/kg	2.85	--	A
Endrin	ND		ug/kg	0.633	--	A
Endrin ketone	ND		ug/kg	1.52	--	A
Dieldrin	ND		ug/kg	0.949	--	A
4,4'-DDE	ND		ug/kg	1.52	--	A
4,4'-DDD	ND		ug/kg	1.52	--	A
4,4'-DDT	ND		ug/kg	2.85	--	A
Endosulfan I	ND		ug/kg	1.52	--	A
Endosulfan II	ND		ug/kg	1.52	--	A
Endosulfan sulfate	ND		ug/kg	0.633	--	A
Methoxychlor	ND		ug/kg	2.85	--	A
Chlordane	ND		ug/kg	12.3	--	A
Toxaphene	ND		ug/kg	28.5	--	A
Hexachlorobenzene	ND		ug/kg	1.52	--	B

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	103		30-150	B
Decachlorobiphenyl	94		30-150	B
2,4,5,6-Tetrachloro-m-xylene	96		30-150	A
Decachlorobiphenyl	80		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8151A
Analytical Date: 09/08/19 23:02
Analyst: DGM

Extraction Method: EPA 8151A
Extraction Date: 09/07/19 06:09

Methylation Date: 09/08/19 06:07

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Chlorinated Herbicides - Westborough Lab for sample(s): 09-11 Batch: WG1281418-1						
MCPP	ND		ug/kg	3300	--	A
Dalapon	ND		ug/kg	33	--	A
Dicamba	ND		ug/kg	33	--	A
2,4-D	ND		ug/kg	33	--	A
2,4-DB	ND		ug/kg	33	--	A
2,4,5-T	ND		ug/kg	33	--	A
2,4,5-TP (Silvex)	ND		ug/kg	33	--	A
MCPA	ND		ug/kg	3300	--	B
Dichloroprop	ND		ug/kg	33	--	B

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	86		30-150	A
DCAA	89		30-150	B

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8151A
Analytical Date: 09/12/19 17:12
Analyst: DGM

Extraction Method: EPA 8151A
Extraction Date: 09/11/19 16:03

Methylation Date: 09/12/19 14:09

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Chlorinated Herbicides - Westborough Lab for sample(s): 04 Batch: WG1282929-1						
MCPP	ND		ug/kg	3300	--	A
MCPA	ND		ug/kg	3300	--	A
Dalapon	ND		ug/kg	33	--	A
Dicamba	ND		ug/kg	33	--	A
Dichloroprop	ND		ug/kg	33	--	A
2,4-D	ND		ug/kg	33	--	A
2,4-DB	ND		ug/kg	33	--	A
2,4,5-T	ND		ug/kg	33	--	A
2,4,5-TP (Silvex)	ND		ug/kg	33	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	90		30-150	A
DCAA	90		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST., S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939381

Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Chlorinated Herbicides - Westborough Lab Associated sample(s): 02-03 Batch: WG1280739-2 WG1280739-3									
MCPP	93		98		40-140	5		30	A
Dalapon	75		79		40-140	5		30	A
Dicamba	82		87		40-140	6		30	A
2,4-D	89		95		40-140	7		30	A
2,4-DB	70		74		40-140	6		30	A
2,4,5-T	86		94		40-140	9		30	A
2,4,5-TP (Silvex)	86		93		40-140	8		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	77		81		30-150	A
DCAA	78		83		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST., S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939381

Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Chlorinated Herbicides - Westborough Lab Associated sample(s): 02-03 Batch: WG1280739-2 WG1280739-3									
MCPA	75		81		40-140	8		30	B
Dichloroprop	92		100		40-140	8		30	B

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	77		81		30-150	A
DCAA	78		83		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 02-04,09-11 Batch: WG1280888-2 WG1280888-3									
Delta-BHC	105		95		40-140	11		30	A
Lindane	103		93		40-140	10		30	A
Alpha-BHC	109		100		40-140	9		30	A
Beta-BHC	96		87		40-140	10		30	A
Heptachlor	110		96		40-140	14		30	A
Aldrin	100		94		40-140	6		30	A
Heptachlor epoxide	98		91		40-140	7		30	A
Endrin	112		123		40-140	9		30	A
Endrin ketone	116		99		40-140	16		30	A
Dieldrin	111		124		40-140	11		30	A
4,4'-DDE	103		96		40-140	7		30	A
4,4'-DDD	112		132		40-140	16		30	A
4,4'-DDT	116		127		40-140	9		30	A
Endosulfan I	96		92		40-140	4		30	A
Endosulfan II	110		122		40-140	10		30	A
Endosulfan sulfate	110		91		40-140	19		30	A
Methoxychlor	113		113		40-140	0		30	A
Hexachlorobenzene	91		81		40-140	12		30	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST., S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939381

Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 02-04,09-11 Batch: WG1280888-2 WG1280888-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	112		101		30-150	B
Decachlorobiphenyl	106		112		30-150	B
2,4,5,6-Tetrachloro-m-xylene	105		94		30-150	A
Decachlorobiphenyl	88		72		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST., S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939381

Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Chlorinated Herbicides - Westborough Lab Associated sample(s): 09-11 Batch: WG1281418-2 WG1281418-3									
MCPP	92		99		40-140	7		30	A
Dalapon	70		68		40-140	3		30	A
Dicamba	76		82		40-140	8		30	A
2,4-D	85		89		40-140	5		30	A
2,4-DB	70		77		40-140	10		30	A
2,4,5-T	81		88		40-140	8		30	A
2,4,5-TP (Silvex)	82		89		40-140	8		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	77		82		30-150	A
DCAA	90		86		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST., S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939381

Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Chlorinated Herbicides - Westborough Lab Associated sample(s): 09-11 Batch: WG1281418-2 WG1281418-3									
MCPA	71		76		40-140	7		30	B
Dichloroprop	96		101		40-140	5		30	B

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	77		82		30-150	A
DCAA	90		86		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Chlorinated Herbicides - Westborough Lab Associated sample(s): 04 Batch: WG1282929-2 WG1282929-3									
MCPP	111		113		40-140	2		30	A
MCPA	104		106		40-140	2		30	A
Dalapon	90		93		40-140	3		30	A
Dicamba	92		96		40-140	4		30	A
Dichloroprop	129		132		40-140	2		30	A
2,4-D	99		104		40-140	5		30	A
2,4-DB	88		92		40-140	4		30	A
2,4,5-T	96		100		40-140	4		30	A
2,4,5-TP (Silvex)	95		99		40-140	4		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	92		96		30-150	A
DCAA	100		106		30-150	B

METALS

Project Name: CYPHER ST., S. BOSTON
Lab Number: L1939381
Project Number: 143-278997-19001
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-01
Client ID: TT-21 (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 09:00
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 91%

TCLP/SPLP Ext. Date: 09/07/19 19:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.500	--	1	09/10/19 13:11	09/10/19 16:02	EPA 3015	1,6010D	LC

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-01
Client ID: TT-21 (0-2')
Sample Location: CYPHER ST., S. BOSTON
Date Collected: 08/29/19 09:00
Date Received: 08/29/19
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											
Antimony, Total	ND		mg/kg	2.12	--	1	09/06/19 23:50	09/09/19 20:53	EPA 3050B	97,6010D	AB
Arsenic, Total	7.32		mg/kg	0.424	--	1	09/06/19 23:50	09/09/19 20:53	EPA 3050B	97,6010D	AB
Barium, Total	66.5		mg/kg	0.424	--	1	09/06/19 23:50	09/09/19 20:53	EPA 3050B	97,6010D	AB
Beryllium, Total	0.306		mg/kg	0.212	--	1	09/06/19 23:50	09/09/19 20:53	EPA 3050B	97,6010D	AB
Cadmium, Total	ND		mg/kg	0.424	--	1	09/06/19 23:50	09/09/19 20:53	EPA 3050B	97,6010D	AB
Chromium, Total	25.2		mg/kg	0.424	--	1	09/06/19 23:50	09/09/19 20:53	EPA 3050B	97,6010D	AB
Lead, Total	153		mg/kg	2.12	--	1	09/06/19 23:50	09/09/19 20:53	EPA 3050B	97,6010D	AB
Mercury, Total	0.528		mg/kg	0.081	--	1	09/10/19 02:30	09/10/19 12:11	EPA 7471B	97,7471B	GD
Nickel, Total	17.0		mg/kg	1.06	--	1	09/06/19 23:50	09/09/19 20:53	EPA 3050B	97,6010D	AB
Selenium, Total	ND		mg/kg	2.12	--	1	09/06/19 23:50	09/09/19 20:53	EPA 3050B	97,6010D	AB
Silver, Total	ND		mg/kg	0.424	--	1	09/06/19 23:50	09/09/19 20:53	EPA 3050B	97,6010D	AB
Thallium, Total	ND		mg/kg	2.12	--	1	09/06/19 23:50	09/09/19 20:53	EPA 3050B	97,6010D	AB
Vanadium, Total	19.2		mg/kg	0.424	--	1	09/06/19 23:50	09/09/19 20:53	EPA 3050B	97,6010D	AB
Zinc, Total	128		mg/kg	2.12	--	1	09/06/19 23:50	09/09/19 20:53	EPA 3050B	97,6010D	AB

Project Name: CYPHER ST., S. BOSTON
Lab Number: L1939381
Project Number: 143-278997-19001
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-02
Client ID: TT-22A (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 09:30
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 87%

TCLP/SPLP Ext. Date: 09/07/19 19:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.500	--	1	09/10/19 13:11	09/10/19 16:38	EPA 3015	1,6010D	AB

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-02
Client ID: TT-22A (0-2')
Sample Location: CYPHER ST., S. BOSTON
Date Collected: 08/29/19 09:30
Date Received: 08/29/19
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											
Antimony, Total	ND		mg/kg	2.19	--	1	09/06/19 23:50	09/09/19 20:57	EPA 3050B	97,6010D	AB
Arsenic, Total	8.02		mg/kg	0.438	--	1	09/06/19 23:50	09/09/19 20:57	EPA 3050B	97,6010D	AB
Barium, Total	63.1		mg/kg	0.438	--	1	09/06/19 23:50	09/09/19 20:57	EPA 3050B	97,6010D	AB
Beryllium, Total	0.342		mg/kg	0.219	--	1	09/06/19 23:50	09/09/19 20:57	EPA 3050B	97,6010D	AB
Cadmium, Total	ND		mg/kg	0.438	--	1	09/06/19 23:50	09/09/19 20:57	EPA 3050B	97,6010D	AB
Chromium, Total	22.5		mg/kg	0.438	--	1	09/06/19 23:50	09/09/19 20:57	EPA 3050B	97,6010D	AB
Lead, Total	120		mg/kg	2.19	--	1	09/06/19 23:50	09/09/19 20:57	EPA 3050B	97,6010D	AB
Mercury, Total	0.543		mg/kg	0.084	--	1	09/10/19 02:30	09/10/19 12:15	EPA 7471B	97,7471B	GD
Nickel, Total	14.8		mg/kg	1.10	--	1	09/06/19 23:50	09/09/19 20:57	EPA 3050B	97,6010D	AB
Selenium, Total	ND		mg/kg	2.19	--	1	09/06/19 23:50	09/09/19 20:57	EPA 3050B	97,6010D	AB
Silver, Total	ND		mg/kg	0.438	--	1	09/06/19 23:50	09/09/19 20:57	EPA 3050B	97,6010D	AB
Thallium, Total	ND		mg/kg	2.19	--	1	09/06/19 23:50	09/09/19 20:57	EPA 3050B	97,6010D	AB
Vanadium, Total	24.4		mg/kg	0.438	--	1	09/06/19 23:50	09/09/19 20:57	EPA 3050B	97,6010D	AB
Zinc, Total	116		mg/kg	2.19	--	1	09/06/19 23:50	09/09/19 20:57	EPA 3050B	97,6010D	AB

Project Name: CYPHER ST., S. BOSTON
Lab Number: L1939381
Project Number: 143-278997-19001
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-03
Client ID: TT-22A (3')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 09:45
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

TCLP/SPLP Ext. Date: 09/10/19 06:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.500	--	1	09/11/19 10:40	09/11/19 12:15	EPA 3015	1,6010D	LC

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-03
Client ID: TT-22A (3')
Sample Location: CYPHER ST., S. BOSTON
Date Collected: 08/29/19 09:45
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.29	--	1	09/06/19 23:50	09/09/19 21:15	EPA 3050B	97,6010D	AB
Arsenic, Total	14.6		mg/kg	0.458	--	1	09/06/19 23:50	09/09/19 21:15	EPA 3050B	97,6010D	AB
Barium, Total	68.6		mg/kg	0.458	--	1	09/06/19 23:50	09/09/19 21:15	EPA 3050B	97,6010D	AB
Beryllium, Total	0.298		mg/kg	0.229	--	1	09/06/19 23:50	09/09/19 21:15	EPA 3050B	97,6010D	AB
Cadmium, Total	1.77		mg/kg	0.458	--	1	09/06/19 23:50	09/09/19 21:15	EPA 3050B	97,6010D	AB
Chromium, Total	8.42		mg/kg	0.458	--	1	09/06/19 23:50	09/09/19 21:15	EPA 3050B	97,6010D	AB
Lead, Total	44.9		mg/kg	2.29	--	1	09/06/19 23:50	09/09/19 21:15	EPA 3050B	97,6010D	AB
Mercury, Total	0.126		mg/kg	0.090	--	1	09/10/19 09:40	09/10/19 18:51	EPA 7471B	97,7471B	GD
Nickel, Total	8.69		mg/kg	1.14	--	1	09/06/19 23:50	09/09/19 21:15	EPA 3050B	97,6010D	AB
Selenium, Total	ND		mg/kg	2.29	--	1	09/06/19 23:50	09/09/19 21:15	EPA 3050B	97,6010D	AB
Silver, Total	ND		mg/kg	0.458	--	1	09/06/19 23:50	09/09/19 21:15	EPA 3050B	97,6010D	AB
Thallium, Total	ND		mg/kg	2.29	--	1	09/06/19 23:50	09/09/19 21:15	EPA 3050B	97,6010D	AB
Vanadium, Total	8.99		mg/kg	0.458	--	1	09/06/19 23:50	09/09/19 21:15	EPA 3050B	97,6010D	AB
Zinc, Total	62.1		mg/kg	2.29	--	1	09/06/19 23:50	09/09/19 21:15	EPA 3050B	97,6010D	AB

Project Name: CYPHER ST., S. BOSTON
Lab Number: L1939381
Project Number: 143-278997-19001
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-04
Client ID: MOND COMP
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 10:45
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

TCLP/SPLP Ext. Date: 09/07/19 19:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.500	--	1	09/10/19 13:11	09/10/19 16:42	EPA 3015	1,6010D	AB

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-04
Client ID: MOND COMP
Sample Location: CYPHER ST., S. BOSTON
Date Collected: 08/29/19 10:45
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.35	--	1	09/06/19 23:50	09/09/19 21:20	EPA 3050B	97,6010D	AB
Arsenic, Total	6.53		mg/kg	0.471	--	1	09/06/19 23:50	09/09/19 21:20	EPA 3050B	97,6010D	AB
Barium, Total	56.5		mg/kg	0.471	--	1	09/06/19 23:50	09/09/19 21:20	EPA 3050B	97,6010D	AB
Beryllium, Total	0.250		mg/kg	0.235	--	1	09/06/19 23:50	09/09/19 21:20	EPA 3050B	97,6010D	AB
Cadmium, Total	ND		mg/kg	0.471	--	1	09/06/19 23:50	09/09/19 21:20	EPA 3050B	97,6010D	AB
Chromium, Total	16.3		mg/kg	0.471	--	1	09/06/19 23:50	09/09/19 21:20	EPA 3050B	97,6010D	AB
Lead, Total	137		mg/kg	2.35	--	1	09/06/19 23:50	09/09/19 21:20	EPA 3050B	97,6010D	AB
Mercury, Total	1.22		mg/kg	0.088	--	1	09/10/19 02:30	09/10/19 12:18	EPA 7471B	97,7471B	GD
Nickel, Total	9.69		mg/kg	1.18	--	1	09/06/19 23:50	09/09/19 21:20	EPA 3050B	97,6010D	AB
Selenium, Total	ND		mg/kg	2.35	--	1	09/06/19 23:50	09/09/19 21:20	EPA 3050B	97,6010D	AB
Silver, Total	ND		mg/kg	0.471	--	1	09/06/19 23:50	09/09/19 21:20	EPA 3050B	97,6010D	AB
Thallium, Total	ND		mg/kg	2.35	--	1	09/06/19 23:50	09/09/19 21:20	EPA 3050B	97,6010D	AB
Vanadium, Total	13.7		mg/kg	0.471	--	1	09/06/19 23:50	09/09/19 21:20	EPA 3050B	97,6010D	AB
Zinc, Total	110		mg/kg	2.35	--	1	09/06/19 23:50	09/09/19 21:20	EPA 3050B	97,6010D	AB

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-05
Client ID: TT-20A (0-2')
Sample Location: CYPHER ST., S. BOSTON
Date Collected: 08/29/19 08:30
Date Received: 08/29/19
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											
Antimony, Total	ND		mg/kg	2.06	--	1	09/06/19 23:50	09/09/19 21:24	EPA 3050B	97,6010D	AB
Arsenic, Total	3.31		mg/kg	0.411	--	1	09/06/19 23:50	09/09/19 21:24	EPA 3050B	97,6010D	AB
Barium, Total	23.8		mg/kg	0.411	--	1	09/06/19 23:50	09/09/19 21:24	EPA 3050B	97,6010D	AB
Beryllium, Total	ND		mg/kg	0.206	--	1	09/06/19 23:50	09/09/19 21:24	EPA 3050B	97,6010D	AB
Cadmium, Total	ND		mg/kg	0.411	--	1	09/06/19 23:50	09/09/19 21:24	EPA 3050B	97,6010D	AB
Chromium, Total	7.94		mg/kg	0.411	--	1	09/06/19 23:50	09/09/19 21:24	EPA 3050B	97,6010D	AB
Lead, Total	69.8		mg/kg	2.06	--	1	09/06/19 23:50	09/09/19 21:24	EPA 3050B	97,6010D	AB
Mercury, Total	0.250		mg/kg	0.079	--	1	09/10/19 02:30	09/10/19 12:21	EPA 7471B	97,7471B	GD
Nickel, Total	7.37		mg/kg	1.03	--	1	09/06/19 23:50	09/09/19 21:24	EPA 3050B	97,6010D	AB
Selenium, Total	ND		mg/kg	2.06	--	1	09/06/19 23:50	09/09/19 21:24	EPA 3050B	97,6010D	AB
Silver, Total	ND		mg/kg	0.411	--	1	09/06/19 23:50	09/09/19 21:24	EPA 3050B	97,6010D	AB
Thallium, Total	ND		mg/kg	2.06	--	1	09/06/19 23:50	09/09/19 21:24	EPA 3050B	97,6010D	AB
Vanadium, Total	18.7		mg/kg	0.411	--	1	09/06/19 23:50	09/09/19 21:24	EPA 3050B	97,6010D	AB
Zinc, Total	98.6		mg/kg	2.06	--	1	09/06/19 23:50	09/09/19 21:24	EPA 3050B	97,6010D	AB

Project Name: CYPHER ST., S. BOSTON
Lab Number: L1939381
Project Number: 143-278997-19001
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-06
Client ID: TT-11 (0-2')
Sample Location: CYPHER ST., S. BOSTON
Date Collected: 08/29/19 09:50
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	2.67		mg/kg	2.26	--	1	09/06/19 23:50	09/09/19 21:29	EPA 3050B	97,6010D	AB
Arsenic, Total	12.2		mg/kg	0.452	--	1	09/06/19 23:50	09/09/19 21:29	EPA 3050B	97,6010D	AB
Barium, Total	85.9		mg/kg	0.452	--	1	09/06/19 23:50	09/09/19 21:29	EPA 3050B	97,6010D	AB
Beryllium, Total	0.258		mg/kg	0.226	--	1	09/06/19 23:50	09/09/19 21:29	EPA 3050B	97,6010D	AB
Cadmium, Total	ND		mg/kg	0.452	--	1	09/06/19 23:50	09/09/19 21:29	EPA 3050B	97,6010D	AB
Chromium, Total	10.2		mg/kg	0.452	--	1	09/06/19 23:50	09/09/19 21:29	EPA 3050B	97,6010D	AB
Lead, Total	571		mg/kg	2.26	--	1	09/06/19 23:50	09/09/19 21:29	EPA 3050B	97,6010D	AB
Mercury, Total	1.12		mg/kg	0.084	--	1	09/10/19 02:30	09/10/19 12:25	EPA 7471B	97,7471B	GD
Nickel, Total	11.5		mg/kg	1.13	--	1	09/06/19 23:50	09/09/19 21:29	EPA 3050B	97,6010D	AB
Selenium, Total	ND		mg/kg	2.26	--	1	09/06/19 23:50	09/09/19 21:29	EPA 3050B	97,6010D	AB
Silver, Total	ND		mg/kg	0.452	--	1	09/06/19 23:50	09/09/19 21:29	EPA 3050B	97,6010D	AB
Thallium, Total	ND		mg/kg	2.26	--	1	09/06/19 23:50	09/09/19 21:29	EPA 3050B	97,6010D	AB
Vanadium, Total	11.6		mg/kg	0.452	--	1	09/06/19 23:50	09/09/19 21:29	EPA 3050B	97,6010D	AB
Zinc, Total	226		mg/kg	2.26	--	1	09/06/19 23:50	09/09/19 21:29	EPA 3050B	97,6010D	AB

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-07
Client ID: TT-11 (2-4')
Sample Location: CYPHER ST., S. BOSTON
Date Collected: 08/29/19 10:30
Date Received: 08/29/19
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											
Antimony, Total	4.82		mg/kg	2.35	--	1	09/06/19 23:50	09/09/19 21:33	EPA 3050B	97,6010D	AB
Arsenic, Total	41.7		mg/kg	0.470	--	1	09/06/19 23:50	09/09/19 21:33	EPA 3050B	97,6010D	AB
Barium, Total	181		mg/kg	0.470	--	1	09/06/19 23:50	09/09/19 21:33	EPA 3050B	97,6010D	AB
Beryllium, Total	0.574		mg/kg	0.235	--	1	09/06/19 23:50	09/09/19 21:33	EPA 3050B	97,6010D	AB
Cadmium, Total	ND		mg/kg	0.470	--	1	09/06/19 23:50	09/09/19 21:33	EPA 3050B	97,6010D	AB
Chromium, Total	19.0		mg/kg	0.470	--	1	09/06/19 23:50	09/09/19 21:33	EPA 3050B	97,6010D	AB
Lead, Total	638		mg/kg	2.35	--	1	09/06/19 23:50	09/09/19 21:33	EPA 3050B	97,6010D	AB
Mercury, Total	3.18		mg/kg	0.090	--	1	09/10/19 02:30	09/10/19 12:28	EPA 7471B	97,7471B	GD
Nickel, Total	21.9		mg/kg	1.18	--	1	09/06/19 23:50	09/09/19 21:33	EPA 3050B	97,6010D	AB
Selenium, Total	ND		mg/kg	2.35	--	1	09/06/19 23:50	09/09/19 21:33	EPA 3050B	97,6010D	AB
Silver, Total	ND		mg/kg	0.470	--	1	09/06/19 23:50	09/09/19 21:33	EPA 3050B	97,6010D	AB
Thallium, Total	ND		mg/kg	2.35	--	1	09/06/19 23:50	09/09/19 21:33	EPA 3050B	97,6010D	AB
Vanadium, Total	21.4		mg/kg	0.470	--	1	09/06/19 23:50	09/09/19 21:33	EPA 3050B	97,6010D	AB
Zinc, Total	336		mg/kg	2.35	--	1	09/06/19 23:50	09/09/19 21:33	EPA 3050B	97,6010D	AB

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-08
Client ID: TT-3 (0-2')
Sample Location: CYPHER ST., S. BOSTON
Date Collected: 08/29/19 11:45
Date Received: 08/29/19
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											
Antimony, Total	ND		mg/kg	2.11	--	1	09/06/19 23:50	09/09/19 21:37	EPA 3050B	97,6010D	AB
Arsenic, Total	6.16		mg/kg	0.422	--	1	09/06/19 23:50	09/09/19 21:37	EPA 3050B	97,6010D	AB
Barium, Total	27.6		mg/kg	0.422	--	1	09/06/19 23:50	09/09/19 21:37	EPA 3050B	97,6010D	AB
Beryllium, Total	ND		mg/kg	0.211	--	1	09/06/19 23:50	09/09/19 21:37	EPA 3050B	97,6010D	AB
Cadmium, Total	ND		mg/kg	0.422	--	1	09/06/19 23:50	09/09/19 21:37	EPA 3050B	97,6010D	AB
Chromium, Total	9.30		mg/kg	0.422	--	1	09/06/19 23:50	09/09/19 21:37	EPA 3050B	97,6010D	AB
Lead, Total	34.2		mg/kg	2.11	--	1	09/06/19 23:50	09/09/19 21:37	EPA 3050B	97,6010D	AB
Mercury, Total	ND		mg/kg	0.081	--	1	09/10/19 02:30	09/10/19 12:31	EPA 7471B	97,7471B	GD
Nickel, Total	7.38		mg/kg	1.06	--	1	09/06/19 23:50	09/09/19 21:37	EPA 3050B	97,6010D	AB
Selenium, Total	ND		mg/kg	2.11	--	1	09/06/19 23:50	09/09/19 21:37	EPA 3050B	97,6010D	AB
Silver, Total	ND		mg/kg	0.422	--	1	09/06/19 23:50	09/09/19 21:37	EPA 3050B	97,6010D	AB
Thallium, Total	ND		mg/kg	2.11	--	1	09/06/19 23:50	09/09/19 21:37	EPA 3050B	97,6010D	AB
Vanadium, Total	21.2		mg/kg	0.422	--	1	09/06/19 23:50	09/09/19 21:37	EPA 3050B	97,6010D	AB
Zinc, Total	54.1		mg/kg	2.11	--	1	09/06/19 23:50	09/09/19 21:37	EPA 3050B	97,6010D	AB

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-09
Client ID: DC1112
Sample Location: CYPHER ST., S. BOSTON
Date Collected: 08/29/19 12:00
Date Received: 08/29/19
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	17.8		mg/kg	0.473	--	1	09/06/19 23:50	09/09/19 21:42	EPA 3050B	97,6010D	AB
Barium, Total	91.7		mg/kg	0.473	--	1	09/06/19 23:50	09/09/19 21:42	EPA 3050B	97,6010D	AB
Cadmium, Total	ND		mg/kg	0.473	--	1	09/06/19 23:50	09/09/19 21:42	EPA 3050B	97,6010D	AB
Chromium, Total	17.3		mg/kg	0.473	--	1	09/06/19 23:50	09/09/19 21:42	EPA 3050B	97,6010D	AB
Lead, Total	329		mg/kg	2.37	--	1	09/06/19 23:50	09/09/19 21:42	EPA 3050B	97,6010D	AB
Mercury, Total	1.56		mg/kg	0.090	--	1	09/10/19 02:30	09/10/19 12:35	EPA 7471B	97,7471B	GD
Selenium, Total	ND		mg/kg	2.37	--	1	09/06/19 23:50	09/09/19 21:42	EPA 3050B	97,6010D	AB
Silver, Total	ND		mg/kg	0.473	--	1	09/06/19 23:50	09/09/19 21:42	EPA 3050B	97,6010D	AB

Project Name: CYPHER ST., S. BOSTON
Lab Number: L1939381
Project Number: 143-278997-19001
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-10
Client ID: DC20A18
Sample Location: CYPHER ST., S. BOSTON
Date Collected: 08/29/19 12:30
Date Received: 08/29/19
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	4.70		mg/kg	0.427	--	1	09/06/19 23:50	09/09/19 21:46	EPA 3050B	97,6010D	AB
Barium, Total	83.3		mg/kg	0.427	--	1	09/06/19 23:50	09/09/19 21:46	EPA 3050B	97,6010D	AB
Cadmium, Total	ND		mg/kg	0.427	--	1	09/06/19 23:50	09/09/19 21:46	EPA 3050B	97,6010D	AB
Chromium, Total	11.0		mg/kg	0.427	--	1	09/06/19 23:50	09/09/19 21:46	EPA 3050B	97,6010D	AB
Lead, Total	201		mg/kg	2.14	--	1	09/06/19 23:50	09/09/19 21:46	EPA 3050B	97,6010D	AB
Mercury, Total	1.28		mg/kg	0.080	--	1	09/10/19 02:30	09/10/19 12:44	EPA 7471B	97,7471B	GD
Selenium, Total	ND		mg/kg	2.14	--	1	09/06/19 23:50	09/09/19 21:46	EPA 3050B	97,6010D	AB
Silver, Total	ND		mg/kg	0.427	--	1	09/06/19 23:50	09/09/19 21:46	EPA 3050B	97,6010D	AB

Project Name: CYPHER ST., S. BOSTON
Lab Number: L1939381
Project Number: 143-278997-19001
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-11
Client ID: DC123
Sample Location: CYPHER ST., S. BOSTON
Date Collected: 08/29/19 13:00
Date Received: 08/29/19
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	5.60		mg/kg	0.419	--	1	09/06/19 23:50	09/09/19 21:51	EPA 3050B	97,6010D	AB
Barium, Total	48.9		mg/kg	0.419	--	1	09/06/19 23:50	09/09/19 21:51	EPA 3050B	97,6010D	AB
Cadmium, Total	ND		mg/kg	0.419	--	1	09/06/19 23:50	09/09/19 21:51	EPA 3050B	97,6010D	AB
Chromium, Total	9.40		mg/kg	0.419	--	1	09/06/19 23:50	09/09/19 21:51	EPA 3050B	97,6010D	AB
Lead, Total	110		mg/kg	2.10	--	1	09/06/19 23:50	09/09/19 21:51	EPA 3050B	97,6010D	AB
Mercury, Total	1.04		mg/kg	0.076	--	1	09/10/19 02:30	09/10/19 12:48	EPA 7471B	97,7471B	GD
Selenium, Total	ND		mg/kg	2.10	--	1	09/06/19 23:50	09/09/19 21:51	EPA 3050B	97,6010D	AB
Silver, Total	ND		mg/kg	0.419	--	1	09/06/19 23:50	09/09/19 21:51	EPA 3050B	97,6010D	AB

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

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): 01-11 Batch: WG1281320-1										
Antimony, Total	ND		mg/kg	2.00	--	1	09/06/19 23:50	09/09/19 20:22	97,6010D	AB
Arsenic, Total	ND		mg/kg	0.400	--	1	09/06/19 23:50	09/09/19 20:22	97,6010D	AB
Barium, Total	ND		mg/kg	0.400	--	1	09/06/19 23:50	09/09/19 20:22	97,6010D	AB
Beryllium, Total	ND		mg/kg	0.200	--	1	09/06/19 23:50	09/09/19 20:22	97,6010D	AB
Cadmium, Total	ND		mg/kg	0.400	--	1	09/06/19 23:50	09/09/19 20:22	97,6010D	AB
Chromium, Total	ND		mg/kg	0.400	--	1	09/06/19 23:50	09/09/19 20:22	97,6010D	AB
Lead, Total	ND		mg/kg	2.00	--	1	09/06/19 23:50	09/09/19 20:22	97,6010D	AB
Nickel, Total	ND		mg/kg	1.00	--	1	09/06/19 23:50	09/09/19 20:22	97,6010D	AB
Selenium, Total	ND		mg/kg	2.00	--	1	09/06/19 23:50	09/09/19 20:22	97,6010D	AB
Silver, Total	ND		mg/kg	0.400	--	1	09/06/19 23:50	09/09/19 20:22	97,6010D	AB
Thallium, Total	ND		mg/kg	2.00	--	1	09/06/19 23:50	09/09/19 20:22	97,6010D	AB
Vanadium, Total	ND		mg/kg	0.400	--	1	09/06/19 23:50	09/09/19 20:22	97,6010D	AB
Zinc, Total	ND		mg/kg	2.00	--	1	09/06/19 23:50	09/09/19 20:22	97,6010D	AB

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): 01-02,04-11 Batch: WG1282049-1										
Mercury, Total	ND		mg/kg	0.083	--	1	09/10/19 02:30	09/10/19 11:48	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): 03 Batch: WG1282172-1										
Mercury, Total	ND		mg/kg	0.083	--	1	09/10/19 09:40	09/10/19 18:41	97,7471B	GD

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

Method Blank Analysis
Batch Quality Control

Prep Information

Digestion Method: EPA 7471B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab for sample(s): 01-02,04 Batch: WG1282277-1										
Lead, TCLP	ND		mg/l	0.500	--	1	09/10/19 13:11	09/10/19 15:40	1,6010D	LC

Prep Information

Digestion Method: EPA 3015

TCLP/SPLP Extraction Date: 09/07/19 19:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab for sample(s): 03 Batch: WG1282740-1										
Lead, TCLP	ND		mg/l	0.500	--	1	09/11/19 10:40	09/11/19 12:06	1,6010D	LC

Prep Information

Digestion Method: EPA 3015

TCLP/SPLP Extraction Date: 09/10/19 06:43

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939381
Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01-11 Batch: WG1281320-2 WG1281320-3 SRM Lot Number: D105-540								
Antimony, Total	141		143		19-249	1		30
Arsenic, Total	102		103		70-130	1		30
Barium, Total	89		92		75-125	3		30
Beryllium, Total	93		97		75-125	4		30
Cadmium, Total	95		97		75-125	2		30
Chromium, Total	85		86		70-130	1		30
Lead, Total	88		89		71-128	1		30
Nickel, Total	91		94		70-131	3		30
Selenium, Total	98		100		63-137	2		30
Silver, Total	92		93		69-131	1		30
Thallium, Total	95		96		68-132	1		30
Vanadium, Total	84		85		65-135	1		30
Zinc, Total	92		92		70-130	0		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01-02,04-11 Batch: WG1282049-2 WG1282049-3 SRM Lot Number: D105-540								
Mercury, Total	89		81		60-141	9		30
MCP Total Metals - Mansfield Lab Associated sample(s): 03 Batch: WG1282172-2 WG1282172-3 SRM Lot Number: D105-540								
Mercury, Total	81		88		60-141	8		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939381
Report Date: 09/13/19

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-02,04 Batch: WG1282277-2					
Lead, TCLP	98	-	75-125	-	20
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 03 Batch: WG1282740-2					
Lead, TCLP	100	-	75-125	-	20

Matrix Spike Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939381
Report Date: 09/13/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-02,04 QC Batch ID: WG1282277-3 QC Sample: L1939381-01 Client ID: TT-21 (0-2')												
Lead, TCLP	ND	5.1	4.92	96		-	-		75-125	-		20
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 03 QC Batch ID: WG1282740-3 QC Sample: L1939381-03 Client ID: TT-22A (3')												
Lead, TCLP	ND	5.1	5.11	100		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: CYPHER ST., S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939381

Report Date: 09/13/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-02,04 QC Batch ID: WG1282277-4 QC Sample: L1939381-01 Client ID: TT-21 (0-2')						
Lead, TCLP	ND	ND	mg/l	NC		20
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 03 QC Batch ID: WG1282740-4 QC Sample: L1939381-03 Client ID: TT-22A (3')						
Lead, TCLP	ND	ND	mg/l	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name:	CYPHER ST., S. BOSTON	**Lab Number:**	L1939381
Project Number:	143-278997-19001	**Report Date:**	09/13/19

SAMPLE RESULTS

Lab ID:	L1939381-02	Date Collected:	08/29/19 09:30
Client ID:	TT-22A (0-2')	Date Received:	08/29/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

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

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	09/04/19 09:53	1,1030	BR

Project Name:	CYPHER ST., S. BOSTON	**Lab Number:**	L1939381
Project Number:	143-278997-19001	**Report Date:**	09/13/19

SAMPLE RESULTS

Lab ID:	L1939381-03	Date Collected:	08/29/19 09:45
Client ID:	TT-22A (3')	Date Received:	08/29/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

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

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	09/04/19 09:53	1,1030	BR

Project Name:	CYPHER ST., S. BOSTON	**Lab Number:**	L1939381
Project Number:	143-278997-19001	**Report Date:**	09/13/19

SAMPLE RESULTS

Lab ID:	L1939381-04	Date Collected:	08/29/19 10:45
Client ID:	MOND COMP	Date Received:	08/29/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

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

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	09/04/19 09:53	1,1030	BR

Project Name:	CYPHER ST., S. BOSTON	**Lab Number:**	L1939381
Project Number:	143-278997-19001	**Report Date:**	09/13/19

SAMPLE RESULTS

Lab ID:	L1939381-09	Date Collected:	08/29/19 12:00
Client ID:	DC1112	Date Received:	08/29/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

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

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	09/06/19 21:30	1,1030	TL

Project Name:	CYPHER ST., S. BOSTON	**Lab Number:**	L1939381
Project Number:	143-278997-19001	**Report Date:**	09/13/19

SAMPLE RESULTS

Lab ID:	L1939381-10	Date Collected:	08/29/19 12:30
Client ID:	DC20A18	Date Received:	08/29/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

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

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	09/06/19 21:30	1,1030	TL

Project Name:	CYPHER ST., S. BOSTON	**Lab Number:**	L1939381
Project Number:	143-278997-19001	**Report Date:**	09/13/19

SAMPLE RESULTS

Lab ID:	L1939381-11	Date Collected:	08/29/19 13:00
Client ID:	DC123	Date Received:	08/29/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

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

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	09/06/19 21:30	1,1030	TL

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-01
Client ID: TT-21 (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 09:00
Date Received: 08/29/19
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	91.2		%	0.100	NA	1	-	08/30/19 11:51	121,2540G	RI

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-02
Client ID: TT-22A (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 09:30
Date Received: 08/29/19
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	86.7		%	0.100	NA	1	-	08/30/19 11:51	121,2540G	RI
pH (H)	7.1		SU	-	NA	1	-	08/30/19 07:51	1,9045D	MR
Cyanide, Reactive	ND		mg/kg	10	--	1	09/03/19 00:28	09/03/19 01:58	125,7.3	KF
Sulfide, Reactive	ND		mg/kg	10	--	1	09/03/19 00:28	09/03/19 01:48	125,7.3	KF

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-03
Client ID: TT-22A (3')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 09:45
Date Received: 08/29/19
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	85.7		%	0.100	NA	1	-	08/30/19 11:51	121,2540G	RI
pH (H)	7.1		SU	-	NA	1	-	08/30/19 07:51	1,9045D	MR
Cyanide, Reactive	ND		mg/kg	10	--	1	09/03/19 00:28	09/03/19 01:58	125,7.3	KF
Sulfide, Reactive	ND		mg/kg	10	--	1	09/03/19 00:28	09/03/19 01:48	125,7.3	KF

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-04
Client ID: MOND COMP
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 10:45
Date Received: 08/29/19
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	83.6		%	0.100	NA	1	-	08/30/19 11:51	121,2540G	RI
pH (H)	6.4		SU	-	NA	1	-	08/30/19 07:51	1,9045D	MR
Cyanide, Reactive	ND		mg/kg	10	--	1	09/03/19 00:28	09/03/19 01:58	125,7.3	KF
Sulfide, Reactive	ND		mg/kg	10	--	1	09/03/19 00:28	09/03/19 01:48	125,7.3	KF

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-05
Client ID: TT-20A (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 08:30
Date Received: 08/29/19
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	94.9		%	0.100	NA	1	-	08/30/19 11:51	121,2540G	RI

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-06
Client ID: TT-11 (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 09:50
Date Received: 08/29/19
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	87.6		%	0.100	NA	1	-	08/30/19 11:51	121,2540G	RI

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-07
Client ID: TT-11 (2-4')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 10:30
Date Received: 08/29/19
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	81.2		%	0.100	NA	1	-	08/30/19 11:51	121,2540G	RI

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-08
Client ID: TT-3 (0-2')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 11:45
Date Received: 08/29/19
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	91.3		%	0.100	NA	1	-	08/30/19 11:51	121,2540G	RI

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-09
Client ID: DC1112
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 12:00
Date Received: 08/29/19
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	81.3		%	0.100	NA	1	-	09/06/19 08:31	121,2540G	RI
pH (H)	8.2		SU	-	NA	1	-	09/06/19 02:22	1,9045D	DS
Cyanide, Reactive	ND		mg/kg	10	--	1	09/06/19 00:35	09/06/19 02:25	125,7.3	KF
Sulfide, Reactive	ND		mg/kg	10	--	1	09/06/19 00:35	09/06/19 02:11	125,7.3	KF

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-10
Client ID: DC20A18
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 12:30
Date Received: 08/29/19
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	93.0		%	0.100	NA	1	-	09/06/19 08:31	121,2540G	RI
pH (H)	7.8		SU	-	NA	1	-	09/06/19 02:22	1,9045D	DS
Cyanide, Reactive	ND		mg/kg	10	--	1	09/06/19 00:35	09/06/19 02:25	125,7.3	KF
Sulfide, Reactive	ND		mg/kg	10	--	1	09/06/19 00:35	09/06/19 02:11	125,7.3	KF

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939381
Report Date: 09/13/19

SAMPLE RESULTS

Lab ID: L1939381-11
Client ID: DC123
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 08/29/19 13:00
Date Received: 08/29/19
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	94.4		%	0.100	NA	1	-	09/06/19 08:31	121,2540G	RI
pH (H)	9.0		SU	-	NA	1	-	09/06/19 02:22	1,9045D	DS
Cyanide, Reactive	ND		mg/kg	10	--	1	09/06/19 00:35	09/06/19 02:25	125,7.3	KF
Sulfide, Reactive	ND		mg/kg	10	--	1	09/06/19 00:35	09/06/19 02:11	125,7.3	KF

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1939381

Project Number: 143-278997-19001 **Report Date:** 09/13/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 02-04 Batch: WG1279437-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	09/03/19 00:28	09/03/19 01:47	125,7.3	KF
General Chemistry - Westborough Lab for sample(s): 02-04 Batch: WG1279439-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	09/03/19 00:28	09/03/19 01:57	125,7.3	KF
General Chemistry - Westborough Lab for sample(s): 09-11 Batch: WG1280866-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	09/06/19 00:35	09/06/19 02:10	125,7.3	KF
General Chemistry - Westborough Lab for sample(s): 09-11 Batch: WG1280868-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	09/06/19 00:35	09/06/19 02:23	125,7.3	KF

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939381
Report Date: 09/13/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 02-04 Batch: WG1278639-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 02-04 Batch: WG1279437-2								
Sulfide, Reactive	92		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 02-04 Batch: WG1279439-2								
Cyanide, Reactive	88		-		30-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 09-11 Batch: WG1280866-2								
Sulfide, Reactive	86		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 09-11 Batch: WG1280868-2								
Cyanide, Reactive	74		-		30-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 09-11 Batch: WG1280904-1								
pH	100		-		99-101	-		

Lab Duplicate Analysis

Batch Quality Control

Project Name: CYPHER ST., S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939381

Report Date: 09/13/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 02-04 QC Batch ID: WG1278639-2 QC Sample: L1939381-02 Client ID: TT-22A (0-2')						
pH (H)	7.1	7.1	SU	0		5

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939381
Report Date: 09/13/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1939381-01A	Vial MeOH preserved	A	NA		3.3	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1939381-01B	Vial water preserved	A	NA		3.3	Y	Absent	30-AUG-19 02:14	MCP-8260HLW-10(14)
L1939381-01C	Vial water preserved	A	NA		3.3	Y	Absent	30-AUG-19 02:14	MCP-8260HLW-10(14)
L1939381-01D	Plastic 2oz unpreserved for TS	A	NA		3.3	Y	Absent		TS(7)
L1939381-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.3	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1939381-01F	Glass 60mL/2oz unpreserved	A	NA		3.3	Y	Absent		EPH-10(14),MCP-8082-10(365),MCP-PAH-10(14)
L1939381-01G	Glass 500ml/16oz unpreserved	A	NA		3.3	Y	Absent		EPH-10(14),MCP-8082-10(365),MCP-PAH-10(14)
L1939381-01X	Plastic 120ml HNO3 preserved Extracts	A	NA		3.3	Y	Absent		PB-CI(180)
L1939381-01X9	Tumble Vessel	A	NA		3.3	Y	Absent		-
L1939381-02A	Vial MeOH preserved	A	NA		3.3	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1939381-02B	Vial water preserved	A	NA		3.3	Y	Absent	30-AUG-19 02:14	MCP-8260HLW-10(14)
L1939381-02C	Vial water preserved	A	NA		3.3	Y	Absent	30-AUG-19 02:14	MCP-8260HLW-10(14)
L1939381-02D	Plastic 2oz unpreserved for TS	A	NA		3.3	Y	Absent		TS(7)
L1939381-02E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.3	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)

*Values in parentheses indicate holding time in days

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939381
Report Date: 09/13/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1939381-02F	Glass 60mL/2oz unpreserved	A	NA		3.3	Y	Absent		EPH-10(14),IGNIT-1030(14),MCP-8082-10(365),REACTS(14),MCP-8081-10(14),MCP-8151-10(14),MCP-8270-10(14),PH-9045(1),REACTCN(14),TPH-DRO-D(14)
L1939381-02G	Glass 500ml/16oz unpreserved	A	NA		3.3	Y	Absent		EPH-10(14),IGNIT-1030(14),MCP-8082-10(365),REACTS(14),MCP-8081-10(14),MCP-8151-10(14),MCP-8270-10(14),PH-9045(1),REACTCN(14),TPH-DRO-D(14)
L1939381-02X	Plastic 120ml HNO3 preserved Extracts	A	NA		3.3	Y	Absent		PB-CI(180)
L1939381-02X9	Tumble Vessel	A	NA		3.3	Y	Absent		-
L1939381-03A	Vial MeOH preserved	A	NA		3.3	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1939381-03B	Vial water preserved	A	NA		3.3	Y	Absent	30-AUG-19 02:14	MCP-8260HLW-10(14)
L1939381-03C	Vial water preserved	A	NA		3.3	Y	Absent	30-AUG-19 02:14	MCP-8260HLW-10(14)
L1939381-03D	Plastic 2oz unpreserved for TS	A	NA		3.3	Y	Absent		TS(7)
L1939381-03E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.3	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1939381-03F	Glass 60mL/2oz unpreserved	A	NA		3.3	Y	Absent		EPH-10(14),IGNIT-1030(14),MCP-8082-10(365),REACTS(14),MCP-8081-10(14),MCP-8151-10(14),MCP-8270-10(14),PH-9045(1),REACTCN(14),TPH-DRO-D(14)
L1939381-03G	Glass 500ml/16oz unpreserved	A	NA		3.3	Y	Absent		EPH-10(14),IGNIT-1030(14),MCP-8082-10(365),REACTS(14),MCP-8081-10(14),MCP-8151-10(14),MCP-8270-10(14),PH-9045(1),REACTCN(14),TPH-DRO-D(14)
L1939381-03X	Plastic 120ml HNO3 preserved Extracts	A	NA		3.3	Y	Absent		PB-CI(180)
L1939381-03X9	Tumble Vessel	A	NA		3.3	Y	Absent		-
L1939381-04A	Vial MeOH preserved	A	NA		3.3	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1939381-04B	Vial water preserved	A	NA		3.3	Y	Absent	30-AUG-19 02:14	MCP-8260HLW-10(14)
L1939381-04C	Vial water preserved	A	NA		3.3	Y	Absent	30-AUG-19 02:14	MCP-8260HLW-10(14)
L1939381-04D	Plastic 2oz unpreserved for TS	A	NA		3.3	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939381
Report Date: 09/13/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1939381-04E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.3	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1939381-04F	Glass 60mL/2oz unpreserved	A	NA		3.3	Y	Absent		EPH-10(14),IGNIT-1030(14),MCP-8082-10(365),REACTS(14),MCP-8081-10(14),MCP-8151-10(14),MCP-8270-10(14),PH-9045(1),REACTCN(14),TPH-DRO-D(14)
L1939381-04G	Glass 500ml/16oz unpreserved	A	NA		3.3	Y	Absent		EPH-10(14),IGNIT-1030(14),MCP-8082-10(365),REACTS(14),MCP-8081-10(14),MCP-8151-10(14),MCP-8270-10(14),PH-9045(1),REACTCN(14),TPH-DRO-D(14)
L1939381-04X	Plastic 120ml HNO3 preserved Extracts	A	NA		3.3	Y	Absent		PB-CI(180)
L1939381-04X9	Tumble Vessel	A	NA		3.3	Y	Absent		-
L1939381-05A	Vial MeOH preserved	A	NA		3.3	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1939381-05A1	Vial MeOH preserved	A	NA		3.3	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1939381-05B	Vial water preserved	A	NA		3.3	Y	Absent	30-AUG-19 02:14	MCP-8260HLW-10(14)
L1939381-05C	Vial water preserved	A	NA		3.3	Y	Absent	30-AUG-19 02:14	MCP-8260HLW-10(14)
L1939381-05D	Plastic 2oz unpreserved for TS	A	NA		3.3	Y	Absent		TS(7)
L1939381-05E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.3	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1939381-05G	Glass 500ml/16oz unpreserved	A	NA		3.3	Y	Absent		EPH-10(14),MCP-8082-10(365),MCP-PAH-10(14)
L1939381-06A	Vial MeOH preserved	A	NA		3.3	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1939381-06A1	Vial MeOH preserved	A	NA		3.3	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1939381-06B	Vial water preserved	A	NA		3.3	Y	Absent	30-AUG-19 02:14	MCP-8260HLW-10(14)
L1939381-06C	Vial water preserved	A	NA		3.3	Y	Absent	30-AUG-19 02:14	MCP-8260HLW-10(14)
L1939381-06D	Plastic 2oz unpreserved for TS	A	NA		3.3	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939381
Report Date: 09/13/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1939381-06E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.3	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1939381-06G	Glass 500ml/16oz unpreserved	A	NA		3.3	Y	Absent		EPH-10(14),MCP-8082-10(365),MCP-PAH-10(14)
L1939381-07A	Vial MeOH preserved	A	NA		3.3	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1939381-07A1	Vial MeOH preserved	A	NA		3.3	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1939381-07B	Vial water preserved	A	NA		3.3	Y	Absent	30-AUG-19 02:14	MCP-8260HLW-10(14)
L1939381-07C	Vial water preserved	A	NA		3.3	Y	Absent	30-AUG-19 02:14	MCP-8260HLW-10(14)
L1939381-07D	Plastic 2oz unpreserved for TS	A	NA		3.3	Y	Absent		TS(7)
L1939381-07E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.3	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1939381-07G	Glass 500ml/16oz unpreserved	A	NA		3.3	Y	Absent		EPH-10(14),MCP-8082-10(365),MCP-PAH-10(14)
L1939381-08A	Vial MeOH preserved	A	NA		3.3	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1939381-08A1	Vial MeOH preserved	A	NA		3.3	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1939381-08B	Vial water preserved	A	NA		3.3	Y	Absent	30-AUG-19 02:14	MCP-8260HLW-10(14)
L1939381-08C	Vial water preserved	A	NA		3.3	Y	Absent	30-AUG-19 02:14	MCP-8260HLW-10(14)
L1939381-08D	Plastic 2oz unpreserved for TS	A	NA		3.3	Y	Absent		TS(7)
L1939381-08E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.3	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1939381-08G	Glass 500ml/16oz unpreserved	A	NA		3.3	Y	Absent		EPH-10(14),MCP-8082-10(365),MCP-PAH-10(14)
L1939381-09A	Vial MeOH preserved	A	NA		3.3	Y	Absent		MCP-8260HLW-10(14)

*Values in parentheses indicate holding time in days

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939381
Report Date: 09/13/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1939381-09B	Vial water preserved	A	NA		3.3	Y	Absent	30-AUG-19 02:14	MCP-8260HLW-10(14)
L1939381-09C	Vial water preserved	A	NA		3.3	Y	Absent	30-AUG-19 02:14	MCP-8260HLW-10(14)
L1939381-09D	Plastic 2oz unpreserved for TS	A	NA		3.3	Y	Absent		TS(7)
L1939381-09E	Plastic 2oz unpreserved for TS	A	NA		3.3	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-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1939381-09F	Glass 60mL/2oz unpreserved	A	NA		3.3	Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),MCP-8081-10(14),MCP-8151-10(14),MCP-8270-10(14),PH-9045(1),REACTCN(14),TPH-DRO-D(14)
L1939381-09G	Glass 500ml/16oz unpreserved	A	NA		3.3	Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),MCP-8081-10(14),MCP-8151-10(14),MCP-8270-10(14),PH-9045(1),REACTCN(14),TPH-DRO-D(14)
L1939381-10A	Vial MeOH preserved	A	NA		3.3	Y	Absent		MCP-8260HLW-10(14)
L1939381-10B	Vial water preserved	A	NA		3.3	Y	Absent	30-AUG-19 02:14	MCP-8260HLW-10(14)
L1939381-10C	Vial water preserved	A	NA		3.3	Y	Absent	30-AUG-19 02:14	MCP-8260HLW-10(14)
L1939381-10D	Plastic 2oz unpreserved for TS	A	NA		3.3	Y	Absent		TS(7)
L1939381-10E	Glass 60mL/2oz unpreserved	A	NA		3.3	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-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1939381-10F	Glass 60mL/2oz unpreserved	A	NA		3.3	Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),MCP-8081-10(14),MCP-8151-10(14),MCP-8270-10(14),PH-9045(1),REACTCN(14),TPH-DRO-D(14)
L1939381-10G	Glass 500ml/16oz unpreserved	A	NA		3.3	Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),MCP-8081-10(14),MCP-8151-10(14),MCP-8270-10(14),PH-9045(1),REACTCN(14),TPH-DRO-D(14)
L1939381-11A	Vial MeOH preserved	A	NA		3.3	Y	Absent		MCP-8260HLW-10(14)
L1939381-11A1	Vial MeOH preserved	A	NA		3.3	Y	Absent		ARCHIVE()
L1939381-11B	Vial water preserved	A	NA		3.3	Y	Absent	30-AUG-19 02:14	MCP-8260HLW-10(14)
L1939381-11C	Vial water preserved	A	NA		3.3	Y	Absent	30-AUG-19 02:14	MCP-8260HLW-10(14)
L1939381-11D	Plastic 2oz unpreserved for TS	A	NA		3.3	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939381
Report Date: 09/13/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1939381-11E	Glass 60mL/2oz unpreserved	A	NA		3.3	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-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1939381-11F	Glass 250ml/8oz unpreserved	NA	NA			Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),MCP-8081-10(14),MCP-8151-10(14),MCP-8270-10(14),PH-9045(1),REACTCN(14),TPH-DRO-D(14)
L1939381-11G	Glass 500ml/16oz unpreserved	A	NA		3.3	Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),MCP-8081-10(14),MCP-8151-10(14),MCP-8270-10(14),PH-9045(1),REACTCN(14),TPH-DRO-D(14)

*Values in parentheses indicate holding time in days

Project Name:	CYPHER ST., S. BOSTON	**Lab Number:**	L1939381
Project Number:	143-278997-19001	**Report Date:**	09/13/19

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:	CYPHER ST., S. BOSTON	**Lab Number:**	L1939381
Project Number:	143-278997-19001	**Report Date:**	09/13/19

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:	CYPHER ST., S. BOSTON	**Lab Number:**	L1939381
Project Number:	143-278997-19001	**Report Date:**	09/13/19

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

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.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

131 Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, February 2018, Revision 2.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, June 1, 2018.

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 2

ALPHA

8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Date Rec'd in Lab: 8/29/19

ALPHA Job #: L1939381

Project Information

Project Name: Cypher St. S. Boston
Project Location: Cypher St. S. Boston
Project #: 143-278997-19001
Project Manager: Mike Billa
ALPHA Quote #:

Report Information - Data Deliverables

☒ ADEx ☒ EMAIL

Billing Information

☒ Same as Client info PO #:

Client Information

Client: Tetra Tech
Address: 100 Nicherson Rd. Marlborough, MA
Phone: 413-277-9537
Email: jr.fiore@tetratech.com

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 _____

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)

Date Due:

Additional Project Information:

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; TPH: ☐ Quant Only ☐ Fingerprint; pH, reactivity, ignitability, Pesticides, Herbicides; All haz characteristics for disposal; SVOCs

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	pH				Sample Comments	TOTAL # BOTTLES
39381-01	TT-21(0-2')	8/29/19	0900	JWF	Soil	X	X	X		X	X	X						* Run full	7
-02	TT-22a (0-2')	↓	0930	↓	↓	X	X	X		X	X	X	X	X	X			ABN required	7
-03	TT-22a (3')	↓	0945	↓	↓	X	X	X		X	X	X	X	X	X			for disposal	7
-04	Mound Comp	↓	1045	↓	↓	X	X	X		X	X	X	X	X	X			where disposal	7
-05	TT-20A (0-2')	↓	830	KS	↓	X	X	X		X	X	X						analysis	7
-06	TT-11 (0-2')	↓	950	↓	↓	X	X	X		X	X	X						requested.	7
-07	TT-11 (2-4')	↓	1030	↓	↓	X	X	X		X	X	X							7
-08	TT-3 (0-2')	↓	1145	↓	↓	X	X	X		X	X	X							7
-09	DC1112	↓	1200	JWF	↓	X			X			X	X	X	X		X	Hold Disposal sample	7
-10	DC20a18	↓	1230	JWF	↓	X			X			X	X	X	X		X	Disposal sample	7

Container Type: N/A
Preservative: N/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
	8/29/19 1410	MAL	8/29/19 1410
	8/29/19 1850	MAL	8/29/19 1850

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 2

Date Rec'd in Lab: 8/29/19

ALPHA Job #: L1939381

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: TetraTech
Address: 100 Nickerson Rd, Marlborough, MA 01752
Phone: 413-272-9539
Email: jon.fiore@tetratech.com

Project Information

Project Name: Cypher St. S. Boston
Project Location: Cypher St. S. Boston
Project #: 143-278997-19001
Project Manager: Mike Gilla
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:

ANALYSIS

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 ☐ MCP 14 ☐ RCP 15	METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13	EPH: ☐ Ranges & Targets ☒ Ranges Only	VPH: ☐ Ranges & Targets ☒ Ranges Only	PCB ☐ PEST	TPH: ☒ Quant Only ☐ Fingerprint	Herbicides & Pesticides	PH reactivity, sulfide, cyanide, ignitability	Airspace	SVOCs			Sample Comments	TOTAL # BOTTLES
39381-11	DC123	~~8/29/19~~ 8/28/19	1300	Soil	JWF	X			X		X	X	X	X	X			X		Disposal sample - HOLD	7

Container Type	P/A/V
Preservative	A/E

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
	8/29/19 1410		8/29/19 1410
	8/29/19 1880		8/29/19 1880

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

Method Blank Summary
Form 4
Volatiles

Client	: Tetra Tech Rizzo	**Lab Number**	: L1939381
Project Name	: CYPHER ST. S. BOSTON	**Project Number**	: 143-278997-19001
Lab Sample ID	: WG1282220-5	**Lab File ID**	: VC190909A06
Instrument ID	: CHARLIE		
Matrix	: SOIL	**Analysis Date**	: 09/09/19 16:55

Client Sample No.	Lab Sample ID	Analysis Date
WG1282220-3LCS	WG1282220-3	09/09/19 15:17
WG1282220-4LCSD	WG1282220-4	09/09/19 15:45
TT-3 (0-2')	L1939381-08	09/10/19 01:04
DC123	L1939381-11	09/10/19 01:31

Method Blank Summary
Form 4
Volatiles

Client	: Tetra Tech Rizzo	**Lab Number**	: L1939381
Project Name	: CYPHER ST. S. BOSTON	**Project Number**	: 143-278997-19001
Lab Sample ID	: WG1282224-5	**Lab File ID**	: VC190909A06
Instrument ID	: CHARLIE		
Matrix	: SOIL	**Analysis Date**	: 09/09/19 16:55

Client Sample No.	Lab Sample ID	Analysis Date
WG1282224-3LCS	WG1282224-3	09/09/19 15:17
WG1282224-4LCSD	WG1282224-4	09/09/19 15:45
DC1112	L1939381-09	09/09/19 23:42
DC20A18	L1939381-10	09/10/19 00:09

Method Blank Summary
Form 4
Volatiles

Client	: Tetra Tech Rizzo	**Lab Number**	: L1939381
Project Name	: CYPHER ST. S. BOSTON	**Project Number**	: 143-278997-19001
Lab Sample ID	: WG1282641-5	**Lab File ID**	: V23190910A05
Instrument ID	: VOA123		
Matrix	: SOIL	**Analysis Date**	: 09/10/19 10:05

Client Sample No.	Lab Sample ID	Analysis Date
WG1282641-3LCS	WG1282641-3	09/10/19 08:29
WG1282641-4LCSD	WG1282641-4	09/10/19 08:53
TT-22A (3')	L1939381-03	09/10/19 12:30
TT-11 (0-2')	L1939381-06	09/10/19 13:43

Method Blank Summary
Form 4
Volatiles

Client	: Tetra Tech Rizzo	**Lab Number**	: L1939381
Project Name	: CYPHER ST. S. BOSTON	**Project Number**	: 143-278997-19001
Lab Sample ID	: WG1281986-10	**Lab File ID**	: V23190910A05
Instrument ID	: VOA123		
Matrix	: SOIL	**Analysis Date**	: 09/10/19 10:05

Client Sample No.	Lab Sample ID	Analysis Date
WG1281986-8LCS	WG1281986-8	09/10/19 08:29
WG1281986-9LCSD	WG1281986-9	09/10/19 08:53
TT-3 (0-2')	L1939381-08R	09/10/19 11:17
TT-21 (0-2')	L1939381-01	09/10/19 11:42
TT-22A (0-2')	L1939381-02	09/10/19 12:06
MOND COMP	L1939381-04	09/10/19 12:54
TT-20A (0-2')	L1939381-05	09/10/19 13:18
TT-11 (2-4')	L1939381-07	09/10/19 14:07

Method Blank Summary
Form 4
Volatiles

Client	: Tetra Tech Rizzo	**Lab Number**	: L1939381
Project Name	: CYPHER ST. S. BOSTON	**Project Number**	: 143-278997-19001
Lab Sample ID	: WG1282641-10	**Lab File ID**	: V23190910N04
Instrument ID	: VOA123		
Matrix	: SOIL	**Analysis Date**	: 09/10/19 20:04

Client Sample No.	Lab Sample ID	Analysis Date
WG1282641-8LCS	WG1282641-8	09/10/19 18:52
WG1282641-9LCSD	WG1282641-9	09/10/19 19:16
TT-22A (3')	L1939381-03R	09/10/19 23:18
TT-11 (0-2')	L1939381-06R	09/10/19 23:42

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1939381
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: CHARLIE	Calibration Date	: 09/09/19 15:17
Lab File ID	: VC190909A03	Init. Calib. Date(s)	: 08/08/19 08/08/19
Sample No	: WG1282220-2	Init. Calib. Times	: 10:07 16:30
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	183	0
Dichlorodifluoromethane	0.386	0.295	-	23.6*	20	141	0
Chloromethane	0.411	0.514	-	-25.1*	20	224	0
Vinyl chloride	0.615	0.517	-	15.9	20	148	0
Bromomethane	0.467	0.32	-	31.5*	20	121	0
Chloroethane	0.479	0.302	-	37*	20	111	0
Trichlorofluoromethane	1.103	0.682	-	38.2*	20	105	0
Ethyl ether	0.36	0.24	-	33.3*	20	116	0
1,1-Dichloroethene	0.465	0.425	-	8.6	20	174	0
Carbon disulfide	1.43	1.36	-	4.9	20	176	0
Methylene chloride	0.545	0.508	-	6.8	20	175	0
Acetone	0.097	0.117	-	-20.6*	20	216	0
trans-1,2-Dichloroethene	0.515	0.514	-	0.2	20	182	0
Methyl tert-butyl ether	1.195	1.32	-	-10.5	20	199	0
Diisopropyl ether	1.556	2.132	-	-37*	20	242	0
1,1-Dichloroethane	0.942	1.034	-	-9.8	20	197	0
Ethyl tert-butyl ether	1.524	1.868	-	-22.6*	20	218	0
cis-1,2-Dichloroethene	0.562	0.578	-	-2.8	20	182	0
2,2-Dichloropropane	0.704	0.82	-	-16.5	20	212	0
Bromochloromethane	0.27	0.267	-	1.1	20	170	0
Chloroform	0.956	0.978	-	-2.3	20	188	0
Carbon tetrachloride	0.78	0.835	-	-7.1	20	192	0
Tetrahydrofuran	0.109	0.139	-	-27.5*	20	227	0
Dibromofluoromethane	0.297	0.293	-	1.3	20	180	0
1,1,1-Trichloroethane	0.825	0.915	-	-10.9	20	193	0
2-Butanone	0.148	0.204	-	-37.8*	20	218	0
1,1-Dichloropropene	0.656	0.698	-	-6.4	20	183	0
Benzene	1.978	2.02	-	-2.1	20	181	0
tert-Amyl methyl ether	1.31	1.457	-	-11.2	20	197	0
1,2-Dichloroethane-d4	0.269	0.282	-	-4.8	20	196	-.01
1,2-Dichloroethane	0.667	0.761	-	-14.1	20	202	0
Trichloroethene	0.548	0.568	-	-3.6	20	186	0
Dibromomethane	0.31	0.307	-	1	20	171	0
1,2-Dichloropropane	0.514	0.558	-	-8.6	20	189	0
Bromodichloromethane	0.677	0.728	-	-7.5	20	185	0
1,4-Dioxane	0.00449	0.00486*	-	-8.2	20	188	0
cis-1,3-Dichloropropene	0.724	0.829	-	-14.5	20	192	0
Chlorobenzene-d5	1	1	-	0	20	176	0
Toluene-d8	1.166	1.178	-	-1	20	180	0
Toluene	1.422	1.524	-	-7.2	20	185	0
4-Methyl-2-pentanone	0.17	0.203	-	-19.4	20	207	0
Tetrachloroethene	0.613	0.671	-	-9.5	20	187	0
trans-1,3-Dichloropropene	0.7	0.837	-	-19.6	20	201	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1939381
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: CHARLIE	Calibration Date	: 09/09/19 15:17
Lab File ID	: VC190909A03	Init. Calib. Date(s)	: 08/08/19 08/08/19
Sample No	: WG1282220-2	Init. Calib. Times	: 10:07 16:30
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,1,2-Trichloroethane	0.376	0.4	-	-6.4	20	177	0
Chlorodibromomethane	0.59	0.626	-	-6.1	20	179	0
1,3-Dichloropropane	0.763	0.815	-	-6.8	20	180	0
1,2-Dibromoethane	0.439	0.476	-	-8.4	20	183	0
2-Hexanone	20	23.89	-	-19.5	20	233	0
Chlorobenzene	1.763	1.78	-	-1	20	180	-.01
Ethylbenzene	2.821	3.002	-	-6.4	20	182	0
1,1,1,2-Tetrachloroethane	0.599	0.661	-	-10.4	20	187	-.01
p/m Xylene	1.063	1.139	-	-7.1	20	180	-.01
o Xylene	1.042	1.116	-	-7.1	20	179	0
Styrene	1.695	1.822	-	-7.5	20	180	-.01
1,4-Dichlorobenzene-d4	1	1	-	0	20	169	0
Bromoform	0.587	0.645	-	-9.9	20	186	-.01
Isopropylbenzene	4.663	5.043	-	-8.1	20	182	0
4-Bromofluorobenzene	0.817	0.922	-	-12.9	20	197	0
Bromobenzene	1.22	1.299	-	-6.5	20	182	0
n-Propylbenzene	5.845	6.187	-	-5.9	20	180	0
1,1,2,2-Tetrachloroethane	1.019	1.02	-	-0.1	20	164	0
2-Chlorotoluene	3.152	3.818	-	-21.1*	20	192	-.01
1,3,5-Trimethylbenzene	4.056	4.344	-	-7.1	20	181	0
1,2,3-Trichloropropane	0.798	0.823	-	-3.1	20	172	0
4-Chlorotoluene	3.518	3.825	-	-8.7	20	187	0
tert-Butylbenzene	3.45	3.772	-	-9.3	20	182	0
1,2,4-Trimethylbenzene	3.935	4.335	-	-10.2	20	183	0
sec-Butylbenzene	5.219	5.572	-	-6.8	20	178	0
p-Isopropyltoluene	4.445	4.853	-	-9.2	20	179	0
1,3-Dichlorobenzene	2.483	2.597	-	-4.6	20	177	0
1,4-Dichlorobenzene	2.523	2.64	-	-4.6	20	178	0
n-Butylbenzene	4.293	4.495	-	-4.7	20	174	0
1,2-Dichlorobenzene	2.262	2.372	-	-4.9	20	174	-.01
1,2-Dibromo-3-chloropropan	20	19.309	-	3.5	20	182	0
Hexachlorobutadiene	0.729	0.784	-	-7.5	20	192	0
1,2,4-Trichlorobenzene	1.438	1.556	-	-8.2	20	179	0
Naphthalene	3.058	3.328	-	-8.8	20	176	0
1,2,3-Trichlorobenzene	1.322	1.425	-	-7.8	20	177	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1939381
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: CHARLIE	Calibration Date	: 09/09/19 15:17
Lab File ID	: VC190909A03	Init. Calib. Date(s)	: 08/08/19 08/08/19
Sample No	: WG1282224-2	Init. Calib. Times	: 10:07 16:30
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	183	0
Dichlorodifluoromethane	0.386	0.295	-	23.6*	20	141	0
Chloromethane	0.411	0.514	-	-25.1*	20	224	0
Vinyl chloride	0.615	0.517	-	15.9	20	148	0
Bromomethane	0.467	0.32	-	31.5*	20	121	0
Chloroethane	0.479	0.302	-	37*	20	111	0
Trichlorofluoromethane	1.103	0.682	-	38.2*	20	105	0
Ethyl ether	0.36	0.24	-	33.3*	20	116	0
1,1-Dichloroethene	0.465	0.425	-	8.6	20	174	0
Carbon disulfide	1.43	1.36	-	4.9	20	176	0
Methylene chloride	0.545	0.508	-	6.8	20	175	0
Acetone	0.097	0.117	-	-20.6*	20	216	0
trans-1,2-Dichloroethene	0.515	0.514	-	0.2	20	182	0
Methyl tert-butyl ether	1.195	1.32	-	-10.5	20	199	0
Diisopropyl ether	1.556	2.132	-	-37*	20	242	0
1,1-Dichloroethane	0.942	1.034	-	-9.8	20	197	0
Ethyl tert-butyl ether	1.524	1.868	-	-22.6*	20	218	0
cis-1,2-Dichloroethene	0.562	0.578	-	-2.8	20	182	0
2,2-Dichloropropane	0.704	0.82	-	-16.5	20	212	0
Bromochloromethane	0.27	0.267	-	1.1	20	170	0
Chloroform	0.956	0.978	-	-2.3	20	188	0
Carbon tetrachloride	0.78	0.835	-	-7.1	20	192	0
Tetrahydrofuran	0.109	0.139	-	-27.5*	20	227	0
Dibromofluoromethane	0.297	0.293	-	1.3	20	180	0
1,1,1-Trichloroethane	0.825	0.915	-	-10.9	20	193	0
2-Butanone	0.148	0.204	-	-37.8*	20	218	0
1,1-Dichloropropene	0.656	0.698	-	-6.4	20	183	0
Benzene	1.978	2.02	-	-2.1	20	181	0
tert-Amyl methyl ether	1.31	1.457	-	-11.2	20	197	0
1,2-Dichloroethane-d4	0.269	0.282	-	-4.8	20	196	-.01
1,2-Dichloroethane	0.667	0.761	-	-14.1	20	202	0
Trichloroethene	0.548	0.568	-	-3.6	20	186	0
Dibromomethane	0.31	0.307	-	1	20	171	0
1,2-Dichloropropane	0.514	0.558	-	-8.6	20	189	0
Bromodichloromethane	0.677	0.728	-	-7.5	20	185	0
1,4-Dioxane	0.00449	0.00486*	-	-8.2	20	188	0
cis-1,3-Dichloropropene	0.724	0.829	-	-14.5	20	192	0
Chlorobenzene-d5	1	1	-	0	20	176	0
Toluene-d8	1.166	1.178	-	-1	20	180	0
Toluene	1.422	1.524	-	-7.2	20	185	0
4-Methyl-2-pentanone	0.17	0.203	-	-19.4	20	207	0
Tetrachloroethene	0.613	0.671	-	-9.5	20	187	0
trans-1,3-Dichloropropene	0.7	0.837	-	-19.6	20	201	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1939381
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: CHARLIE	Calibration Date	: 09/09/19 15:17
Lab File ID	: VC190909A03	Init. Calib. Date(s)	: 08/08/19 08/08/19
Sample No	: WG1282224-2	Init. Calib. Times	: 10:07 16:30
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,1,2-Trichloroethane	0.376	0.4	-	-6.4	20	177	0
Chlorodibromomethane	0.59	0.626	-	-6.1	20	179	0
1,3-Dichloropropane	0.763	0.815	-	-6.8	20	180	0
1,2-Dibromoethane	0.439	0.476	-	-8.4	20	183	0
2-Hexanone	20	23.89	-	-19.5	20	233	0
Chlorobenzene	1.763	1.78	-	-1	20	180	-.01
Ethylbenzene	2.821	3.002	-	-6.4	20	182	0
1,1,1,2-Tetrachloroethane	0.599	0.661	-	-10.4	20	187	-.01
p/m Xylene	1.063	1.139	-	-7.1	20	180	-.01
o Xylene	1.042	1.116	-	-7.1	20	179	0
Styrene	1.695	1.822	-	-7.5	20	180	-.01
1,4-Dichlorobenzene-d4	1	1	-	0	20	169	0
Bromoform	0.587	0.645	-	-9.9	20	186	-.01
Isopropylbenzene	4.663	5.043	-	-8.1	20	182	0
4-Bromofluorobenzene	0.817	0.922	-	-12.9	20	197	0
Bromobenzene	1.22	1.299	-	-6.5	20	182	0
n-Propylbenzene	5.845	6.187	-	-5.9	20	180	0
1,1,2,2-Tetrachloroethane	1.019	1.02	-	-0.1	20	164	0
2-Chlorotoluene	3.152	3.818	-	-21.1*	20	192	-.01
1,3,5-Trimethylbenzene	4.056	4.344	-	-7.1	20	181	0
1,2,3-Trichloropropane	0.798	0.823	-	-3.1	20	172	0
4-Chlorotoluene	3.518	3.825	-	-8.7	20	187	0
tert-Butylbenzene	3.45	3.772	-	-9.3	20	182	0
1,2,4-Trimethylbenzene	3.935	4.335	-	-10.2	20	183	0
sec-Butylbenzene	5.219	5.572	-	-6.8	20	178	0
p-Isopropyltoluene	4.445	4.853	-	-9.2	20	179	0
1,3-Dichlorobenzene	2.483	2.597	-	-4.6	20	177	0
1,4-Dichlorobenzene	2.523	2.64	-	-4.6	20	178	0
n-Butylbenzene	4.293	4.495	-	-4.7	20	174	0
1,2-Dichlorobenzene	2.262	2.372	-	-4.9	20	174	-.01
1,2-Dibromo-3-chloropropan	20	19.309	-	3.5	20	182	0
Hexachlorobutadiene	0.729	0.784	-	-7.5	20	192	0
1,2,4-Trichlorobenzene	1.438	1.556	-	-8.2	20	179	0
Naphthalene	3.058	3.328	-	-8.8	20	176	0
1,2,3-Trichlorobenzene	1.322	1.425	-	-7.8	20	177	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1939381
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA123	Calibration Date	: 09/10/19 08:29
Lab File ID	: V23190910A01	Init. Calib. Date(s)	: 06/21/19 06/21/19
Sample No	: WG1281986-7	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	108	-.01
Dichlorodifluoromethane	0.268	0.256	-	4.5	20	88	0
Chloromethane	0.275	0.304	-	-10.5	20	104	0
Vinyl chloride	0.312	0.269	-	13.8	20	79	0
Bromomethane	0.233	0.211	-	9.4	20	92	0
Chloroethane	0.235	0.178	-	24.3*	20	74	0
Trichlorofluoromethane	0.429	0.377	-	12.1	20	80	0
Ethyl ether	0.143	0.122	-	14.7	20	82	0
1,1-Dichloroethene	0.214	0.2	-	6.5	20	87	0
Carbon disulfide	0.725	0.667	-	8	20	90	0
Freon-113	0.216	0.196	-	9.3	20	83	0
Acrolein	0.05	0.045*	-	10	20	91	-.01
Methylene chloride	0.28	0.232	-	17.1	20	86	0
Acetone	20	20.695	-	-3.5	20	100	-.01
trans-1,2-Dichloroethene	0.245	0.227	-	7.3	20	87	0
Methyl acetate	0.187	0.18	-	3.7	20	93	-.01
Methyl tert-butyl ether	0.725	0.61	-	15.9	20	80	-.01
tert-Butyl alcohol	0.038	0.03*	-	21.1*	20	76	-.01
Diisopropyl ether	0.748	0.724	-	3.2	20	92	-.01
1,1-Dichloroethane	0.436	0.399	-	8.5	20	86	-.01
Halothane	0.182	0.168	-	7.7	20	85	-.01
Acrylonitrile	0.093	0.083	-	10.8	20	84	-.01
Ethyl tert-butyl ether	0.763	0.649	-	14.9	20	81	-.02
Vinyl acetate	0.662	0.627	-	5.3	20	91	-.01
cis-1,2-Dichloroethene	0.275	0.251	-	8.7	20	87	-.01
2,2-Dichloropropane	0.366	0.341	-	6.8	20	87	0
Bromochloromethane	0.134	0.125	-	6.7	20	87	-.01
Cyclohexane	0.39	0.34	-	12.8	20	81	0
Chloroform	0.43	0.402	-	6.5	20	88	0
Ethyl acetate	0.3	0.272	-	9.3	20	89	-.01
Carbon tetrachloride	0.331	0.319	-	3.6	20	90	-.01
Tetrahydrofuran	0.106	0.1	-	5.7	20	91	-.02
Dibromofluoromethane	0.262	0.25	-	4.6	20	102	0
1,1,1-Trichloroethane	0.365	0.357	-	2.2	20	88	-.01
2-Butanone	0.139	0.12	-	13.7	20	91	-.02
1,1-Dichloropropene	0.318	0.298	-	6.3	20	85	-.01
Benzene	0.959	0.876	-	8.7	20	85	-.01
tert-Amyl methyl ether	0.734	0.595	-	18.9	20	77	-.02
1,2-Dichloroethane-d4	0.29	0.271	-	6.6	20	104	-.01
1,2-Dichloroethane	0.342	0.303	-	11.4	20	85	-.01
Methyl cyclohexane	0.415	0.352	-	15.2	20	79	-.02
Trichloroethene	0.249	0.234	-	6	20	87	-.01
Dibromomethane	0.164	0.146	-	11	20	85	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1939381
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA123	Calibration Date	: 09/10/19 08:29
Lab File ID	: V23190910A01	Init. Calib. Date(s)	: 06/21/19 06/21/19
Sample No	: WG1281986-7	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	0.224	-	11.8	20	83	0
2-Chloroethyl vinyl ether	0.185	0.156	-	15.7	20	80	-.01
Bromodichloromethane	0.327	0.304	-	7	20	87	-.02
1,4-Dioxane	0.00343	0.00317*	-	7.6	20	92	-.02
cis-1,3-Dichloropropene	0.404	0.368	-	8.9	20	84	0
Chlorobenzene-d5	1	1	-	0	20	103	-.02
Toluene-d8	1.211	1.223	-	-1	20	103	0
Toluene	0.75	0.72	-	4	20	87	-.02
4-Methyl-2-pentanone	0.137	0.118	-	13.9	20	79	-.02
Tetrachloroethene	0.306	0.309	-	-1	20	87	-.02
trans-1,3-Dichloropropene	0.447	0.424	-	5.1	20	84	-.01
Ethyl methacrylate	0.415	0.343	-	17.3	20	75	-.02
1,1,2-Trichloroethane	0.237	0.213	-	10.1	20	81	-.01
Chlorodibromomethane	0.311	0.307	-	1.3	20	88	-.02
1,3-Dichloropropane	0.475	0.437	-	8	20	83	-.01
1,2-Dibromoethane	0.286	0.273	-	4.5	20	85	-.01
2-Hexanone	0.245	0.227	-	7.3	20	87	-.02
Chlorobenzene	0.845	0.839	-	0.7	20	89	-.02
Ethylbenzene	1.401	1.399	-	0.1	20	89	-.01
1,1,1,2-Tetrachloroethane	0.297	0.301	-	-1.3	20	88	-.02
p/m Xylene	0.545	0.565	-	-3.7	20	92	-.02
o Xylene	0.539	0.532	-	1.3	20	88	-.02
Styrene	0.876	0.862	-	1.6	20	86	-.02
1,4-Dichlorobenzene-d4	1	1	-	0	20	102	-.01
Bromoform	0.424	0.38	-	10.4	20	87	-.01
Isopropylbenzene	2.578	2.646	-	-2.6	20	89	-.02
4-Bromofluorobenzene	0.913	0.89	-	2.5	20	98	-.01
Bromobenzene	0.679	0.65	-	4.3	20	85	-.02
n-Propylbenzene	3.032	3.097	-	-2.1	20	88	-.01
1,4-Dichlorobutane	0.91	0.828	-	9	20	83	-.01
1,1,2,2-Tetrachloroethane	0.726	0.679	-	6.5	20	80	-.01
4-Ethyltoluene	2.552	2.604	-	-2	20	87	0
2-Chlorotoluene	2.106	2.104	-	0.1	20	88	-.01
1,3,5-Trimethylbenzene	2.162	2.207	-	-2.1	20	89	-.02
1,2,3-Trichloropropane	0.612	0.548	-	10.5	20	80	-.01
trans-1,4-Dichloro-2-buten	0.212	0.203	-	4.2	20	85	0
4-Chlorotoluene	1.897	1.907	-	-0.5	20	89	-.01
tert-Butylbenzene	1.876	1.913	-	-2	20	88	-.01
1,2,4-Trimethylbenzene	2.172	2.213	-	-1.9	20	89	-.02
sec-Butylbenzene	2.799	2.865	-	-2.4	20	88	-.01
p-Isopropyltoluene	2.388	2.472	-	-3.5	20	89	-.02
1,3-Dichlorobenzene	1.306	1.321	-	-1.1	20	90	-.01
1,4-Dichlorobenzene	1.32	1.325	-	-0.4	20	90	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1939381
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA123	Calibration Date	: 09/10/19 08:29
Lab File ID	: V23190910A01	Init. Calib. Date(s)	: 06/21/19 06/21/19
Sample No	: WG1281986-7	Init. Calib. Times	: 03:09 06:33
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.466	1.476	-	-0.7	20	88	-.01
n-Butylbenzene	2.231	2.334	-	-4.6	20	90	-.01
1,2-Dichlorobenzene	1.255	1.239	-	1.3	20	88	-.01
1,2,4,5-Tetramethylbenzene	2.325	2.333	-	-0.3	20	88	-.01
1,2-Dibromo-3-chloropropan	0.136	0.122	-	10.3	20	84	-.01
1,3,5-Trichlorobenzene	0.913	0.934	-	-2.3	20	90	-.01
Hexachlorobutadiene	0.428	0.425	-	0.7	20	88	-.01
1,2,4-Trichlorobenzene	0.862	0.883	-	-2.4	20	91	-.01
Naphthalene	2.486	2.399	-	3.5	20	85	-.01
1,2,3-Trichlorobenzene	0.842	0.844	-	-0.2	20	89	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1939381
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA123	Calibration Date	: 09/10/19 08:29
Lab File ID	: V23190910A01	Init. Calib. Date(s)	: 06/21/19 06/21/19
Sample No	: WG1282641-2	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	108	-.01
Dichlorodifluoromethane	0.268	0.256	-	4.5	20	88	0
Chloromethane	0.275	0.304	-	-10.5	20	104	0
Vinyl chloride	0.312	0.269	-	13.8	20	79	0
Bromomethane	0.233	0.211	-	9.4	20	92	0
Chloroethane	0.235	0.178	-	24.3*	20	74	0
Trichlorofluoromethane	0.429	0.377	-	12.1	20	80	0
Ethyl ether	0.143	0.122	-	14.7	20	82	0
1,1-Dichloroethene	0.214	0.2	-	6.5	20	87	0
Carbon disulfide	0.725	0.667	-	8	20	90	0
Freon-113	0.216	0.196	-	9.3	20	83	0
Acrolein	0.05	0.045*	-	10	20	91	-.01
Methylene chloride	0.28	0.232	-	17.1	20	86	0
Acetone	20	20.695	-	-3.5	20	100	-.01
trans-1,2-Dichloroethene	0.245	0.227	-	7.3	20	87	0
Methyl acetate	0.187	0.18	-	3.7	20	93	-.01
Methyl tert-butyl ether	0.725	0.61	-	15.9	20	80	-.01
tert-Butyl alcohol	0.038	0.03*	-	21.1*	20	76	-.01
Diisopropyl ether	0.748	0.724	-	3.2	20	92	-.01
1,1-Dichloroethane	0.436	0.399	-	8.5	20	86	-.01
Halothane	0.182	0.168	-	7.7	20	85	-.01
Acrylonitrile	0.093	0.083	-	10.8	20	84	-.01
Ethyl tert-butyl ether	0.763	0.649	-	14.9	20	81	-.02
Vinyl acetate	0.662	0.627	-	5.3	20	91	-.01
cis-1,2-Dichloroethene	0.275	0.251	-	8.7	20	87	-.01
2,2-Dichloropropane	0.366	0.341	-	6.8	20	87	0
Bromochloromethane	0.134	0.125	-	6.7	20	87	-.01
Cyclohexane	0.39	0.34	-	12.8	20	81	0
Chloroform	0.43	0.402	-	6.5	20	88	0
Ethyl acetate	0.3	0.272	-	9.3	20	89	-.01
Carbon tetrachloride	0.331	0.319	-	3.6	20	90	-.01
Tetrahydrofuran	0.106	0.1	-	5.7	20	91	-.02
Dibromofluoromethane	0.262	0.25	-	4.6	20	102	0
1,1,1-Trichloroethane	0.365	0.357	-	2.2	20	88	-.01
2-Butanone	0.139	0.12	-	13.7	20	91	-.02
1,1-Dichloropropene	0.318	0.298	-	6.3	20	85	-.01
Benzene	0.959	0.876	-	8.7	20	85	-.01
tert-Amyl methyl ether	0.734	0.595	-	18.9	20	77	-.02
1,2-Dichloroethane-d4	0.29	0.271	-	6.6	20	104	-.01
1,2-Dichloroethane	0.342	0.303	-	11.4	20	85	-.01
Methyl cyclohexane	0.415	0.352	-	15.2	20	79	-.02
Trichloroethene	0.249	0.234	-	6	20	87	-.01
Dibromomethane	0.164	0.146	-	11	20	85	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1939381
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA123	Calibration Date	: 09/10/19 08:29
Lab File ID	: V23190910A01	Init. Calib. Date(s)	: 06/21/19 06/21/19
Sample No	: WG1282641-2	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	0.224	-	11.8	20	83	0
2-Chloroethyl vinyl ether	0.185	0.156	-	15.7	20	80	-.01
Bromodichloromethane	0.327	0.304	-	7	20	87	-.02
1,4-Dioxane	0.00343	0.00317*	-	7.6	20	92	-.02
cis-1,3-Dichloropropene	0.404	0.368	-	8.9	20	84	0
Chlorobenzene-d5	1	1	-	0	20	103	-.02
Toluene-d8	1.211	1.223	-	-1	20	103	0
Toluene	0.75	0.72	-	4	20	87	-.02
4-Methyl-2-pentanone	0.137	0.118	-	13.9	20	79	-.02
Tetrachloroethene	0.306	0.309	-	-1	20	87	-.02
trans-1,3-Dichloropropene	0.447	0.424	-	5.1	20	84	-.01
Ethyl methacrylate	0.415	0.343	-	17.3	20	75	-.02
1,1,2-Trichloroethane	0.237	0.213	-	10.1	20	81	-.01
Chlorodibromomethane	0.311	0.307	-	1.3	20	88	-.02
1,3-Dichloropropane	0.475	0.437	-	8	20	83	-.01
1,2-Dibromoethane	0.286	0.273	-	4.5	20	85	-.01
2-Hexanone	0.245	0.227	-	7.3	20	87	-.02
Chlorobenzene	0.845	0.839	-	0.7	20	89	-.02
Ethylbenzene	1.401	1.399	-	0.1	20	89	-.01
1,1,1,2-Tetrachloroethane	0.297	0.301	-	-1.3	20	88	-.02
p/m Xylene	0.545	0.565	-	-3.7	20	92	-.02
o Xylene	0.539	0.532	-	1.3	20	88	-.02
Styrene	0.876	0.862	-	1.6	20	86	-.02
1,4-Dichlorobenzene-d4	1	1	-	0	20	102	-.01
Bromoform	0.424	0.38	-	10.4	20	87	-.01
Isopropylbenzene	2.578	2.646	-	-2.6	20	89	-.02
4-Bromofluorobenzene	0.913	0.89	-	2.5	20	98	-.01
Bromobenzene	0.679	0.65	-	4.3	20	85	-.02
n-Propylbenzene	3.032	3.097	-	-2.1	20	88	-.01
1,4-Dichlorobutane	0.91	0.828	-	9	20	83	-.01
1,1,2,2-Tetrachloroethane	0.726	0.679	-	6.5	20	80	-.01
4-Ethyltoluene	2.552	2.604	-	-2	20	87	0
2-Chlorotoluene	2.106	2.104	-	0.1	20	88	-.01
1,3,5-Trimethylbenzene	2.162	2.207	-	-2.1	20	89	-.02
1,2,3-Trichloropropane	0.612	0.548	-	10.5	20	80	-.01
trans-1,4-Dichloro-2-buten	0.212	0.203	-	4.2	20	85	0
4-Chlorotoluene	1.897	1.907	-	-0.5	20	89	-.01
tert-Butylbenzene	1.876	1.913	-	-2	20	88	-.01
1,2,4-Trimethylbenzene	2.172	2.213	-	-1.9	20	89	-.02
sec-Butylbenzene	2.799	2.865	-	-2.4	20	88	-.01
p-Isopropyltoluene	2.388	2.472	-	-3.5	20	89	-.02
1,3-Dichlorobenzene	1.306	1.321	-	-1.1	20	90	-.01
1,4-Dichlorobenzene	1.32	1.325	-	-0.4	20	90	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1939381
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA123	Calibration Date	: 09/10/19 08:29
Lab File ID	: V23190910A01	Init. Calib. Date(s)	: 06/21/19 06/21/19
Sample No	: WG1282641-2	Init. Calib. Times	: 03:09 06:33
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.466	1.476	-	-0.7	20	88	-.01
n-Butylbenzene	2.231	2.334	-	-4.6	20	90	-.01
1,2-Dichlorobenzene	1.255	1.239	-	1.3	20	88	-.01
1,2,4,5-Tetramethylbenzene	2.325	2.333	-	-0.3	20	88	-.01
1,2-Dibromo-3-chloropropan	0.136	0.122	-	10.3	20	84	-.01
1,3,5-Trichlorobenzene	0.913	0.934	-	-2.3	20	90	-.01
Hexachlorobutadiene	0.428	0.425	-	0.7	20	88	-.01
1,2,4-Trichlorobenzene	0.862	0.883	-	-2.4	20	91	-.01
Naphthalene	2.486	2.399	-	3.5	20	85	-.01
1,2,3-Trichlorobenzene	0.842	0.844	-	-0.2	20	89	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1939381
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA123	Calibration Date	: 09/10/19 18:52
Lab File ID	: V23190910N01	Init. Calib. Date(s)	: 06/21/19 06/21/19
Sample No	: WG1282641-7	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	95	-.01
Dichlorodifluoromethane	0.268	0.271	-	-1.1	20	82	0
Chloromethane	0.275	0.295	-	-7.3	20	89	0
Vinyl chloride	0.312	0.294	-	5.8	20	76	0
Bromomethane	0.233	0.227	-	2.6	20	87	0
Chloroethane	0.235	0.197	-	16.2	20	72	0
Trichlorofluoromethane	0.429	0.405	-	5.6	20	76	0
Ethyl ether	0.143	0.124	-	13.3	20	74	0
1,1-Dichloroethene	0.214	0.205	-	4.2	20	78	0
Carbon disulfide	0.725	0.675	-	6.9	20	80	0
Freon-113	0.216	0.201	-	6.9	20	75	0
Acrolein	0.05	0.049*	-	2	20	87	0
Methylene chloride	0.28	0.236	-	15.7	20	77	0
Acetone	20	21.678	-	-8.4	20	92	-.01
trans-1,2-Dichloroethene	0.245	0.236	-	3.7	20	80	0
Methyl acetate	0.187	0.188	-	-0.5	20	86	-.01
Methyl tert-butyl ether	0.725	0.621	-	14.3	20	72	-.01
tert-Butyl alcohol	0.038	0.031*	-	18.4	20	69	-.01
Diisopropyl ether	0.748	0.756	-	-1.1	20	85	-.01
1,1-Dichloroethane	0.436	0.418	-	4.1	20	79	0
Halothane	0.182	0.175	-	3.8	20	78	-.01
Acrylonitrile	0.093	0.087	-	6.5	20	78	0
Ethyl tert-butyl ether	0.763	0.677	-	11.3	20	75	-.01
Vinyl acetate	0.662	0.656	-	0.9	20	84	-.01
cis-1,2-Dichloroethene	0.275	0.261	-	5.1	20	79	-.01
2,2-Dichloropropane	0.366	0.354	-	3.3	20	80	-.01
Bromochloromethane	0.134	0.127	-	5.2	20	79	-.01
Cyclohexane	0.39	0.352	-	9.7	20	74	0
Chloroform	0.43	0.423	-	1.6	20	82	0
Ethyl acetate	0.3	0.285	-	5	20	82	-.01
Carbon tetrachloride	0.331	0.323	-	2.4	20	80	0
Tetrahydrofuran	0.106	0.104	-	1.9	20	84	-.02
Dibromofluoromethane	0.262	0.249	-	5	20	90	-.01
1,1,1-Trichloroethane	0.365	0.369	-	-1.1	20	80	-.01
2-Butanone	0.139	0.128	-	7.9	20	86	-.01
1,1-Dichloropropene	0.318	0.315	-	0.9	20	79	0
Benzene	0.959	0.925	-	3.5	20	79	0
tert-Amyl methyl ether	0.734	0.621	-	15.4	20	71	-.01
1,2-Dichloroethane-d4	0.29	0.281	-	3.1	20	95	-.01
1,2-Dichloroethane	0.342	0.326	-	4.7	20	80	-.01
Methyl cyclohexane	0.415	0.359	-	13.5	20	71	-.01
Trichloroethene	0.249	0.246	-	1.2	20	81	-.01
Dibromomethane	0.164	0.153	-	6.7	20	79	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1939381
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA123	Calibration Date	: 09/10/19 18:52
Lab File ID	: V23190910N01	Init. Calib. Date(s)	: 06/21/19 06/21/19
Sample No	: WG1282641-7	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	0.235	-	7.5	20	77	-.01
2-Chloroethyl vinyl ether	0.185	0.164	-	11.4	20	74	-.01
Bromodichloromethane	0.327	0.321	-	1.8	20	81	-.01
1,4-Dioxane	0.00343	0.00332*	-	3.2	20	85	-.02
cis-1,3-Dichloropropene	0.404	0.386	-	4.5	20	78	-.01
Chlorobenzene-d5	1	1	-	0	20	91	-.01
Toluene-d8	1.211	1.228	-	-1.4	20	92	-.01
Toluene	0.75	0.752	-	-0.3	20	80	-.01
4-Methyl-2-pentanone	0.137	0.122	-	10.9	20	72	-.02
Tetrachloroethene	0.306	0.311	-	-1.6	20	78	-.01
trans-1,3-Dichloropropene	0.447	0.445	-	0.4	20	78	-.01
Ethyl methacrylate	0.415	0.355	-	14.5	20	69	-.02
1,1,2-Trichloroethane	0.237	0.225	-	5.1	20	76	-.01
Chlorodibromomethane	0.311	0.314	-	-1	20	80	-.02
1,3-Dichloropropane	0.475	0.453	-	4.6	20	76	-.01
1,2-Dibromoethane	0.286	0.278	-	2.8	20	76	-.01
2-Hexanone	0.245	0.239	-	2.4	20	81	-.02
Chlorobenzene	0.845	0.865	-	-2.4	20	81	-.01
Ethylbenzene	1.401	1.443	-	-3	20	81	-.01
1,1,1,2-Tetrachloroethane	0.297	0.307	-	-3.4	20	80	-.01
p/m Xylene	0.545	0.574	-	-5.3	20	83	-.01
o Xylene	0.539	0.547	-	-1.5	20	80	-.01
Styrene	0.876	0.898	-	-2.5	20	80	-.01
1,4-Dichlorobenzene-d4	1	1	-	0	20	92	-.01
Bromoform	0.424	0.381	-	10.1	20	79	-.01
Isopropylbenzene	2.578	2.701	-	-4.8	20	82	-.01
4-Bromofluorobenzene	0.913	0.9	-	1.4	20	89	-.01
Bromobenzene	0.679	0.656	-	3.4	20	78	-.02
n-Propylbenzene	3.032	3.223	-	-6.3	20	82	-.01
1,4-Dichlorobutane	0.91	0.87	-	4.4	20	78	-.01
1,1,2,2-Tetrachloroethane	0.726	0.706	-	2.8	20	75	-.01
4-Ethyltoluene	2.552	2.683	-	-5.1	20	81	-.01
2-Chlorotoluene	2.106	2.199	-	-4.4	20	83	-.01
1,3,5-Trimethylbenzene	2.162	2.288	-	-5.8	20	83	-.02
1,2,3-Trichloropropane	0.612	0.577	-	5.7	20	76	-.01
trans-1,4-Dichloro-2-buten	0.212	0.212	-	0	20	80	-.01
4-Chlorotoluene	1.897	2.006	-	-5.7	20	84	-.01
tert-Butylbenzene	1.876	1.927	-	-2.7	20	79	-.01
1,2,4-Trimethylbenzene	2.172	2.306	-	-6.2	20	83	-.01
sec-Butylbenzene	2.799	2.934	-	-4.8	20	81	-.01
p-Isopropyltoluene	2.388	2.538	-	-6.3	20	82	-.01
1,3-Dichlorobenzene	1.306	1.364	-	-4.4	20	83	-.01
1,4-Dichlorobenzene	1.32	1.372	-	-3.9	20	84	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1939381
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA123	Calibration Date	: 09/10/19 18:52
Lab File ID	: V23190910N01	Init. Calib. Date(s)	: 06/21/19 06/21/19
Sample No	: WG1282641-7	Init. Calib. Times	: 03:09 06:33
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.466	1.5	-	-2.3	20	81	-.01
n-Butylbenzene	2.231	2.408	-	-7.9	20	84	-.01
1,2-Dichlorobenzene	1.255	1.244	-	0.9	20	80	-.01
1,2,4,5-Tetramethylbenzene	2.325	2.355	-	-1.3	20	80	-.01
1,2-Dibromo-3-chloropropan	0.136	0.123	-	9.6	20	76	-.01
1,3,5-Trichlorobenzene	0.913	0.945	-	-3.5	20	82	-.01
Hexachlorobutadiene	0.428	0.406	-	5.1	20	76	0
1,2,4-Trichlorobenzene	0.862	0.892	-	-3.5	20	83	-.01
Naphthalene	2.486	2.422	-	2.6	20	77	-.01
1,2,3-Trichlorobenzene	0.842	0.841	-	0.1	20	80	-.01

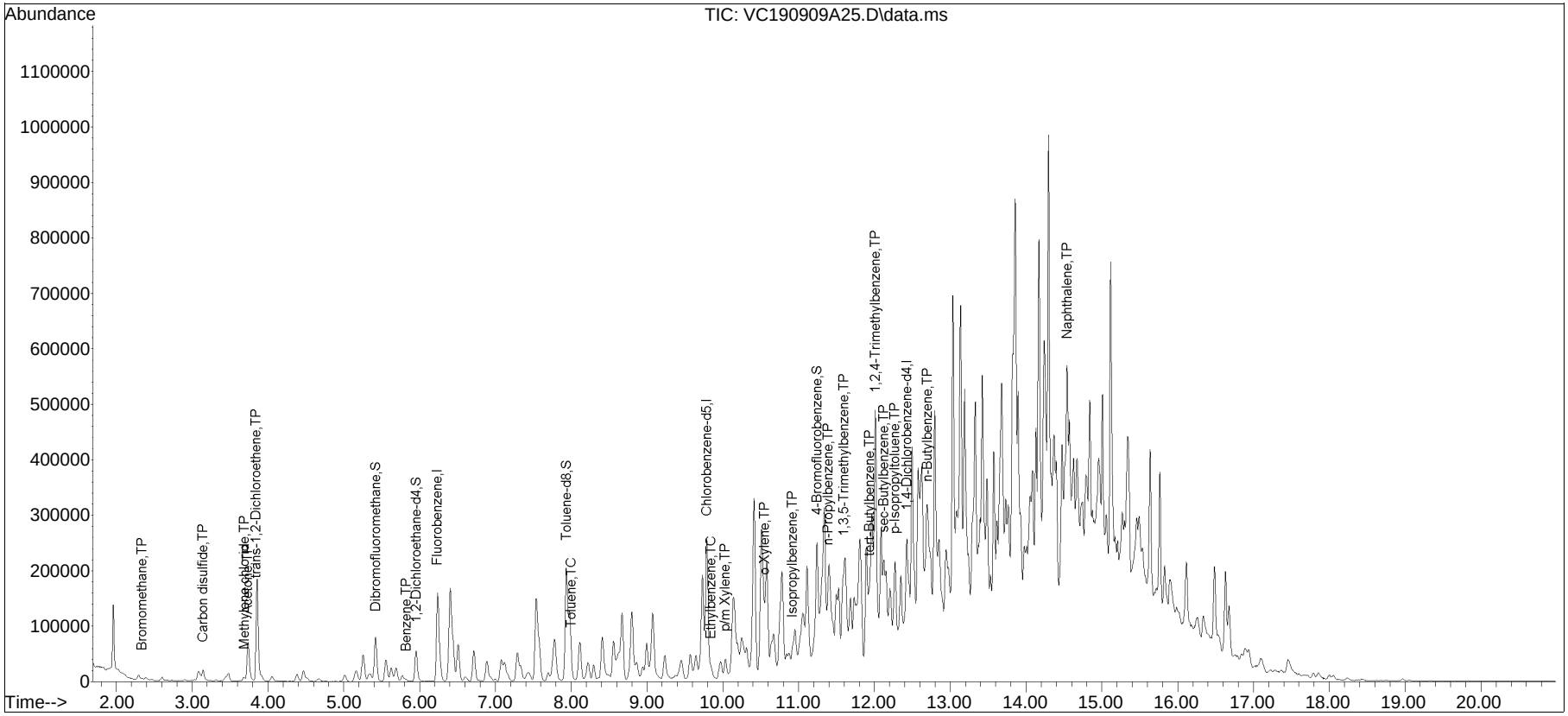
* Value outside of QC limits.

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\Charlie\2019\190909A\
Data File : VC190909A25.D
Acq On : 10 Sep 2019 1:31 am
Operator : CHARLIE:JC
Sample : l1939381-11,31,7.48,5,,b
Misc : WG1282220,ICAL16021
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Sep 10 09:58:32 2019
Quant Method : I:\VOLATILES\Charlie\2019\190909A\C_190808A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Aug 08 17:48:15 2019
Response via : Initial Calibration

Sub List : 8260-MCP - REG- MCP LIST\2019\190909A\VC190909A03.D•



Performance Evaluation Mixture Summary
Form 15
Pesticides

Client	: Tetra Tech Rizzo	Lab Number	: L1939381
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: PEST20	Analysis Date	: 09/09/19 08:56
PEM Standard	: R1229641-1		
Column 1	: RTX-5	Column 2	: RTX-CLPPesticides2

Parameter	Signal 1	Signal 2
4,4'-DDE	896172.64808	893884.30655
Endrin	376404437.19637	207738176.65045
4,4'-DDD	1174096.29619	874335.94815
4,4'-DDT	674436403.36171	409427731.16563
Endrin Aldehyde	0	0
Endrin Ketone	3077526.77616	2173882.91734

Parameter	%Breakdown 1	%Breakdown 2
Endrin	0.811	1.04
DDT	0.306	0.430

ANALYTICAL REPORT

Lab Number:	L1939749
Client:	Tetra Tech Rizzo Marlborough Technology Park 100 Nickerson Road Marlborough, MA 01752
ATTN:	Mike Billa
Phone:	(508) 786-2200
Project Name:	CYPHER ST. S. BOSTON
Project Number:	143-278997-19001
Report Date:	09/18/19

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

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

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939749
Report Date: 09/18/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1939749-01	TT-5 (4.5-6')	SOIL	CYPHER ST. S. BOSTON	08/30/19 08:45	08/30/19
L1939749-02	TT-8 (0.75-1.25')	SOIL	CYPHER ST. S. BOSTON	08/30/19 10:00	08/30/19
L1939749-03	TT-8 (1.5-3.5')	SOIL	CYPHER ST. S. BOSTON	08/30/19 10:30	08/30/19
L1939749-04	TT-9 (2-4')	SOIL	CYPHER ST. S. BOSTON	08/30/19 12:00	08/30/19
L1939749-05	TT-9 (4-5')	SOIL	CYPHER ST. S. BOSTON	08/30/19 12:45	08/30/19

Project Name:	CYPHER ST. S. BOSTON	**Lab Number:**	L1939749
Project Number:	143-278997-19001	**Report Date:**	09/18/19

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?	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:	CYPHER ST. S. BOSTON	**Lab Number:**	L1939749
Project Number:	143-278997-19001	**Report Date:**	09/18/19

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:	CYPHER ST. S. BOSTON	**Lab Number:**	L1939749
Project Number:	143-278997-19001	**Report Date:**	09/18/19

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

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

Volatile Organics

In reference to question H:

The WG1283443-3/-4 LCS/LCSD recoveries, associated with L1939749-01, -04, and -05, are above the individual acceptance criteria for chloromethane (LCSD 131%), dichlorodifluoromethane (143%/141%), acetone (147%/138%), 2-butanone (138%/133%) and tetrahydrofuran (137%/133%), but within the overall method allowances. The results of the associated samples are reported; however, all positive detects are considered to have a potentially high bias for these compounds.

The initial calibration, associated with L1939749-01, -04, and -05, did not meet the method required minimum response factor on the lowest calibration standard for 2-butanone (0.0920), 4-methyl-2-pentanone (0.0767), and 1,4-dioxane (0.0017), as well as the average response factor for trichloroethene, 2-butanone, 4-methyl-2-pentanone, and 1,4-dioxane. In addition, the initial calibration verification is outside acceptance criteria for trichlorofluoromethane (140%), bromomethane (158%), vinyl chloride (144%), chloroethane (131%), and dichlorodifluoromethane (186%).

The continuing calibration standard, associated with L1939749-01, -04, and -05, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

Semivolatile Organics

L1939749-04: The sample has elevated detection limits due to limited sample volume available for analysis.

L1939749-05: The sample was re-analyzed on dilution in order to quantify the results within the calibration range. The results should be considered estimated, and are qualified with an E flag, for any compounds that exceeded the calibration range in the initial analysis. The re-analysis was performed only for the compounds

Project Name:	CYPHER ST. S. BOSTON	**Lab Number:**	L1939749
Project Number:	143-278997-19001	**Report Date:**	09/18/19

Case Narrative (continued)

that exceeded the calibration range.

In reference to question I:

L1939749-01, -02 and -03: The samples were analyzed for a subset of MCP analytes per client request.

In reference to question H:

L1939749-05: The surrogate recovery is outside the individual acceptance criteria for 2,4,6-tribromophenol (18%), but within the overall method allowances. The results of the original analysis are reported; however, all associated compounds are considered to have a potential bias.

VPH

In reference to question I:

All samples were analyzed for a subset of MCP analytes per client request.

EPH

L1939749-05: The sample has elevated detection limits due to the dilution required by the sample matrix.

In reference to question I:

All samples were analyzed for a subset of MCP analytes per client request.

PCBs

L1939749-03 and -04: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

In reference to question G:

L1939749-03 and -04: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

L1939749-03 and -04: 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.

L1939749-05: The surrogate recovery is outside the individual acceptance criteria for decachlorobiphenyl

Case Narrative (continued)

(19%), but within the overall method allowances. The results of the original analysis are reported; however, all associated compounds are considered to have a potential bias.
L1939749-05: One or more dual column RPDs are above the acceptance criteria; however, obvious column interferences are present. The result is qualified with a "P" if the higher of the two results is reported. The result is qualified with an "IP" if the lower of the two results is reported.

Pesticides
In reference to question H:
L1939749-04: The surrogate recovery is outside the acceptance criteria for decachlorobiphenyl (223%); however, the sample was not re-extracted due to coelution with obvious interferences.
L1939749-04 and -05: One or more dual column RPDs are above the acceptance criteria; however, obvious column interferences are present. The result is qualified with a "P" if the higher of the two results is reported. The result is qualified with an "IP" if the lower of the two results is reported.

Non-MCP Related Narratives
Petroleum Hydrocarbon Quantitation
L1939749-04: The sample has an elevated detection limit due to the dilution required by the elevated concentrations of target compounds in the sample.

Petroleum Hydrocarbon Identification by GC-FID
L1939749-03: The sample was extracted and then analyzed using a gas chromatograph equipped with a flame ionization detector (GC/FID). The temperature program and associated experimental conditions were optimized to obtain maximum resolution in an eighty minute chromatographic run representative of hydrocarbons in the n-Octane (C8) to n-Tetracontane (C40) range. Qualitative evaluation of the sample was conducted by reviewing the sample chromatogram in conjunction with a chromatogram of a normal alkane series generated with the same chromatographic conditions. Chromatograms of hydrocarbon reference materials obtained from our library of 82 reference standards were also utilized to provide the best possible sample match. Quantitative

Project Name:	CYPHER ST. S. BOSTON	**Lab Number:**	L1939749
Project Number:	143-278997-19001	**Report Date:**	09/18/19

Case Narrative (continued)

determination of the sample's hydrocarbon concentration was performed in accordance with EPA Method 8015M. The sample's total hydrocarbon concentration and all associated quality control data are included in the report.

The following qualitative information is based on a tentative interpretation of chromatographic pattern recognition and boiling point ranges:

Total Petroleum Hydrocarbon Identification

L1939749-03 contains hydrocarbons eluting in the range of n-Pentadecane (C15) to after the elution of n-Tetracontane (C40).

Based on the data generated, L1939749-03 contains two unresolved complex mixtures (UCM) eluting in the mid to heavy weight ranges of the chromatogram. The mixture is a combination of material similar to a hydraulic, lubricating, motor or waste oil type products.

The WG1280104-2/-3 LCS/LCSD recoveries, associated with L1939749-03, are outside the acceptance criteria for nonane (c9) (36%/40%) and decane (c10) (LCS 44%).

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: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 09/18/19

QC OUTLIER SUMMARY REPORT

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939749
Report Date: 09/18/19

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 Low - Westborough Lab								
8260C	Batch QC	WG1283443-3	Dichlorodifluoromethane	LCS	143	70-130	01,04-05	potential high bias
8260C	Batch QC	WG1283443-3	Acetone	LCS	147	70-130	01,04-05	potential high bias
8260C	Batch QC	WG1283443-3	Methyl ethyl ketone	LCS	138	70-130	01,04-05	potential high bias
8260C	Batch QC	WG1283443-3	Tetrahydrofuran	LCS	137	70-130	01,04-05	potential high bias
8260C	Batch QC	WG1283443-4	Chloromethane	LCSD	131	70-130	01,04-05	potential high bias
8260C	Batch QC	WG1283443-4	Dichlorodifluoromethane	LCSD	141	70-130	01,04-05	potential high bias
8260C	Batch QC	WG1283443-4	Acetone	LCSD	138	70-130	01,04-05	potential high bias
8260C	Batch QC	WG1283443-4	Methyl ethyl ketone	LCSD	133	70-130	01,04-05	potential high bias
8260C	Batch QC	WG1283443-4	Tetrahydrofuran	LCSD	133	70-130	01,04-05	potential high bias
MCP Semivolatile Organics - Westborough Lab								
8270D	TT-9 (4-5')	L1939749-05	2,4,6-Tribromophenol	Surrogate	18	30-130	-	potential low bias
Petroleum Hydrocarbon Identification by GC-FID - Mansfield Lab								
8015D(M)	Batch QC	WG1280104-2	Nonane (C9)	LCS	36	50-130	03	potential low bias
8015D(M)	Batch QC	WG1280104-2	Decane (C10)	LCS	44	50-130	03	potential low bias
8015D(M)	Batch QC	WG1280104-3	Nonane (C9)	LCSD	40	50-130	03	potential low bias
MCP Polychlorinated Biphenyls - Westborough Lab								
8082A	TT-8 (1.5-3.5')	L1939749-03 D	2,4,5,6-Tetrachloro-m-xylene (A)	Surrogate	0	30-150	-	- - not applicable - -
8082A	TT-8 (1.5-3.5')	L1939749-03 D	2,4,5,6-Tetrachloro-m-xylene (B)	Surrogate	0	30-150	-	- - not applicable - -
8082A	TT-8 (1.5-3.5')	L1939749-03 D	Decachlorobiphenyl (A)	Surrogate	0	30-150	-	- - not applicable - -
8082A	TT-8 (1.5-3.5')	L1939749-03 D	Decachlorobiphenyl (B)	Surrogate	0	30-150	-	- - not applicable - -
8082A	TT-9 (2-4')	L1939749-04 D	2,4,5,6-Tetrachloro-m-xylene (A)	Surrogate	0	30-150	-	- - not applicable - -
8082A	TT-9 (2-4')	L1939749-04 D	2,4,5,6-Tetrachloro-m-xylene (B)	Surrogate	0	30-150	-	- - not applicable - -
8082A	TT-9 (2-4')	L1939749-04 D	Decachlorobiphenyl (A)	Surrogate	0	30-150	-	- - not applicable - -
8082A	TT-9 (2-4')	L1939749-04 D	Decachlorobiphenyl (B)	Surrogate	0	30-150	-	- - not applicable - -
8082A	TT-9 (4-5')	L1939749-05	Decachlorobiphenyl (A)	Surrogate	19	30-150	-	potential low bias
MCP Organochlorine Pesticides - Westborough Lab								
8081B	TT-9 (2-4')	L1939749-04	Decachlorobiphenyl (B)	Surrogate	223	30-150	-	potential high bias

ORGANICS

VOLATILES

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939749

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-01
Client ID: TT-5 (4.5-6')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/30/19 08:45
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/12/19 10:28
Analyst: AD
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	6.1	--	1
1,1-Dichloroethane	ND		ug/kg	1.2	--	1
Chloroform	ND		ug/kg	1.8	--	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	0.61	--	1
Chlorobenzene	ND		ug/kg	0.61	--	1
Trichlorofluoromethane	ND		ug/kg	4.9	--	1
1,2-Dichloroethane	ND		ug/kg	1.2	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.61	--	1
Bromodichloromethane	ND		ug/kg	0.61	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.2	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.61	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.61	--	1
1,1-Dichloropropene	ND		ug/kg	0.61	--	1
Bromoform	ND		ug/kg	4.9	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.61	--	1
Benzene	ND		ug/kg	0.61	--	1
Toluene	ND		ug/kg	1.2	--	1
Ethylbenzene	ND		ug/kg	1.2	--	1
Chloromethane	ND		ug/kg	4.9	--	1
Bromomethane	ND		ug/kg	2.4	--	1
Vinyl chloride	ND		ug/kg	1.2	--	1
Chloroethane	ND		ug/kg	2.4	--	1
1,1-Dichloroethene	ND		ug/kg	1.2	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.8	--	1

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939749

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-01 Date Collected: 08/30/19 08:45

Client ID: TT-5 (4.5-6') Date Received: 08/30/19

Sample Location: CYPHER ST. S. BOSTON 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	0.61	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.4	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.4	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.4	--	1
Methyl tert butyl ether	ND		ug/kg	2.4	--	1
p/m-Xylene	ND		ug/kg	2.4	--	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	2.4	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.4	--	1
Styrene	ND		ug/kg	1.2	--	1
Dichlorodifluoromethane	ND		ug/kg	12	--	1
Acetone	12		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	2.4	--	1
Tetrahydrofuran	ND		ug/kg	4.9	--	1
2,2-Dichloropropane	ND		ug/kg	2.4	--	1
1,2-Dibromoethane	ND		ug/kg	1.2	--	1
1,3-Dichloropropane	ND		ug/kg	2.4	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.61	--	1
Bromobenzene	ND		ug/kg	2.4	--	1
n-Butylbenzene	ND		ug/kg	1.2	--	1
sec-Butylbenzene	ND		ug/kg	1.2	--	1
tert-Butylbenzene	ND		ug/kg	2.4	--	1
o-Chlorotoluene	ND		ug/kg	2.4	--	1
p-Chlorotoluene	ND		ug/kg	2.4	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.7	--	1
Hexachlorobutadiene	ND		ug/kg	4.9	--	1
Isopropylbenzene	ND		ug/kg	1.2	--	1
p-Isopropyltoluene	ND		ug/kg	1.2	--	1
Naphthalene	ND		ug/kg	4.9	--	1
n-Propylbenzene	ND		ug/kg	1.2	--	1

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939749

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-01 Date Collected: 08/30/19 08:45

Client ID: TT-5 (4.5-6') Date Received: 08/30/19

Sample Location: CYPHER ST. S. BOSTON 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	2.4	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.4	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.4	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.4	--	1
Diethyl ether	ND		ug/kg	2.4	--	1
Diisopropyl Ether	ND		ug/kg	2.4	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.4	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.4	--	1
1,4-Dioxane	ND		ug/kg	98	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	104		70-130

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939749

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-04
Client ID: TT-9 (2-4')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/30/19 12:00
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/12/19 11:07
Analyst: AD
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	5.0	--	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	ND		ug/kg	0.50	--	1
Chlorobenzene	ND		ug/kg	0.50	--	1
Trichlorofluoromethane	ND		ug/kg	4.0	--	1
1,2-Dichloroethane	ND		ug/kg	1.0	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.50	--	1
Bromodichloromethane	ND		ug/kg	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--	1
1,1-Dichloropropene	ND		ug/kg	0.50	--	1
Bromoform	ND		ug/kg	4.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--	1
Benzene	ND		ug/kg	0.50	--	1
Toluene	ND		ug/kg	1.0	--	1
Ethylbenzene	ND		ug/kg	1.0	--	1
Chloromethane	ND		ug/kg	4.0	--	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: CYPHER ST. S. BOSTON **Lab Number:** L1939749

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-04 Date Collected: 08/30/19 12:00

Client ID: TT-9 (2-4') Date Received: 08/30/19

Sample Location: CYPHER ST. S. BOSTON 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	0.50	--	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	11		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	4.0	--	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	0.50	--	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	3.0	--	1
Hexachlorobutadiene	ND		ug/kg	4.0	--	1
Isopropylbenzene	ND		ug/kg	1.0	--	1
p-Isopropyltoluene	ND		ug/kg	1.0	--	1
Naphthalene	ND		ug/kg	4.0	--	1
n-Propylbenzene	ND		ug/kg	1.0	--	1

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939749

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-04 Date Collected: 08/30/19 12:00

Client ID: TT-9 (2-4') Date Received: 08/30/19

Sample Location: CYPHER ST. S. BOSTON 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	80	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	113		70-130
Dibromofluoromethane	82		70-130

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939749

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-05
Client ID: TT-9 (4-5')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/30/19 12:45
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/12/19 11:46
Analyst: AD
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	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	ND		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	0.94		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: CYPHER ST. S. BOSTON **Lab Number:** L1939749

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-05 Date Collected: 08/30/19 12:45

Client ID: TT-9 (4-5') Date Received: 08/30/19

Sample Location: CYPHER ST. S. BOSTON 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	92		ug/kg	10	--	1
Carbon disulfide	ND		ug/kg	10	--	1
Methyl ethyl ketone	14		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: CYPHER ST. S. BOSTON **Lab Number:** L1939749

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-05 Date Collected: 08/30/19 12:45

Client ID: TT-9 (4-5') Date Received: 08/30/19

Sample Location: CYPHER ST. S. BOSTON 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	84	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	126		70-130
Dibromofluoromethane	102		70-130

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939749

Project Number: 143-278997-19001 **Report Date:** 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/12/19 08:29
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01,04-05 Batch: WG1283443-5					
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: CYPHER ST. S. BOSTON **Lab Number:** L1939749

Project Number: 143-278997-19001 **Report Date:** 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/12/19 08:29
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01,04-05 Batch: WG1283443-5					
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: CYPHER ST. S. BOSTON **Lab Number:** L1939749

Project Number: 143-278997-19001 **Report Date:** 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/12/19 08:29
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01,04-05 Batch: WG1283443-5					
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	108		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	102		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

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): 01,04-05 Batch: WG1283443-3 WG1283443-4								
Methylene chloride	107		107		70-130	0		20
1,1-Dichloroethane	119		118		70-130	1		20
Chloroform	110		111		70-130	1		20
Carbon tetrachloride	108		109		70-130	1		20
1,2-Dichloropropane	119		119		70-130	0		20
Dibromochloromethane	93		95		70-130	2		20
1,1,2-Trichloroethane	105		104		70-130	1		20
Tetrachloroethene	86		87		70-130	1		20
Chlorobenzene	94		94		70-130	0		20
Trichlorofluoromethane	116		116		70-130	0		20
1,2-Dichloroethane	118		116		70-130	2		20
1,1,1-Trichloroethane	108		109		70-130	1		20
Bromodichloromethane	108		109		70-130	1		20
trans-1,3-Dichloropropene	104		105		70-130	1		20
cis-1,3-Dichloropropene	113		114		70-130	1		20
1,1-Dichloropropene	118		117		70-130	1		20
Bromoform	86		87		70-130	1		20
1,1,2,2-Tetrachloroethane	104		103		70-130	1		20
Benzene	111		111		70-130	0		20
Toluene	99		99		70-130	0		20
Ethylbenzene	102		102		70-130	0		20
Chloromethane	127		**131**	Q	70-130	3		20
Bromomethane	100		104		70-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939749
Report Date: 09/18/19

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): 01,04-05 Batch: WG1283443-3 WG1283443-4								
Vinyl chloride	128		127		70-130	1		20
Chloroethane	127		129		70-130	2		20
1,1-Dichloroethene	112		111		70-130	1		20
trans-1,2-Dichloroethene	109		109		70-130	0		20
Trichloroethene	107		107		70-130	0		20
1,2-Dichlorobenzene	91		92		70-130	1		20
1,3-Dichlorobenzene	92		93		70-130	1		20
1,4-Dichlorobenzene	91		92		70-130	1		20
Methyl tert butyl ether	111		112		70-130	1		20
p/m-Xylene	98		99		70-130	1		20
o-Xylene	97		97		70-130	0		20
cis-1,2-Dichloroethene	105		107		70-130	2		20
Dibromomethane	111		111		70-130	0		20
1,2,3-Trichloropropane	107		105		70-130	2		20
Styrene	101		102		70-130	1		20
Dichlorodifluoromethane	**143**	Q	**141**	Q	70-130	1		20
Acetone	**147**	Q	**138**	Q	70-130	6		20
Carbon disulfide	110		112		70-130	2		20
Methyl ethyl ketone	**138**	Q	**133**	Q	70-130	4		20
Methyl isobutyl ketone	114		116		70-130	2		20
2-Hexanone	123		121		70-130	2		20
Bromochloromethane	101		103		70-130	2		20
Tetrahydrofuran	**137**	Q	**133**	Q	70-130	3		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

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): 01,04-05 Batch: WG1283443-3 WG1283443-4								
2,2-Dichloropropane	112		112		70-130	0		20
1,2-Dibromoethane	98		98		70-130	0		20
1,3-Dichloropropane	105		105		70-130	0		20
1,1,1,2-Tetrachloroethane	92		94		70-130	2		20
Bromobenzene	88		90		70-130	2		20
n-Butylbenzene	94		95		70-130	1		20
sec-Butylbenzene	95		95		70-130	0		20
tert-Butylbenzene	92		94		70-130	2		20
o-Chlorotoluene	98		100		70-130	2		20
p-Chlorotoluene	100		101		70-130	1		20
1,2-Dibromo-3-chloropropane	89		89		70-130	0		20
Hexachlorobutadiene	76		77		70-130	1		20
Isopropylbenzene	95		97		70-130	2		20
p-Isopropyltoluene	92		93		70-130	1		20
Naphthalene	100		102		70-130	2		20
n-Propylbenzene	100		101		70-130	1		20
1,2,3-Trichlorobenzene	88		89		70-130	1		20
1,2,4-Trichlorobenzene	90		90		70-130	0		20
1,3,5-Trimethylbenzene	96		98		70-130	2		20
1,2,4-Trimethylbenzene	98		99		70-130	1		20
Diethyl ether	113		114		70-130	1		20
Diisopropyl Ether	121		121		70-130	0		20
Ethyl-Tert-Butyl-Ether	108		108		70-130	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST. S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939749

Report Date: 09/18/19

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): 01,04-05 Batch: WG1283443-3 WG1283443-4								
Tertiary-Amyl Methyl Ether	103		102		70-130	1		20
1,4-Dioxane	118		113		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	108		106		70-130
Toluene-d8	97		97		70-130
4-Bromofluorobenzene	105		105		70-130
Dibromofluoromethane	99		99		70-130

SEMIVOLATILES

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-01
Client ID: TT-5 (4.5-6')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/30/19 08:45
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/14/19 20:18
Analyst: HL
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 09/13/19 21:11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Acenaphthene	ND		ug/kg	150	--	1
Fluoranthene	510		ug/kg	110	--	1
Naphthalene	ND		ug/kg	190	--	1
Benzo(a)anthracene	250		ug/kg	110	--	1
Benzo(a)pyrene	220		ug/kg	150	--	1
Benzo(b)fluoranthene	290		ug/kg	110	--	1
Benzo(k)fluoranthene	ND		ug/kg	110	--	1
Chrysene	230		ug/kg	110	--	1
Acenaphthylene	ND		ug/kg	150	--	1
Anthracene	ND		ug/kg	110	--	1
Benzo(ghi)perylene	ND		ug/kg	150	--	1
Fluorene	ND		ug/kg	190	--	1
Phenanthrene	540		ug/kg	110	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	110	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	150	--	1
Pyrene	460		ug/kg	110	--	1
2-Methylnaphthalene	ND		ug/kg	220	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	92		30-130
2-Fluorobiphenyl	88		30-130
4-Terphenyl-d14	65		30-130

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-02
Client ID: TT-8 (0.75-1.25')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/30/19 10:00
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/14/19 20:41
Analyst: HL
Percent Solids: 79%

Extraction Method: EPA 3546
Extraction Date: 09/13/19 21:11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Acenaphthene	ND		ug/kg	160	--	1
Fluoranthene	ND		ug/kg	120	--	1
Naphthalene	ND		ug/kg	210	--	1
Benzo(a)anthracene	ND		ug/kg	120	--	1
Benzo(a)pyrene	ND		ug/kg	160	--	1
Benzo(b)fluoranthene	ND		ug/kg	120	--	1
Benzo(k)fluoranthene	ND		ug/kg	120	--	1
Chrysene	ND		ug/kg	120	--	1
Acenaphthylene	ND		ug/kg	160	--	1
Anthracene	ND		ug/kg	120	--	1
Benzo(ghi)perylene	ND		ug/kg	160	--	1
Fluorene	ND		ug/kg	210	--	1
Phenanthrene	ND		ug/kg	120	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	120	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	160	--	1
Pyrene	ND		ug/kg	120	--	1
2-Methylnaphthalene	ND		ug/kg	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	87		30-130
2-Fluorobiphenyl	82		30-130
4-Terphenyl-d14	64		30-130

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-03
Client ID: TT-8 (1.5-3.5')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/30/19 10:30
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/14/19 21:04
Analyst: HL
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 09/13/19 21:11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Acenaphthene	340		ug/kg	150	--	1
Fluoranthene	3400		ug/kg	110	--	1
Naphthalene	190		ug/kg	180	--	1
Benzo(a)anthracene	1500		ug/kg	110	--	1
Benzo(a)pyrene	1300		ug/kg	150	--	1
Benzo(b)fluoranthene	1700		ug/kg	110	--	1
Benzo(k)fluoranthene	580		ug/kg	110	--	1
Chrysene	1400		ug/kg	110	--	1
Acenaphthylene	ND		ug/kg	150	--	1
Anthracene	710		ug/kg	110	--	1
Benzo(ghi)perylene	670		ug/kg	150	--	1
Fluorene	330		ug/kg	180	--	1
Phenanthrene	2800		ug/kg	110	--	1
Dibenzo(a,h)anthracene	160		ug/kg	110	--	1
Indeno(1,2,3-cd)pyrene	660		ug/kg	150	--	1
Pyrene	2900		ug/kg	110	--	1
2-Methylnaphthalene	ND		ug/kg	220	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	84		30-130
2-Fluorobiphenyl	73		30-130
4-Terphenyl-d14	59		30-130

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-04
Client ID: TT-9 (2-4')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/30/19 12:00
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/14/19 21:27
Analyst: HL
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 09/13/19 21:11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	320		ug/kg	270	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	340	--	1
Hexachlorobenzene	ND		ug/kg	200	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	300	--	1
2-Chloronaphthalene	ND		ug/kg	340	--	1
1,2-Dichlorobenzene	ND		ug/kg	340	--	1
1,3-Dichlorobenzene	ND		ug/kg	340	--	1
1,4-Dichlorobenzene	ND		ug/kg	340	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	340	--	1
2,4-Dinitrotoluene	ND		ug/kg	340	--	1
2,6-Dinitrotoluene	ND		ug/kg	340	--	1
Azobenzene	ND		ug/kg	340	--	1
Fluoranthene	4100		ug/kg	200	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	340	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	400	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	360	--	1
Hexachlorobutadiene	ND		ug/kg	340	--	1
Hexachloroethane	ND		ug/kg	270	--	1
Isophorone	ND		ug/kg	300	--	1
Naphthalene	560		ug/kg	340	--	1
Nitrobenzene	ND		ug/kg	300	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	340	--	1
Butyl benzyl phthalate	ND		ug/kg	340	--	1
Di-n-butylphthalate	ND		ug/kg	340	--	1
Di-n-octylphthalate	ND		ug/kg	340	--	1
Diethyl phthalate	ND		ug/kg	340	--	1
Dimethyl phthalate	ND		ug/kg	340	--	1
Benzo(a)anthracene	2200		ug/kg	200	--	1

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939749

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-04 Date Collected: 08/30/19 12:00

Client ID: TT-9 (2-4') Date Received: 08/30/19

Sample Location: CYPHER ST. S. BOSTON Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	1900		ug/kg	270	--	1
Benzo(b)fluoranthene	2800		ug/kg	200	--	1
Benzo(k)fluoranthene	810		ug/kg	200	--	1
Chrysene	2100		ug/kg	200	--	1
Acenaphthylene	ND		ug/kg	270	--	1
Anthracene	520		ug/kg	200	--	1
Benzo(ghi)perylene	1000		ug/kg	270	--	1
Fluorene	ND		ug/kg	340	--	1
Phenanthrene	2400		ug/kg	200	--	1
Dibenzo(a,h)anthracene	270		ug/kg	200	--	1
Indeno(1,2,3-cd)pyrene	1100		ug/kg	270	--	1
Pyrene	3900		ug/kg	200	--	1
Aniline	ND		ug/kg	400	--	1
4-Chloroaniline	ND		ug/kg	340	--	1
Dibenzofuran	ND		ug/kg	340	--	1
2-Methylnaphthalene	ND		ug/kg	400	--	1
Acetophenone	ND		ug/kg	340	--	1
2,4,6-Trichlorophenol	ND		ug/kg	200	--	1
2-Chlorophenol	ND		ug/kg	340	--	1
2,4-Dichlorophenol	ND		ug/kg	300	--	1
2,4-Dimethylphenol	ND		ug/kg	340	--	1
2-Nitrophenol	ND		ug/kg	720	--	1
4-Nitrophenol	ND		ug/kg	470	--	1
2,4-Dinitrophenol	ND		ug/kg	1600	--	1
Pentachlorophenol	ND		ug/kg	670	--	1
Phenol	ND		ug/kg	340	--	1
2-Methylphenol	ND		ug/kg	340	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	480	--	1
2,4,5-Trichlorophenol	ND		ug/kg	340	--	1
Pyridine	ND		ug/kg	360	--	1

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939749

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-04 Date Collected: 08/30/19 12:00

Client ID: TT-9 (2-4') Date Received: 08/30/19

Sample Location: CYPHER ST. S. BOSTON Field Prep: Not Specified

Sample Depth:

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	98		30-130
Phenol-d6	106		30-130
Nitrobenzene-d5	116		30-130
2-Fluorobiphenyl	102		30-130
2,4,6-Tribromophenol	94		30-130
4-Terphenyl-d14	84		30-130

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-05
Client ID: TT-9 (4-5')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/30/19 12:45
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/14/19 20:49
Analyst: SZ
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 09/13/19 21:11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	1100		ug/kg	150	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	190	--	1
Hexachlorobenzene	ND		ug/kg	110	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	170	--	1
2-Chloronaphthalene	ND		ug/kg	190	--	1
1,2-Dichlorobenzene	ND		ug/kg	190	--	1
1,3-Dichlorobenzene	ND		ug/kg	190	--	1
1,4-Dichlorobenzene	ND		ug/kg	190	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	--	1
2,4-Dinitrotoluene	ND		ug/kg	190	--	1
2,6-Dinitrotoluene	ND		ug/kg	190	--	1
Azobenzene	ND		ug/kg	190	--	1
Fluoranthene	14000	E	ug/kg	110	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	220	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	--	1
Hexachlorobutadiene	ND		ug/kg	190	--	1
Hexachloroethane	ND		ug/kg	150	--	1
Isophorone	ND		ug/kg	170	--	1
Naphthalene	370		ug/kg	190	--	1
Nitrobenzene	ND		ug/kg	170	--	1
Bis(2-ethylhexyl)phthalate	2400		ug/kg	190	--	1
Butyl benzyl phthalate	1000		ug/kg	190	--	1
Di-n-butylphthalate	ND		ug/kg	190	--	1
Di-n-octylphthalate	ND		ug/kg	190	--	1
Diethyl phthalate	ND		ug/kg	190	--	1
Dimethyl phthalate	ND		ug/kg	190	--	1
Benzo(a)anthracene	6900		ug/kg	110	--	1

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939749

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-05 Date Collected: 08/30/19 12:45

Client ID: TT-9 (4-5') Date Received: 08/30/19

Sample Location: CYPHER ST. S. BOSTON Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	5800		ug/kg	150	--	1
Benzo(b)fluoranthene	8600	E	ug/kg	110	--	1
Benzo(k)fluoranthene	2200		ug/kg	110	--	1
Chrysene	6300		ug/kg	110	--	1
Acenaphthylene	ND		ug/kg	150	--	1
Anthracene	2300		ug/kg	110	--	1
Benzo(ghi)perylene	3200		ug/kg	150	--	1
Fluorene	960		ug/kg	190	--	1
Phenanthrene	7900	E	ug/kg	110	--	1
Dibenzo(a,h)anthracene	900		ug/kg	110	--	1
Indeno(1,2,3-cd)pyrene	3700		ug/kg	150	--	1
Pyrene	12000	E	ug/kg	110	--	1
Aniline	ND		ug/kg	220	--	1
4-Chloroaniline	ND		ug/kg	190	--	1
Dibenzofuran	650		ug/kg	190	--	1
2-Methylnaphthalene	260		ug/kg	220	--	1
Acetophenone	ND		ug/kg	190	--	1
2,4,6-Trichlorophenol	ND		ug/kg	110	--	1
2-Chlorophenol	ND		ug/kg	190	--	1
2,4-Dichlorophenol	ND		ug/kg	170	--	1
2,4-Dimethylphenol	ND		ug/kg	190	--	1
2-Nitrophenol	ND		ug/kg	410	--	1
4-Nitrophenol	ND		ug/kg	260	--	1
2,4-Dinitrophenol	ND		ug/kg	900	--	1
Pentachlorophenol	ND		ug/kg	380	--	1
Phenol	ND		ug/kg	190	--	1
2-Methylphenol	ND		ug/kg	190	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	270	--	1
2,4,5-Trichlorophenol	ND		ug/kg	190	--	1
Pyridine	ND		ug/kg	200	--	1

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939749

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID:	L1939749-05	Date Collected:	08/30/19 12:45
Client ID:	TT-9 (4-5')	Date Received:	08/30/19
Sample Location:	CYPHER ST. S. BOSTON	Field Prep:	Not Specified

Sample Depth:

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	35		30-130
Phenol-d6	93		30-130
Nitrobenzene-d5	89		30-130
2-Fluorobiphenyl	81		30-130
2,4,6-Tribromophenol	**18**	Q	30-130
4-Terphenyl-d14	69		30-130

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-05 D
Client ID: TT-9 (4-5')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/30/19 12:45
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/17/19 05:07
Analyst: SZ
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 09/13/19 21:11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Fluoranthene	11000		ug/kg	560	--	5
Benzo(b)fluoranthene	6000		ug/kg	560	--	5
Phenanthrene	6200		ug/kg	560	--	5
Pyrene	9300		ug/kg	560	--	5

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939749
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 09/14/19 11:22
Analyst: KR

Extraction Method: EPA 3546
Extraction Date: 09/13/19 21:11

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-05 Batch: WG1284036-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	97	--
Bis(2-chloroethyl)ether	ND		ug/kg	140	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	160	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	160	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	97	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	190	--
Bis(2-chloroethoxy)methane	ND		ug/kg	170	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	130	--
Isophorone	ND		ug/kg	140	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	140	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	160	--
Benzo(a)anthracene	ND		ug/kg	97	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 09/14/19 11:22
Analyst: KR

Extraction Method: EPA 3546
Extraction Date: 09/13/19 21:11

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-05 Batch: WG1284036-1					
Benzo(b)fluoranthene	ND		ug/kg	97	--
Benzo(k)fluoranthene	ND		ug/kg	97	--
Chrysene	ND		ug/kg	97	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	97	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	97	--
Dibenzo(a,h)anthracene	ND		ug/kg	97	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	97	--
Aniline	ND		ug/kg	190	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	190	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	97	--
2-Chlorophenol	ND		ug/kg	160	--
2,4-Dichlorophenol	ND		ug/kg	140	--
2,4-Dimethylphenol	ND		ug/kg	160	--
2-Nitrophenol	ND		ug/kg	350	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	780	--
Pentachlorophenol	ND		ug/kg	320	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	230	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	170	--

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939749
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 09/14/19 11:22
Analyst: KR

Extraction Method: EPA 3546
Extraction Date: 09/13/19 21:11

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-05 Batch: WG1284036-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	98		30-130
Phenol-d6	103		30-130
Nitrobenzene-d5	80		30-130
2-Fluorobiphenyl	75		30-130
2,4,6-Tribromophenol	84		30-130
4-Terphenyl-d14	79		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939749
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-05 Batch: WG1284036-2 WG1284036-3								
Acenaphthene	96		96		40-140	0		30
1,2,4-Trichlorobenzene	93		94		40-140	1		30
Hexachlorobenzene	95		92		40-140	3		30
Bis(2-chloroethyl)ether	98		98		40-140	0		30
2-Chloronaphthalene	95		96		40-140	1		30
1,2-Dichlorobenzene	91		91		40-140	0		30
1,3-Dichlorobenzene	87		89		40-140	2		30
1,4-Dichlorobenzene	88		88		40-140	0		30
3,3'-Dichlorobenzidine	66		63		40-140	5		30
2,4-Dinitrotoluene	107		104		40-140	3		30
2,6-Dinitrotoluene	104		102		40-140	2		30
Azobenzene	110		109		40-140	1		30
Fluoranthene	99		96		40-140	3		30
4-Bromophenyl phenyl ether	98		93		40-140	5		30
Bis(2-chloroisopropyl)ether	108		108		40-140	0		30
Bis(2-chloroethoxy)methane	103		102		40-140	1		30
Hexachlorobutadiene	86		88		40-140	2		30
Hexachloroethane	93		95		40-140	2		30
Isophorone	104		104		40-140	0		30
Naphthalene	90		91		40-140	1		30
Nitrobenzene	103		100		40-140	3		30
Bis(2-ethylhexyl)phthalate	121		115		40-140	5		30
Butyl benzyl phthalate	110		110		40-140	0		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-05 Batch: WG1284036-2 WG1284036-3								
Di-n-butylphthalate	109		109		40-140	0		30
Di-n-octylphthalate	122		115		40-140	6		30
Diethyl phthalate	105		102		40-140	3		30
Dimethyl phthalate	101		99		40-140	2		30
Benzo(a)anthracene	101		98		40-140	3		30
Benzo(a)pyrene	97		90		40-140	7		30
Benzo(b)fluoranthene	100		98		40-140	2		30
Benzo(k)fluoranthene	102		94		40-140	8		30
Chrysene	102		98		40-140	4		30
Acenaphthylene	95		94		40-140	1		30
Anthracene	99		98		40-140	1		30
Benzo(ghi)perylene	96		94		40-140	2		30
Fluorene	100		97		40-140	3		30
Phenanthrene	98		98		40-140	0		30
Dibenzo(a,h)anthracene	100		97		40-140	3		30
Indeno(1,2,3-cd)pyrene	99		96		40-140	3		30
Pyrene	97		97		40-140	0		30
Aniline	70		73		40-140	4		30
4-Chloroaniline	84		74		40-140	13		30
Dibenzofuran	96		95		40-140	1		30
2-Methylnaphthalene	95		97		40-140	2		30
Acetophenone	106		103		40-140	3		30
2,4,6-Trichlorophenol	98		97		30-130	1		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST. S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939749

Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-05 Batch: WG1284036-2 WG1284036-3								
2-Chlorophenol	100		100		30-130	0		30
2,4-Dichlorophenol	100		101		30-130	1		30
2,4-Dimethylphenol	103		101		30-130	2		30
2-Nitrophenol	102		100		30-130	2		30
4-Nitrophenol	115		109		30-130	5		30
2,4-Dinitrophenol	91		86		30-130	6		30
Pentachlorophenol	96		91		30-130	5		30
Phenol	103		99		30-130	4		30
2-Methylphenol	102		101		30-130	1		30
3-Methylphenol/4-Methylphenol	104		103		30-130	1		30
2,4,5-Trichlorophenol	101		100		30-130	1		30
Pyridine	77		78		30-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	90		88		30-130
Phenol-d6	96		92		30-130
Nitrobenzene-d5	75		74		30-130
2-Fluorobiphenyl	67		68		30-130
2,4,6-Tribromophenol	79		77		30-130
4-Terphenyl-d14	70		68		30-130

PETROLEUM HYDROCARBONS

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-02
Client ID: TT-8 (0.75-1.25')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/30/19 10:00
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 09/10/19 04:43
Analyst: MEO
Percent Solids: 79%

Extraction Method: EPA 3546
Extraction Date: 09/09/19 06:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	74500		ug/kg	41300	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	53		40-140

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-03
Client ID: TT-8 (1.5-3.5')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/30/19 10:30
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 09/05/19 23:57
Analyst: WR
Percent Solids: 88%

Extraction Method: ALPHA OP-013
Extraction Date: 09/04/19 11:55

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Identification by GC-FID - Mansfield Lab						
Total Petroleum Hydrocarbons (C9-C44)	3170		mg/kg	126	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	95		50-130
d50-Tetracosane	96		50-130

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-04 D
Client ID: TT-9 (2-4')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/30/19 12:00
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 09/16/19 10:17
Analyst: SR
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 09/11/19 02:33

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	872000		ug/kg	72100	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	98		40-140

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-05
Client ID: TT-9 (4-5')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/30/19 12:45
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 09/12/19 12:02
Analyst: MEO
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 09/11/19 02:33

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	432000		ug/kg	36400	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	67		40-140

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939749
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 09/05/19 13:46
Analyst: WR

Extraction Method: ALPHA OP-013
Extraction Date: 09/04/19 11:55

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Identification by GC-FID - Mansfield Lab for sample(s): 03 Batch: WG1280104-1					
Total Petroleum Hydrocarbons (C9-C44)	ND		mg/kg	2.20	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	98		50-130
d50-Tetracosane	98		50-130

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939749
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 09/10/19 02:34
Analyst: MEO

Extraction Method: EPA 3546
Extraction Date: 09/08/19 19:17

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 02 Batch: WG1281645-1					
TPH	ND		ug/kg	31900	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	82		40-140

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939749
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 09/12/19 11:29
Analyst: MEO

Extraction Method: EPA 3546
Extraction Date: 09/11/19 02:33

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 04-05 Batch: WG1282550-1					
TPH	ND		ug/kg	32700	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	57		40-140

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939749
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Identification by GC-FID - Mansfield Lab Associated sample(s): 03 Batch: WG1280104-2 WG1280104-3								
Nonane (C9)	**36**	Q	**40**	Q	50-130	11		30
Decane (C10)	**44**	Q	50		50-130	13		30
Dodecane (C12)	64		68		50-130	6		30
Tetradecane (C14)	75		77		50-130	3		30
Hexadecane (C16)	88		90		50-130	2		30
Octadecane (C18)	94		96		50-130	2		30
Nonadecane (C19)	89		90		50-130	1		30
Eicosane (C20)	91		93		50-130	2		30
Docosane (C22)	91		92		50-130	1		30
Tetracosane (C24)	91		92		50-130	1		30
Hexacosane (C26)	92		93		50-130	1		30
Octacosane (C28)	91		92		50-130	1		30
Triacontane (C30)	91		93		50-130	2		30
Hexatriacontane (C36)	86		87		50-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	102		100		50-130
d50-Tetracosane	101		99		50-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST. S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939749

Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 02 Batch: WG1281645-2								
TPH	100		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	84				40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST. S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939749

Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 04-05 Batch: WG1282550-2								
TPH	59		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	56				40-140

Lab Duplicate Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939749
Report Date: 09/18/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 04-05 QC Batch ID: WG1282550-3 QC Sample: L1939749-05 Client ID: TT-9 (4-5')						
TPH	432000	434000	ug/kg	0		40

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	67		67		40-140

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID:	L1939749-01	Date Collected:	08/30/19 08:45
Client ID:	TT-5 (4.5-6')	Date Received:	08/30/19
Sample Location:	CYPHER ST. S. BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	09/12/19 22:29
Analyst:	MKS
Percent Solids:	88%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1:1 +/- 25%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	6.70	--	1
C9-C12 Aliphatics	ND		mg/kg	6.70	--	1
C9-C10 Aromatics	ND		mg/kg	6.70	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	6.70	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	6.70	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	121		70-130
2,5-Dibromotoluene-FID	122		70-130

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID:	L1939749-01	Date Collected:	08/30/19 08:45
Client ID:	TT-5 (4.5-6')	Date Received:	08/30/19
Sample Location:	CYPHER ST. S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/11/19 19:42
Analytical Date:	09/13/19 18:58	Cleanup Method1:	EPH-04-1
Analyst:	SC	Cleanup Date1:	09/13/19
Percent Solids:	88%		

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	11.8		mg/kg	7.34	--	1
C19-C36 Aliphatics	19.9		mg/kg	7.34	--	1
C11-C22 Aromatics	42.3		mg/kg	7.34	--	1
C11-C22 Aromatics, Adjusted	41.4		mg/kg	7.34	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	61		40-140
o-Terphenyl	75		40-140
2-Fluorobiphenyl	91		40-140
2-Bromonaphthalene	92		40-140

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID:	L1939749-04	Date Collected:	08/30/19 12:00
Client ID:	TT-9 (2-4')	Date Received:	08/30/19
Sample Location:	CYPHER ST. S. BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	09/12/19 22:59
Analyst:	MKS
Percent Solids:	91%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1:1 +/- 25%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	6.54	--	1
C9-C12 Aliphatics	ND		mg/kg	6.54	--	1
C9-C10 Aromatics	ND		mg/kg	6.54	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	6.54	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	6.54	--	1

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

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID:	L1939749-04	Date Collected:	08/30/19 12:00
Client ID:	TT-9 (2-4')	Date Received:	08/30/19
Sample Location:	CYPHER ST. S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/11/19 12:30
Analytical Date:	09/13/19 19:30	Cleanup Method1:	EPH-04-1
Analyst:	SC	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	38.4		mg/kg	7.24	--	1
C19-C36 Aliphatics	141		mg/kg	7.24	--	1
C11-C22 Aromatics	105		mg/kg	7.24	--	1
C11-C22 Aromatics, Adjusted	90.3		mg/kg	7.24	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	48		40-140
o-Terphenyl	69		40-140
2-Fluorobiphenyl	98		40-140
2-Bromonaphthalene	98		40-140

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID:	L1939749-05	Date Collected:	08/30/19 12:45
Client ID:	TT-9 (4-5')	Date Received:	08/30/19
Sample Location:	CYPHER ST. S. BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	09/12/19 23:29
Analyst:	MKS
Percent Solids:	88%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1:1 +/- 25%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	7.33	--	1
C9-C12 Aliphatics	ND		mg/kg	7.33	--	1
C9-C10 Aromatics	ND		mg/kg	7.33	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	7.33	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	7.33	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	100		70-130
2,5-Dibromotoluene-FID	102		70-130

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID:	L1939749-05 D	Date Collected:	08/30/19 12:45
Client ID:	TT-9 (4-5')	Date Received:	08/30/19
Sample Location:	CYPHER ST. S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/11/19 12:30
Analytical Date:	09/15/19 17:05	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/13/19
Percent Solids:	88%		

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	65.2		mg/kg	14.8	--	2
C19-C36 Aliphatics	162		mg/kg	14.8	--	2
C11-C22 Aromatics	369		mg/kg	14.8	--	2
C11-C22 Aromatics, Adjusted	232		mg/kg	14.8	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	72		40-140
o-Terphenyl	129		40-140
2-Fluorobiphenyl	98		40-140
2-Bromonaphthalene	98		40-140

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939749
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 09/13/19 17:53
Analyst: SC

Extraction Method: EPA 3546
Extraction Date: 09/11/19 12:30
Cleanup Method: EPH-04-1
Cleanup Date: 09/13/19

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01,04-05 Batch: WG1282842-1					
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	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	69		40-140
o-Terphenyl	73		40-140
2-Fluorobiphenyl	84		40-140
2-Bromonaphthalene	84		40-140

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939749

Project Number: 143-278997-19001 **Report Date:** 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 131,VPH-18-2.1
Analytical Date: 09/12/19 17:58
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 01,04-05 Batch: WG1283870-4					
C5-C8 Aliphatics	ND		mg/kg	5.00	--
C9-C12 Aliphatics	ND		mg/kg	5.00	--
C9-C10 Aromatics	ND		mg/kg	5.00	--
C5-C8 Aliphatics, Adjusted	ND		mg/kg	5.00	--
C9-C12 Aliphatics, Adjusted	ND		mg/kg	5.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	81		70-130
2,5-Dibromotoluene-FID	81		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01,04-05 Batch: WG1282842-2 WG1282842-3								
C9-C18 Aliphatics	64		61		40-140	5		25
C19-C36 Aliphatics	77		71		40-140	8		25
C11-C22 Aromatics	83		77		40-140	8		25
Naphthalene	66		63		40-140	5		25
2-Methylnaphthalene	64		62		40-140	3		25
Acenaphthylene	71		67		40-140	6		25
Acenaphthene	74		68		40-140	8		25
Fluorene	77		71		40-140	8		25
Phenanthrene	80		74		40-140	8		25
Anthracene	81		75		40-140	8		25
Fluoranthene	85		78		40-140	9		25
Pyrene	86		80		40-140	7		25
Benzo(a)anthracene	86		79		40-140	8		25
Chrysene	88		81		40-140	8		25
Benzo(b)fluoranthene	88		81		40-140	8		25
Benzo(k)fluoranthene	87		81		40-140	7		25
Benzo(a)pyrene	84		78		40-140	7		25
Indeno(1,2,3-cd)Pyrene	86		79		40-140	8		25
Dibenzo(a,h)anthracene	89		82		40-140	8		25
Benzo(ghi)perylene	82		76		40-140	8		25
Nonane (C9)	48		48		30-140	0		25
Decane (C10)	55		54		40-140	2		25
Dodecane (C12)	57		55		40-140	4		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01,04-05 Batch: WG1282842-2 WG1282842-3								
Tetradecane (C14)	61		58		40-140	5		25
Hexadecane (C16)	66		61		40-140	8		25
Octadecane (C18)	71		66		40-140	7		25
Nonadecane (C19)	72		67		40-140	7		25
Eicosane (C20)	74		69		40-140	7		25
Docosane (C22)	75		70		40-140	7		25
Tetracosane (C24)	75		70		40-140	7		25
Hexacosane (C26)	76		70		40-140	8		25
Octacosane (C28)	76		70		40-140	8		25
Triacontane (C30)	76		70		40-140	8		25
Hexatriacontane (C36)	78		72		40-140	8		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	73		67		40-140
o-Terphenyl	81		74		40-140
2-Fluorobiphenyl	88		87		40-140
2-Bromonaphthalene	87		86		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01,04-05 Batch: WG1283870-2 WG1283870-3								
C5-C8 Aliphatics	97		99		70-130	2		25
C9-C12 Aliphatics	100		101		70-130	1		25
C9-C10 Aromatics	98		100		70-130	2		25
Benzene	99		102		70-130	3		25
Toluene	100		102		70-130	2		25
Ethylbenzene	101		104		70-130	3		25
p/m-Xylene	102		104		70-130	2		25
o-Xylene	97		100		70-130	3		25
Methyl tert butyl ether	100		103		70-130	3		25
Naphthalene	102		107		70-130	5		25
1,2,4-Trimethylbenzene	98		100		70-130	2		25
Pentane	92		95		70-130	3		25
2-Methylpentane	101		103		70-130	2		25
2,2,4-Trimethylpentane	97		100		70-130	3		25
n-Nonane	101		103		30-130	2		25
n-Decane	96		97		70-130	0		25
n-Butylcyclohexane	102		105		70-130	3		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	103		106		70-130
2,5-Dibromotoluene-FID	104		106		70-130

PCBS

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-01
Client ID: TT-5 (4.5-6')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/30/19 08:45
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/11/19 23:25
Analyst: AWS
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 09/09/19 05:47
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	37.1	--	1	A
Aroclor 1221	ND		ug/kg	37.1	--	1	A
Aroclor 1232	ND		ug/kg	37.1	--	1	A
Aroclor 1242	ND		ug/kg	37.1	--	1	A
Aroclor 1248	ND		ug/kg	37.1	--	1	A
Aroclor 1254	ND		ug/kg	37.1	--	1	A
Aroclor 1260	ND		ug/kg	37.1	--	1	A
Aroclor 1262	ND		ug/kg	37.1	--	1	A
Aroclor 1268	ND		ug/kg	37.1	--	1	A
PCBs, Total	ND		ug/kg	37.1	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	67		30-150	B
Decachlorobiphenyl	54		30-150	B
2,4,5,6-Tetrachloro-m-xylene	65		30-150	A
Decachlorobiphenyl	53		30-150	A

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-02
Client ID: TT-8 (0.75-1.25')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/30/19 10:00
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/11/19 23:37
Analyst: AWS
Percent Solids: 79%

Extraction Method: EPA 3546
Extraction Date: 09/09/19 05:47
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	41.9	--	1	A
Aroclor 1221	ND		ug/kg	41.9	--	1	A
Aroclor 1232	ND		ug/kg	41.9	--	1	A
Aroclor 1242	ND		ug/kg	41.9	--	1	A
Aroclor 1248	ND		ug/kg	41.9	--	1	A
Aroclor 1254	ND		ug/kg	41.9	--	1	A
Aroclor 1260	ND		ug/kg	41.9	--	1	A
Aroclor 1262	ND		ug/kg	41.9	--	1	A
Aroclor 1268	ND		ug/kg	41.9	--	1	A
PCBs, Total	ND		ug/kg	41.9	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	84		30-150	B
Decachlorobiphenyl	69		30-150	B
2,4,5,6-Tetrachloro-m-xylene	73		30-150	A
Decachlorobiphenyl	62		30-150	A

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-03 D
Client ID: TT-8 (1.5-3.5')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/30/19 10:30
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/16/19 14:34
Analyst: WR
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 09/09/19 05:47
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	7290	--	200	A
Aroclor 1221	ND		ug/kg	7290	--	200	A
Aroclor 1232	ND		ug/kg	7290	--	200	A
Aroclor 1242	ND		ug/kg	7290	--	200	A
Aroclor 1248	31600		ug/kg	7290	--	200	B
Aroclor 1254	41000		ug/kg	7290	--	200	B
Aroclor 1260	99500		ug/kg	7290	--	200	B
Aroclor 1262	ND		ug/kg	7290	--	200	A
Aroclor 1268	ND		ug/kg	7290	--	200	A
PCBs, Total	172000		ug/kg	7290	--	200	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: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-04 D
Client ID: TT-9 (2-4')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/30/19 12:00
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/16/19 14:22
Analyst: WR
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 09/09/19 05:47
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	351	--	10	A
Aroclor 1221	ND		ug/kg	351	--	10	A
Aroclor 1232	ND		ug/kg	351	--	10	A
Aroclor 1242	1560		ug/kg	351	--	10	B
Aroclor 1248	ND		ug/kg	351	--	10	A
Aroclor 1254	2530		ug/kg	351	--	10	B
Aroclor 1260	2010		ug/kg	351	--	10	B
Aroclor 1262	ND		ug/kg	351	--	10	A
Aroclor 1268	ND		ug/kg	351	--	10	A
PCBs, Total	6100		ug/kg	351	--	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: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-05
Client ID: TT-9 (4-5')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/30/19 12:45
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/12/19 02:54
Analyst: AWS
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 09/11/19 06:24
Cleanup Method: EPA 3665A
Cleanup Date: 09/11/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/11/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	35.5	--	1	A
Aroclor 1221	ND		ug/kg	35.5	--	1	A
Aroclor 1232	ND		ug/kg	35.5	--	1	A
Aroclor 1242	66.5		ug/kg	35.5	--	1	A
Aroclor 1248	ND		ug/kg	35.5	--	1	A
Aroclor 1254	78.9	IP	ug/kg	35.5	--	1	B
Aroclor 1260	115		ug/kg	35.5	--	1	B
Aroclor 1262	ND		ug/kg	35.5	--	1	A
Aroclor 1268	ND		ug/kg	35.5	--	1	A
PCBs, Total	260		ug/kg	35.5	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	69		30-150	B
Decachlorobiphenyl	37		30-150	B
2,4,5,6-Tetrachloro-m-xylene	66		30-150	A
Decachlorobiphenyl	**19**	Q	30-150	A

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939749
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 09/10/19 01:27
Analyst: WR

Extraction Method: EPA 3546
Extraction Date: 09/09/19 02:05
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): 01-04 Batch: WG1281683-1						
Aroclor 1016	ND		ug/kg	31.9	--	A
Aroclor 1221	ND		ug/kg	31.9	--	A
Aroclor 1232	ND		ug/kg	31.9	--	A
Aroclor 1242	ND		ug/kg	31.9	--	A
Aroclor 1248	ND		ug/kg	31.9	--	A
Aroclor 1254	ND		ug/kg	31.9	--	A
Aroclor 1260	ND		ug/kg	31.9	--	A
Aroclor 1262	ND		ug/kg	31.9	--	A
Aroclor 1268	ND		ug/kg	31.9	--	A
PCBs, Total	ND		ug/kg	31.9	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	61		30-150	B
Decachlorobiphenyl	66		30-150	B
2,4,5,6-Tetrachloro-m-xylene	64		30-150	A
Decachlorobiphenyl	41		30-150	A

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939749
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 09/11/19 16:53
Analyst: WR

Extraction Method: EPA 3546
Extraction Date: 09/10/19 16:27
Cleanup Method: EPA 3665A
Cleanup Date: 09/11/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/11/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 05 Batch: WG1282384-1						
Aroclor 1016	ND		ug/kg	32.6	--	A
Aroclor 1221	ND		ug/kg	32.6	--	A
Aroclor 1232	ND		ug/kg	32.6	--	A
Aroclor 1242	ND		ug/kg	32.6	--	A
Aroclor 1248	ND		ug/kg	32.6	--	A
Aroclor 1254	ND		ug/kg	32.6	--	A
Aroclor 1260	ND		ug/kg	32.6	--	A
Aroclor 1262	ND		ug/kg	32.6	--	A
Aroclor 1268	ND		ug/kg	32.6	--	A
PCBs, Total	ND		ug/kg	32.6	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	70		30-150	B
Decachlorobiphenyl	76		30-150	B
2,4,5,6-Tetrachloro-m-xylene	70		30-150	A
Decachlorobiphenyl	64		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST. S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939749

Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01-04 Batch: WG1281683-2 WG1281683-3									
Aroclor 1016	80		90		40-140	12		30	A
Aroclor 1260	66		74		40-140	11		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	60		68		30-150	B
Decachlorobiphenyl	66		77		30-150	B
2,4,5,6-Tetrachloro-m-xylene	62		70		30-150	A
Decachlorobiphenyl	48		59		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST. S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939749

Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 05 Batch: WG1282384-2 WG1282384-3									
Aroclor 1016	74		83		40-140	11		30	A
Aroclor 1260	66		70		40-140	6		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	69		78		30-150	B
Decachlorobiphenyl	81		85		30-150	B
2,4,5,6-Tetrachloro-m-xylene	72		79		30-150	A
Decachlorobiphenyl	67		70		30-150	A

PESTICIDES

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-04
Client ID: TT-9 (2-4')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/30/19 12:00
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8081B
Analytical Date: 09/13/19 03:33
Analyst: AMC
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 09/11/19 19:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Organochlorine Pesticides - Westborough Lab							
Delta-BHC	ND		ug/kg	1.73	--	1	A
Lindane	ND		ug/kg	0.577	--	1	A
Alpha-BHC	ND		ug/kg	0.721	--	1	A
Beta-BHC	ND		ug/kg	1.73	--	1	A
Heptachlor	ND		ug/kg	0.865	--	1	A
Aldrin	ND		ug/kg	1.73	--	1	A
Heptachlor epoxide	ND		ug/kg	3.24	--	1	A
Endrin	ND		ug/kg	0.721	--	1	A
Endrin ketone	ND		ug/kg	1.73	--	1	A
Dieldrin	ND		ug/kg	1.08	--	1	A
4,4'-DDE	ND		ug/kg	1.73	--	1	A
4,4'-DDD	ND		ug/kg	1.73	--	1	A
4,4'-DDT	ND		ug/kg	3.24	--	1	A
Endosulfan I	ND		ug/kg	1.73	--	1	A
Endosulfan II	ND		ug/kg	1.73	--	1	A
Endosulfan sulfate	ND		ug/kg	0.721	--	1	A
Methoxychlor	ND		ug/kg	3.24	--	1	A
Chlordane	ND		ug/kg	14.0	--	1	A
Hexachlorobenzene	4.69	IP	ug/kg	1.73	--	1	A
Toxaphene	ND		ug/kg	32.4	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	105		30-150	B
Decachlorobiphenyl	**223**	Q	30-150	B
2,4,5,6-Tetrachloro-m-xylene	58		30-150	A
Decachlorobiphenyl	64		30-150	A

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-04
Client ID: TT-9 (2-4')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/30/19 12:00
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8151A
Analytical Date: 09/13/19 07:58
Analyst: DGM
Percent Solids: 91%
Methylation Date: 09/12/19 14:09

Extraction Method: EPA 8151A
Extraction Date: 09/11/19 16:03

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	102		30-150	A
DCAA	98		30-150	B

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-05
Client ID: TT-9 (4-5')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/30/19 12:45
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8081B
Analytical Date: 09/13/19 03:45
Analyst: AMC
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 09/11/19 19:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Organochlorine Pesticides - Westborough Lab							
Delta-BHC	ND		ug/kg	1.76	--	1	A
Lindane	ND		ug/kg	0.587	--	1	A
Alpha-BHC	ND		ug/kg	0.734	--	1	A
Beta-BHC	ND		ug/kg	1.76	--	1	A
Heptachlor	ND		ug/kg	0.881	--	1	A
Aldrin	ND		ug/kg	1.76	--	1	A
Heptachlor epoxide	ND		ug/kg	3.30	--	1	A
Endrin	ND		ug/kg	0.734	--	1	A
Endrin ketone	ND		ug/kg	1.76	--	1	A
Dieldrin	ND		ug/kg	1.10	--	1	A
4,4'-DDE	5.24	IP	ug/kg	1.76	--	1	B
4,4'-DDD	ND		ug/kg	1.76	--	1	A
4,4'-DDT	ND		ug/kg	3.30	--	1	A
Endosulfan I	ND		ug/kg	1.76	--	1	A
Endosulfan II	ND		ug/kg	1.76	--	1	A
Endosulfan sulfate	ND		ug/kg	0.734	--	1	A
Methoxychlor	ND		ug/kg	3.30	--	1	A
Chlordane	ND		ug/kg	14.3	--	1	A
Hexachlorobenzene	ND		ug/kg	1.76	--	1	A
Toxaphene	ND		ug/kg	33.0	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	62		30-150	B
Decachlorobiphenyl	123		30-150	B
2,4,5,6-Tetrachloro-m-xylene	64		30-150	A
Decachlorobiphenyl	58		30-150	A

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-05
Client ID: TT-9 (4-5')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/30/19 12:45
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8151A
Analytical Date: 09/13/19 08:16
Analyst: DGM
Percent Solids: 88%
Methylation Date: 09/12/19 14:09

Extraction Method: EPA 8151A
Extraction Date: 09/11/19 16:03

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Chlorinated Herbicides - Westborough Lab							
MCPP	ND		ug/kg	3700	--	1	A
MCPA	ND		ug/kg	3700	--	1	A
Dalapon	ND		ug/kg	37	--	1	A
Dicamba	ND		ug/kg	37	--	1	A
Dichloroprop	ND		ug/kg	37	--	1	A
2,4-D	ND		ug/kg	37	--	1	A
2,4-DB	ND		ug/kg	37	--	1	A
2,4,5-T	ND		ug/kg	37	--	1	A
2,4,5-TP (Silvex)	ND		ug/kg	37	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	106		30-150	A
DCAA	100		30-150	B

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939749
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8081B
Analytical Date: 09/13/19 02:12
Analyst: AMC

Extraction Method: EPA 3546
Extraction Date: 09/11/19 02:43

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Organochlorine Pesticides - Westborough Lab for sample(s): 04-05 Batch: WG1282552-1						
Delta-BHC	ND		ug/kg	1.59	--	A
Lindane	ND		ug/kg	0.532	--	A
Alpha-BHC	ND		ug/kg	0.664	--	A
Beta-BHC	ND		ug/kg	1.59	--	A
Heptachlor	ND		ug/kg	0.797	--	A
Aldrin	ND		ug/kg	1.59	--	A
Heptachlor epoxide	ND		ug/kg	2.99	--	A
Endrin	ND		ug/kg	0.664	--	A
Endrin ketone	ND		ug/kg	1.59	--	A
Dieldrin	ND		ug/kg	0.997	--	A
4,4'-DDE	ND		ug/kg	1.59	--	A
4,4'-DDD	ND		ug/kg	1.59	--	A
4,4'-DDT	ND		ug/kg	2.99	--	A
Endosulfan I	ND		ug/kg	1.59	--	A
Endosulfan II	ND		ug/kg	1.59	--	A
Endosulfan sulfate	ND		ug/kg	0.664	--	A
Methoxychlor	ND		ug/kg	2.99	--	A
Chlordane	ND		ug/kg	13.0	--	A
Toxaphene	ND		ug/kg	29.9	--	A
Hexachlorobenzene	ND	I	ug/kg	1.59	--	B

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	89		30-150	B
Decachlorobiphenyl	72		30-150	B
2,4,5,6-Tetrachloro-m-xylene	84		30-150	A
Decachlorobiphenyl	63		30-150	A

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939749
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8151A
Analytical Date: 09/12/19 17:12
Analyst: DGM

Extraction Method: EPA 8151A
Extraction Date: 09/11/19 16:03

Methylation Date: 09/12/19 14:09

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Chlorinated Herbicides - Westborough Lab for sample(s): 04-05 Batch: WG1282929-1						
MCPP	ND		ug/kg	3300	--	A
MCPA	ND		ug/kg	3300	--	A
Dalapon	ND		ug/kg	33	--	A
Dicamba	ND		ug/kg	33	--	A
Dichloroprop	ND		ug/kg	33	--	A
2,4-D	ND		ug/kg	33	--	A
2,4-DB	ND		ug/kg	33	--	A
2,4,5-T	ND		ug/kg	33	--	A
2,4,5-TP (Silvex)	ND		ug/kg	33	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	90		30-150	A
DCAA	90		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 04-05 Batch: WG1282552-2 WG1282552-3									
Delta-BHC	113		100		40-140	12		30	A
Lindane	110		100		40-140	10		30	A
Alpha-BHC	116		105		40-140	10		30	A
Beta-BHC	103		93		40-140	10		30	A
Heptachlor	107		95		40-140	12		30	A
Aldrin	100		89		40-140	12		30	A
Heptachlor epoxide	102		89		40-140	14		30	A
Endrin	113		100		40-140	12		30	A
Endrin ketone	101		88		40-140	14		30	A
Dieldrin	115		100		40-140	14		30	A
4,4'-DDE	103		91		40-140	12		30	A
4,4'-DDD	111		97		40-140	13		30	A
4,4'-DDT	113		98		40-140	14		30	A
Endosulfan I	98		87		40-140	12		30	A
Endosulfan II	108		96		40-140	12		30	A
Endosulfan sulfate	80		74		40-140	8		30	A
Methoxychlor	102		90		40-140	13		30	A
Hexachlorobenzene	92		83		40-140	10		30	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST. S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939749

Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 04-05 Batch: WG1282552-2 WG1282552-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	96		86		30-150	B
Decachlorobiphenyl	80		70		30-150	B
2,4,5,6-Tetrachloro-m-xylene	92		82		30-150	A
Decachlorobiphenyl	61		69		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST. S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939749

Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Chlorinated Herbicides - Westborough Lab Associated sample(s): 04-05 Batch: WG1282929-2 WG1282929-3									
MCPP	111		113		40-140	2		30	A
MCPA	104		106		40-140	2		30	A
Dalapon	90		93		40-140	3		30	A
Dicamba	92		96		40-140	4		30	A
Dichloroprop	129		132		40-140	2		30	A
2,4-D	99		104		40-140	5		30	A
2,4-DB	88		92		40-140	4		30	A
2,4,5-T	96		100		40-140	4		30	A
2,4,5-TP (Silvex)	95		99		40-140	4		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	92		96		30-150	A
DCAA	100		106		30-150	B

METALS

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-01
Client ID: TT-5 (4.5-6')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/30/19 08:45
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.22	--	1	09/12/19 22:15	09/13/19 18:29	EPA 3050B	97,6010D	MC
Arsenic, Total	6.52		mg/kg	0.445	--	1	09/12/19 22:15	09/13/19 18:29	EPA 3050B	97,6010D	MC
Barium, Total	23.4		mg/kg	0.445	--	1	09/12/19 22:15	09/13/19 18:29	EPA 3050B	97,6010D	MC
Beryllium, Total	ND		mg/kg	0.222	--	1	09/12/19 22:15	09/13/19 18:29	EPA 3050B	97,6010D	MC
Cadmium, Total	ND		mg/kg	0.445	--	1	09/12/19 22:15	09/13/19 18:29	EPA 3050B	97,6010D	MC
Chromium, Total	11.3		mg/kg	0.445	--	1	09/12/19 22:15	09/13/19 18:29	EPA 3050B	97,6010D	MC
Lead, Total	64.6		mg/kg	2.22	--	1	09/12/19 22:15	09/13/19 18:29	EPA 3050B	97,6010D	MC
Mercury, Total	0.104		mg/kg	0.082	--	1	09/13/19 05:30	09/13/19 13:57	EPA 7471B	97,7471B	GD
Nickel, Total	15.4		mg/kg	1.11	--	1	09/12/19 22:15	09/13/19 18:29	EPA 3050B	97,6010D	MC
Selenium, Total	ND		mg/kg	2.22	--	1	09/12/19 22:15	09/13/19 18:29	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.445	--	1	09/12/19 22:15	09/13/19 18:29	EPA 3050B	97,6010D	MC
Thallium, Total	ND		mg/kg	2.22	--	1	09/12/19 22:15	09/13/19 18:29	EPA 3050B	97,6010D	MC
Vanadium, Total	22.2		mg/kg	0.445	--	1	09/12/19 22:15	09/13/19 18:29	EPA 3050B	97,6010D	MC
Zinc, Total	111		mg/kg	2.22	--	1	09/12/19 22:15	09/13/19 18:29	EPA 3050B	97,6010D	MC

Project Name: CYPHER ST. S. BOSTON
Lab Number: L1939749
Project Number: 143-278997-19001
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-02
Client ID: TT-8 (0.75-1.25')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/30/19 10:00
Date Received: 08/30/19
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											
Antimony, Total	ND		mg/kg	2.53	--	1	09/12/19 22:15	09/13/19 18:33	EPA 3050B	97,6010D	MC
Arsenic, Total	4.50		mg/kg	0.507	--	1	09/12/19 22:15	09/13/19 18:33	EPA 3050B	97,6010D	MC
Barium, Total	23.2		mg/kg	0.507	--	1	09/12/19 22:15	09/13/19 18:33	EPA 3050B	97,6010D	MC
Beryllium, Total	ND		mg/kg	0.253	--	1	09/12/19 22:15	09/13/19 18:33	EPA 3050B	97,6010D	MC
Cadmium, Total	ND		mg/kg	0.507	--	1	09/12/19 22:15	09/13/19 18:33	EPA 3050B	97,6010D	MC
Chromium, Total	10.8		mg/kg	0.507	--	1	09/12/19 22:15	09/13/19 18:33	EPA 3050B	97,6010D	MC
Lead, Total	8.59		mg/kg	2.53	--	1	09/12/19 22:15	09/13/19 18:33	EPA 3050B	97,6010D	MC
Mercury, Total	ND		mg/kg	0.088	--	1	09/13/19 05:30	09/13/19 13:59	EPA 7471B	97,7471B	GD
Nickel, Total	6.01		mg/kg	1.27	--	1	09/12/19 22:15	09/13/19 18:33	EPA 3050B	97,6010D	MC
Selenium, Total	ND		mg/kg	2.53	--	1	09/12/19 22:15	09/13/19 18:33	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.507	--	1	09/12/19 22:15	09/13/19 18:33	EPA 3050B	97,6010D	MC
Thallium, Total	ND		mg/kg	2.53	--	1	09/12/19 22:15	09/13/19 18:33	EPA 3050B	97,6010D	MC
Vanadium, Total	18.9		mg/kg	0.507	--	1	09/12/19 22:15	09/13/19 18:33	EPA 3050B	97,6010D	MC
Zinc, Total	29.2		mg/kg	2.53	--	1	09/12/19 22:15	09/13/19 18:33	EPA 3050B	97,6010D	MC

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-03
Client ID: TT-8 (1.5-3.5')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/30/19 10:30
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	2.61		mg/kg	2.17	--	1	09/12/19 22:15	09/13/19 18:38	EPA 3050B	97,6010D	MC
Arsenic, Total	5.91		mg/kg	0.433	--	1	09/12/19 22:15	09/13/19 18:38	EPA 3050B	97,6010D	MC
Barium, Total	39.5		mg/kg	0.433	--	1	09/12/19 22:15	09/13/19 18:38	EPA 3050B	97,6010D	MC
Beryllium, Total	ND		mg/kg	0.217	--	1	09/12/19 22:15	09/13/19 18:38	EPA 3050B	97,6010D	MC
Cadmium, Total	1.51		mg/kg	0.433	--	1	09/12/19 22:15	09/13/19 18:38	EPA 3050B	97,6010D	MC
Chromium, Total	11.7		mg/kg	0.433	--	1	09/12/19 22:15	09/13/19 18:38	EPA 3050B	97,6010D	MC
Lead, Total	317		mg/kg	2.17	--	1	09/12/19 22:15	09/13/19 18:38	EPA 3050B	97,6010D	MC
Mercury, Total	0.327		mg/kg	0.084	--	1	09/13/19 05:30	09/13/19 14:01	EPA 7471B	97,7471B	GD
Nickel, Total	10.7		mg/kg	1.08	--	1	09/12/19 22:15	09/13/19 18:38	EPA 3050B	97,6010D	MC
Selenium, Total	ND		mg/kg	2.17	--	1	09/12/19 22:15	09/13/19 18:38	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.433	--	1	09/12/19 22:15	09/13/19 18:38	EPA 3050B	97,6010D	MC
Thallium, Total	ND		mg/kg	2.17	--	1	09/12/19 22:15	09/13/19 18:38	EPA 3050B	97,6010D	MC
Vanadium, Total	27.4		mg/kg	0.433	--	1	09/12/19 22:15	09/13/19 18:38	EPA 3050B	97,6010D	MC
Zinc, Total	326		mg/kg	2.17	--	1	09/12/19 22:15	09/13/19 18:38	EPA 3050B	97,6010D	MC

Project Name: CYPHER ST. S. BOSTON
Lab Number: L1939749
Project Number: 143-278997-19001
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-04
Client ID: TT-9 (2-4')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/30/19 12:00
Date Received: 08/30/19
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											
Antimony, Total	115		mg/kg	2.06	--	1	09/12/19 22:15	09/13/19 18:43	EPA 3050B	97,6010D	MC
Arsenic, Total	27.2		mg/kg	0.412	--	1	09/12/19 22:15	09/13/19 18:43	EPA 3050B	97,6010D	MC
Barium, Total	373		mg/kg	0.412	--	1	09/12/19 22:15	09/13/19 18:43	EPA 3050B	97,6010D	MC
Beryllium, Total	ND		mg/kg	0.206	--	1	09/12/19 22:15	09/13/19 18:43	EPA 3050B	97,6010D	MC
Cadmium, Total	8.36		mg/kg	0.412	--	1	09/12/19 22:15	09/13/19 18:43	EPA 3050B	97,6010D	MC
Chromium, Total	36.7		mg/kg	0.412	--	1	09/12/19 22:15	09/13/19 18:43	EPA 3050B	97,6010D	MC
Lead, Total	3090		mg/kg	2.06	--	1	09/12/19 22:15	09/13/19 18:43	EPA 3050B	97,6010D	MC
Mercury, Total	1.55		mg/kg	0.083	--	1	09/13/19 05:30	09/13/19 14:03	EPA 7471B	97,7471B	GD
Nickel, Total	55.6		mg/kg	1.03	--	1	09/12/19 22:15	09/13/19 18:43	EPA 3050B	97,6010D	MC
Selenium, Total	2.55		mg/kg	2.06	--	1	09/12/19 22:15	09/13/19 18:43	EPA 3050B	97,6010D	MC
Silver, Total	1.78		mg/kg	0.412	--	1	09/12/19 22:15	09/13/19 18:43	EPA 3050B	97,6010D	MC
Thallium, Total	ND		mg/kg	2.06	--	1	09/12/19 22:15	09/13/19 18:43	EPA 3050B	97,6010D	MC
Vanadium, Total	134		mg/kg	0.412	--	1	09/12/19 22:15	09/13/19 18:43	EPA 3050B	97,6010D	MC
Zinc, Total	3940		mg/kg	2.06	--	1	09/12/19 22:15	09/13/19 18:43	EPA 3050B	97,6010D	MC

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939749
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-05
Client ID: TT-9 (4-5')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/30/19 12:45
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.18	--	1	09/12/19 22:15	09/13/19 19:06	EPA 3050B	97,6010D	MC
Arsenic, Total	4.78		mg/kg	0.435	--	1	09/12/19 22:15	09/13/19 19:06	EPA 3050B	97,6010D	MC
Barium, Total	45.2		mg/kg	0.435	--	1	09/12/19 22:15	09/13/19 19:06	EPA 3050B	97,6010D	MC
Beryllium, Total	ND		mg/kg	0.218	--	1	09/12/19 22:15	09/13/19 19:06	EPA 3050B	97,6010D	MC
Cadmium, Total	ND		mg/kg	0.435	--	1	09/12/19 22:15	09/13/19 19:06	EPA 3050B	97,6010D	MC
Chromium, Total	13.5		mg/kg	0.435	--	1	09/12/19 22:15	09/13/19 19:06	EPA 3050B	97,6010D	MC
Lead, Total	20.8		mg/kg	2.18	--	1	09/12/19 22:15	09/13/19 19:06	EPA 3050B	97,6010D	MC
Mercury, Total	0.182		mg/kg	0.084	--	1	09/13/19 05:30	09/13/19 14:05	EPA 7471B	97,7471B	GD
Nickel, Total	10.8		mg/kg	1.09	--	1	09/12/19 22:15	09/13/19 19:06	EPA 3050B	97,6010D	MC
Selenium, Total	ND		mg/kg	2.18	--	1	09/12/19 22:15	09/13/19 19:06	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.435	--	1	09/12/19 22:15	09/13/19 19:06	EPA 3050B	97,6010D	MC
Thallium, Total	ND		mg/kg	2.18	--	1	09/12/19 22:15	09/13/19 19:06	EPA 3050B	97,6010D	MC
Vanadium, Total	15.9		mg/kg	0.435	--	1	09/12/19 22:15	09/13/19 19:06	EPA 3050B	97,6010D	MC
Zinc, Total	58.3		mg/kg	2.18	--	1	09/12/19 22:15	09/13/19 19:06	EPA 3050B	97,6010D	MC

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939749

Project Number: 143-278997-19001 **Report Date:** 09/18/19

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): 01-05 Batch: WG1283469-1										
Antimony, Total	ND		mg/kg	2.00	--	1	09/12/19 22:15	09/13/19 18:16	97,6010D	MC
Arsenic, Total	ND		mg/kg	0.400	--	1	09/12/19 22:15	09/13/19 18:16	97,6010D	MC
Barium, Total	ND		mg/kg	0.400	--	1	09/12/19 22:15	09/13/19 18:16	97,6010D	MC
Beryllium, Total	ND		mg/kg	0.200	--	1	09/12/19 22:15	09/13/19 18:16	97,6010D	MC
Cadmium, Total	ND		mg/kg	0.400	--	1	09/12/19 22:15	09/13/19 18:16	97,6010D	MC
Chromium, Total	ND		mg/kg	0.400	--	1	09/12/19 22:15	09/13/19 18:16	97,6010D	MC
Lead, Total	ND		mg/kg	2.00	--	1	09/12/19 22:15	09/13/19 18:16	97,6010D	MC
Nickel, Total	ND		mg/kg	1.00	--	1	09/12/19 22:15	09/13/19 18:16	97,6010D	MC
Selenium, Total	ND		mg/kg	2.00	--	1	09/12/19 22:15	09/13/19 18:16	97,6010D	MC
Silver, Total	ND		mg/kg	0.400	--	1	09/12/19 22:15	09/13/19 18:16	97,6010D	MC
Thallium, Total	ND		mg/kg	2.00	--	1	09/12/19 22:15	09/13/19 18:16	97,6010D	MC
Vanadium, Total	ND		mg/kg	0.400	--	1	09/12/19 22:15	09/13/19 18:16	97,6010D	MC
Zinc, Total	ND		mg/kg	2.00	--	1	09/12/19 22:15	09/13/19 18:16	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): 01-05 Batch: WG1283602-1										
Mercury, Total	ND		mg/kg	0.083	--	1	09/13/19 05:30	09/13/19 11:51	97,7471B	GD

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939749
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01-05 Batch: WG1283469-2 WG1283469-3 SRM Lot Number: D105-540								
Antimony, Total	158		143		19-249	10		30
Arsenic, Total	99		92		70-130	7		30
Barium, Total	92		82		75-125	11		30
Beryllium, Total	96		88		75-125	9		30
Cadmium, Total	91		79		75-125	14		30
Chromium, Total	87		80		70-130	8		30
Lead, Total	89		83		71-128	7		30
Nickel, Total	90		83		70-131	8		30
Selenium, Total	97		90		63-137	7		30
Silver, Total	90		85		69-131	6		30
Thallium, Total	91		80		68-132	13		30
Vanadium, Total	88		80		65-135	10		30
Zinc, Total	90		84		70-130	7		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01-05 Batch: WG1283602-2 WG1283602-3 SRM Lot Number: D105-540								
Mercury, Total	88		84		60-141	5		30

INORGANICS
&
MISCELLANEOUS

Project Name:	CYPHER ST. S. BOSTON	**Lab Number:**	L1939749
Project Number:	143-278997-19001	**Report Date:**	09/18/19

SAMPLE RESULTS

Lab ID:	L1939749-04	Date Collected:	08/30/19 12:00
Client ID:	TT-9 (2-4')	Date Received:	08/30/19
Sample Location:	CYPHER ST. S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

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

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	09/04/19 09:53	1,1030	BR

Project Name:	CYPHER ST. S. BOSTON	**Lab Number:**	L1939749
Project Number:	143-278997-19001	**Report Date:**	09/18/19

SAMPLE RESULTS

Lab ID:	L1939749-05	Date Collected:	08/30/19 12:45
Client ID:	TT-9 (4-5')	Date Received:	08/30/19
Sample Location:	CYPHER ST. S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

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

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	09/04/19 09:53	1,1030	BR

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939749
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-01
Client ID: TT-5 (4.5-6')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/30/19 08:45
Date Received: 08/30/19
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	88.4		%	0.100	NA	1	-	08/31/19 10:29	121,2540G	RI

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939749
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-02
Client ID: TT-8 (0.75-1.25')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/30/19 10:00
Date Received: 08/30/19
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	78.7		%	0.100	NA	1	-	08/31/19 23:24	121,2540G	YA

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939749
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-03
Client ID: TT-8 (1.5-3.5')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/30/19 10:30
Date Received: 08/30/19
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	88.0		%	0.100	NA	1	-	08/31/19 10:29	121,2540G	RI

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939749
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-04
Client ID: TT-9 (2-4')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/30/19 12:00
Date Received: 08/30/19
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	91.2		%	0.100	NA	1	-	08/31/19 10:29	121,2540G	RI
pH (H)	10.2		SU	-	NA	1	-	08/31/19 02:22	1,9045D	DS
Cyanide, Reactive	ND		mg/kg	10	--	1	09/03/19 03:46	09/03/19 05:26	125,7.3	KF
Sulfide, Reactive	ND		mg/kg	10	--	1	09/03/19 03:46	09/03/19 05:13	125,7.3	KF

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939749
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939749-05
Client ID: TT-9 (4-5')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/30/19 12:45
Date Received: 08/30/19
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	88.4		%	0.100	NA	1	-	08/31/19 10:29	121,2540G	RI
pH (H)	11.2		SU	-	NA	1	-	08/31/19 02:22	1,9045D	DS
Cyanide, Reactive	ND		mg/kg	10	--	1	09/03/19 03:46	09/03/19 05:26	125,7.3	KF
Sulfide, Reactive	ND		mg/kg	10	--	1	09/03/19 03:46	09/03/19 05:14	125,7.3	KF

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939749

Project Number: 143-278997-19001 **Report Date:** 09/18/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 04-05 Batch: WG1279448-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	09/03/19 03:46	09/03/19 05:09	125,7.3	KF
General Chemistry - Westborough Lab for sample(s): 04-05 Batch: WG1279449-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	09/03/19 03:46	09/03/19 05:22	125,7.3	KF

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939749
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 04-05 Batch: WG1278958-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 04-05 Batch: WG1279448-2								
Sulfide, Reactive	88		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 04-05 Batch: WG1279449-2								
Cyanide, Reactive	69		-		30-125	-		40

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939749
Report Date: 09/18/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1939749-01A	Vial MeOH preserved	A	NA		5.5	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1939749-01B	Vial MeOH preserved	A	NA		5.5	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1939749-01C	Vial water preserved	A	NA		5.5	Y	Absent	30-AUG-19 20:14	MCP-8260HLW-10(14)
L1939749-01D	Vial water preserved	A	NA		5.5	Y	Absent	30-AUG-19 20:14	MCP-8260HLW-10(14)
L1939749-01E	Plastic 2oz unpreserved for TS	A	NA		5.5	Y	Absent		TS(7)
L1939749-01F	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1939749-01G	Glass 500ml/16oz unpreserved	A	NA		5.5	Y	Absent		EPH-10(14),MCP-8082-10(365),MCP-PAH-10(14)
L1939749-02A	Glass 60ml unpreserved split	A	NA		5.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1939749-02B	Glass 500ml/16oz unpreserved	A	NA		5.5	Y	Absent		MCP-8082-10(365),TS(7),MCP-PAH-10(14),TPH-DRO-D(14)
L1939749-03A	Glass 500ml/16oz unpreserved	A	NA		5.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),A2-PHI(14),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1939749-03B	Glass 500ml/16oz unpreserved	A	NA		5.5	Y	Absent		MCP-8082-10(365),TS(7),MCP-PAH-10(14)

*Values in parentheses indicate holding time in days

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939749
Report Date: 09/18/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1939749-04A	Vial MeOH preserved	A	NA		5.5	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1939749-04B	Vial MeOH preserved	A	NA		5.5	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1939749-04C	Vial water preserved	A	NA		5.5	Y	Absent	30-AUG-19 20:14	MCP-8260HLW-10(14)
L1939749-04D	Vial water preserved	A	NA		5.5	Y	Absent	30-AUG-19 20:14	MCP-8260HLW-10(14)
L1939749-04E	Plastic 2oz unpreserved for TS	A	NA		5.5	Y	Absent		TS(7)
L1939749-04F	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1939749-04G	Glass 500ml/16oz unpreserved	A	NA		5.5	Y	Absent		EPH-10(14),IGNIT-1030(14),MCP-8082-10(365),REACTS(14),MCP-8081-10(14),MCP-8151-10(14),MCP-8270-10(14),PH-9045(1),REACTCN(14),TPH-DRO-D(14)
L1939749-05A	Vial MeOH preserved	A	NA		5.5	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1939749-05B	Vial MeOH preserved	A	NA		5.5	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1939749-05C	Vial water preserved	A	NA		5.5	Y	Absent	30-AUG-19 20:14	MCP-8260HLW-10(14)
L1939749-05D	Vial water preserved	A	NA		5.5	Y	Absent	30-AUG-19 20:14	MCP-8260HLW-10(14)
L1939749-05E	Plastic 2oz unpreserved for TS	A	NA		5.5	Y	Absent		TS(7)
L1939749-05F	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1939749-05G	Glass 500ml/16oz unpreserved	A	NA		5.5	Y	Absent		EPH-10(14),IGNIT-1030(14),MCP-8082-10(365),REACTS(14),MCP-8081-10(14),MCP-8151-10(14),MCP-8270-10(14),PH-9045(1),REACTCN(14),TPH-DRO-D(14)

*Values in parentheses indicate holding time in days

Project Name:	CYPHER ST. S. BOSTON	**Lab Number:**	L1939749
Project Number:	143-278997-19001	**Report Date:**	09/18/19

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:	CYPHER ST. S. BOSTON	**Lab Number:**	L1939749
Project Number:	143-278997-19001	**Report Date:**	09/18/19

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:	CYPHER ST. S. BOSTON	**Lab Number:**	L1939749
Project Number:	143-278997-19001	**Report Date:**	09/18/19

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

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.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

131 Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, February 2018, Revision 2.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, June 1, 2018.

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 1

Date Rec'd in Lab: 8/30/19

ALPHA Job #: L1939748

ALPHA Analytical Laboratories
8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Project Information

Project Name: Cypher St. S. Boston
Project Location: Cypher St. S. Boston
Project #: 143-278997-19001
Project Manager: Mike Billy
ALPHA Quote #:

Report Information - Data Deliverables

☒ ADEx ☒ EMAIL

Billing Information

☒ Same as Client Info PO #:

Client Information

Client: Tetra Tech
Address: 100 Nickerson Rd. Marlborough, MA
Phone: 413-272-9539
Email: jon.fiore@tetratech.com

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 _____

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)

Date Due:

Additional Project Information:

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; TPH: ☐ Quant Only ☒ Fingerprint; TPH Quant only; Herbicides all isomers; Herbicides Pesticides; HBN

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	VOC	SVOC	METALS	METALS	EPH	VPH	PCB	TPH	TPH Quant	TPH Fingerprint	Herbicides	Pesticides	HBN	Sample Comments	TOTAL # BOTTLES
39748-01	TT-5 (4.5-6')	8/30/19	0845	Soil	JWF	X	X	X		X	X	X								7
-02	TT-8 (0.75-1.25')	↓	1000	↓	↓		X	X				X		X						1
-03	TT-8 (1.5-3.5')	↓	1030	↓	↓		X	X				X	X							1
-04	TT-9 (2-4')	↓	1200	↓	↓	X	X	X		X	X	X		X	X	X	X			7
-05	TT-9 (4-5')	↓	1245	↓	↓	X		X		X	X	X		X	X	X	X			7

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

Container Type: N/A
Preservative: N/A

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	8/29/19 1500	[signature]	8/30/19 1500
[signature]	8/30/19 1720	[signature] AAL	8/30/19 1720

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

Method Blank Summary
Form 4
Volatiles

Client	: Tetra Tech Rizzo	**Lab Number**	: L1939749
Project Name	: CYPHER ST. S. BOSTON	**Project Number**	: 143-278997-19001
Lab Sample ID	: WG1283443-5	**Lab File ID**	: V26190912A03
Instrument ID	: VOA126		
Matrix	: SOIL	**Analysis Date**	: 09/12/19 08:29

Client Sample No.	Lab Sample ID	Analysis Date
WG1283443-3LCS	WG1283443-3	09/12/19 07:10
WG1283443-4LCSD	WG1283443-4	09/12/19 07:50
TT-5 (4.5-6')	L1939749-01	09/12/19 10:28
TT-9 (2-4')	L1939749-04	09/12/19 11:07
TT-9 (4-5')	L1939749-05	09/12/19 11:46

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1939749
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA126	Calibration Date	: 09/12/19 07:10
Lab File ID	: V26190912A01	Init. Calib. Date(s)	: 08/20/19 08/20/19
Sample No	: WG1283443-2	Init. Calib. Times	: 02:02 07:17
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	61	0
Dichlorodifluoromethane	0.127	0.182	-	-43.3*	20	78	0
Chloromethane	0.216	0.275	-	-27.3*	20	83	0
Vinyl chloride	0.202	0.258	-	-27.7*	20	71	0
Bromomethane	0.125	0.125	-	0	20	64	-.01
Chloroethane	0.122	0.154	-	-26.2*	20	72	-.02
Trichlorofluoromethane	0.246	0.286	-	-16.3	20	63	-.01
Ethyl ether	0.1	0.113	-	-13	20	69	-.02
1,1-Dichloroethene	0.159	0.179	-	-12.6	20	63	0
Carbon disulfide	0.567	0.622	-	-9.7	20	66	-.01
Methylene chloride	20	21.407	-	-7	20	62	0
Acetone	20	29.41	-	-47.1*	20	78	-.01
trans-1,2-Dichloroethene	0.193	0.21	-	-8.8	20	63	-.02
Methyl tert-butyl ether	0.501	0.558	-	-11.4	20	67	-.02
Diisopropyl ether	0.713	0.862	-	-20.9*	20	71	-.01
1,1-Dichloroethane	0.358	0.427	-	-19.3	20	69	-.01
Ethyl tert-butyl ether	0.626	0.675	-	-7.8	20	64	-.02
cis-1,2-Dichloroethene	0.219	0.23	-	-5	20	62	-.01
2,2-Dichloropropane	0.257	0.288	-	-12.1	20	65	0
Bromochloromethane	0.102	0.103	-	-1	20	60	0
Chloroform	0.356	0.391	-	-9.8	20	66	0
Carbon tetrachloride	0.248	0.267	-	-7.7	20	59	0
Tetrahydrofuran	0.057	0.078	-	-36.8*	20	83	-.03
Dibromofluoromethane	0.252	0.251	-	0.4	20	61	-.01
1,1,1-Trichloroethane	0.287	0.31	-	-8	20	62	0
2-Butanone	0.085	0.117	-	-37.6*	20	84	-.01
1,1-Dichloropropene	0.251	0.295	-	-17.5	20	65	0
Benzene	0.811	0.903	-	-11.3	20	67	0
tert-Amyl methyl ether	0.549	0.563	-	-2.6	20	61	-.02
1,2-Dichloroethane-d4	0.266	0.286	-	-7.5	20	67	-.01
1,2-Dichloroethane	0.267	0.314	-	-17.6	20	71	0
Trichloroethene	0.199	0.213	-	-7	20	63	-.01
Dibromomethane	0.118	0.131	-	-11	20	66	0
1,2-Dichloropropane	0.21	0.25	-	-19	20	71	-.01
Bromodichloromethane	0.271	0.292	-	-7.7	20	65	0
1,4-Dioxane	0.00195	0.00229*	-	-17.4	20	67	-.02
cis-1,3-Dichloropropene	0.312	0.352	-	-12.8	20	66	0
Chlorobenzene-d5	1	1	-	0	20	67	0
Toluene-d8	1.317	1.276	-	3.1	20	64	0
Toluene	0.664	0.657	-	1.1	20	64	0
4-Methyl-2-pentanone	0.093	0.107	-	-15.1	20	72	0
Tetrachloroethene	0.269	0.231	-	14.1	20	54	0
trans-1,3-Dichloropropene	0.353	0.368	-	-4.2	20	67	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

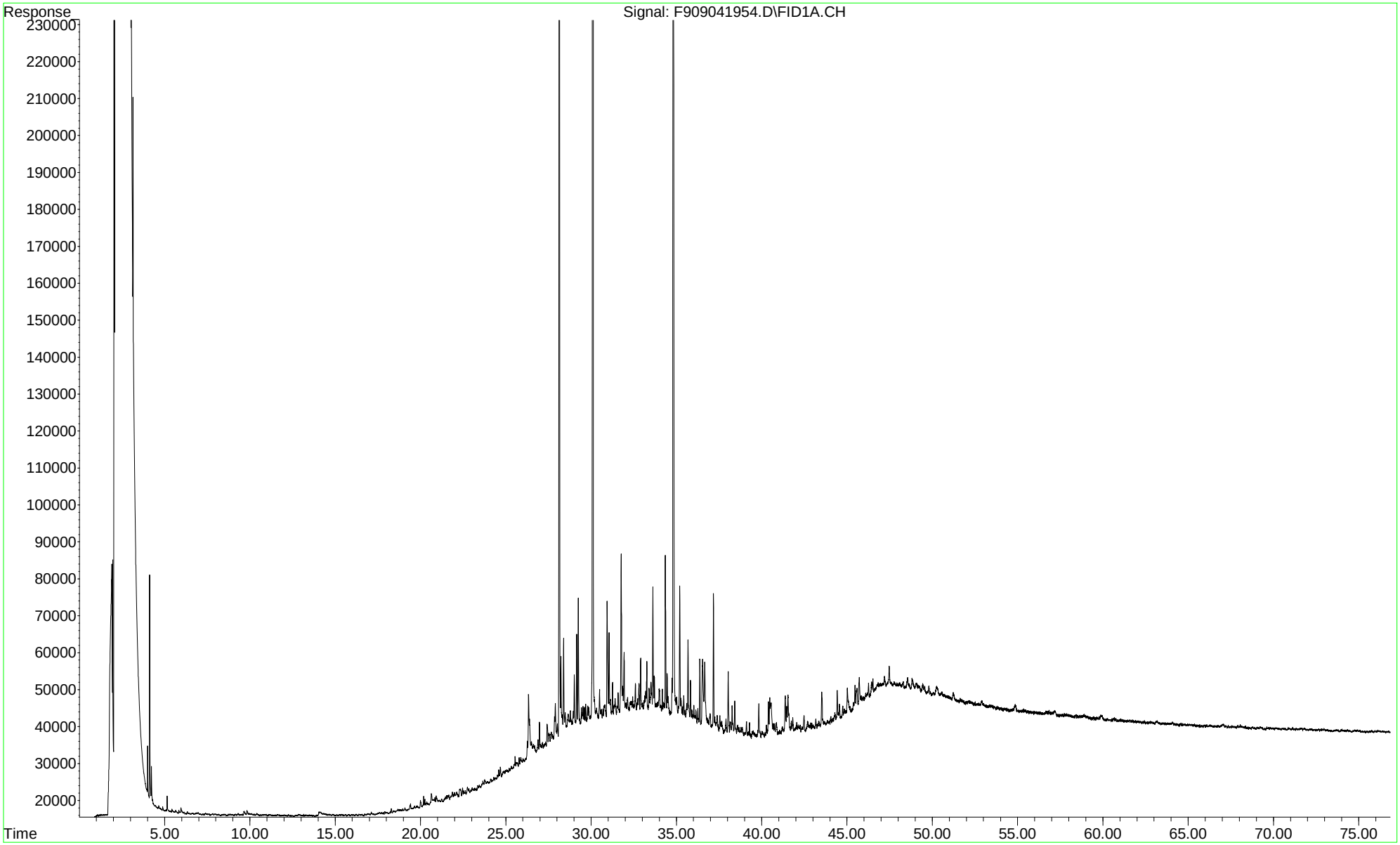
Client	: Tetra Tech Rizzo	Lab Number	: L1939749
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA126	Calibration Date	: 09/12/19 07:10
Lab File ID	: V26190912A01	Init. Calib. Date(s)	: 08/20/19 08/20/19
Sample No	: WG1283443-2	Init. Calib. Times	: 02:02 07:17
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,1,2-Trichloroethane	0.186	0.195	-	-4.8	20	69	-.01
Chlorodibromomethane	0.255	0.239	-	6.3	20	61	0
1,3-Dichloropropane	0.38	0.399	-	-5	20	69	0
1,2-Dibromoethane	0.211	0.207	-	1.9	20	63	0
2-Hexanone	0.177	0.218	-	-23.2*	20	80	0
Chlorobenzene	0.767	0.719	-	6.3	20	62	0
Ethylbenzene	1.231	1.25	-	-1.5	20	64	0
1,1,1,2-Tetrachloroethane	0.261	0.24	-	8	20	60	0
p/m Xylene	0.488	0.48	-	1.6	20	63	0
o Xylene	0.473	0.459	-	3	20	62	0
Styrene	0.762	0.772	-	-1.3	20	63	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	69	0
Bromoform	0.303	0.26	-	14.2	20	58	-.01
Isopropylbenzene	2.378	2.267	-	4.7	20	61	-.01
4-Bromofluorobenzene	0.95	0.995	-	-4.7	20	73	0
Bromobenzene	0.606	0.532	-	12.2	20	59	0
n-Propylbenzene	2.832	2.828	-	0.1	20	64	0
1,1,2,2-Tetrachloroethane	0.574	0.594	-	-3.5	20	70	0
2-Chlorotoluene	1.913	1.885	-	1.5	20	66	0
1,3,5-Trimethylbenzene	1.969	1.895	-	3.8	20	63	0
1,2,3-Trichloropropane	0.429	0.459	-	-7	20	72	0
4-Chlorotoluene	1.758	1.753	-	0.3	20	67	0
tert-Butylbenzene	1.689	1.558	-	7.8	20	59	0
1,2,4-Trimethylbenzene	1.958	1.922	-	1.8	20	64	0
sec-Butylbenzene	2.533	2.402	-	5.2	20	60	0
p-Isopropyltoluene	2.167	1.996	-	7.9	20	59	0
1,3-Dichlorobenzene	1.17	1.07	-	8.5	20	62	0
1,4-Dichlorobenzene	1.175	1.066	-	9.3	20	62	0
n-Butylbenzene	2.499	2.353	-	5.8	20	61	0
1,2-Dichlorobenzene	1.096	0.994	-	9.3	20	62	0
1,2-Dibromo-3-chloropropan	0.087	0.078	-	10.3	20	60	-.01
Hexachlorobutadiene	0.359	0.273	-	24*	20	50	0
1,2,4-Trichlorobenzene	0.698	0.625	-	10.5	20	61	0
Naphthalene	1.715	1.723	-	-0.5	20	66	0
1,2,3-Trichlorobenzene	0.66	0.58	-	12.1	20	59	0

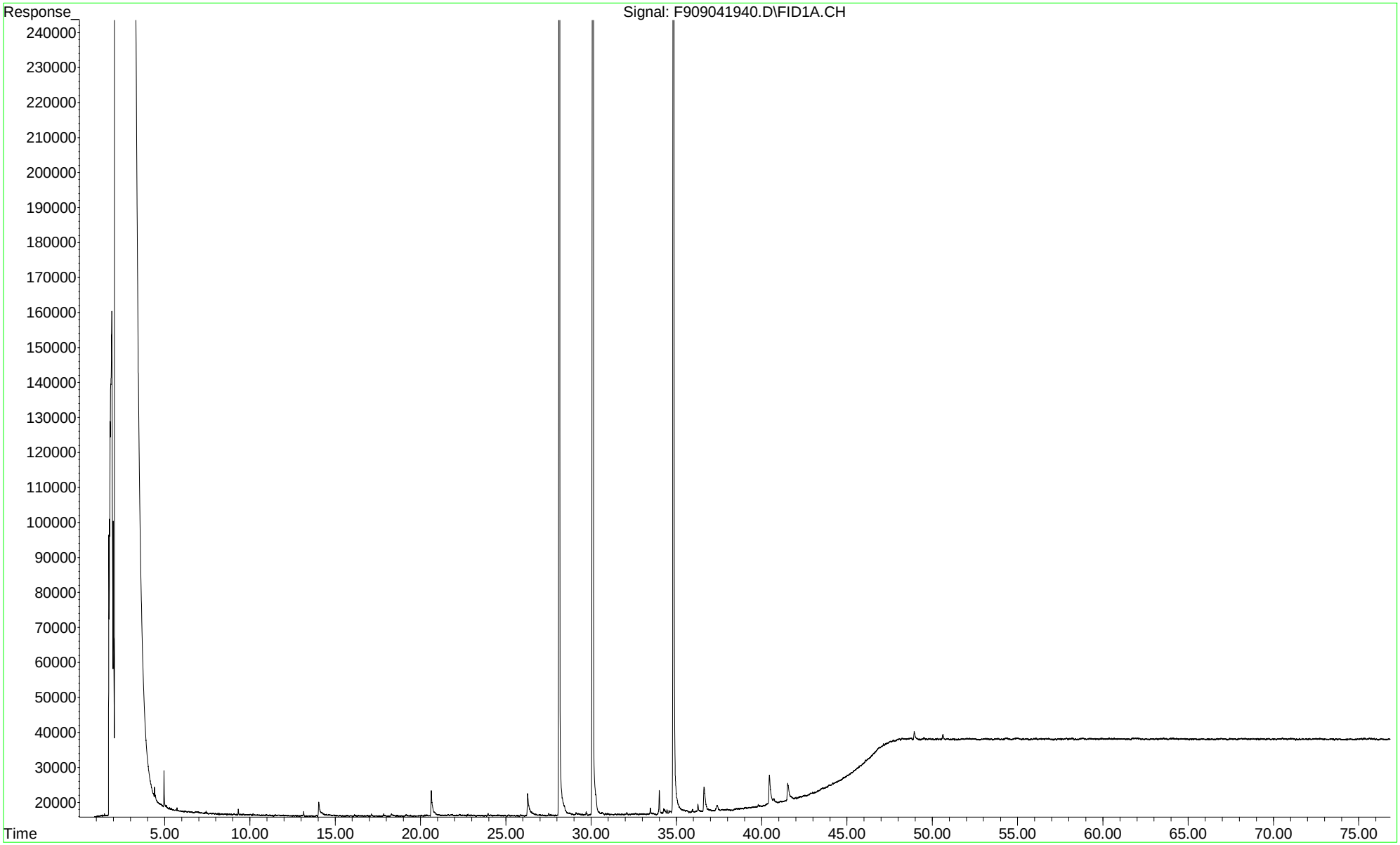
* Value outside of QC limits.

GC-FID Chromatogram

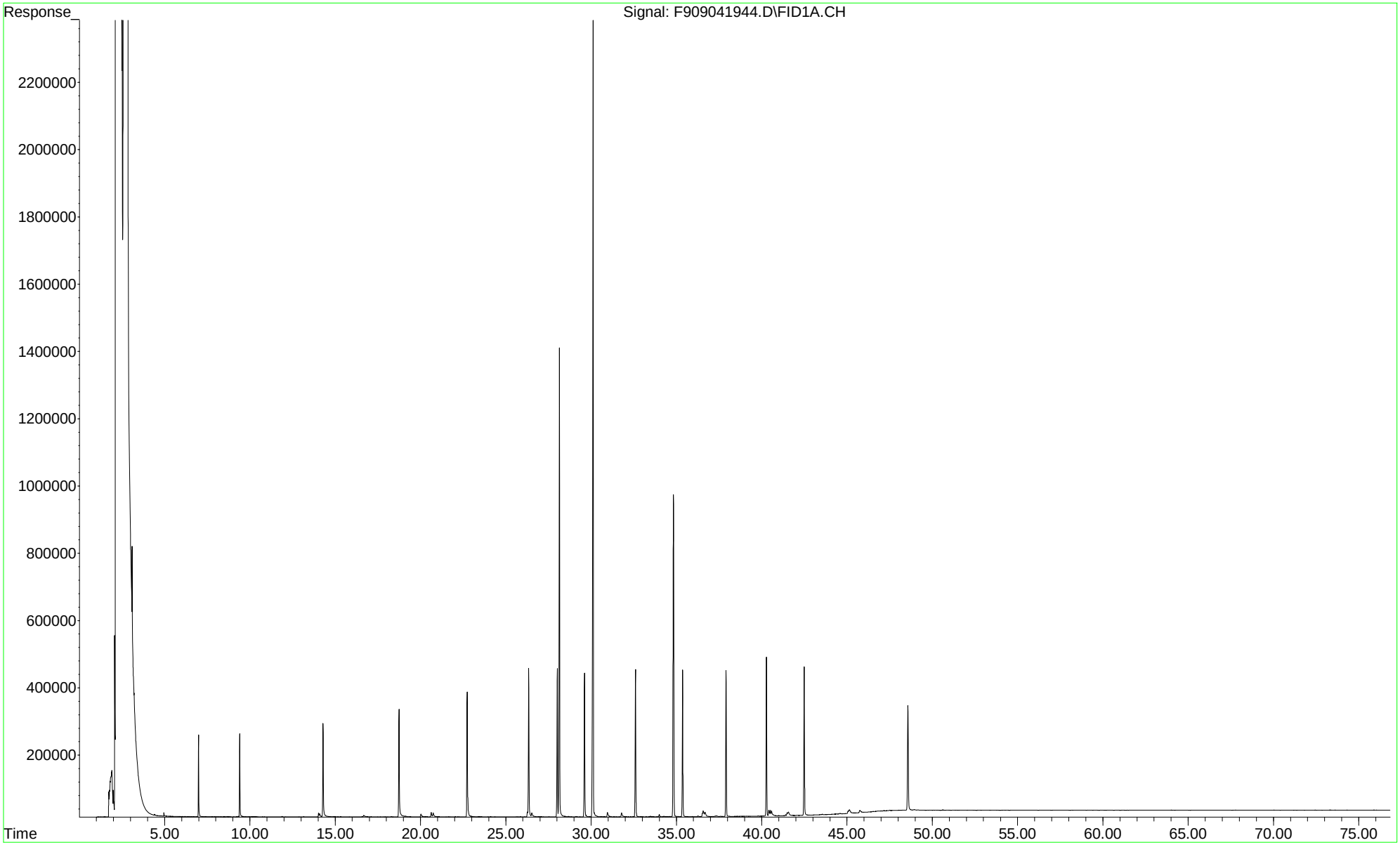
```
File       :O:\Forensics\Data\FID9\2019\SEP\SEP04\F909041954.D
Operator   : FID9:WR
Acquired   : 05 Sep 2019  11:57 pm using AcqMethod FID9A.M
Instrument :   FID 9
Sample Name: L1939749-03
Misc Info  : WG1280732,WG1280104,ICAL15359
Vial Number: 27
```



File :O:\Forensics\Data\FID9\2019\SEP\SEP04\F909041940.D
Operator : FID9:WR
Acquired : 05 Sep 2019 1:46 pm using AcqMethod FID9A.M
Instrument : FID 9
Sample Name: WG1280104-1 (Method Blank)
Misc Info : WG1280732,WG1280104,ICAL15359
Vial Number: 20

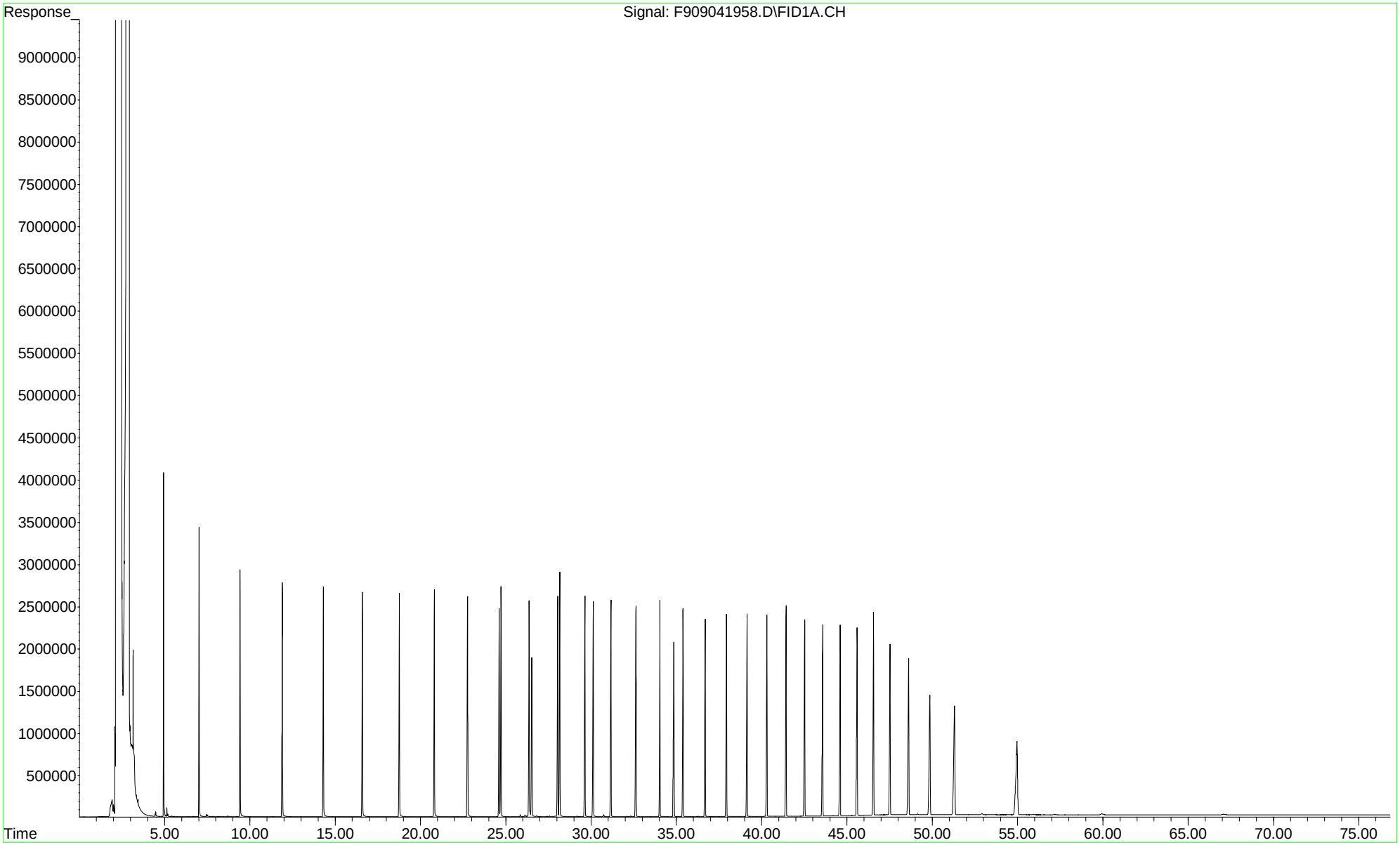


File :O:\Forensics\Data\FID9\2019\SEP\SEP04\F909041944.D
Operator : FID9:WR
Acquired : 05 Sep 2019 4:41 pm using AcqMethod FID9A.M
Instrument : FID 9
Sample Name: WG1280104-2 (Laboratory Control Sample)
Misc Info : WG1280732,WG1280104,ICAL15359
Vial Number: 22

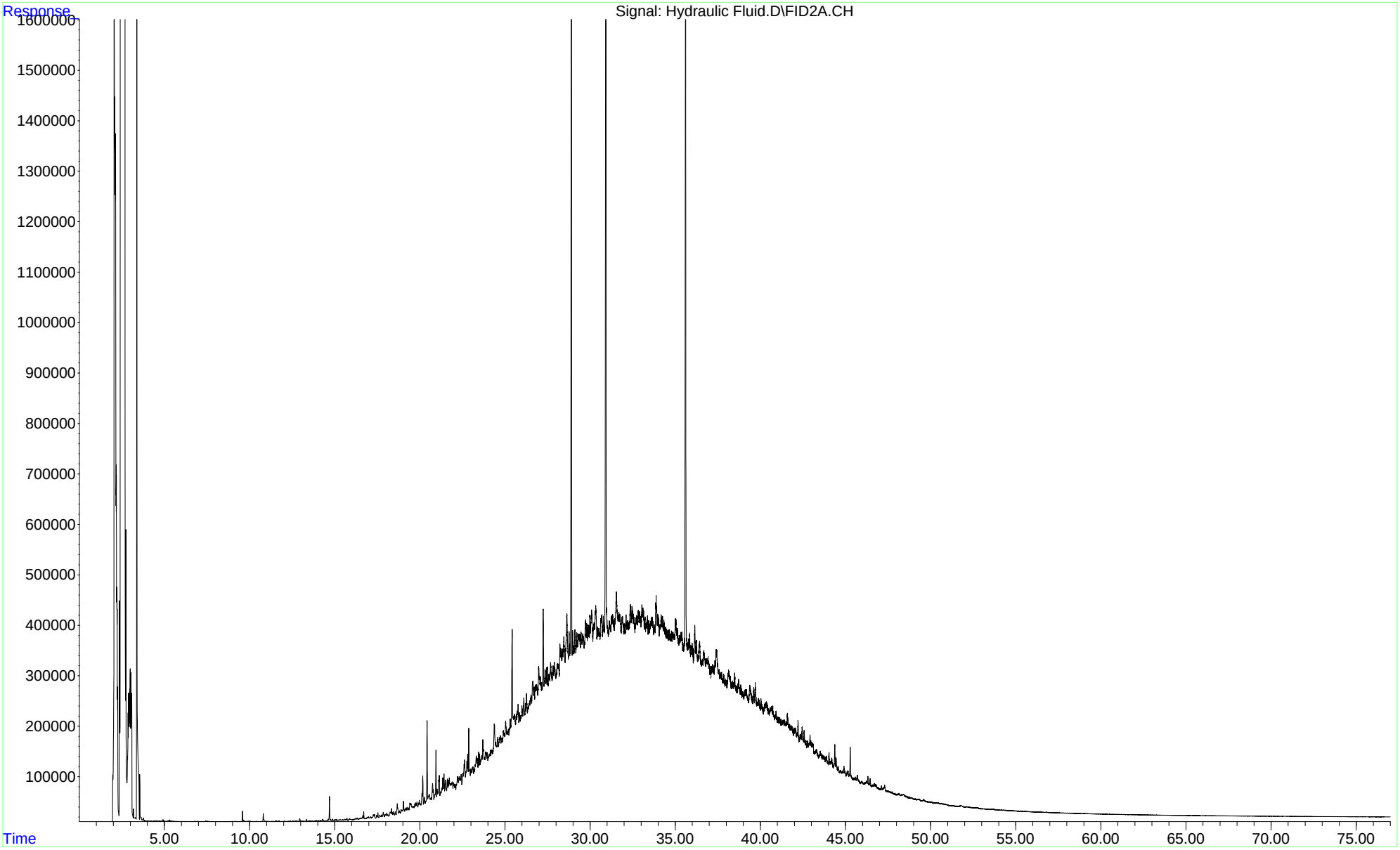


Petroleum Reference Standards

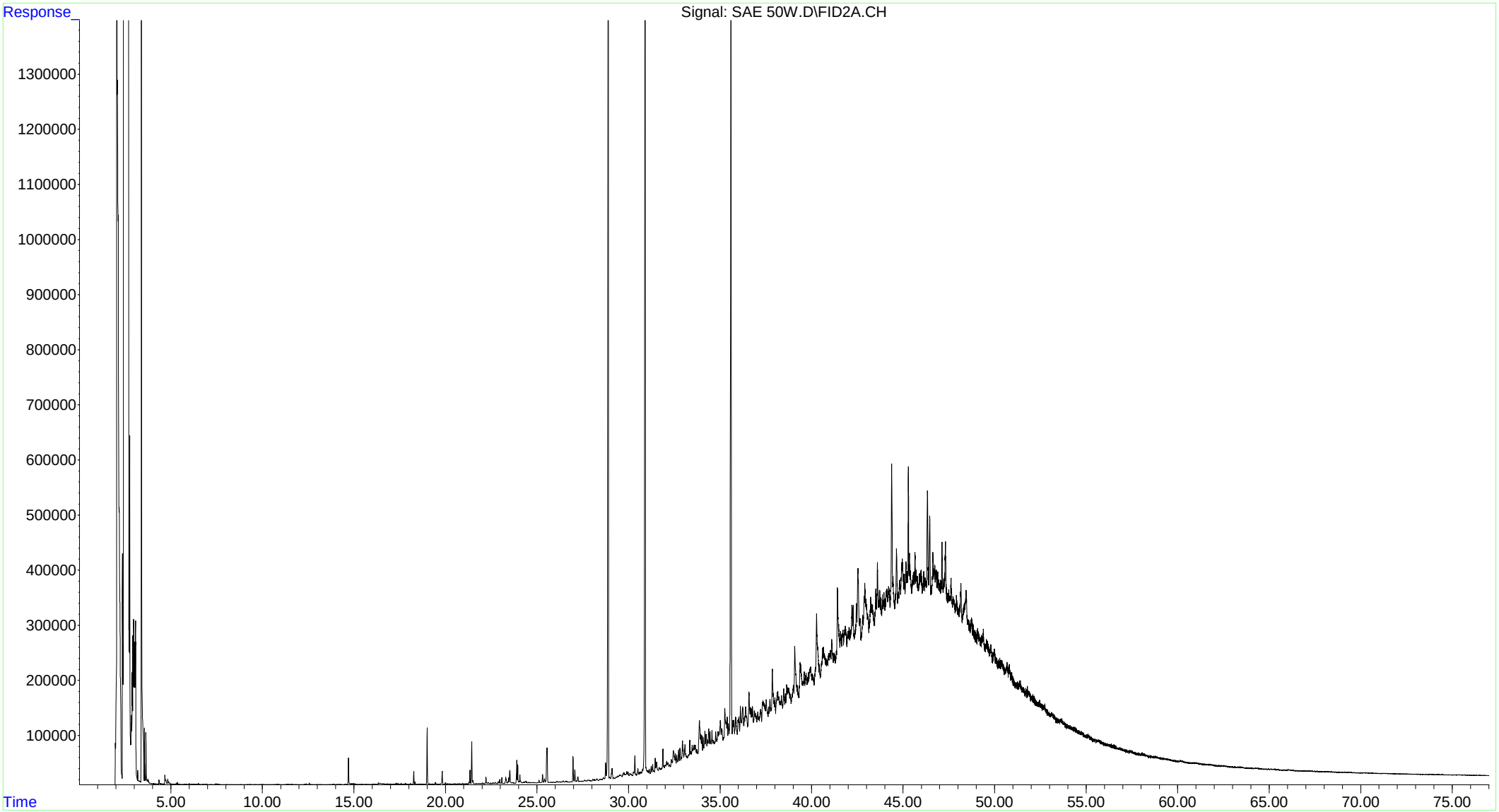
```
File       :O:\Forensics\Data\FID9\2019\SEP\SEP04\F909041958.D
Operator   : FID9:WR
Acquired   : 06 Sep 2019   2:51 am using AcqMethod FID9A.M
Instrument :   FID 9
Sample Name: WG1280732-2 (Alkane Reference Standard)
Misc Info  : WG1280732,FRBB06,ICAL15359
Vial Number: 29
```



```
File       :O:\FORENSICS\LIBRARY\Hydrocarbon Reference Standards\Hydraul
...         ic Fluid.D
Operator  : PAH2:AC
Instrument :   PAH 2
Acquired  : 21 Nov 2011   4:03 am using AcqMethod FRNC2AF.M
Sample    : HYDRAULIC FLUID
Misc Info : F042710T
```



```
File       :O:\Forensics\LIBRARY\Hydrocarbon Reference Standards\SAE 50W
...         .D
Operator  : PAH2:AC
Instrument :   PAH 2
Acquired  : 19 Nov 2011   2:34 am using AcqMethod FRNC2AF.M
Sample    : SAE 50W Motor Oil
Misc Info : 1X
```



Performance Evaluation Mixture Summary
Form 15
Pesticides

Client	: Tetra Tech Rizzo	Lab Number	: L1939749
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: PEST20	Analysis Date	: 09/12/19 22:06
PEM Standard	: R1230528-1		
Column 1	: RTX-5	Column 2	: RTX-CLPPesticides2

Parameter	Signal 1	Signal 2
4,4'-DDE	1073916.77079	2523936.72113
Endrin	407510439.78134	245110294.94425
4,4'-DDD	678602.37906	295592.91966
4,4'-DDT	734559645.08403	460161908.3027
Endrin Aldehyde	239433.79151	68678.79291
Endrin Ketone	2960158.74905	9796698.94844

Parameter	%Breakdown 1	%Breakdown 2
Endrin	0.779	3.87
DDT	0.238	0.609

ANALYTICAL REPORT

Lab Number:	L1939976
Client:	Tetra Tech Rizzo Marlborough Technology Park 100 Nickerson Road Marlborough, MA 01752
ATTN:	Mike Billa
Phone:	(508) 786-2200
Project Name:	CYPHER ST. S. BOSTON
Project Number:	143-278997-19001
Report Date:	09/18/19

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

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

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939976
Report Date: 09/18/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1939976-01	TT-20A (8-10')	SOIL	CYPHER ST. S. BOSTON	09/03/19 09:00	09/03/19
L1939976-02	TT-18 (8-10')	SOIL	CYPHER ST. S. BOSTON	09/03/19 10:30	09/03/19
L1939976-03	DC1820DEEP	SOIL	CYPHER ST. S. BOSTON	09/03/19 12:00	09/03/19
L1939976-04	TT-15 (8-10')	SOIL	CYPHER ST. S. BOSTON	09/03/19 13:00	09/03/19
L1939976-05	TT-18/OW	WATER	CYPHER ST. S. BOSTON	09/03/19 11:30	09/03/19

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939976

Project Number: 143-278997-19001 **Report Date:** 09/18/19

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?	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:	CYPHER ST. S. BOSTON	**Lab Number:**	L1939976
Project Number:	143-278997-19001	**Report Date:**	09/18/19

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:	CYPHER ST. S. BOSTON	**Lab Number:**	L1939976
Project Number:	143-278997-19001	**Report Date:**	09/18/19

Case Narrative (continued)

Report Submission

The analysis of Ethanol was subcontracted. A copy of the laboratory report is included as an addendum. Please note: This data is only available in PDF format and is not available on Data Merger.

MCP Related Narratives

Volatile Organics

L1939976-01: The analysis of Volatile Organics by EPA Method 5035/8260 Low Level could not be performed due to the elevated concentrations of non-target compounds in the sample.

L1939976-02 and -04: The analysis of Volatile Organics by EPA Method 5035/8260 Low Level could not be performed due to the elevated concentrations of target compounds in the sample.

In reference to question G:

L1939976-01, -02 and -04: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The WG1283712-3/-4 LCS/LCSD recoveries, associated with L1939976-01,-02, and -04, are above the individual acceptance criteria for trichlorofluoromethane (135%/135%), chloromethane (138%/133%), vinyl chloride (131%/132%) and dichlorodifluoromethane (142%/142%), but within the overall method allowances. The results of the associated samples are reported; however, all positive detects are considered to have a potentially high bias for these compounds.

The initial calibration, associated with L1939976-01, -02, and -04, 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 standard, associated with L1939976-01, -02, and -04, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

Project Name:	CYPHER ST. S. BOSTON	**Lab Number:**	L1939976
Project Number:	143-278997-19001	**Report Date:**	09/18/19

Case Narrative (continued)

Semivolatile Organics

L1939976-02 and -04: The sample was re-analyzed on dilution in order to quantify the results within the calibration range. The result(s) should be considered estimated, and are qualified with an E flag, for any compound(s) that exceeded the calibration range in the initial analysis. The re-analysis was performed only for the compound(s) that exceeded the calibration range.

In reference to question I:

All samples were analyzed for a subset of MCP analytes per client request.

VPH

L1939976-01: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

L1939976-04 was outside the recommended 1:1 methanol:soil ratio, due to the amount of soil provided in the sample vial.

In reference to question G:

L1939976-01: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

L1939976-01: The surrogate recoveries are outside the acceptance criteria for 2,5-dibromotoluene-pid (144%) and 2,5-dibromotoluene-fid (149%); however, the sample was not re-analyzed due to coelution with an unresolved complex mixture (UCM). A copy of the chromatogram is included as an attachment to this report. The results are not considered to be biased.

L1939976-04: The surrogate recoveries are outside the acceptance criteria for 2,5-dibromotoluene-pid (135%) and 2,5-dibromotoluene-fid (137%); however, the sample was not re-analyzed due to coelution with an unresolved complex mixture (UCM). A copy of the chromatogram is included as an attachment to this report. The results are not considered to be biased.

In reference to question I:

All samples were analyzed for a subset of MCP analytes per client request.

Project Name:	CYPHER ST. S. BOSTON	**Lab Number:**	L1939976
Project Number:	143-278997-19001	**Report Date:**	09/18/19

Case Narrative (continued)

EPH

L1939976-02: The sample has elevated detection limits due to the dilution required by the sample matrix.

In reference to question H:

The WG1281663-2/-3 LCS/LCSD RPDs, associated with L1939976-04, are above the acceptance criteria for naphthalene (26%) and indeno(1,2,3-cd)pyrene (29%).

The WG1283558-2/-3 LCS/LCSD RPDs, associated with L1939976-03, are above the acceptance criteria for c9-c18 aliphatics (27%), naphthalene (29%), 2-methylnaphthalene (28%), acenaphthylene (27%), acenaphthene (27%), nonane (c9) (33%), decane (c10) (31%), dodecane (c12) (31%) and tetradecane (c14) (30%).

In reference to question I:

All samples were analyzed for a subset of MCP analytes per client request.

Total Metals

In reference to question H:

The WG1282933-7 MS recovery for iron (140%), performed on L1939976-05, does not apply because the sample concentration is greater than four times the spike amount added.

Non MCP Related Narratives

Microextractables

The WG1283320-1 Method Blank, associated with L1939976-05, has a concentration above the reporting limit for 1,2-Dibromoethane, 1,2-Dibromo-3-chloropropane, and 1,2,3-Trichloropropane. Since the sample(s) were non-detect for this target analyte, no further actions were taken. The results of the original analysis are reported.

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: 09/18/19

QC OUTLIER SUMMARY REPORT

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939976
Report Date: 09/18/19

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	WG1283712-3	Trichlorofluoromethane	LCS	135	70-130	01-02,04	potential high bias
8260C	Batch QC	WG1283712-3	Chloromethane	LCS	138	70-130	01-02,04	potential high bias
8260C	Batch QC	WG1283712-3	Vinyl chloride	LCS	131	70-130	01-02,04	potential high bias
8260C	Batch QC	WG1283712-3	Dichlorodifluoromethane	LCS	142	70-130	01-02,04	potential high bias
8260C	Batch QC	WG1283712-4	Trichlorofluoromethane	LCSD	135	70-130	01-02,04	potential high bias
8260C	Batch QC	WG1283712-4	Chloromethane	LCSD	133	70-130	01-02,04	potential high bias
8260C	Batch QC	WG1283712-4	Vinyl chloride	LCSD	132	70-130	01-02,04	potential high bias
8260C	Batch QC	WG1283712-4	Dichlorodifluoromethane	LCSD	142	70-130	01-02,04	potential high bias
Extractable Petroleum Hydrocarbons - Westborough Lab								
EPH-04-1.1	Batch QC	WG1281663-3	Naphthalene	LCSD	26	25	04	non-directional bias
EPH-04-1.1	Batch QC	WG1281663-3	Indeno(1,2,3-cd)Pyrene	LCSD	29	25	04	non-directional bias
EPH-04-1.1	Batch QC	WG1283558-3	C9-C18 Aliphatics	LCSD	27	25	03	non-directional bias
EPH-04-1.1	Batch QC	WG1283558-3	Naphthalene	LCSD	29	25	03	non-directional bias
EPH-04-1.1	Batch QC	WG1283558-3	2-Methylnaphthalene	LCSD	28	25	03	non-directional bias
EPH-04-1.1	Batch QC	WG1283558-3	Acenaphthylene	LCSD	27	25	03	non-directional bias
EPH-04-1.1	Batch QC	WG1283558-3	Acenaphthene	LCSD	27	25	03	non-directional bias
EPH-04-1.1	Batch QC	WG1283558-3	Nonane (C9)	LCSD	33	25	03	non-directional bias
EPH-04-1.1	Batch QC	WG1283558-3	Decane (C10)	LCSD	31	25	03	non-directional bias
EPH-04-1.1	Batch QC	WG1283558-3	Dodecane (C12)	LCSD	31	25	03	non-directional bias
EPH-04-1.1	Batch QC	WG1283558-3	Tetradecane (C14)	LCSD	30	25	03	non-directional bias
Volatile Petroleum Hydrocarbons - Westborough Lab								
VPH-18-2.1	TT-20A (8-10')	L1939976-01 D	2,5-Dibromotoluene-PID	Surrogate	144	70-130	-	potential high bias
VPH-18-2.1	TT-20A (8-10')	L1939976-01 D	2,5-Dibromotoluene-FID	Surrogate	149	70-130	-	potential high bias
VPH-18-2.1	TT-15 (8-10')	L1939976-04	2,5-Dibromotoluene-PID	Surrogate	135	70-130	-	potential high bias
VPH-18-2.1	TT-15 (8-10')	L1939976-04	2,5-Dibromotoluene-FID	Surrogate	137	70-130	-	potential high bias
Total Metals - Mansfield Lab								
200.7	Batch QC (L1939976-05)	WG1282933-7	Iron, Total	MS	140	75-125	05	potential high bias

ORGANICS

VOLATILES

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939976

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-01
Client ID: TT-20A (8-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/03/19 09:00
Date Received: 09/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/13/19 04:42
Analyst: NLK
Percent Solids: 67%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	480	--	1
1,1-Dichloroethane	ND		ug/kg	97	--	1
Chloroform	ND		ug/kg	140	--	1
Carbon tetrachloride	ND		ug/kg	97	--	1
1,2-Dichloropropane	ND		ug/kg	97	--	1
Dibromochloromethane	ND		ug/kg	97	--	1
1,1,2-Trichloroethane	ND		ug/kg	97	--	1
Tetrachloroethene	ND		ug/kg	48	--	1
Chlorobenzene	ND		ug/kg	48	--	1
Trichlorofluoromethane	ND		ug/kg	390	--	1
1,2-Dichloroethane	ND		ug/kg	97	--	1
1,1,1-Trichloroethane	ND		ug/kg	48	--	1
Bromodichloromethane	ND		ug/kg	48	--	1
trans-1,3-Dichloropropene	ND		ug/kg	97	--	1
cis-1,3-Dichloropropene	ND		ug/kg	48	--	1
1,3-Dichloropropene, Total	ND		ug/kg	48	--	1
1,1-Dichloropropene	ND		ug/kg	48	--	1
Bromoform	ND		ug/kg	390	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	48	--	1
Benzene	ND		ug/kg	48	--	1
Toluene	ND		ug/kg	97	--	1
Ethylbenzene	ND		ug/kg	97	--	1
Chloromethane	ND		ug/kg	390	--	1
Bromomethane	ND		ug/kg	190	--	1
Vinyl chloride	ND		ug/kg	97	--	1
Chloroethane	ND		ug/kg	190	--	1
1,1-Dichloroethene	ND		ug/kg	97	--	1
trans-1,2-Dichloroethene	ND		ug/kg	140	--	1

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939976

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-01 Date Collected: 09/03/19 09:00

Client ID: TT-20A (8-10') Date Received: 09/03/19

Sample Location: CYPHER ST. S. BOSTON 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	48	--	1
1,2-Dichlorobenzene	ND		ug/kg	190	--	1
1,3-Dichlorobenzene	ND		ug/kg	190	--	1
1,4-Dichlorobenzene	ND		ug/kg	190	--	1
Methyl tert butyl ether	ND		ug/kg	190	--	1
p/m-Xylene	ND		ug/kg	190	--	1
o-Xylene	ND		ug/kg	97	--	1
Xylenes, Total	ND		ug/kg	97	--	1
cis-1,2-Dichloroethene	ND		ug/kg	97	--	1
1,2-Dichloroethene, Total	ND		ug/kg	97	--	1
Dibromomethane	ND		ug/kg	190	--	1
1,2,3-Trichloropropane	ND		ug/kg	190	--	1
Styrene	ND		ug/kg	97	--	1
Dichlorodifluoromethane	ND		ug/kg	970	--	1
Acetone	ND		ug/kg	970	--	1
Carbon disulfide	ND		ug/kg	970	--	1
Methyl ethyl ketone	ND		ug/kg	970	--	1
Methyl isobutyl ketone	ND		ug/kg	970	--	1
2-Hexanone	ND		ug/kg	970	--	1
Bromochloromethane	ND		ug/kg	190	--	1
Tetrahydrofuran	ND		ug/kg	390	--	1
2,2-Dichloropropane	ND		ug/kg	190	--	1
1,2-Dibromoethane	ND		ug/kg	97	--	1
1,3-Dichloropropane	ND		ug/kg	190	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	48	--	1
Bromobenzene	ND		ug/kg	190	--	1
n-Butylbenzene	ND		ug/kg	97	--	1
sec-Butylbenzene	310		ug/kg	97	--	1
tert-Butylbenzene	190		ug/kg	190	--	1
o-Chlorotoluene	ND		ug/kg	190	--	1
p-Chlorotoluene	ND		ug/kg	190	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	290	--	1
Hexachlorobutadiene	ND		ug/kg	390	--	1
Isopropylbenzene	130		ug/kg	97	--	1
p-Isopropyltoluene	130		ug/kg	97	--	1
Naphthalene	ND		ug/kg	390	--	1
n-Propylbenzene	120		ug/kg	97	--	1

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939976

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-01 Date Collected: 09/03/19 09:00

Client ID: TT-20A (8-10') Date Received: 09/03/19

Sample Location: CYPHER ST. S. BOSTON 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	190	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	190	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	190	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	190	--	1
Diethyl ether	ND		ug/kg	190	--	1
Diisopropyl Ether	ND		ug/kg	190	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	190	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	190	--	1
1,4-Dioxane	ND		ug/kg	7700	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	121		70-130
Toluene-d8	90		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	102		70-130

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939976

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-02
Client ID: TT-18 (8-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/03/19 10:30
Date Received: 09/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/13/19 05:08
Analyst: NLK
Percent Solids: 66%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	570	--	1
1,1-Dichloroethane	ND		ug/kg	110	--	1
Chloroform	ND		ug/kg	170	--	1
Carbon tetrachloride	ND		ug/kg	110	--	1
1,2-Dichloropropane	ND		ug/kg	110	--	1
Dibromochloromethane	ND		ug/kg	110	--	1
1,1,2-Trichloroethane	ND		ug/kg	110	--	1
Tetrachloroethene	ND		ug/kg	57	--	1
Chlorobenzene	ND		ug/kg	57	--	1
Trichlorofluoromethane	ND		ug/kg	460	--	1
1,2-Dichloroethane	ND		ug/kg	110	--	1
1,1,1-Trichloroethane	ND		ug/kg	57	--	1
Bromodichloromethane	ND		ug/kg	57	--	1
trans-1,3-Dichloropropene	ND		ug/kg	110	--	1
cis-1,3-Dichloropropene	ND		ug/kg	57	--	1
1,3-Dichloropropene, Total	ND		ug/kg	57	--	1
1,1-Dichloropropene	ND		ug/kg	57	--	1
Bromoform	ND		ug/kg	460	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	57	--	1
Benzene	ND		ug/kg	57	--	1
Toluene	ND		ug/kg	110	--	1
Ethylbenzene	ND		ug/kg	110	--	1
Chloromethane	ND		ug/kg	460	--	1
Bromomethane	ND		ug/kg	230	--	1
Vinyl chloride	ND		ug/kg	110	--	1
Chloroethane	ND		ug/kg	230	--	1
1,1-Dichloroethene	ND		ug/kg	110	--	1
trans-1,2-Dichloroethene	ND		ug/kg	170	--	1

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939976

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-02 Date Collected: 09/03/19 10:30

Client ID: TT-18 (8-10') Date Received: 09/03/19

Sample Location: CYPHER ST. S. BOSTON 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	57	--	1
1,2-Dichlorobenzene	ND		ug/kg	230	--	1
1,3-Dichlorobenzene	ND		ug/kg	230	--	1
1,4-Dichlorobenzene	ND		ug/kg	230	--	1
Methyl tert butyl ether	ND		ug/kg	230	--	1
p/m-Xylene	ND		ug/kg	230	--	1
o-Xylene	ND		ug/kg	110	--	1
Xylenes, Total	ND		ug/kg	110	--	1
cis-1,2-Dichloroethene	ND		ug/kg	110	--	1
1,2-Dichloroethene, Total	ND		ug/kg	110	--	1
Dibromomethane	ND		ug/kg	230	--	1
1,2,3-Trichloropropane	ND		ug/kg	230	--	1
Styrene	ND		ug/kg	110	--	1
Dichlorodifluoromethane	ND		ug/kg	1100	--	1
Acetone	ND		ug/kg	1100	--	1
Carbon disulfide	ND		ug/kg	1100	--	1
Methyl ethyl ketone	ND		ug/kg	1100	--	1
Methyl isobutyl ketone	ND		ug/kg	1100	--	1
2-Hexanone	ND		ug/kg	1100	--	1
Bromochloromethane	ND		ug/kg	230	--	1
Tetrahydrofuran	ND		ug/kg	460	--	1
2,2-Dichloropropane	ND		ug/kg	230	--	1
1,2-Dibromoethane	ND		ug/kg	110	--	1
1,3-Dichloropropane	ND		ug/kg	230	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	57	--	1
Bromobenzene	ND		ug/kg	230	--	1
n-Butylbenzene	ND		ug/kg	110	--	1
sec-Butylbenzene	ND		ug/kg	110	--	1
tert-Butylbenzene	ND		ug/kg	230	--	1
o-Chlorotoluene	ND		ug/kg	230	--	1
p-Chlorotoluene	ND		ug/kg	230	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	340	--	1
Hexachlorobutadiene	ND		ug/kg	460	--	1
Isopropylbenzene	ND		ug/kg	110	--	1
p-Isopropyltoluene	190		ug/kg	110	--	1
Naphthalene	1100		ug/kg	460	--	1
n-Propylbenzene	ND		ug/kg	110	--	1

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939976

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-02 Date Collected: 09/03/19 10:30

Client ID: TT-18 (8-10') Date Received: 09/03/19

Sample Location: CYPHER ST. S. BOSTON 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	230	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	230	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	230	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	230	--	1
Diethyl ether	ND		ug/kg	230	--	1
Diisopropyl Ether	ND		ug/kg	230	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	230	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	230	--	1
1,4-Dioxane	ND		ug/kg	9200	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	89		70-130
4-Bromofluorobenzene	87		70-130
Dibromofluoromethane	98		70-130

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939976

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-04
Client ID: TT-15 (8-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/03/19 13:00
Date Received: 09/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/13/19 05:38
Analyst: NLK
Percent Solids: 62%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	730	--	1
1,1-Dichloroethane	ND		ug/kg	150	--	1
Chloroform	ND		ug/kg	220	--	1
Carbon tetrachloride	ND		ug/kg	150	--	1
1,2-Dichloropropane	ND		ug/kg	150	--	1
Dibromochloromethane	ND		ug/kg	150	--	1
1,1,2-Trichloroethane	ND		ug/kg	150	--	1
Tetrachloroethene	ND		ug/kg	73	--	1
Chlorobenzene	ND		ug/kg	73	--	1
Trichlorofluoromethane	ND		ug/kg	580	--	1
1,2-Dichloroethane	ND		ug/kg	150	--	1
1,1,1-Trichloroethane	ND		ug/kg	73	--	1
Bromodichloromethane	ND		ug/kg	73	--	1
trans-1,3-Dichloropropene	ND		ug/kg	150	--	1
cis-1,3-Dichloropropene	ND		ug/kg	73	--	1
1,3-Dichloropropene, Total	ND		ug/kg	73	--	1
1,1-Dichloropropene	ND		ug/kg	73	--	1
Bromoform	ND		ug/kg	580	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	73	--	1
Benzene	92		ug/kg	73	--	1
Toluene	1000		ug/kg	150	--	1
Ethylbenzene	ND		ug/kg	150	--	1
Chloromethane	ND		ug/kg	580	--	1
Bromomethane	ND		ug/kg	290	--	1
Vinyl chloride	ND		ug/kg	150	--	1
Chloroethane	ND		ug/kg	290	--	1
1,1-Dichloroethene	ND		ug/kg	150	--	1
trans-1,2-Dichloroethene	ND		ug/kg	220	--	1

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939976

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-04 Date Collected: 09/03/19 13:00

Client ID: TT-15 (8-10') Date Received: 09/03/19

Sample Location: CYPHER ST. S. BOSTON 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	73	--	1
1,2-Dichlorobenzene	ND		ug/kg	290	--	1
1,3-Dichlorobenzene	ND		ug/kg	290	--	1
1,4-Dichlorobenzene	ND		ug/kg	290	--	1
Methyl tert butyl ether	ND		ug/kg	290	--	1
p/m-Xylene	ND		ug/kg	290	--	1
o-Xylene	ND		ug/kg	150	--	1
Xylenes, Total	ND		ug/kg	150	--	1
cis-1,2-Dichloroethene	ND		ug/kg	150	--	1
1,2-Dichloroethene, Total	ND		ug/kg	150	--	1
Dibromomethane	ND		ug/kg	290	--	1
1,2,3-Trichloropropane	ND		ug/kg	290	--	1
Styrene	ND		ug/kg	150	--	1
Dichlorodifluoromethane	ND		ug/kg	1500	--	1
Acetone	ND		ug/kg	1500	--	1
Carbon disulfide	ND		ug/kg	1500	--	1
Methyl ethyl ketone	ND		ug/kg	1500	--	1
Methyl isobutyl ketone	ND		ug/kg	1500	--	1
2-Hexanone	ND		ug/kg	1500	--	1
Bromochloromethane	ND		ug/kg	290	--	1
Tetrahydrofuran	ND		ug/kg	580	--	1
2,2-Dichloropropane	ND		ug/kg	290	--	1
1,2-Dibromoethane	ND		ug/kg	150	--	1
1,3-Dichloropropane	ND		ug/kg	290	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	73	--	1
Bromobenzene	ND		ug/kg	290	--	1
n-Butylbenzene	ND		ug/kg	150	--	1
sec-Butylbenzene	ND		ug/kg	150	--	1
tert-Butylbenzene	ND		ug/kg	290	--	1
o-Chlorotoluene	ND		ug/kg	290	--	1
p-Chlorotoluene	ND		ug/kg	290	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	440	--	1
Hexachlorobutadiene	ND		ug/kg	580	--	1
Isopropylbenzene	ND		ug/kg	150	--	1
p-Isopropyltoluene	540		ug/kg	150	--	1
Naphthalene	ND		ug/kg	580	--	1
n-Propylbenzene	ND		ug/kg	150	--	1

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939976

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-04 Date Collected: 09/03/19 13:00

Client ID: TT-15 (8-10') Date Received: 09/03/19

Sample Location: CYPHER ST. S. BOSTON 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	290	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	290	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	290	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	290	--	1
Diethyl ether	ND		ug/kg	290	--	1
Diisopropyl Ether	ND		ug/kg	290	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	290	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	290	--	1
1,4-Dioxane	ND		ug/kg	12000	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	91		70-130
4-Bromofluorobenzene	91		70-130
Dibromofluoromethane	97		70-130

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939976

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-05
Client ID: TT-18/OW
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/03/19 11:30
Date Received: 09/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 128,624.1
Analytical Date: 09/08/19 16:53
Analyst: AD/GT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	ND		ug/l	1.0	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
Acetone	ND		ug/l	10	--	1
Methyl tert butyl ether	ND		ug/l	10	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	97		60-140
Fluorobenzene	81		60-140
4-Bromofluorobenzene	128		60-140

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939976

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-05
Client ID: TT-18/OW
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/03/19 11:30
Date Received: 09/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 128,624.1-SIM
Analytical Date: 09/08/19 16:53
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-SIM - Westborough Lab						
1,4-Dioxane	ND		ug/l	50	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Fluorobenzene	71		60-140
4-Bromofluorobenzene	94		60-140

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939976
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-05
Client ID: TT-18/OW
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/03/19 11:30
Date Received: 09/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 14,504.1
Analytical Date: 09/12/19 14:34
Analyst: AWS

Extraction Method: EPA 504.1
Extraction Date: 09/12/19 11:08

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	--	1	B
1,2-Dibromo-3-chloropropane	ND		ug/l	0.010	--	1	B
1,2,3-Trichloropropane	ND		ug/l	0.030	--	1	B

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939976

Project Number: 143-278997-19001 **Report Date:** 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1
Analytical Date: 09/08/19 08:48
Analyst: AD/GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 05 Batch: WG1282427-8					
Methylene chloride	ND		ug/l	1.0	--
1,1-Dichloroethane	ND		ug/l	1.5	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.5	--
Tetrachloroethene	ND		ug/l	1.0	--
1,2-Dichloroethane	ND		ug/l	1.5	--
1,1,1-Trichloroethane	ND		ug/l	2.0	--
Benzene	ND		ug/l	1.0	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Vinyl chloride	ND		ug/l	1.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--
1,2-Dichlorobenzene	ND		ug/l	5.0	--
1,3-Dichlorobenzene	ND		ug/l	5.0	--
1,4-Dichlorobenzene	ND		ug/l	5.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
Acetone	ND		ug/l	10	--
Methyl tert butyl ether	ND		ug/l	10	--
Tert-Butyl Alcohol	ND		ug/l	100	--
Tertiary-Amyl Methyl Ether	ND		ug/l	20	--

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939976

Project Number: 143-278997-19001 **Report Date:** 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1
Analytical Date: 09/08/19 08:48
Analyst: AD/GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 05 Batch: WG1282427-8					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	103		60-140
Fluorobenzene	91		60-140
4-Bromofluorobenzene	129		60-140

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939976

Project Number: 143-278997-19001 **Report Date:** 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1-SIM
Analytical Date: 09/08/19 08:48
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 05 Batch: WG1282454-4					
1,4-Dioxane	ND		ug/l	50	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Fluorobenzene	78		60-140
4-Bromofluorobenzene	99		60-140

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939976
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 14,504.1
Analytical Date: 09/12/19 11:33
Analyst: AWS

Extraction Method: EPA 504.1
Extraction Date: 09/12/19 11:08

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 05 Batch: WG1283320-1						
1,2-Dibromoethane	0.504		ug/l	0.010	--	B
1,2-Dibromo-3-chloropropane	0.473		ug/l	0.010	--	B
1,2,3-Trichloropropane	0.416		ug/l	0.030	--	B

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939976

Project Number: 143-278997-19001 **Report Date:** 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/12/19 20:16
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01-02,04 Batch: WG1283712-5					
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: CYPHER ST. S. BOSTON **Lab Number:** L1939976

Project Number: 143-278997-19001 **Report Date:** 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/12/19 20:16
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01-02,04 Batch: WG1283712-5					
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: CYPHER ST. S. BOSTON **Lab Number:** L1939976

Project Number: 143-278997-19001 **Report Date:** 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/12/19 20:16
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01-02,04 Batch: WG1283712-5					
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	105		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	98		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 05 Batch: WG1282427-7								
Methylene chloride	95		-		60-140	-		28
1,1-Dichloroethane	85		-		50-150	-		49
Carbon tetrachloride	100		-		70-130	-		41
1,1,2-Trichloroethane	75		-		70-130	-		45
Tetrachloroethene	90		-		70-130	-		39
1,2-Dichloroethane	75		-		70-130	-		49
1,1,1-Trichloroethane	110		-		70-130	-		36
Benzene	85		-		65-135	-		61
Toluene	90		-		70-130	-		41
Ethylbenzene	105		-		60-140	-		63
Vinyl chloride	105		-		5-195	-		66
1,1-Dichloroethene	115		-		50-150	-		32
cis-1,2-Dichloroethene	95		-		60-140	-		30
Trichloroethene	75		-		65-135	-		48
1,2-Dichlorobenzene	110		-		65-135	-		57
1,3-Dichlorobenzene	110		-		70-130	-		43
1,4-Dichlorobenzene	110		-		65-135	-		57
p/m-Xylene	102		-		60-140	-		30
o-xylene	100		-		60-140	-		30
Acetone	66		-		40-160	-		30
Methyl tert butyl ether	90		-		60-140	-		30
Tert-Butyl Alcohol	65		-		60-140	-		30
Tertiary-Amyl Methyl Ether	75		-		60-140	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 05 Batch: WG1282427-7								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Pentafluorobenzene	106				60-140
Fluorobenzene	81				60-140
4-Bromofluorobenzene	131				60-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST. S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939976

Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 05 Batch: WG1282454-3								
1,4-Dioxane	78		-		60-140	-		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Fluorobenzene	72				60-140
4-Bromofluorobenzene	97				60-140

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab Associated sample(s): 05 Batch: WG1283320-2									
1,2-Dibromoethane	99		-		80-120	-			B
1,2-Dibromo-3-chloropropane	90		-		80-120	-			B
1,2,3-Trichloropropane	82		-		80-120	-			B

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

MCP Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01-02,04 Batch: WG1283712-3 WG1283712-4

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Methylene chloride	108		109		70-130	1		20
1,1-Dichloroethane	113		114		70-130	1		20
Chloroform	111		112		70-130	1		20
Carbon tetrachloride	107		107		70-130	0		20
1,2-Dichloropropane	109		109		70-130	0		20
Dibromochloromethane	101		105		70-130	4		20
1,1,2-Trichloroethane	106		110		70-130	4		20
Tetrachloroethene	99		96		70-130	3		20
Chlorobenzene	98		97		70-130	1		20
Trichlorofluoromethane	**135**	Q	**135**	Q	70-130	0		20
1,2-Dichloroethane	113		117		70-130	3		20
1,1,1-Trichloroethane	106		106		70-130	0		20
Bromodichloromethane	102		104		70-130	2		20
trans-1,3-Dichloropropene	104		106		70-130	2		20
cis-1,3-Dichloropropene	102		104		70-130	2		20
1,1-Dichloropropene	105		104		70-130	1		20
Bromoform	101		106		70-130	5		20
1,1,2,2-Tetrachloroethane	98		104		70-130	6		20
Benzene	102		101		70-130	1		20
Toluene	101		100		70-130	1		20
Ethylbenzene	102		101		70-130	1		20
Chloromethane	**138**	Q	**133**	Q	70-130	4		20
Bromomethane	125		125		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

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): 01-02,04 Batch: WG1283712-3 WG1283712-4								
Vinyl chloride	**131**	Q	**132**	Q	70-130	1		20
Chloroethane	129		130		70-130	1		20
1,1-Dichloroethene	111		110		70-130	1		20
trans-1,2-Dichloroethene	108		107		70-130	1		20
Trichloroethene	103		101		70-130	2		20
1,2-Dichlorobenzene	98		97		70-130	1		20
1,3-Dichlorobenzene	100		97		70-130	3		20
1,4-Dichlorobenzene	98		98		70-130	0		20
Methyl tert butyl ether	106		112		70-130	6		20
p/m-Xylene	99		98		70-130	1		20
o-Xylene	97		96		70-130	1		20
cis-1,2-Dichloroethene	106		105		70-130	1		20
Dibromomethane	105		113		70-130	7		20
1,2,3-Trichloropropane	102		110		70-130	8		20
Styrene	95		96		70-130	1		20
Dichlorodifluoromethane	**142**	Q	**142**	Q	70-130	0		20
Acetone	116		126		70-130	8		20
Carbon disulfide	108		108		70-130	0		20
Methyl ethyl ketone	105		114		70-130	8		20
Methyl isobutyl ketone	96		104		70-130	8		20
2-Hexanone	88		96		70-130	9		20
Bromochloromethane	108		109		70-130	1		20
Tetrahydrofuran	115		127		70-130	10		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

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): 01-02,04 Batch: WG1283712-3 WG1283712-4								
2,2-Dichloropropane	106		106		70-130	0		20
1,2-Dibromoethane	102		106		70-130	4		20
1,3-Dichloropropane	105		108		70-130	3		20
1,1,1,2-Tetrachloroethane	98		98		70-130	0		20
Bromobenzene	96		97		70-130	1		20
n-Butylbenzene	103		99		70-130	4		20
sec-Butylbenzene	98		96		70-130	2		20
tert-Butylbenzene	97		94		70-130	3		20
o-Chlorotoluene	101		100		70-130	1		20
p-Chlorotoluene	100		98		70-130	2		20
1,2-Dibromo-3-chloropropane	90		100		70-130	11		20
Hexachlorobutadiene	94		88		70-130	7		20
Isopropylbenzene	99		95		70-130	4		20
p-Isopropyltoluene	97		95		70-130	2		20
Naphthalene	92		95		70-130	3		20
n-Propylbenzene	102		99		70-130	3		20
1,2,3-Trichlorobenzene	98		96		70-130	2		20
1,2,4-Trichlorobenzene	99		96		70-130	3		20
1,3,5-Trimethylbenzene	99		97		70-130	2		20
1,2,4-Trimethylbenzene	99		97		70-130	2		20
Diethyl ether	116		120		70-130	3		20
Diisopropyl Ether	108		108		70-130	0		20
Ethyl-Tert-Butyl-Ether	102		106		70-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

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): 01-02,04 Batch: WG1283712-3 WG1283712-4								
Tertiary-Amyl Methyl Ether	94		98		70-130	4		20
1,4-Dioxane	90		106		70-130	16		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	100		107		70-130
Toluene-d8	95		95		70-130
4-Bromofluorobenzene	94		92		70-130
Dibromofluoromethane	98		100		70-130

Matrix Spike Analysis

Batch Quality Control

Project Name: CYPHER ST. S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939976

Report Date: 09/18/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab Associated sample(s): 05 QC Batch ID: WG1283320-3 QC Sample: L1940413-01 Client ID: MS Sample													
1,2-Dibromoethane	ND	0.248	0.258	104		-	-		80-120	-		20	B
1,2-Dibromo-3-chloropropane	ND	0.248	0.229	92		-	-		80-120	-		20	B
1,2,3-Trichloropropane	ND	0.248	0.203	82		-	-		80-120	-		20	B

SEMIVOLATILES

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-01
Client ID: TT-20A (8-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/03/19 09:00
Date Received: 09/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/12/19 15:25
Analyst: IM
Percent Solids: 67%

Extraction Method: EPA 3546
Extraction Date: 09/10/19 01:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Acenaphthene	ND		ug/kg	190	--	1
Fluoranthene	ND		ug/kg	140	--	1
Naphthalene	ND		ug/kg	240	--	1
Benzo(a)anthracene	ND		ug/kg	140	--	1
Benzo(a)pyrene	ND		ug/kg	190	--	1
Benzo(b)fluoranthene	ND		ug/kg	140	--	1
Benzo(k)fluoranthene	ND		ug/kg	140	--	1
Chrysene	ND		ug/kg	140	--	1
Acenaphthylene	ND		ug/kg	190	--	1
Anthracene	ND		ug/kg	140	--	1
Benzo(ghi)perylene	ND		ug/kg	190	--	1
Fluorene	ND		ug/kg	240	--	1
Phenanthrene	ND		ug/kg	140	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	140	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	190	--	1
Pyrene	ND		ug/kg	140	--	1
2-Methylnaphthalene	ND		ug/kg	290	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	70		30-130
2-Fluorobiphenyl	82		30-130
4-Terphenyl-d14	58		30-130

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-02
Client ID: TT-18 (8-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/03/19 10:30
Date Received: 09/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/12/19 15:01
Analyst: CB
Percent Solids: 66%

Extraction Method: EPA 3546
Extraction Date: 09/10/19 01:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Acenaphthene	5700		ug/kg	200	--	1
Fluoranthene	15000	E	ug/kg	150	--	1
Naphthalene	1800		ug/kg	250	--	1
Benzo(a)anthracene	6500		ug/kg	150	--	1
Benzo(a)pyrene	5900		ug/kg	200	--	1
Benzo(b)fluoranthene	7000		ug/kg	150	--	1
Benzo(k)fluoranthene	2400		ug/kg	150	--	1
Chrysene	5900		ug/kg	150	--	1
Acenaphthylene	2100		ug/kg	200	--	1
Anthracene	8700		ug/kg	150	--	1
Benzo(ghi)perylene	3400		ug/kg	200	--	1
Fluorene	9300		ug/kg	250	--	1
Phenanthrene	30000	E	ug/kg	150	--	1
Dibenzo(a,h)anthracene	890		ug/kg	150	--	1
Indeno(1,2,3-cd)pyrene	3500		ug/kg	200	--	1
Pyrene	14000	E	ug/kg	150	--	1
2-Methylnaphthalene	1500		ug/kg	300	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	69		30-130
2-Fluorobiphenyl	89		30-130
4-Terphenyl-d14	69		30-130

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939976
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-02 D
Client ID: TT-18 (8-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/03/19 10:30
Date Received: 09/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/18/19 16:08
Analyst: JG
Percent Solids: 66%

Extraction Method: EPA 3546
Extraction Date: 09/10/19 01:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Fluoranthene	18000		ug/kg	750	--	5
Phenanthrene	29000		ug/kg	750	--	5
Pyrene	15000		ug/kg	750	--	5

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-03
Client ID: DC1820DEEP
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/03/19 12:00
Date Received: 09/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/16/19 15:26
Analyst: CB
Percent Solids: 70%

Extraction Method: EPA 3546
Extraction Date: 09/13/19 12:28

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Acenaphthene	ND		ug/kg	180	--	1
Fluoranthene	250		ug/kg	140	--	1
Naphthalene	ND		ug/kg	230	--	1
Benzo(a)anthracene	ND		ug/kg	140	--	1
Benzo(a)pyrene	ND		ug/kg	180	--	1
Benzo(b)fluoranthene	ND		ug/kg	140	--	1
Benzo(k)fluoranthene	ND		ug/kg	140	--	1
Chrysene	ND		ug/kg	140	--	1
Acenaphthylene	ND		ug/kg	180	--	1
Anthracene	ND		ug/kg	140	--	1
Benzo(ghi)perylene	ND		ug/kg	180	--	1
Fluorene	ND		ug/kg	230	--	1
Phenanthrene	280		ug/kg	140	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	140	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	180	--	1
Pyrene	220		ug/kg	140	--	1
2-Methylnaphthalene	ND		ug/kg	280	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	65		30-130
2-Fluorobiphenyl	68		30-130
4-Terphenyl-d14	59		30-130

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-04
Client ID: TT-15 (8-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/03/19 13:00
Date Received: 09/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/12/19 14:37
Analyst: CB
Percent Solids: 62%

Extraction Method: EPA 3546
Extraction Date: 09/10/19 01:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Acenaphthene	2100		ug/kg	220	--	1
Fluoranthene	12000	E	ug/kg	160	--	1
Naphthalene	2600		ug/kg	270	--	1
Benzo(a)anthracene	4600		ug/kg	160	--	1
Benzo(a)pyrene	3800		ug/kg	220	--	1
Benzo(b)fluoranthene	4700		ug/kg	160	--	1
Benzo(k)fluoranthene	1600		ug/kg	160	--	1
Chrysene	4500		ug/kg	160	--	1
Acenaphthylene	280		ug/kg	220	--	1
Anthracene	4000		ug/kg	160	--	1
Benzo(ghi)perylene	1900		ug/kg	220	--	1
Fluorene	3200		ug/kg	270	--	1
Phenanthrene	18000	E	ug/kg	160	--	1
Dibenzo(a,h)anthracene	510		ug/kg	160	--	1
Indeno(1,2,3-cd)pyrene	2000		ug/kg	220	--	1
Pyrene	10000		ug/kg	160	--	1
2-Methylnaphthalene	1400		ug/kg	320	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	62		30-130
2-Fluorobiphenyl	82		30-130
4-Terphenyl-d14	62		30-130

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939976
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-04 D
Client ID: TT-15 (8-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/03/19 13:00
Date Received: 09/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/18/19 16:32
Analyst: JG
Percent Solids: 62%

Extraction Method: EPA 3546
Extraction Date: 09/10/19 01:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Fluoranthene	11000		ug/kg	810	--	5
Phenanthrene	14000		ug/kg	810	--	5

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-05
Client ID: TT-18/OW
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/03/19 11:30
Date Received: 09/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 129,625.1
Analytical Date: 09/18/19 06:05
Analyst: SZ

Extraction Method: EPA 625.1
Extraction Date: 09/08/19 07:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Bis(2-ethylhexyl)phthalate	ND		ug/l	2.2	--	1
Butyl benzyl phthalate	ND		ug/l	5.0	--	1
Di-n-butylphthalate	ND		ug/l	5.0	--	1
Di-n-octylphthalate	ND		ug/l	5.0	--	1
Diethyl phthalate	ND		ug/l	5.0	--	1
Dimethyl phthalate	ND		ug/l	5.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	61		42-122
2-Fluorobiphenyl	63		46-121
4-Terphenyl-d14	69		47-138

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-05
Client ID: TT-18/OW
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/03/19 11:30
Date Received: 09/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 129,625.1-SIM
Analytical Date: 09/10/19 18:33
Analyst: DV

Extraction Method: EPA 625.1
Extraction Date: 09/08/19 07:55

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	1.3		ug/l	0.10	--	1
Fluoranthene	1.1		ug/l	0.10	--	1
Naphthalene	0.41		ug/l	0.10	--	1
Benzo(a)anthracene	0.46		ug/l	0.10	--	1
Benzo(a)pyrene	0.36		ug/l	0.10	--	1
Benzo(b)fluoranthene	0.51		ug/l	0.10	--	1
Benzo(k)fluoranthene	0.19		ug/l	0.10	--	1
Chrysene	0.37		ug/l	0.10	--	1
Acenaphthylene	0.16		ug/l	0.10	--	1
Anthracene	0.36		ug/l	0.10	--	1
Benzo(ghi)perylene	0.28		ug/l	0.10	--	1
Fluorene	0.96		ug/l	0.10	--	1
Phenanthrene	1.8		ug/l	0.10	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.10	--	1
Indeno(1,2,3-cd)pyrene	0.24		ug/l	0.10	--	1
Pyrene	0.91		ug/l	0.10	--	1
Pentachlorophenol	ND		ug/l	1.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	45		25-87
Phenol-d6	33		16-65
Nitrobenzene-d5	99		42-122
2-Fluorobiphenyl	82		46-121
2,4,6-Tribromophenol	123		45-128
4-Terphenyl-d14	87		47-138

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 129,625.1
Analytical Date: 09/11/19 12:42
Analyst: HL

Extraction Method: EPA 625.1
Extraction Date: 09/08/19 07:54

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 05 Batch: WG1281597-1					
Bis(2-ethylhexyl)phthalate	ND		ug/l	2.2	--
Butyl benzyl phthalate	ND		ug/l	5.0	--
Di-n-butylphthalate	ND		ug/l	5.0	--
Di-n-octylphthalate	ND		ug/l	5.0	--
Diethyl phthalate	ND		ug/l	5.0	--
Dimethyl phthalate	ND		ug/l	5.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	65		42-122
2-Fluorobiphenyl	64		46-121
4-Terphenyl-d14	80		47-138

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 129,625.1-SIM
Analytical Date: 09/10/19 17:43
Analyst: DV

Extraction Method: EPA 625.1
Extraction Date: 09/08/19 07:55

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 05 Batch: WG1281598-1					
Acenaphthene	ND		ug/l	0.10	--
Fluoranthene	ND		ug/l	0.10	--
Naphthalene	ND		ug/l	0.10	--
Benzo(a)anthracene	ND		ug/l	0.10	--
Benzo(a)pyrene	ND		ug/l	0.10	--
Benzo(b)fluoranthene	ND		ug/l	0.10	--
Benzo(k)fluoranthene	ND		ug/l	0.10	--
Chrysene	ND		ug/l	0.10	--
Acenaphthylene	ND		ug/l	0.10	--
Anthracene	ND		ug/l	0.10	--
Benzo(ghi)perylene	ND		ug/l	0.10	--
Fluorene	ND		ug/l	0.10	--
Phenanthrene	ND		ug/l	0.10	--
Dibenzo(a,h)anthracene	ND		ug/l	0.10	--
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	--
Pyrene	ND		ug/l	0.10	--
Pentachlorophenol	ND		ug/l	1.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	40		25-87
Phenol-d6	29		16-65
Nitrobenzene-d5	85		42-122
2-Fluorobiphenyl	73		46-121
2,4,6-Tribromophenol	101		45-128
4-Terphenyl-d14	87		47-138

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 09/11/19 23:18
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 09/10/19 01:15

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-02,04 Batch: WG1282051-1					
Acenaphthene	ND		ug/kg	130	--
Fluoranthene	ND		ug/kg	99	--
Naphthalene	ND		ug/kg	160	--
Benzo(a)anthracene	ND		ug/kg	99	--
Benzo(a)pyrene	ND		ug/kg	130	--
Benzo(b)fluoranthene	ND		ug/kg	99	--
Benzo(k)fluoranthene	ND		ug/kg	99	--
Chrysene	ND		ug/kg	99	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	99	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	99	--
Dibenzo(a,h)anthracene	ND		ug/kg	99	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	99	--
2-Methylnaphthalene	ND		ug/kg	200	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	95		30-130
2-Fluorobiphenyl	88		30-130
4-Terphenyl-d14	94		30-130

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 09/15/19 11:29
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 09/12/19 13:56

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 03 Batch: WG1283392-1					
Acenaphthene	ND		ug/kg	130	--
Fluoranthene	ND		ug/kg	99	--
Naphthalene	ND		ug/kg	160	--
Benzo(a)anthracene	ND		ug/kg	99	--
Benzo(a)pyrene	ND		ug/kg	130	--
Benzo(b)fluoranthene	ND		ug/kg	99	--
Benzo(k)fluoranthene	ND		ug/kg	99	--
Chrysene	ND		ug/kg	99	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	99	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	99	--
Dibenzo(a,h)anthracene	ND		ug/kg	99	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	99	--
2-Methylnaphthalene	ND		ug/kg	200	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	76		30-130
2-Fluorobiphenyl	66		30-130
4-Terphenyl-d14	81		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 05 Batch: WG1281597-3								
Bis(2-ethylhexyl)phthalate	107		-		29-137	-		82
Butyl benzyl phthalate	90		-		1-140	-		60
Di-n-butylphthalate	94		-		8-120	-		47
Di-n-octylphthalate	103		-		19-132	-		69
Diethyl phthalate	85		-		1-120	-		100
Dimethyl phthalate	76		-		1-120	-		183

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	65				42-122
2-Fluorobiphenyl	65				46-121
4-Terphenyl-d14	79				47-138

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 05 Batch: WG1281598-2								
Acenaphthene	83		-		60-132	-		30
Fluoranthene	88		-		43-121	-		30
Naphthalene	84		-		36-120	-		30
Benzo(a)anthracene	84		-		42-133	-		30
Benzo(a)pyrene	78		-		32-148	-		30
Benzo(b)fluoranthene	83		-		42-140	-		30
Benzo(k)fluoranthene	77		-		25-146	-		30
Chrysene	78		-		44-140	-		30
Acenaphthylene	91		-		54-126	-		30
Anthracene	87		-		43-120	-		30
Benzo(ghi)perylene	94		-		1-195	-		30
Fluorene	85		-		70-120	-		30
Phenanthrene	81		-		65-120	-		30
Dibenzo(a,h)anthracene	96		-		1-200	-		30
Indeno(1,2,3-cd)pyrene	97		-		1-151	-		30
Pyrene	86		-		70-120	-		30
Pentachlorophenol	104		-		38-152	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 05 Batch: WG1281598-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	51				25-87
Phenol-d6	37				16-65
Nitrobenzene-d5	100				42-122
2-Fluorobiphenyl	81				46-121
2,4,6-Tribromophenol	116				45-128
4-Terphenyl-d14	91				47-138

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-02,04 Batch: WG1282051-2 WG1282051-3								
Acenaphthene	73		82		40-140	12		30
Fluoranthene	79		84		40-140	6		30
Naphthalene	74		80		40-140	8		30
Benzo(a)anthracene	76		84		40-140	10		30
Benzo(a)pyrene	76		83		40-140	9		30
Benzo(b)fluoranthene	81		90		40-140	11		30
Benzo(k)fluoranthene	76		82		40-140	8		30
Chrysene	74		79		40-140	7		30
Acenaphthylene	78		84		40-140	7		30
Anthracene	76		81		40-140	6		30
Benzo(ghi)perylene	81		90		40-140	11		30
Fluorene	79		87		40-140	10		30
Phenanthrene	75		80		40-140	6		30
Dibenzo(a,h)anthracene	77		86		40-140	11		30
Indeno(1,2,3-cd)pyrene	82		89		40-140	8		30
Pyrene	77		85		40-140	10		30
2-Methylnaphthalene	76		83		40-140	9		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST. S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939976

Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-02,04 Batch: WG1282051-2 WG1282051-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	78		88		30-130
2-Fluorobiphenyl	78		85		30-130
4-Terphenyl-d14	75		81		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 03 Batch: WG1283392-2 WG1283392-3								
Acenaphthene	65		76		40-140	16		30
Fluoranthene	67		78		40-140	15		30
Naphthalene	62		73		40-140	16		30
Benzo(a)anthracene	71		85		40-140	18		30
Benzo(a)pyrene	65		79		40-140	19		30
Benzo(b)fluoranthene	67		79		40-140	16		30
Benzo(k)fluoranthene	70		87		40-140	22		30
Chrysene	64		79		40-140	21		30
Acenaphthylene	63		75		40-140	17		30
Anthracene	68		82		40-140	19		30
Benzo(ghi)perylene	71		86		40-140	19		30
Fluorene	67		78		40-140	15		30
Phenanthrene	64		77		40-140	18		30
Dibenzo(a,h)anthracene	75		91		40-140	19		30
Indeno(1,2,3-cd)pyrene	74		89		40-140	18		30
Pyrene	64		76		40-140	17		30
2-Methylnaphthalene	60		73		40-140	20		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST. S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939976

Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 03 Batch: WG1283392-2 WG1283392-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	64		76		30-130
2-Fluorobiphenyl	56		65		30-130
4-Terphenyl-d14	60		70		30-130

PETROLEUM HYDROCARBONS

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID:	L1939976-01	Date Collected:	09/03/19 09:00
Client ID:	TT-20A (8-10')	Date Received:	09/03/19
Sample Location:	CYPHER ST. S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/09/19 17:40
Analytical Date:	09/13/19 04:29	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/10/19
Percent Solids:	67%		

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	33.8		mg/kg	9.52	--	1
C19-C36 Aliphatics	ND		mg/kg	9.52	--	1
C11-C22 Aromatics	30.4		mg/kg	9.52	--	1
C11-C22 Aromatics, Adjusted	29.9		mg/kg	9.52	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	70		40-140
o-Terphenyl	80		40-140
2-Fluorobiphenyl	91		40-140
2-Bromonaphthalene	92		40-140

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939976

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID:	L1939976-01 D	Date Collected:	09/03/19 09:00
Client ID:	TT-20A (8-10')	Date Received:	09/03/19
Sample Location:	CYPHER ST. S. BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	09/13/19 19:00
Analyst:	BAD
Percent Solids:	67%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1:1 +/- 25%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	19.4	--	2
C9-C12 Aliphatics	96.6		mg/kg	19.4	--	2
C9-C10 Aromatics	56.4		mg/kg	19.4	--	2
C5-C8 Aliphatics, Adjusted	ND		mg/kg	19.4	--	2
C9-C12 Aliphatics, Adjusted	40.2		mg/kg	19.4	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	**144**	Q	70-130
2,5-Dibromotoluene-FID	**149**	Q	70-130

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939976

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID:	L1939976-02	Date Collected:	09/03/19 10:30
Client ID:	TT-18 (8-10')	Date Received:	09/03/19
Sample Location:	CYPHER ST. S. BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	09/13/19 19:30
Analyst:	BAD
Percent Solids:	66%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1:1 +/- 25%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	11.9		mg/kg	11.5	--	1
C9-C12 Aliphatics	46.0		mg/kg	11.5	--	1
C9-C10 Aromatics	26.4		mg/kg	11.5	--	1
C5-C8 Aliphatics, Adjusted	11.9		mg/kg	11.5	--	1
C9-C12 Aliphatics, Adjusted	19.6		mg/kg	11.5	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	108		70-130
2,5-Dibromotoluene-FID	117		70-130

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939976

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID:	L1939976-02 D	Date Collected:	09/03/19 10:30
Client ID:	TT-18 (8-10')	Date Received:	09/03/19
Sample Location:	CYPHER ST. S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/09/19 17:40
Analytical Date:	09/15/19 18:10	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/10/19
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	482		mg/kg	19.5	--	2
C19-C36 Aliphatics	603		mg/kg	19.5	--	2
C11-C22 Aromatics	687		mg/kg	19.5	--	2
C11-C22 Aromatics, Adjusted	556		mg/kg	19.5	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	68		40-140
o-Terphenyl	140		40-140
2-Fluorobiphenyl	95		40-140
2-Bromonaphthalene	104		40-140

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939976

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID:	L1939976-03	Date Collected:	09/03/19 12:00
Client ID:	DC1820DEEP	Date Received:	09/03/19
Sample Location:	CYPHER ST. S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/13/19 14:07
Analytical Date:	09/15/19 12:04	Cleanup Method1:	EPH-04-1
Analyst:	SR	Cleanup Date1:	09/14/19
Percent Solids:	70%		

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	24.4		mg/kg	9.20	--	1
C19-C36 Aliphatics	21.4		mg/kg	9.20	--	1
C11-C22 Aromatics	19.6		mg/kg	9.20	--	1
C11-C22 Aromatics, Adjusted	19.6		mg/kg	9.20	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	57		40-140
o-Terphenyl	45		40-140
2-Fluorobiphenyl	58		40-140
2-Bromonaphthalene	58		40-140

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939976

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID:	L1939976-04	Date Collected:	09/03/19 13:00
Client ID:	TT-15 (8-10')	Date Received:	09/03/19
Sample Location:	CYPHER ST. S. BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	09/13/19 20:01
Analyst:	BAD
Percent Solids:	62%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1.4:1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	14.6	--	1
C9-C12 Aliphatics	46.2		mg/kg	14.6	--	1
C9-C10 Aromatics	30.2		mg/kg	14.6	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	14.6	--	1
C9-C12 Aliphatics, Adjusted	16.0		mg/kg	14.6	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	**135**	Q	70-130
2,5-Dibromotoluene-FID	**137**	Q	70-130

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID:	L1939976-04	Date Collected:	09/03/19 13:00
Client ID:	TT-15 (8-10')	Date Received:	09/03/19
Sample Location:	CYPHER ST. S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/09/19 05:26
Analytical Date:	09/13/19 02:28	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/10/19
Percent Solids:	62%		

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	213		mg/kg	10.5	--	1
C19-C36 Aliphatics	268		mg/kg	10.5	--	1
C11-C22 Aromatics	232		mg/kg	10.5	--	1
C11-C22 Aromatics, Adjusted	200		mg/kg	10.5	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	58		40-140
o-Terphenyl	67		40-140
2-Fluorobiphenyl	88		40-140
2-Bromonaphthalene	89		40-140

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939976
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 09/13/19 01:50
Analyst: MEO

Extraction Method: EPA 3546
Extraction Date: 09/09/19 00:09
Cleanup Method: EPH-04-1
Cleanup Date: 09/10/19

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 04 Batch: WG1281663-1					
C9-C18 Aliphatics	ND		mg/kg	6.44	--
C19-C36 Aliphatics	ND		mg/kg	6.44	--
C11-C22 Aromatics	ND		mg/kg	6.44	--
C11-C22 Aromatics, Adjusted	ND		mg/kg	6.44	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	54		40-140
o-Terphenyl	51		40-140
2-Fluorobiphenyl	68		40-140
2-Bromonaphthalene	68		40-140

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939976
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 09/13/19 03:57
Analyst: MEO

Extraction Method: EPA 3546
Extraction Date: 09/09/19 13:55
Cleanup Method: EPH-04-1
Cleanup Date: 09/10/19

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-02 Batch: WG1281887-1					
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	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	69		40-140
o-Terphenyl	73		40-140
2-Fluorobiphenyl	85		40-140
2-Bromonaphthalene	84		40-140

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939976
Report Date: 09/18/19

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): 03 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	--

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

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939976

Project Number: 143-278997-19001 **Report Date:** 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 131,VPH-18-2.1
Analytical Date: 09/13/19 10:14
Analyst: BAD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-02,04 Batch: WG1284214-4					
C5-C8 Aliphatics	ND		mg/kg	5.00	--
C9-C12 Aliphatics	ND		mg/kg	5.00	--
C9-C10 Aromatics	ND		mg/kg	5.00	--
C5-C8 Aliphatics, Adjusted	ND		mg/kg	5.00	--
C9-C12 Aliphatics, Adjusted	ND		mg/kg	5.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	106		70-130
2,5-Dibromotoluene-FID	105		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 04 Batch: WG1281663-2 WG1281663-3								
C9-C18 Aliphatics	52		60		40-140	14		25
C19-C36 Aliphatics	61		74		40-140	19		25
C11-C22 Aromatics	53		66		40-140	22		25
Naphthalene	44		57		40-140	**26**	Q	25
2-Methylnaphthalene	44		56		40-140	24		25
Acenaphthylene	48		60		40-140	22		25
Acenaphthene	52		63		40-140	19		25
Fluorene	51		63		40-140	21		25
Phenanthrene	55		69		40-140	23		25
Anthracene	55		68		40-140	21		25
Fluoranthene	55		69		40-140	23		25
Pyrene	57		71		40-140	22		25
Benzo(a)anthracene	54		68		40-140	23		25
Chrysene	55		68		40-140	21		25
Benzo(b)fluoranthene	52		67		40-140	25		25
Benzo(k)fluoranthene	52		66		40-140	24		25
Benzo(a)pyrene	50		63		40-140	23		25
Indeno(1,2,3-cd)Pyrene	44		59		40-140	**29**	Q	25
Dibenzo(a,h)anthracene	43		55		40-140	24		25
Benzo(ghi)perylene	42		54		40-140	25		25
Nonane (C9)	40		48		30-140	18		25
Decane (C10)	45		53		40-140	16		25
Dodecane (C12)	46		54		40-140	16		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 04 Batch: WG1281663-2 WG1281663-3								
Tetradecane (C14)	47		55		40-140	16		25
Hexadecane (C16)	51		59		40-140	15		25
Octadecane (C18)	54		64		40-140	17		25
Nonadecane (C19)	55		65		40-140	17		25
Eicosane (C20)	56		67		40-140	18		25
Docosane (C22)	57		69		40-140	19		25
Tetracosane (C24)	58		70		40-140	19		25
Hexacosane (C26)	60		72		40-140	18		25
Octacosane (C28)	61		74		40-140	19		25
Triacontane (C30)	62		74		40-140	18		25
Hexatriacontane (C36)	57		73		40-140	25		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	56		62		40-140
o-Terphenyl	56		64		40-140
2-Fluorobiphenyl	74		81		40-140
2-Bromonaphthalene	73		81		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-02 Batch: WG1281887-2 WG1281887-3								
C9-C18 Aliphatics	77		74		40-140	4		25
C19-C36 Aliphatics	85		82		40-140	4		25
C11-C22 Aromatics	90		89		40-140	1		25
Naphthalene	72		73		40-140	1		25
2-Methylnaphthalene	70		71		40-140	1		25
Acenaphthylene	77		77		40-140	0		25
Acenaphthene	78		79		40-140	1		25
Fluorene	82		83		40-140	1		25
Phenanthrene	88		88		40-140	0		25
Anthracene	89		89		40-140	0		25
Fluoranthene	91		93		40-140	2		25
Pyrene	97		98		40-140	1		25
Benzo(a)anthracene	92		90		40-140	2		25
Chrysene	92		88		40-140	4		25
Benzo(b)fluoranthene	93		94		40-140	1		25
Benzo(k)fluoranthene	91		87		40-140	4		25
Benzo(a)pyrene	90		88		40-140	2		25
Indeno(1,2,3-cd)Pyrene	89		89		40-140	0		25
Dibenzo(a,h)anthracene	88		86		40-140	2		25
Benzo(ghi)perylene	83		81		40-140	2		25
Nonane (C9)	65		64		30-140	2		25
Decane (C10)	70		68		40-140	3		25
Dodecane (C12)	69		66		40-140	4		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-02 Batch: WG1281887-2 WG1281887-3								
Tetradecane (C14)	70		67		40-140	4		25
Hexadecane (C16)	74		71		40-140	4		25
Octadecane (C18)	81		77		40-140	5		25
Nonadecane (C19)	80		76		40-140	5		25
Eicosane (C20)	82		78		40-140	5		25
Docosane (C22)	83		79		40-140	5		25
Tetracosane (C24)	82		78		40-140	5		25
Hexacosane (C26)	82		79		40-140	4		25
Octacosane (C28)	83		79		40-140	5		25
Triacontane (C30)	83		80		40-140	4		25
Hexatriacontane (C36)	85		82		40-140	4		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	73		67		40-140
o-Terphenyl	80		78		40-140
2-Fluorobiphenyl	83		86		40-140
2-Bromonaphthalene	83		87		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 03 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: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

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

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-02,04 Batch: WG1284214-2 WG1284214-3								
C5-C8 Aliphatics	93		98		70-130	5		25
C9-C12 Aliphatics	94		100		70-130	6		25
C9-C10 Aromatics	96		101		70-130	5		25
Benzene	98		103		70-130	5		25
Toluene	98		104		70-130	6		25
Ethylbenzene	99		105		70-130	6		25
p/m-Xylene	100		105		70-130	5		25
o-Xylene	95		101		70-130	6		25
Methyl tert butyl ether	98		105		70-130	6		25
Naphthalene	99		108		70-130	8		25
1,2,4-Trimethylbenzene	96		101		70-130	5		25
Pentane	89		93		70-130	4		25
2-Methylpentane	96		102		70-130	6		25
2,2,4-Trimethylpentane	94		99		70-130	5		25
n-Nonane	96		102		30-130	6		25
n-Decane	90		95		70-130	5		25
n-Butylcyclohexane	98		104		70-130	6		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	98		104		70-130
2,5-Dibromotoluene-FID	96		102		70-130

PCBS

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-01
Client ID: TT-20A (8-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/03/19 09:00
Date Received: 09/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/10/19 21:06
Analyst: KB
Percent Solids: 67%

Extraction Method: EPA 3546
Extraction Date: 09/09/19 09:36
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
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	136	--	1	A
Aroclor 1221	ND		ug/kg	136	--	1	A
Aroclor 1232	ND		ug/kg	136	--	1	A
Aroclor 1242	ND		ug/kg	136	--	1	A
Aroclor 1248	ND		ug/kg	136	--	1	A
Aroclor 1254	ND		ug/kg	136	--	1	A
Aroclor 1260	ND		ug/kg	136	--	1	A
Aroclor 1262	ND		ug/kg	136	--	1	A
Aroclor 1268	ND		ug/kg	136	--	1	A
PCBs, Total	ND		ug/kg	136	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	62		30-150	B
Decachlorobiphenyl	65		30-150	B
2,4,5,6-Tetrachloro-m-xylene	65		30-150	A
Decachlorobiphenyl	68		30-150	A

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-02
Client ID: TT-18 (8-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/03/19 10:30
Date Received: 09/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/10/19 21:18
Analyst: KB
Percent Solids: 66%

Extraction Method: EPA 3546
Extraction Date: 09/09/19 09:36
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
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	47.7	--	1	A
Aroclor 1221	ND		ug/kg	47.7	--	1	A
Aroclor 1232	ND		ug/kg	47.7	--	1	A
Aroclor 1242	ND		ug/kg	47.7	--	1	A
Aroclor 1248	ND		ug/kg	47.7	--	1	A
Aroclor 1254	ND		ug/kg	47.7	--	1	A
Aroclor 1260	ND		ug/kg	47.7	--	1	A
Aroclor 1262	ND		ug/kg	47.7	--	1	A
Aroclor 1268	ND		ug/kg	47.7	--	1	A
PCBs, Total	ND		ug/kg	47.7	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	61		30-150	B
Decachlorobiphenyl	81		30-150	B
2,4,5,6-Tetrachloro-m-xylene	67		30-150	A
Decachlorobiphenyl	68		30-150	A

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-03
Client ID: DC1820DEEP
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/03/19 12:00
Date Received: 09/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/17/19 12:42
Analyst: JM
Percent Solids: 70%

Extraction Method: EPA 3546
Extraction Date: 09/16/19 12:10
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	47.3	--	1	A
Aroclor 1221	ND		ug/kg	47.3	--	1	A
Aroclor 1232	ND		ug/kg	47.3	--	1	A
Aroclor 1242	ND		ug/kg	47.3	--	1	A
Aroclor 1248	ND		ug/kg	47.3	--	1	A
Aroclor 1254	ND		ug/kg	47.3	--	1	A
Aroclor 1260	ND		ug/kg	47.3	--	1	A
Aroclor 1262	ND		ug/kg	47.3	--	1	A
Aroclor 1268	ND		ug/kg	47.3	--	1	A
PCBs, Total	ND		ug/kg	47.3	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	61		30-150	B
Decachlorobiphenyl	45		30-150	B
2,4,5,6-Tetrachloro-m-xylene	61		30-150	A
Decachlorobiphenyl	52		30-150	A

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-04
Client ID: TT-15 (8-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/03/19 13:00
Date Received: 09/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/11/19 01:02
Analyst: KB
Percent Solids: 62%

Extraction Method: EPA 3546
Extraction Date: 09/09/19 02:05
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	51.8	--	1	A
Aroclor 1221	ND		ug/kg	51.8	--	1	A
Aroclor 1232	ND		ug/kg	51.8	--	1	A
Aroclor 1242	ND		ug/kg	51.8	--	1	A
Aroclor 1248	ND		ug/kg	51.8	--	1	A
Aroclor 1254	ND		ug/kg	51.8	--	1	A
Aroclor 1260	ND		ug/kg	51.8	--	1	B
Aroclor 1262	ND		ug/kg	51.8	--	1	A
Aroclor 1268	ND		ug/kg	51.8	--	1	A
PCBs, Total	ND		ug/kg	51.8	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	53		30-150	B
Decachlorobiphenyl	96		30-150	B
2,4,5,6-Tetrachloro-m-xylene	56		30-150	A
Decachlorobiphenyl	60		30-150	A

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-05
Client ID: TT-18/OW
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/03/19 11:30
Date Received: 09/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 127,608.3
Analytical Date: 09/09/19 15:26
Analyst: KB

Extraction Method: EPA 608.3
Extraction Date: 09/08/19 19:32
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
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.250	--	1	A
Aroclor 1221	ND		ug/l	0.250	--	1	A
Aroclor 1232	ND		ug/l	0.250	--	1	A
Aroclor 1242	ND		ug/l	0.250	--	1	A
Aroclor 1248	ND		ug/l	0.250	--	1	A
Aroclor 1254	ND		ug/l	0.250	--	1	A
Aroclor 1260	ND		ug/l	0.200	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	66		37-123	B
Decachlorobiphenyl	69		38-114	B
2,4,5,6-Tetrachloro-m-xylene	66		37-123	A
Decachlorobiphenyl	75		38-114	A

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939976
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 127,608.3
Analytical Date: 09/09/19 14:51
Analyst: KB

Extraction Method: EPA 608.3
Extraction Date: 09/08/19 19:32
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
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 05 Batch: WG1281647-1						
Aroclor 1016	ND		ug/l	0.250	--	A
Aroclor 1221	ND		ug/l	0.250	--	A
Aroclor 1232	ND		ug/l	0.250	--	A
Aroclor 1242	ND		ug/l	0.250	--	A
Aroclor 1248	ND		ug/l	0.250	--	A
Aroclor 1254	ND		ug/l	0.250	--	A
Aroclor 1260	ND		ug/l	0.200	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	69		37-123	B
Decachlorobiphenyl	66		38-114	B
2,4,5,6-Tetrachloro-m-xylene	68		37-123	A
Decachlorobiphenyl	69		38-114	A

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939976
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 09/10/19 01:27
Analyst: WR

Extraction Method: EPA 3546
Extraction Date: 09/09/19 02:05
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): 04 Batch: WG1281683-1						
Aroclor 1016	ND		ug/kg	31.9	--	A
Aroclor 1221	ND		ug/kg	31.9	--	A
Aroclor 1232	ND		ug/kg	31.9	--	A
Aroclor 1242	ND		ug/kg	31.9	--	A
Aroclor 1248	ND		ug/kg	31.9	--	A
Aroclor 1254	ND		ug/kg	31.9	--	A
Aroclor 1260	ND		ug/kg	31.9	--	A
Aroclor 1262	ND		ug/kg	31.9	--	A
Aroclor 1268	ND		ug/kg	31.9	--	A
PCBs, Total	ND		ug/kg	31.9	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	61		30-150	B
Decachlorobiphenyl	66		30-150	B
2,4,5,6-Tetrachloro-m-xylene	64		30-150	A
Decachlorobiphenyl	41		30-150	A

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939976
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 09/10/19 18:56
Analyst: KB

Extraction Method: EPA 3546
Extraction Date: 09/09/19 06:40
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/10/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01-02 Batch: WG1281734-1						
Aroclor 1016	ND		ug/kg	32.6	--	A
Aroclor 1221	ND		ug/kg	32.6	--	A
Aroclor 1232	ND		ug/kg	32.6	--	A
Aroclor 1242	ND		ug/kg	32.6	--	A
Aroclor 1248	ND		ug/kg	32.6	--	A
Aroclor 1254	ND		ug/kg	32.6	--	A
Aroclor 1260	ND		ug/kg	32.6	--	A
Aroclor 1262	ND		ug/kg	32.6	--	A
Aroclor 1268	ND		ug/kg	32.6	--	A
PCBs, Total	ND		ug/kg	32.6	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	83		30-150	B
Decachlorobiphenyl	74		30-150	B
2,4,5,6-Tetrachloro-m-xylene	79		30-150	A
Decachlorobiphenyl	70		30-150	A

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939976
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 09/17/19 13:56
Analyst: JM

Extraction Method: EPA 3546
Extraction Date: 09/16/19 10:10
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): 03 Batch: WG1284550-1						
Aroclor 1016	ND		ug/kg	32.6	--	A
Aroclor 1221	ND		ug/kg	32.6	--	A
Aroclor 1232	ND		ug/kg	32.6	--	A
Aroclor 1242	ND		ug/kg	32.6	--	A
Aroclor 1248	ND		ug/kg	32.6	--	A
Aroclor 1254	ND		ug/kg	32.6	--	A
Aroclor 1260	ND		ug/kg	32.6	--	A
Aroclor 1262	ND		ug/kg	32.6	--	A
Aroclor 1268	ND		ug/kg	32.6	--	A
PCBs, Total	ND		ug/kg	32.6	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	66		30-150	B
Decachlorobiphenyl	62		30-150	B
2,4,5,6-Tetrachloro-m-xylene	70		30-150	A
Decachlorobiphenyl	67		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST. S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939976

Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 05 Batch: WG1281647-2									
Aroclor 1016	77		-		50-140	-		36	A
Aroclor 1260	71		-		8-140	-		38	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	69				37-123	B
Decachlorobiphenyl	68				38-114	B
2,4,5,6-Tetrachloro-m-xylene	70				37-123	A
Decachlorobiphenyl	71				38-114	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 04 Batch: WG1281683-2 WG1281683-3									
Aroclor 1016	80		90		40-140	12		30	A
Aroclor 1260	66		74		40-140	11		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	60		68		30-150	B
Decachlorobiphenyl	66		77		30-150	B
2,4,5,6-Tetrachloro-m-xylene	62		70		30-150	A
Decachlorobiphenyl	48		59		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST. S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939976

Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01-02 Batch: WG1281734-2 WG1281734-3									
Aroclor 1016	74		82		40-140	10		30	A
Aroclor 1260	64		74		40-140	14		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	79		93		30-150	B
Decachlorobiphenyl	67		90		30-150	B
2,4,5,6-Tetrachloro-m-xylene	78		91		30-150	A
Decachlorobiphenyl	66		82		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST. S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939976

Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 03 Batch: WG1284550-2 WG1284550-3									
Aroclor 1016	70		72		40-140	3		30	A
Aroclor 1260	65		66		40-140	2		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	65		66		30-150	B
Decachlorobiphenyl	60		62		30-150	B
2,4,5,6-Tetrachloro-m-xylene	66		65		30-150	A
Decachlorobiphenyl	64		65		30-150	A

METALS

Project Name: CYPHER ST. S. BOSTON
Lab Number: L1939976
Project Number: 143-278997-19001
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-01
Client ID: TT-20A (8-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/03/19 09:00
Date Received: 09/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 67%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.95	--	1	09/12/19 23:00	09/13/19 17:55	EPA 3050B	97,6010D	MC
Arsenic, Total	9.07		mg/kg	0.590	--	1	09/12/19 23:00	09/13/19 17:55	EPA 3050B	97,6010D	MC
Barium, Total	115		mg/kg	0.590	--	1	09/12/19 23:00	09/13/19 17:55	EPA 3050B	97,6010D	MC
Beryllium, Total	0.336		mg/kg	0.295	--	1	09/12/19 23:00	09/13/19 17:55	EPA 3050B	97,6010D	MC
Cadmium, Total	ND		mg/kg	0.590	--	1	09/12/19 23:00	09/13/19 17:55	EPA 3050B	97,6010D	MC
Chromium, Total	5.86		mg/kg	0.590	--	1	09/12/19 23:00	09/13/19 17:55	EPA 3050B	97,6010D	MC
Lead, Total	134		mg/kg	2.95	--	1	09/12/19 23:00	09/13/19 17:55	EPA 3050B	97,6010D	MC
Mercury, Total	0.549		mg/kg	0.108	--	1	09/12/19 04:30	09/12/19 15:54	EPA 7471B	97,7471B	GD
Nickel, Total	6.21		mg/kg	1.47	--	1	09/12/19 23:00	09/13/19 17:55	EPA 3050B	97,6010D	MC
Selenium, Total	ND		mg/kg	2.95	--	1	09/12/19 23:00	09/13/19 17:55	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.590	--	1	09/12/19 23:00	09/13/19 17:55	EPA 3050B	97,6010D	MC
Thallium, Total	ND		mg/kg	2.95	--	1	09/12/19 23:00	09/13/19 17:55	EPA 3050B	97,6010D	MC
Vanadium, Total	16.0		mg/kg	0.590	--	1	09/12/19 23:00	09/13/19 17:55	EPA 3050B	97,6010D	MC
Zinc, Total	64.8		mg/kg	2.95	--	1	09/12/19 23:00	09/13/19 17:55	EPA 3050B	97,6010D	MC

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-02
Client ID: TT-18 (8-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/03/19 10:30
Date Received: 09/03/19
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											
Antimony, Total	ND		mg/kg	2.90	--	1	09/12/19 23:00	09/13/19 18:48	EPA 3050B	97,6010D	MC
Arsenic, Total	30.7		mg/kg	0.579	--	1	09/12/19 23:00	09/13/19 18:48	EPA 3050B	97,6010D	MC
Barium, Total	118		mg/kg	0.579	--	1	09/12/19 23:00	09/13/19 18:48	EPA 3050B	97,6010D	MC
Beryllium, Total	ND		mg/kg	0.290	--	1	09/12/19 23:00	09/13/19 18:48	EPA 3050B	97,6010D	MC
Cadmium, Total	1.53		mg/kg	0.579	--	1	09/12/19 23:00	09/13/19 18:48	EPA 3050B	97,6010D	MC
Chromium, Total	14.5		mg/kg	0.579	--	1	09/12/19 23:00	09/13/19 18:48	EPA 3050B	97,6010D	MC
Lead, Total	1070		mg/kg	2.90	--	1	09/12/19 23:00	09/13/19 18:48	EPA 3050B	97,6010D	MC
Mercury, Total	7.21		mg/kg	0.563	--	5	09/12/19 04:30	09/12/19 21:03	EPA 7471B	97,7471B	GD
Nickel, Total	8.96		mg/kg	1.45	--	1	09/12/19 23:00	09/13/19 18:48	EPA 3050B	97,6010D	MC
Selenium, Total	ND		mg/kg	2.90	--	1	09/12/19 23:00	09/13/19 18:48	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.579	--	1	09/12/19 23:00	09/13/19 18:48	EPA 3050B	97,6010D	MC
Thallium, Total	ND		mg/kg	2.90	--	1	09/12/19 23:00	09/13/19 18:48	EPA 3050B	97,6010D	MC
Vanadium, Total	18.0		mg/kg	0.579	--	1	09/12/19 23:00	09/13/19 18:48	EPA 3050B	97,6010D	MC
Zinc, Total	894		mg/kg	2.90	--	1	09/12/19 23:00	09/13/19 18:48	EPA 3050B	97,6010D	MC

Project Name: CYPHER ST. S. BOSTON
Lab Number: L1939976
Project Number: 143-278997-19001
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-03
Client ID: DC1820DEEP
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/03/19 12:00
Date Received: 09/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 70%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.72	--	1	09/12/19 23:00	09/13/19 18:52	EPA 3050B	97,6010D	MC
Arsenic, Total	26.1		mg/kg	0.545	--	1	09/12/19 23:00	09/13/19 18:52	EPA 3050B	97,6010D	MC
Barium, Total	162		mg/kg	0.545	--	1	09/12/19 23:00	09/13/19 18:52	EPA 3050B	97,6010D	MC
Beryllium, Total	0.425		mg/kg	0.272	--	1	09/12/19 23:00	09/13/19 18:52	EPA 3050B	97,6010D	MC
Cadmium, Total	1.61		mg/kg	0.545	--	1	09/12/19 23:00	09/13/19 18:52	EPA 3050B	97,6010D	MC
Chromium, Total	12.3		mg/kg	0.545	--	1	09/12/19 23:00	09/13/19 18:52	EPA 3050B	97,6010D	MC
Lead, Total	414		mg/kg	2.72	--	1	09/12/19 23:00	09/13/19 18:52	EPA 3050B	97,6010D	MC
Mercury, Total	0.928		mg/kg	0.106	--	1	09/12/19 04:30	09/12/19 16:01	EPA 7471B	97,7471B	GD
Nickel, Total	11.6		mg/kg	1.36	--	1	09/12/19 23:00	09/13/19 18:52	EPA 3050B	97,6010D	MC
Selenium, Total	ND		mg/kg	2.72	--	1	09/12/19 23:00	09/13/19 18:52	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.545	--	1	09/12/19 23:00	09/13/19 18:52	EPA 3050B	97,6010D	MC
Thallium, Total	ND		mg/kg	2.72	--	1	09/12/19 23:00	09/13/19 18:52	EPA 3050B	97,6010D	MC
Vanadium, Total	22.3		mg/kg	0.545	--	1	09/12/19 23:00	09/13/19 18:52	EPA 3050B	97,6010D	MC
Zinc, Total	565		mg/kg	2.72	--	1	09/12/19 23:00	09/13/19 18:52	EPA 3050B	97,6010D	MC

Project Name: CYPHER ST. S. BOSTON
Lab Number: L1939976
Project Number: 143-278997-19001
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-04
Client ID: TT-15 (8-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/03/19 13:00
Date Received: 09/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 62%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	7.70		mg/kg	3.17	--	1	09/12/19 23:00	09/13/19 18:56	EPA 3050B	97,6010D	MC
Arsenic, Total	25.6		mg/kg	0.635	--	1	09/12/19 23:00	09/13/19 18:56	EPA 3050B	97,6010D	MC
Barium, Total	232		mg/kg	0.635	--	1	09/12/19 23:00	09/13/19 18:56	EPA 3050B	97,6010D	MC
Beryllium, Total	0.412		mg/kg	0.317	--	1	09/12/19 23:00	09/13/19 18:56	EPA 3050B	97,6010D	MC
Cadmium, Total	1.52		mg/kg	0.635	--	1	09/12/19 23:00	09/13/19 18:56	EPA 3050B	97,6010D	MC
Chromium, Total	60.9		mg/kg	0.635	--	1	09/12/19 23:00	09/13/19 18:56	EPA 3050B	97,6010D	MC
Lead, Total	1170		mg/kg	3.17	--	1	09/12/19 23:00	09/13/19 18:56	EPA 3050B	97,6010D	MC
Mercury, Total	16.4		mg/kg	6.00	--	50	09/12/19 04:30	09/12/19 21:06	EPA 7471B	97,7471B	GD
Nickel, Total	16.0		mg/kg	1.59	--	1	09/12/19 23:00	09/13/19 18:56	EPA 3050B	97,6010D	MC
Selenium, Total	ND		mg/kg	3.17	--	1	09/12/19 23:00	09/13/19 18:56	EPA 3050B	97,6010D	MC
Silver, Total	2.66		mg/kg	0.635	--	1	09/12/19 23:00	09/13/19 18:56	EPA 3050B	97,6010D	MC
Thallium, Total	ND		mg/kg	3.17	--	1	09/12/19 23:00	09/13/19 18:56	EPA 3050B	97,6010D	MC
Vanadium, Total	33.0		mg/kg	0.635	--	1	09/12/19 23:00	09/13/19 18:56	EPA 3050B	97,6010D	MC
Zinc, Total	385		mg/kg	3.17	--	1	09/12/19 23:00	09/13/19 18:56	EPA 3050B	97,6010D	MC

Project Name: CYPHER ST. S. BOSTON
Lab Number: L1939976
Project Number: 143-278997-19001
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-05
Client ID: TT-18/OW
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/03/19 11:30
Date Received: 09/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/l	0.00400	--	1	09/11/19 17:09	09/12/19 12:49	EPA 3005A	3,200.8	AM
Arsenic, Total	0.03785		mg/l	0.00100	--	1	09/11/19 17:09	09/12/19 12:49	EPA 3005A	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	09/11/19 17:09	09/12/19 12:49	EPA 3005A	3,200.8	AM
Chromium, Total	0.00165		mg/l	0.00100	--	1	09/11/19 17:09	09/12/19 12:49	EPA 3005A	3,200.8	AM
Copper, Total	0.00731		mg/l	0.00100	--	1	09/11/19 17:09	09/12/19 12:49	EPA 3005A	3,200.8	AM
Iron, Total	28.3		mg/l	0.050	--	1	09/11/19 17:09	09/12/19 18:27	EPA 3005A	19,200.7	MC
Lead, Total	0.04372		mg/l	0.00100	--	1	09/11/19 17:09	09/12/19 12:49	EPA 3005A	3,200.8	AM
Mercury, Total	ND		mg/l	0.00020	--	1	09/11/19 14:40	09/11/19 19:01	EPA 245.1	3,245.1	AL
Nickel, Total	0.00266		mg/l	0.00200	--	1	09/11/19 17:09	09/12/19 12:49	EPA 3005A	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	09/11/19 17:09	09/12/19 12:49	EPA 3005A	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	09/11/19 17:09	09/12/19 12:49	EPA 3005A	3,200.8	AM
Zinc, Total	0.05884		mg/l	0.01000	--	1	09/11/19 17:09	09/12/19 12:49	EPA 3005A	3,200.8	AM
General Chemistry - Mansfield Lab											
Chromium, Trivalent	ND		mg/l	0.010	--	1		09/12/19 12:49	NA	107,-	

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939976

Project Number: 143-278997-19001 **Report Date:** 09/18/19

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): 01-04 Batch: WG1282739-1										
Mercury, Total	ND		mg/kg	0.083	--	1	09/12/19 04:30	09/12/19 11:54	97,7471B	GD

Prep Information

Digestion Method: EPA 7471B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 05 Batch: WG1282886-1										
Mercury, Total	ND		mg/l	0.00020	--	1	09/11/19 14:40	09/11/19 18:39	3,245.1	AL

Prep Information

Digestion Method: EPA 245.1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 05 Batch: WG1282933-1										
Iron, Total	ND		mg/l	0.050	--	1	09/11/19 17:09	09/12/19 17:46	19,200.7	MC

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 05 Batch: WG1282946-1										
Antimony, Total	ND		mg/l	0.00400	--	1	09/11/19 17:09	09/12/19 12:30	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00100	--	1	09/11/19 17:09	09/12/19 12:30	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	09/11/19 17:09	09/12/19 12:30	3,200.8	AM
Chromium, Total	ND		mg/l	0.00100	--	1	09/11/19 17:09	09/12/19 12:30	3,200.8	AM
Copper, Total	ND		mg/l	0.00100	--	1	09/11/19 17:09	09/12/19 12:30	3,200.8	AM

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939976

Project Number: 143-278997-19001 **Report Date:** 09/18/19

Method Blank Analysis
Batch Quality Control

Lead, Total	ND	mg/l	0.00100	--	1	09/11/19 17:09	09/12/19 12:30	3,200.8	AM
Nickel, Total	ND	mg/l	0.00200	--	1	09/11/19 17:09	09/12/19 12:30	3,200.8	AM
Selenium, Total	ND	mg/l	0.00500	--	1	09/11/19 17:09	09/12/19 12:30	3,200.8	AM
Silver, Total	ND	mg/l	0.00040	--	1	09/11/19 17:09	09/12/19 12:30	3,200.8	AM
Zinc, Total	ND	mg/l	0.01000	--	1	09/11/19 17:09	09/12/19 12:30	3,200.8	AM

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01-04 Batch: WG1283507-1										
Antimony, Total	ND		mg/kg	2.00	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC
Arsenic, Total	ND		mg/kg	0.400	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC
Barium, Total	ND		mg/kg	0.400	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC
Beryllium, Total	ND		mg/kg	0.200	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC
Cadmium, Total	ND		mg/kg	0.400	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC
Chromium, Total	ND		mg/kg	0.400	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC
Lead, Total	ND		mg/kg	2.00	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC
Nickel, Total	ND		mg/kg	1.00	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC
Selenium, Total	ND		mg/kg	2.00	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC
Silver, Total	ND		mg/kg	0.400	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC
Thallium, Total	ND		mg/kg	2.00	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC
Vanadium, Total	ND		mg/kg	0.400	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC
Zinc, Total	ND		mg/kg	2.00	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939976
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01-04 Batch: WG1282739-2 WG1282739-3 SRM Lot Number: D105-540								
Mercury, Total	92		89		60-141	3		30
Total Metals - Mansfield Lab Associated sample(s): 05 Batch: WG1282886-2								
Mercury, Total	103		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 05 Batch: WG1282933-2								
Iron, Total	105		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 05 Batch: WG1282946-2								
Antimony, Total	86		-		85-115	-		
Arsenic, Total	104		-		85-115	-		
Cadmium, Total	106		-		85-115	-		
Chromium, Total	96		-		85-115	-		
Copper, Total	93		-		85-115	-		
Lead, Total	110		-		85-115	-		
Nickel, Total	98		-		85-115	-		
Selenium, Total	106		-		85-115	-		
Silver, Total	100		-		85-115	-		
Zinc, Total	106		-		85-115	-		

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01-04 Batch: WG1283507-2 WG1283507-3 SRM Lot Number: D105-540					
Antimony, Total	147	141	19-249	4	30
Arsenic, Total	95	94	70-130	1	30
Barium, Total	82	85	75-125	4	30
Beryllium, Total	89	88	75-125	1	30
Cadmium, Total	87	91	75-125	4	30
Chromium, Total	80	80	70-130	0	30
Lead, Total	88	88	71-128	0	30
Nickel, Total	88	86	70-131	2	30
Selenium, Total	95	93	63-137	2	30
Silver, Total	85	85	69-131	0	30
Thallium, Total	83	88	68-132	6	30
Vanadium, Total	80	79	65-135	1	30
Zinc, Total	87	85	70-130	2	30

Matrix Spike Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 05 QC Batch ID: WG1282933-7 QC Sample: L1939976-05 Client ID: TT-18/OW												
Iron, Total	28.3	1	29.7	**140**	Q	-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 05 QC Batch ID: WG1282946-5 QC Sample: L1939976-05 Client ID: TT-18/OW												
Antimony, Total	ND	0.5	0.5790	116		-	-		70-130	-		20
Arsenic, Total	0.03785	0.12	0.1727	112		-	-		70-130	-		20
Cadmium, Total	ND	0.051	0.05574	109		-	-		70-130	-		20
Chromium, Total	0.00165	0.2	0.2056	102		-	-		70-130	-		20
Copper, Total	0.00731	0.25	0.2556	99		-	-		70-130	-		20
Lead, Total	0.04372	0.51	0.6170	112		-	-		70-130	-		20
Nickel, Total	0.00266	0.5	0.5081	101		-	-		70-130	-		20
Selenium, Total	ND	0.12	0.1436	120		-	-		70-130	-		20
Silver, Total	ND	0.05	0.05070	101		-	-		70-130	-		20
Zinc, Total	0.05884	0.5	0.6099	110		-	-		70-130	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: CYPHER ST. S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1939976

Report Date: 09/18/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 05 QC Batch ID: WG1282933-8 QC Sample: L1939976-05 Client ID: TT-18/OW						
Iron, Total	28.3	28.0	mg/l	1		20
Total Metals - Mansfield Lab Associated sample(s): 05 QC Batch ID: WG1282946-6 QC Sample: L1939976-05 Client ID: TT-18/OW						
Antimony, Total	ND	ND	mg/l	NC		20
Arsenic, Total	0.03785	0.03880	mg/l	2		20
Cadmium, Total	ND	ND	mg/l	NC		20
Chromium, Total	0.00165	0.00167	mg/l	1		20
Copper, Total	0.00731	0.00723	mg/l	1		20
Lead, Total	0.04372	0.04500	mg/l	3		20
Nickel, Total	0.00266	0.00253	mg/l	5		20
Selenium, Total	ND	ND	mg/l	NC		20
Silver, Total	ND	ND	mg/l	NC		20
Zinc, Total	0.05884	0.06003	mg/l	2		20

INORGANICS
&
MISCELLANEOUS

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939976
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-01
Client ID: TT-20A (8-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/03/19 09:00
Date Received: 09/03/19
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	67.1		%	0.100	NA	1	-	09/03/19 21:45	121,2540G	YA

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939976
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-02
Client ID: TT-18 (8-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/03/19 10:30
Date Received: 09/03/19
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	66.1		%	0.100	NA	1	-	09/03/19 21:45	121,2540G	YA

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939976
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-03
Client ID: DC1820DEEP
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/03/19 12:00
Date Received: 09/03/19
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	70.4		%	0.100	NA	1	-	09/13/19 12:52	121,2540G	RI

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939976
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-04
Client ID: TT-15 (8-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/03/19 13:00
Date Received: 09/03/19
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	61.5		%	0.100	NA	1	-	09/03/19 21:45	121,2540G	YA

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939976
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1939976-05
Client ID: TT-18/OW
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/03/19 11:30
Date Received: 09/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Suspended	70.		mg/l	16	NA	3.3	-	09/04/19 11:45	121,2540D	DR
Cyanide, Total	ND		mg/l	0.005	--	1	09/04/19 13:50	09/05/19 11:55	121,4500CN-CE	ML
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	09/03/19 23:59	121,4500CL-D	AS
Nitrogen, Ammonia	9.33		mg/l	0.075	--	1	09/05/19 18:19	09/06/19 23:21	121,4500NH3-BH	AT
TPH, SGT-HEM	ND		mg/l	4.00	--	1	09/04/19 10:30	09/04/19 14:42	74,1664A	ML
Phenolics, Total	ND		mg/l	0.030	--	1	09/09/19 04:20	09/09/19 08:18	4,420.1	BR
Chromium, Hexavalent	ND		mg/l	0.010	--	1	09/03/19 22:30	09/03/19 23:13	1,7196A	AS
Anions by Ion Chromatography - Westborough Lab										
Chloride	226.		mg/l	25.0	--	50	-	09/10/19 21:47	44,300.0	AT

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1939976

Project Number: 143-278997-19001 **Report Date:** 09/18/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 05 Batch: WG1279825-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	09/03/19 22:30	09/03/19 23:12	1,7196A	AS
General Chemistry - Westborough Lab for sample(s): 05 Batch: WG1279849-1										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	09/03/19 23:59	121,4500CL-D	AS
General Chemistry - Westborough Lab for sample(s): 05 Batch: WG1280035-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	09/04/19 11:45	121,2540D	DR
General Chemistry - Westborough Lab for sample(s): 05 Batch: WG1280079-1										
TPH, SGT-HEM	ND		mg/l	4.00	--	1	09/04/19 10:30	09/04/19 14:42	74,1664A	ML
General Chemistry - Westborough Lab for sample(s): 05 Batch: WG1280121-1										
Cyanide, Total	ND		mg/l	0.005	--	1	09/04/19 13:50	09/05/19 14:56	121,4500CN-CE	ML
General Chemistry - Westborough Lab for sample(s): 05 Batch: WG1280604-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	09/05/19 18:19	09/06/19 22:51	121,4500NH3-BH	AT
General Chemistry - Westborough Lab for sample(s): 05 Batch: WG1281693-1										
Phenolics, Total	ND		mg/l	0.030	--	1	09/09/19 04:20	09/09/19 08:07	4,420.1	BR
Anions by Ion Chromatography - Westborough Lab for sample(s): 05 Batch: WG1282776-1										
Chloride	ND		mg/l	0.500	--	1	-	09/10/19 19:07	44,300.0	AT

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
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Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 05 Batch: WG1279825-2								
Chromium, Hexavalent	98		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 05 Batch: WG1279849-2								
Chlorine, Total Residual	92		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 05 Batch: WG1280079-2								
TPH	88		-		64-132	-		34
General Chemistry - Westborough Lab Associated sample(s): 05 Batch: WG1280121-2								
Cyanide, Total	98		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 05 Batch: WG1280604-2								
Nitrogen, Ammonia	92		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 05 Batch: WG1281693-2								
Phenolics, Total	96		-		70-130	-		
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 05 Batch: WG1282776-2								
Chloride	105		-		90-110	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1939976
Report Date: 09/18/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 05 QC Batch ID: WG1279825-4 QC Sample: L1939976-05 Client ID: TT-18/OW												
Chromium, Hexavalent	ND	0.1	0.099	99		-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 05 QC Batch ID: WG1279849-4 QC Sample: L1939976-05 Client ID: TT-18/OW												
Chlorine, Total Residual	ND	0.25	0.30	120		-	-		80-120	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: CYPHER ST. S. BOSTON

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Lab Number: L1939976

Report Date: 09/18/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 05 QC Batch ID: WG1279825-3 QC Sample: L1939976-05 Client ID: TT-18/OW						
Chromium, Hexavalent	ND	ND	mg/l	NC		20

Project Name: CYPHER ST. S. BOSTON
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Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1939976-01A	Vial MeOH preserved	A	NA		2.6	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1939976-01B	Vial MeOH preserved	A	NA		2.6	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1939976-01C	Vial water preserved	A	NA		2.6	Y	Absent	03-SEP-19 20:03	MCP-8260HLW-10(14)
L1939976-01D	Vial water preserved	A	NA		2.6	Y	Absent	03-SEP-19 20:03	MCP-8260HLW-10(14)
L1939976-01E	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L1939976-01F	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1939976-01G	Glass 500ml/16oz unpreserved	A	NA		2.6	Y	Absent		EPH-10(14),MCP-8082-10(365),MCP-PAH-10(14)
L1939976-02A	Vial MeOH preserved	A	NA		2.6	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1939976-02B	Vial MeOH preserved	A	NA		2.6	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1939976-02C	Vial water preserved	A	NA		2.6	Y	Absent	03-SEP-19 20:03	MCP-8260HLW-10(14)
L1939976-02D	Vial water preserved	A	NA		2.6	Y	Absent	03-SEP-19 20:03	MCP-8260HLW-10(14)
L1939976-02E	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L1939976-02F	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1939976-02G	Glass 500ml/16oz unpreserved	A	NA		2.6	Y	Absent		EPH-10(14),MCP-8082-10(365),MCP-PAH-10(14)
L1939976-03A	Glass 500ml/16oz unpreserved	A	NA		2.6	Y	Absent		EPH-10(14),MCP-8082-10(365),TS(7),MCP-PAH-10(14)

*Values in parentheses indicate holding time in days

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1939976
Report Date: 09/18/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1939976-03X	Glass 60ml unpreserved split	A	NA		2.6	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1939976-04A	Vial MeOH preserved	A	NA		2.6	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1939976-04B	Vial MeOH preserved	A	NA		2.6	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1939976-04C	Vial water preserved	A	NA		2.6	Y	Absent	03-SEP-19 20:03	MCP-8260HLW-10(14)
L1939976-04D	Vial water preserved	A	NA		2.6	Y	Absent	03-SEP-19 20:03	MCP-8260HLW-10(14)
L1939976-04E	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L1939976-04F	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1939976-04G	Glass 500ml/16oz unpreserved	A	NA		2.6	Y	Absent		EPH-10(14),MCP-8082-10(365),MCP-PAH-10(14)
L1939976-05A	Vial Na2S2O3 preserved	A	NA		2.6	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7),504(14)
L1939976-05A1	Vial Na2S2O3 preserved	A	NA		2.6	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7),504(14)
L1939976-05B	Vial Na2S2O3 preserved	A	NA		2.6	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7),504(14)
L1939976-05B1	Vial Na2S2O3 preserved	A	NA		2.6	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7),504(14)
L1939976-05C	Vial Na2S2O3 preserved	A	NA		2.6	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7),504(14)
L1939976-05C1	Vial Na2S2O3 preserved	A	NA		2.6	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7),504(14)
L1939976-05D	Vial Na2S2O3 preserved	A	NA		2.6	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7),504(14)
L1939976-05D1	Vial Na2S2O3 preserved	A	NA		2.6	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7),504(14)
L1939976-05E	Vial HCl preserved	A	NA		2.6	Y	Absent		SUB-ETHANOL(14)
L1939976-05F	Vial HCl preserved	A	NA		2.6	Y	Absent		SUB-ETHANOL(14)
L1939976-05G	Vial HCl preserved	A	NA		2.6	Y	Absent		SUB-ETHANOL(14)
L1939976-05H	Plastic 250ml NaOH preserved	A	>12	>12	2.6	Y	Absent		TCN-4500(14)

*Values in parentheses indicate holding time in days

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Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1939976-05I	Plastic 250ml HNO3 preserved	A	<2	<2	2.6	Y	Absent		CD-2008T(180),NI-2008T(180),ZN-2008T(180),CU-2008T(180),FE-UI(180),AG-2008T(180),AS-2008T(180),HG-U(28),SE-2008T(180),CR-2008T(180),PB-2008T(180),SB-2008T(180)
L1939976-05J	Plastic 500ml H2SO4 preserved	A	<2	<2	2.6	Y	Absent		NH3-4500(28)
L1939976-05K	Plastic 950ml unpreserved	A	7	7	2.6	Y	Absent		TSS-2540(7)
L1939976-05L	Plastic 950ml unpreserved	A	7	7	2.6	Y	Absent		CL-300(28),HEXCR-7196(1),TRC-4500(1)
L1939976-05M	Amber 950ml H2SO4 preserved	A	<2	<2	2.6	Y	Absent		TPHENOL-420(28)
L1939976-05N	Amber 1000ml HCl preserved	A	NA		2.6	Y	Absent		TPH-1664(28)
L1939976-05O	Amber 1000ml HCl preserved	A	NA		2.6	Y	Absent		TPH-1664(28)
L1939976-05P	Amber 1000ml Na2S2O3	A	7	7	2.6	Y	Absent		625.1-RGP(7),PCB-608.3(7),625.1-SIM-RGP(7)
L1939976-05Q	Amber 1000ml Na2S2O3	A	7	7	2.6	Y	Absent		625.1-RGP(7),PCB-608.3(7),625.1-SIM-RGP(7)
L1939976-05R	Amber 1000ml Na2S2O3	A	7	7	2.6	Y	Absent		625.1-RGP(7),PCB-608.3(7),625.1-SIM-RGP(7)
L1939976-05S	Amber 1000ml Na2S2O3	A	7	7	2.6	Y	Absent		625.1-RGP(7),PCB-608.3(7),625.1-SIM-RGP(7)
L1939976-05T	Amber 1000ml Na2S2O3	A	7	7	2.6	Y	Absent		625.1-RGP(7),PCB-608.3(7),625.1-SIM-RGP(7)
L1939976-05U	Amber 1000ml Na2S2O3	A	7	7	2.6	Y	Absent		625.1-RGP(7),PCB-608.3(7),625.1-SIM-RGP(7)

*Values in parentheses indicate holding time in days

Project Name:	CYPHER ST. S. BOSTON	**Lab Number:**	L1939976
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GLOSSARY

Acronyms

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

Footnotes

Report Format: Data Usability Report

Project Name:	CYPHER ST. S. BOSTON	**Lab Number:**	L1939976
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1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

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

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

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

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

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

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:	CYPHER ST. S. BOSTON	**Lab Number:**	L1939976
Project Number:	143-278997-19001	**Report Date:**	09/18/19

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

3 Methods for the Determination of Metals in Environmental Samples, Supplement I. EPA/600/R-94/111. May 1994.

4 Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020. Revised March 1983.

14 Methods for the Determination of Organic Compounds in Finished Drinking Water and Raw Source Water. EPA/600/4-88/039, Revised July 1991.

19 Inductively Coupled Plasma Atomic Emission Spectrometric Method for Trace Element Analysis of Water and Wastes. Appendix C, Part 136, 40 CFR (Code of Federal Regulations). July 1, 1999 edition.

44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.

74 Method 1664,Revision A: N-Hexane Extractable Material (HEM; Oil & Grease) and Silica Gel Treated N-Hexane Extractable Material (SGT-HEM; Non-polar Material) by Extraction and Gravimetry, EPA-821-R-98-002, February 1999.

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.

107 Alpha Analytical - In-house calculation method.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

127 Method 608.3: Organochlorine Pesticides and PCBs by GC/HSD, EPA 821-R-16-009, December 2016.

128 Method 624.1: Purgeables by GC/MS, EPA 821-R-16-008, December 2016.

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.

129 Method 625.1: Base/Neutrals and Acids by GC/MS, EPA 821-R-16-007, December 2016.

131 Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, February 2018, Revision 2.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, June 1, 2018.

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 1

Date Rec'd in Lab: 9/3/19

ALPHA Job #: L1939976

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: Tetra Tech
Address: 100 Nickerson Rd. Marlborough, MA
Phone: 413-272-9539
Email: gr.fiore@tetratech.com

Project Information

Project Name: Cypher St, S. Boston
Project Location: Cypher St, S. Boston
Project #: 143-278997-19001
Project Manager: Mike Billa
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:

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; TPH: ☐ Quant Only ☐ Fingerprint; Full RCP Analysis

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	Full RCP Analysis	Sample Comments	TOTAL # BOTTLES
39976-01	TT-20a (8-10')	9/3/19	0900	Soil	JWF	X	X	X		X	X	X				7
-02	TT-18 (8-10')	↓	1030	↓	↓	X	X	X		X	X	X				7
-03	DC1820deep	↓	1200	↓	↓		X	X		X		X			Hold	1
-04	TT-15 (8-10')	↓	1300	↓	↓	X	X	X		X	X	X				7
-05	TT-18/OW	↓		GW	↓								X			30?

Container Type: P/A
Preservative: A/F

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
[signature]	9/3/19 1505	[signature]	9/3/19 1605

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

ALPHA ANALYTICAL
World Class Chemistry

Subcontract Chain of Custody

Eurofins US
2425 New Holland Pike
Lancaster, PA 17601

Alpha Job Number
L1939976

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 508.439.5186
Email: kraymond@alphalab.com

Project Information

Project Location: MA
Project Manager: Karyn Raymond

Turnaround & Deliverables Information

Due Date: 09/13/19
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:

Regulatory Criteria: S1/G1-14

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L1939976

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	TT-18/OW	09-03-19 11:30	WATER	Ethanol by EPA 1671 Revision A	

	Relinquished By:	Date/Time:	Received By:	Date/Time:
		9/5/19		
Form No: AL_subcoc				

Method Blank Summary
Form 4
Volatiles

Client	: Tetra Tech Rizzo	**Lab Number**	: L1939976
Project Name	: CYPHER ST. S. BOSTON	**Project Number**	: 143-278997-19001
Lab Sample ID	: WG1283712-5	**Lab File ID**	: V17190912N04
Instrument ID	: VOA117		
Matrix	: SOIL	**Analysis Date**	: 09/12/19 20:16

Client Sample No.	Lab Sample ID	Analysis Date
WG1283712-3LCS	WG1283712-3	09/12/19 18:58
WG1283712-4LCSD	WG1283712-4	09/12/19 19:24
TT-20A (8-10')	L1939976-01	09/13/19 04:42
TT-18 (8-10')	L1939976-02	09/13/19 05:08
TT-15 (8-10')	L1939976-04	09/13/19 05:38

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1939976
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA117	Calibration Date	: 09/12/19 18:58
Lab File ID	: V17190912N01	Init. Calib. Date(s)	: 07/26/19 07/26/19
Sample No	: WG1283712-2	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	95	0
Dichlorodifluoromethane	0.158	0.225	-	-42.4*	20	132	0
Chloromethane	0.23	0.318	-	-38.3*	20	140	0
Vinyl chloride	0.21	0.275	-	-31*	20	126	0
Bromomethane	0.135	0.169	-	-25.2*	20	136	0
Chloroethane	0.13	0.168	-	-29.2*	20	131	0
Trichlorofluoromethane	0.261	0.352	-	-34.9*	20	130	0
Ethyl ether	0.092	0.106	-	-15.2	20	116	0
1,1-Dichloroethene	0.198	0.219	-	-10.6	20	107	0
Carbon disulfide	0.66	0.716	-	-8.5	20	108	0
Freon-113	0.194	0.22	-	-13.4	20	107	0
Acrolein	0.03	0.028*	-	6.7	20	92	0
Methylene chloride	0.219	0.237	-	-8.2	20	109	0
Acetone	20	23.203	-	-16	20	99	0
trans-1,2-Dichloroethene	0.229	0.246	-	-7.4	20	106	0
Methyl acetate	0.094	0.103	-	-9.6	20	116	-.01
Methyl tert-butyl ether	0.503	0.536	-	-6.6	20	101	0
tert-Butyl alcohol	0.017	0.017*	-	0	20	88	0
Diisopropyl ether	0.721	0.78	-	-8.2	20	104	0
1,1-Dichloroethane	0.421	0.476	-	-13.1	20	111	-.01
Halothane	0.188	0.177	-	5.9	20	93	0
Acrylonitrile	0.044	0.05*	-	-13.6	20	111	-.01
Ethyl tert-butyl ether	0.703	0.721	-	-2.6	20	97	-.01
Vinyl acetate	0.414	0.429	-	-3.6	20	97	0
cis-1,2-Dichloroethene	0.247	0.263	-	-6.5	20	105	-.01
2,2-Dichloropropane	0.376	0.397	-	-5.6	20	104	0
Bromochloromethane	0.098	0.106	-	-8.2	20	105	0
Cyclohexane	0.393	0.424	-	-7.9	20	103	0
Chloroform	0.417	0.463	-	-11	20	106	0
Ethyl acetate	0.153	0.15	-	2	20	97	0
Carbon tetrachloride	0.334	0.357	-	-6.9	20	102	-.01
Tetrahydrofuran	20	23.033	-	-15.2	20	100	0
Dibromofluoromethane	0.245	0.24	-	2	20	91	0
1,1,1-Trichloroethane	0.382	0.403	-	-5.5	20	102	-.01
2-Butanone	20	21.064	-	-5.3	20	106	0
1,1-Dichloropropene	0.316	0.331	-	-4.7	20	101	0
Benzene	0.93	0.948	-	-1.9	20	104	-.01
tert-Amyl methyl ether	0.589	0.556	-	5.6	20	90	0
1,2-Dichloroethane-d4	0.249	0.251	-	-0.8	20	95	0
1,2-Dichloroethane	0.268	0.303	-	-13.1	20	109	0
Methyl cyclohexane	0.395	0.384	-	2.8	20	93	-.01
Trichloroethene	0.248	0.256	-	-3.2	20	104	-.01
Dibromomethane	0.112	0.118	-	-5.4	20	101	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1939976
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA117	Calibration Date	: 09/12/19 18:58
Lab File ID	: V17190912N01	Init. Calib. Date(s)	: 07/26/19 07/26/19
Sample No	: WG1283712-2	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	107	0
2-Chloroethyl vinyl ether	0.109	0.105	-	3.7	20	89	0
Bromodichloromethane	0.312	0.319	-	-2.2	20	101	-.01
1,4-Dioxane	0.00149	0.00134*	-	10.1	20	88	-.01
cis-1,3-Dichloropropene	0.358	0.367	-	-2.5	20	101	0
Chlorobenzene-d5	1	1	-	0	20	95	0
Toluene-d8	1.374	1.306	-	4.9	20	91	0
Toluene	0.82	0.826	-	-0.7	20	99	0
4-Methyl-2-pentanone	0.079	0.076*	-	3.8	20	88	-.01
Tetrachloroethene	0.328	0.324	-	1.2	20	97	0
trans-1,3-Dichloropropene	0.414	0.432	-	-4.3	20	100	0
Ethyl methacrylate	0.316	0.28	-	11.4	20	87	-.01
1,1,2-Trichloroethane	0.186	0.197	-	-5.9	20	102	0
Chlorodibromomethane	0.279	0.282	-	-1.1	20	99	0
1,3-Dichloropropane	0.389	0.408	-	-4.9	20	101	-.01
1,2-Dibromoethane	0.215	0.219	-	-1.9	20	99	0
2-Hexanone	0.142	0.124	-	12.7	20	86	0
Chlorobenzene	0.904	0.887	-	1.9	20	99	0
Ethylbenzene	1.578	1.613	-	-2.2	20	100	0
1,1,1,2-Tetrachloroethane	0.315	0.307	-	2.5	20	99	0
p/m Xylene	0.614	0.606	-	1.3	20	98	0
o Xylene	0.596	0.579	-	2.9	20	97	-.01
Styrene	0.957	0.911	-	4.8	20	94	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	96	0
Bromoform	0.312	0.316	-	-1.3	20	97	0
Isopropylbenzene	3.228	3.183	-	1.4	20	96	0
4-Bromofluorobenzene	1.085	1.023	-	5.7	20	91	0
Bromobenzene	0.692	0.668	-	3.5	20	94	0
n-Propylbenzene	3.81	3.891	-	-2.1	20	100	0
1,4-Dichlorobutane	0.842	0.866	-	-2.9	20	102	0
1,1,2,2-Tetrachloroethane	0.56	0.547	-	2.3	20	97	0
4-Ethyltoluene	3.347	3.133	-	6.4	20	92	0
2-Chlorotoluene	2.218	2.232	-	-0.6	20	100	-.01
1,3,5-Trimethylbenzene	2.697	2.658	-	1.4	20	97	0
1,2,3-Trichloropropane	0.423	0.434	-	-2.6	20	99	0
trans-1,4-Dichloro-2-buten	0.159	0.165	-	-3.8	20	101	0
4-Chlorotoluene	2.339	2.348	-	-0.4	20	99	0
tert-Butylbenzene	2.305	2.227	-	3.4	20	95	0
1,2,4-Trimethylbenzene	2.653	2.63	-	0.9	20	98	0
sec-Butylbenzene	3.508	3.445	-	1.8	20	96	0
p-Isopropyltoluene	2.943	2.849	-	3.2	20	94	0
1,3-Dichlorobenzene	1.397	1.39	-	0.5	20	98	0
1,4-Dichlorobenzene	1.386	1.363	-	1.7	20	98	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1939976
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA117	Calibration Date	: 09/12/19 18:58
Lab File ID	: V17190912N01	Init. Calib. Date(s)	: 07/26/19 07/26/19
Sample No	: WG1283712-2	Init. Calib. Times	: 20:19 23:46
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.837	1.67	-	9.1	20	89	0
n-Butylbenzene	2.767	2.85	-	-3	20	100	0
1,2-Dichlorobenzene	1.247	1.223	-	1.9	20	97	0
1,2,4,5-Tetramethylbenzene	2.774	2.502	-	9.8	20	89	0
1,2-Dibromo-3-chloropropan	0.076	0.068	-	10.5	20	87	0
1,3,5-Trichlorobenzene	1.032	0.959	-	7.1	20	93	0
Hexachlorobutadiene	0.472	0.445	-	5.7	20	93	0
1,2,4-Trichlorobenzene	0.835	0.825	-	1.2	20	98	0
Naphthalene	1.699	1.566	-	7.8	20	91	0
1,2,3-Trichlorobenzene	0.731	0.719	-	1.6	20	98	0

* Value outside of QC limits.

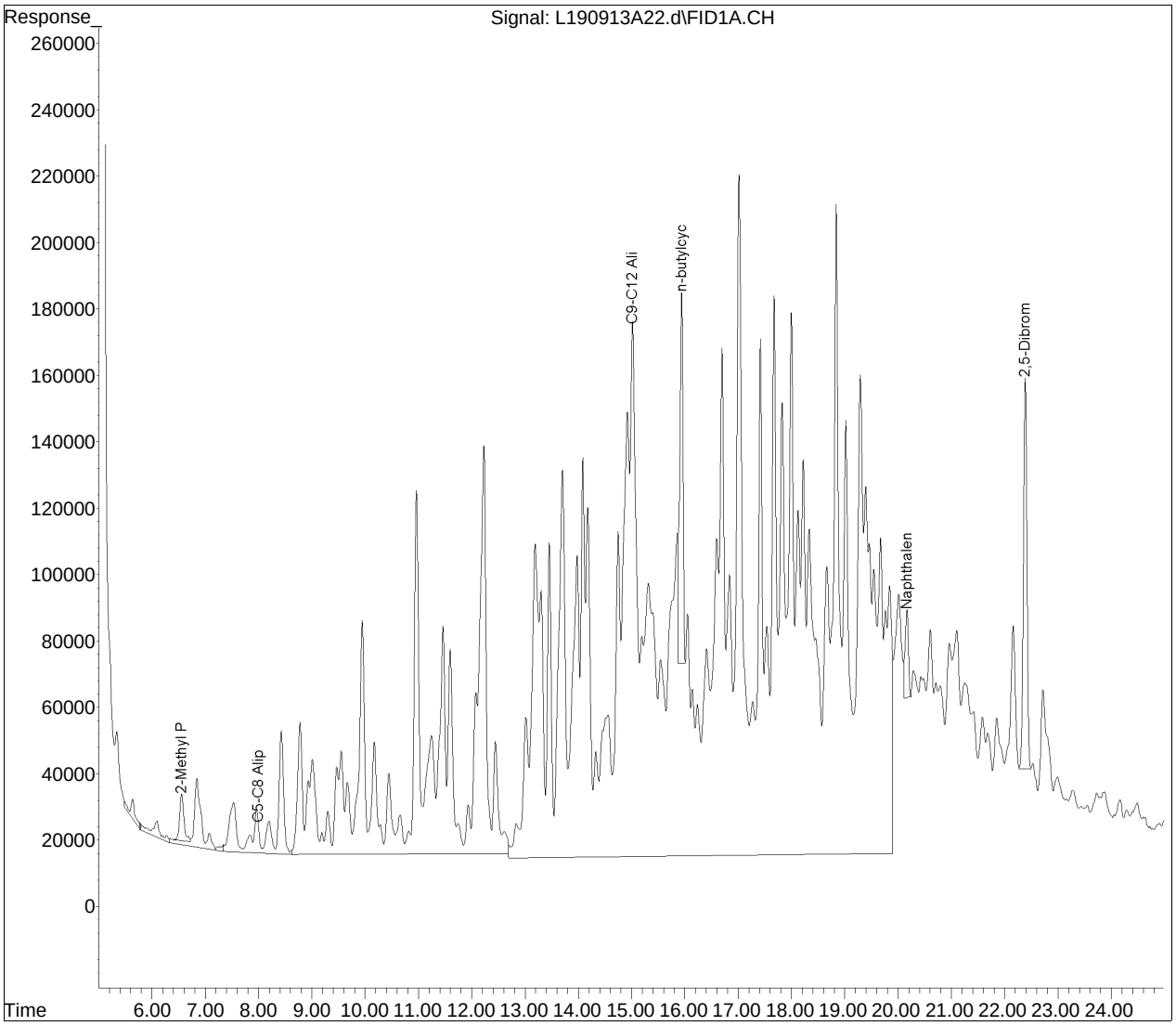
Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES_GC\LVPH\2019\190913Aali\
Data File : L190913A22.d
Signal(s) : FID1A.CH
Acq On : 13 Sep 2019 7:00 pm
Operator : LVPH:BAD
Sample : l1939976-01D,41,15,15.45,0.050,,a
Misc : WG1284214,ICAL15507,VPH-75
ALS Vial : 22 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 14 12:03:10 2019
Quant Method : I:\VOLATILES_GC\LVPH\2019\190913Aali\svph-ali190213B.m
Quant Title : VPH ALIPHATIC
QLast Update : Fri Feb 15 11:27:29 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

Sub List : Default - All compounds listed



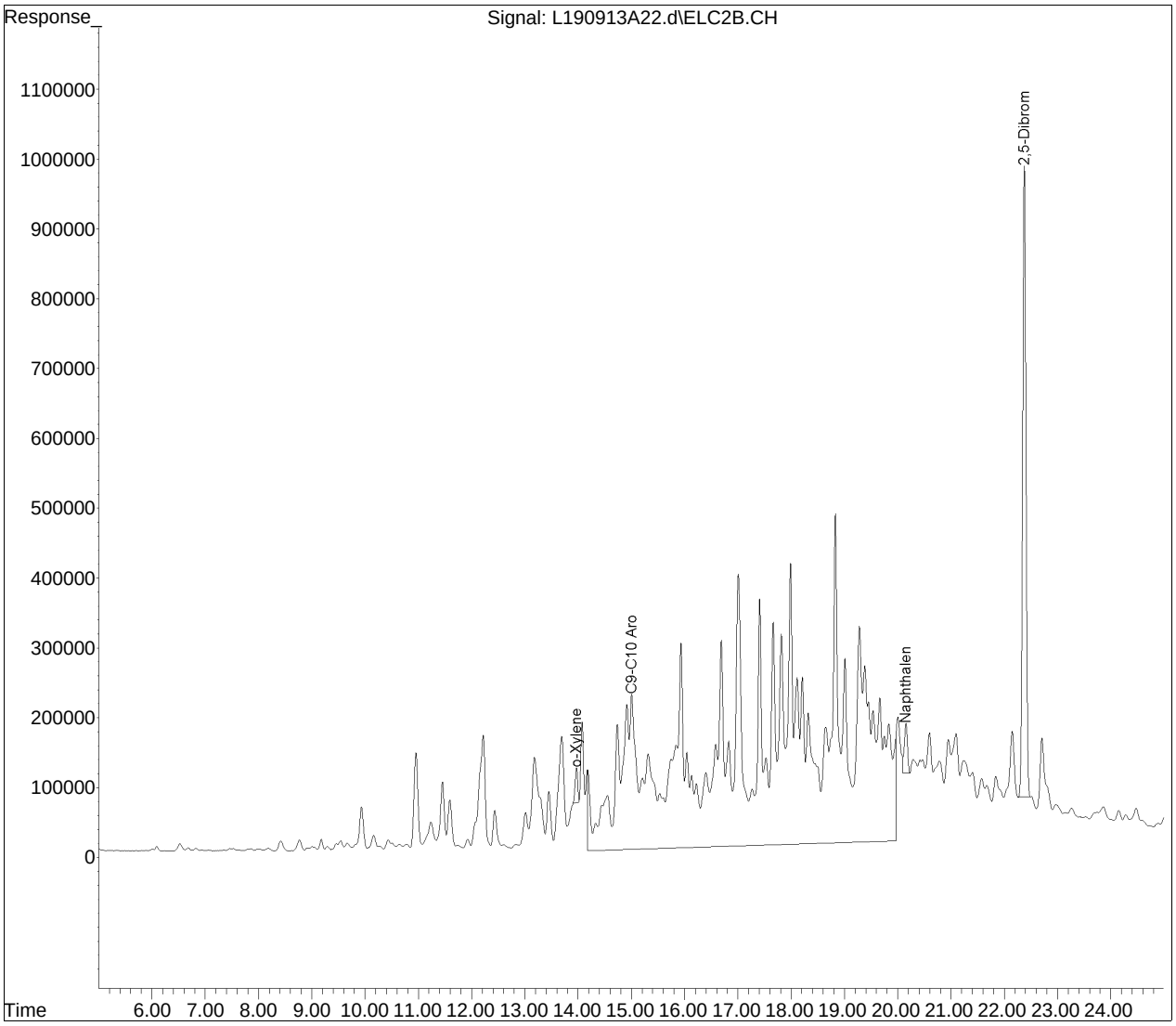
Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES_GC\LVPH\2019\190913Aaro\
Data File : L190913A22.d
Signal(s) : ELC2B.CH
Acq On : 13 Sep 2019 7:00 pm
Operator : LVPH:BAD
Sample : l1939976-01D,41,15,15.45,0.050,,a
Misc : WG1284214,ICAL15508,VPH-75
ALS Vial : 0 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 14 12:22:57 2019
Quant Method : I:\VOLATILES_GC\LVPH\2019\190913Aaro\svph-aro190213B.m
Quant Title : VPH AROMATIC
QLast Update : Thu Feb 14 09:29:39 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

Sub List : Default - All compounds listed



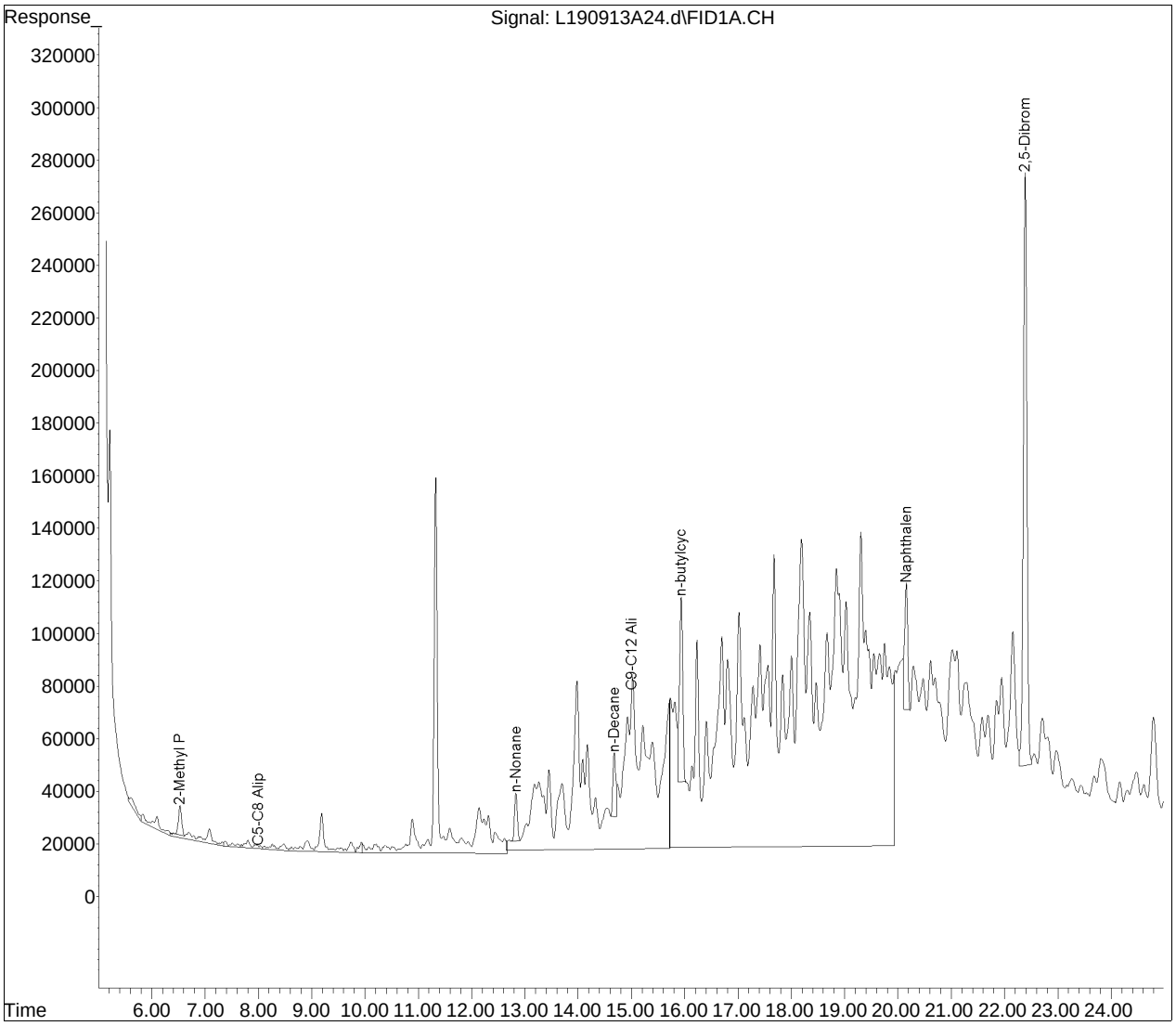
Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES_GC\LVPH\2019\190913Aali\
Data File : L190913A24.d
Signal(s) : FID1A.CH
Acq On : 13 Sep 2019 8:01 pm
Operator : LVPH:BAD
Sample : l1939976-04,41,15,10.60,0.100,,a
Misc : WG1284214,ICAL15507,VPH-75
ALS Vial : 24 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 14 12:09:00 2019
Quant Method : I:\VOLATILES_GC\LVPH\2019\190913Aali\svph-ali190213B.m
Quant Title : VPH ALIPHATIC
QLast Update : Fri Feb 15 11:27:29 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

Sub List : Default - All compounds listed



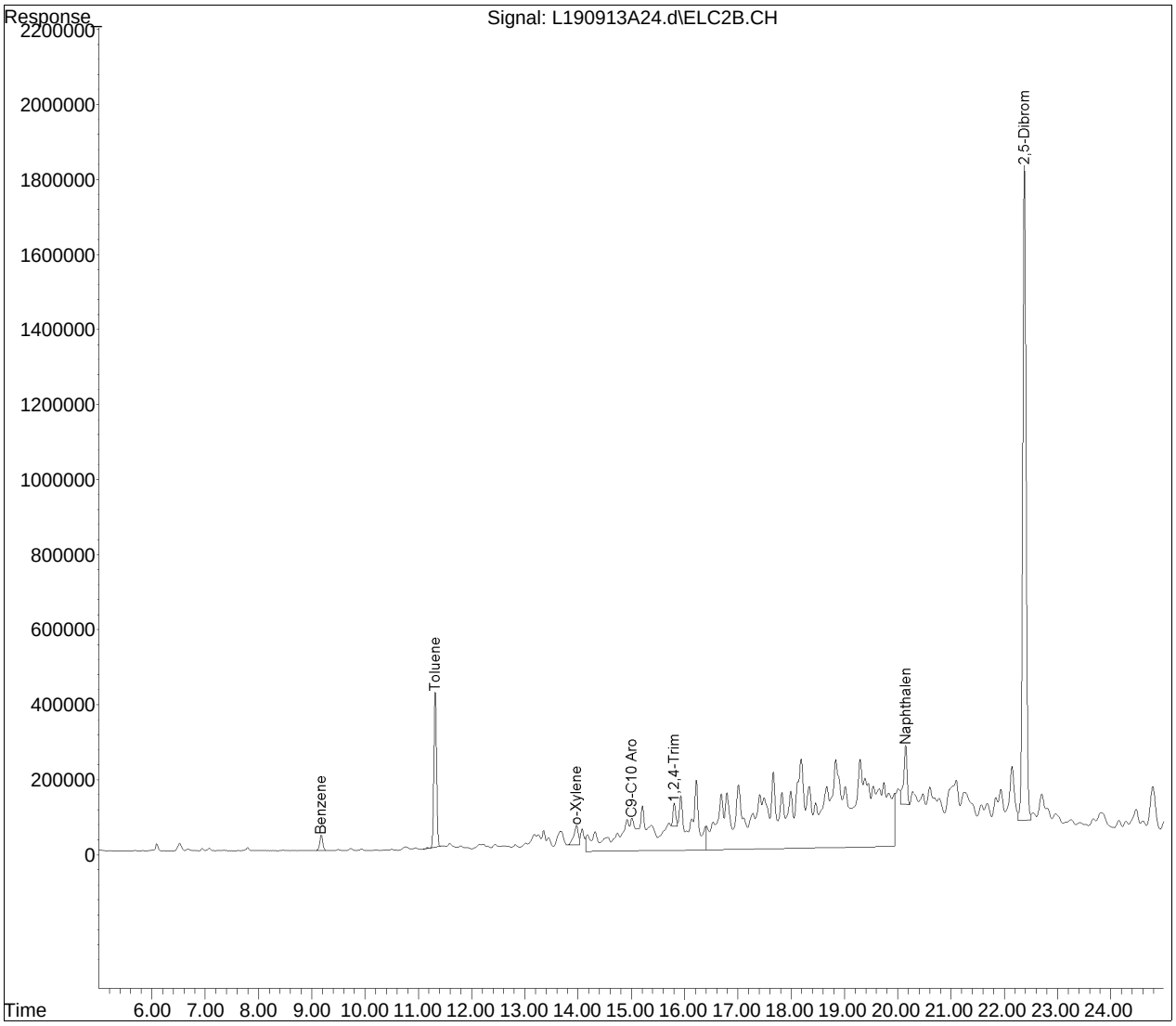
Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES_GC\LVPH\2019\190913Aaro\
Data File : L190913A24.d
Signal(s) : ELC2B.CH
Acq On : 13 Sep 2019 8:01 pm
Operator : LVPH:BAD
Sample : l1939976-04,41,15,10.60,0.100,,a
Misc : WG1284214,ICAL15508,VPH-75
ALS Vial : 0 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 14 12:26:40 2019
Quant Method : I:\VOLATILES_GC\LVPH\2019\190913Aaro\svph-aro190213B.m
Quant Title : VPH AROMATIC
QLast Update : Thu Feb 14 09:29:39 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

Sub List : Default - All compounds listed



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ANALYSIS REPORT

Prepared by:	Prepared for:
Eurofins Lancaster Laboratories Environmental 2425 New Holland Pike Lancaster, PA 17601	Alpha Analytical, Inc. 145 Flanders Road Westborough MA 01581

Report Date: September 12, 2019 10:07

Project: L1939976

Account #: 09847
Group Number: 2062659
PO Number: L1939976
State of Sample Origin: MA

Electronic Copy To	Alpha Analytical, Inc.	Attn: Sublab Contact
Electronic Copy To	Alpha Analytical, Inc.	Attn: Karyn Raymond

Respectfully Submitted,

Marrissa Williams

Marrissa Williams
Project Manager

(717) 556-7246

To view our laboratory's current scopes of accreditation please go to https://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/certifications-and-accreditations-eurofins-lancaster-laboratories-environmental/ . Historical copies may be requested through your project manager.

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SAMPLE INFORMATION

Client Sample Description	Sample Collection Date/Time	ELLE#
TT-18/OW Water Sample	09/03/2019 11:30	1144323

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

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Analysis Report

Sample Description: **TT-18/OW Water Sample**
L1939976

Project Name: **L1939976**

Submittal Date/Time: 09/06/2019 09:45
Collection Date/Time: 09/03/2019 11:30

Alpha Analytical, Inc.
ELLE Sample #: WW 1144323
ELLE Group #: 2062659
Matrix: Wastewater

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC Miscellaneous	**EPA 1671 Rev A**		**ug/l**	**ug/l**	
02366	ethanol[1]	64-17-5	N.D. D2	2,000	1

Sample Comments

[1] = This analyte was not on the laboratory's MA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02366	EPA 1671 VOCs	EPA 1671 Rev A	1	192530001A	09/10/2019 17:29	Johanna C Kennedy	1

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Analysis Report

Quality Control Summary

Client Name: Alpha Analytical, Inc.
Reported: 09/12/2019 10:07

Group Number: 2062659

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result ug/l	LOQ ug/l
Batch number: 192530001A	Sample number(s): 1144323	
ethanol	N.D.	2,000

LCS/LCSD

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 192530001A	Sample number(s): 1144323								
ethanol	4020	4157.33	4020	4089.52	103	102	70-132	2	30

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: EPA 1671 VOCs
Batch number: 192530001A

	Amyl Alcohol-D1	Amyl Alcohol-D2
1144323	97	98
Blank	104	114
LCS	94	98
LCSD	102	101
Limits:	52-144	52-144

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

9847 2062659 1144323

Subcontract Chain of Custody

Eurofins US
2425 New Holland Pike
Lancaster, PA 17601

Alpha Job Number
L1939976

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 508.439.5186
Email: kraymond@alphalab.com

Project Information

Project Location: MA
Project Manager: Karyn Raymond

Turnaround & Deliverables Information

Due Date: 09/13/19
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:

Regulatory Criteria: S1/G1-14

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L1939976

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	TT-18/OW	09-03-19 11:30	WATER	Ethanol by EPA 1671 Revision A	

Relinquished By:	Date/Time:	Received By:	Date/Time:
	9/5/19		
			9-6-19 ~~8:00~~ 9:45

Form No: AL_subcoc

3A 10257 9/6/19 (3)

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Sample Administration Receipt Documentation Log

Doc Log ID: 259403

Group Number(s): 2062659

Client: ALPHA ANALYTICAL

Delivery and Receipt Information

Delivery Method:	UPS	Arrival Timestamp:	09/06/2019 9:45
Number of Packages:	1	Number of Projects:	1

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Jessenia Colon Martinez (30 856) at 11:01 on 09/06/2019

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	192050133	-1.0	IR	Wet	Y	Loose/Bag	N

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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mL**	milliliter(s)
C	degrees Celsius	**MPN**	Most Probable Number
cfu	colony forming units	**N.D.**	non-detect
CP Units	cobalt-chloroplatinate units	**ng**	nanogram(s)
F	degrees Fahrenheit	**NTU**	nephelometric turbidity units
g	gram(s)	**pg/L**	picogram/liter
IU	International Units	**RL**	Reporting Limit
kg	kilogram(s)	**TNTC**	Too Numerous To Count
L	liter(s)	**µg**	microgram(s)
lb.	pound(s)	**µL**	microliter(s)
m3	cubic meter(s)	**umhos/cm**	micromhos/cm
meq	milliequivalents	**MCL**	Maximum Contamination Limit
mg	milligram(s)		

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
P^	Concentration difference between the primary and confirmation column > 40%. The higher result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

ANALYTICAL REPORT

Lab Number:	L1940180
Client:	Tetra Tech Rizzo Marlborough Technology Park 100 Nickerson Road Marlborough, MA 01752
ATTN:	Mike Billa
Phone:	(508) 786-2200
Project Name:	CYPHER ST., S. BOSTON
Project Number:	143-278997-19001
Report Date:	09/16/19

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: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940180
Report Date: 09/16/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1940180-01	TT-4 (8-10')	SOIL	CYPHER ST., S. BOSTON	09/04/19 10:00	09/04/19
L1940180-02	TT-5 (7-9')	SOIL	CYPHER ST., S. BOSTON	09/04/19 11:30	09/04/19
L1940180-03	TT-5/OW	WATER	CYPHER ST., S. BOSTON	09/04/19 12:30	09/04/19

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1940180

Project Number: 143-278997-19001 **Report Date:** 09/16/19

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?	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:	CYPHER ST., S. BOSTON	**Lab Number:**	L1940180
Project Number:	143-278997-19001	**Report Date:**	09/16/19

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:	CYPHER ST., S. BOSTON	**Lab Number:**	L1940180
Project Number:	143-278997-19001	**Report Date:**	09/16/19

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

L1940180-03: The sample was received above the appropriate pH for the Total Metals analysis. The laboratory added additional HNO3 to a pH <2.

In reference to question H:

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

Volatile Organics

In reference to question H:

The initial calibration, associated with L1940180-01 and -02, 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 continuing calibration standard, associated with L1940180-01 and -02, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

PAHs

In reference to question I:

All samples were analyzed for a subset of MCP analytes per client request.

VPH

In reference to question H:

The surrogate recoveries for the following samples are above the acceptance criteria. Since the samples were non-detect for all target analytes, re-analysis was not required:

L1940180-01: 2,5-dibromotoluene-pid (131%) and 2,5-dibromotoluene-fid (131%)

L1940180-02: 2,5-dibromotoluene-pid (136%) and 2,5-dibromotoluene-fid (138%)

In reference to question I:

Project Name:	CYPHER ST., S. BOSTON	**Lab Number:**	L1940180
Project Number:	143-278997-19001	**Report Date:**	09/16/19

Case Narrative (continued)

All samples were analyzed for a subset of MCP analytes per client request.

EPH

L1940180-03: The sample has elevated detection limits due to limited sample volume available for analysis.

In reference to question G:

L1940180-03: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The WG1281663-2/-3 LCS/LCSD RPDs, associated with L1940180-01 and -02, are above the acceptance criteria for naphthalene (26%) and indeno(1,2,3-cd)pyrene (29%).

The WG1283120-2/-3 LCS/LCSD RPD, associated with L1940180-03, is above the acceptance criteria for c11-c22 aromatics (29%).

In reference to question I:

L1940180-01 and -02 were analyzed for a subset of MCP analytes per client request.

PCBs

L1940180-03: The sample has elevated detection limits due to limited sample volume available for analysis.

In reference to question G:

L1940180-03: One or more of the target analytes did not achieve the requested CAM reporting limits.

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: 09/16/19

QC OUTLIER SUMMARY REPORT

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940180
Report Date: 09/16/19

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
Extractable Petroleum Hydrocarbons - Westborough Lab								
EPH-04-1.1	Batch QC	WG1281663-3	Naphthalene	LCSD	26	25	01-02	non-directional bias
EPH-04-1.1	Batch QC	WG1281663-3	Indeno(1,2,3-cd)Pyrene	LCSD	29	25	01-02	non-directional bias
EPH-04-1.1	Batch QC	WG1283120-3	C11-C22 Aromatics	LCSD	29	25	03	non-directional bias
Volatile Petroleum Hydrocarbons - Westborough Lab								
VPH-18-2.1	TT-4 (8-10')	L1940180-01	2,5-Dibromotoluene-PID	Surrogate	131	70-130	-	potential high bias
VPH-18-2.1	TT-4 (8-10')	L1940180-01	2,5-Dibromotoluene-FID	Surrogate	131	70-130	-	potential high bias
VPH-18-2.1	TT-5 (7-9')	L1940180-02	2,5-Dibromotoluene-PID	Surrogate	136	70-130	-	potential high bias
VPH-18-2.1	TT-5 (7-9')	L1940180-02	2,5-Dibromotoluene-FID	Surrogate	138	70-130	-	potential high bias

ORGANICS

VOLATILES

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1940180

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID: L1940180-01
Client ID: TT-4 (8-10')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 09/04/19 10:00
Date Received: 09/04/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/13/19 11:21
Analyst: JC
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	4.1	--	1
1,1-Dichloroethane	ND		ug/kg	0.82	--	1
Chloroform	ND		ug/kg	1.2	--	1
Carbon tetrachloride	ND		ug/kg	0.82	--	1
1,2-Dichloropropane	ND		ug/kg	0.82	--	1
Dibromochloromethane	ND		ug/kg	0.82	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.82	--	1
Tetrachloroethene	ND		ug/kg	0.41	--	1
Chlorobenzene	ND		ug/kg	0.41	--	1
Trichlorofluoromethane	ND		ug/kg	3.3	--	1
1,2-Dichloroethane	ND		ug/kg	0.82	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.41	--	1
Bromodichloromethane	ND		ug/kg	0.41	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.82	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.41	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.41	--	1
1,1-Dichloropropene	ND		ug/kg	0.41	--	1
Bromoform	ND		ug/kg	3.3	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.41	--	1
Benzene	ND		ug/kg	0.41	--	1
Toluene	ND		ug/kg	0.82	--	1
Ethylbenzene	ND		ug/kg	0.82	--	1
Chloromethane	ND		ug/kg	3.3	--	1
Bromomethane	ND		ug/kg	1.6	--	1
Vinyl chloride	ND		ug/kg	0.82	--	1
Chloroethane	ND		ug/kg	1.6	--	1
1,1-Dichloroethene	ND		ug/kg	0.82	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.2	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1940180

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID: L1940180-01 Date Collected: 09/04/19 10:00

Client ID: TT-4 (8-10') Date Received: 09/04/19

Sample Location: CYPHER ST., S. BOSTON 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	0.41	--	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	0.82	--	1
Xylenes, Total	ND		ug/kg	0.82	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.82	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.82	--	1
Dibromomethane	ND		ug/kg	1.6	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.6	--	1
Styrene	ND		ug/kg	0.82	--	1
Dichlorodifluoromethane	ND		ug/kg	8.2	--	1
Acetone	20		ug/kg	8.2	--	1
Carbon disulfide	ND		ug/kg	8.2	--	1
Methyl ethyl ketone	ND		ug/kg	8.2	--	1
Methyl isobutyl ketone	ND		ug/kg	8.2	--	1
2-Hexanone	ND		ug/kg	8.2	--	1
Bromochloromethane	ND		ug/kg	1.6	--	1
Tetrahydrofuran	ND		ug/kg	3.3	--	1
2,2-Dichloropropane	ND		ug/kg	1.6	--	1
1,2-Dibromoethane	ND		ug/kg	0.82	--	1
1,3-Dichloropropane	ND		ug/kg	1.6	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.41	--	1
Bromobenzene	ND		ug/kg	1.6	--	1
n-Butylbenzene	ND		ug/kg	0.82	--	1
sec-Butylbenzene	ND		ug/kg	0.82	--	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	2.5	--	1
Hexachlorobutadiene	ND		ug/kg	3.3	--	1
Isopropylbenzene	ND		ug/kg	0.82	--	1
p-Isopropyltoluene	ND		ug/kg	0.82	--	1
Naphthalene	ND		ug/kg	3.3	--	1
n-Propylbenzene	ND		ug/kg	0.82	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1940180

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID: L1940180-01 Date Collected: 09/04/19 10:00

Client ID: TT-4 (8-10') Date Received: 09/04/19

Sample Location: CYPHER ST., S. BOSTON 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	66	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	95		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1940180

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID: L1940180-02
Client ID: TT-5 (7-9')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 09/04/19 11:30
Date Received: 09/04/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/13/19 11:45
Analyst: JC
Percent Solids: 74%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	6.9	--	1
1,1-Dichloroethane	ND		ug/kg	1.4	--	1
Chloroform	ND		ug/kg	2.1	--	1
Carbon tetrachloride	ND		ug/kg	1.4	--	1
1,2-Dichloropropane	ND		ug/kg	1.4	--	1
Dibromochloromethane	ND		ug/kg	1.4	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.4	--	1
Tetrachloroethene	ND		ug/kg	0.69	--	1
Chlorobenzene	ND		ug/kg	0.69	--	1
Trichlorofluoromethane	ND		ug/kg	5.5	--	1
1,2-Dichloroethane	ND		ug/kg	1.4	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.69	--	1
Bromodichloromethane	ND		ug/kg	0.69	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.4	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.69	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.69	--	1
1,1-Dichloropropene	ND		ug/kg	0.69	--	1
Bromoform	ND		ug/kg	5.5	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.69	--	1
Benzene	ND		ug/kg	0.69	--	1
Toluene	ND		ug/kg	1.4	--	1
Ethylbenzene	ND		ug/kg	1.4	--	1
Chloromethane	ND		ug/kg	5.5	--	1
Bromomethane	ND		ug/kg	2.8	--	1
Vinyl chloride	ND		ug/kg	1.4	--	1
Chloroethane	ND		ug/kg	2.8	--	1
1,1-Dichloroethene	ND		ug/kg	1.4	--	1
trans-1,2-Dichloroethene	ND		ug/kg	2.1	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1940180

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID: L1940180-02 Date Collected: 09/04/19 11:30

Client ID: TT-5 (7-9') Date Received: 09/04/19

Sample Location: CYPHER ST., S. BOSTON 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	0.69	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.8	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.8	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.8	--	1
Methyl tert butyl ether	ND		ug/kg	2.8	--	1
p/m-Xylene	ND		ug/kg	2.8	--	1
o-Xylene	ND		ug/kg	1.4	--	1
Xylenes, Total	ND		ug/kg	1.4	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.4	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.4	--	1
Dibromomethane	ND		ug/kg	2.8	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.8	--	1
Styrene	ND		ug/kg	1.4	--	1
Dichlorodifluoromethane	ND		ug/kg	14	--	1
Acetone	140		ug/kg	14	--	1
Carbon disulfide	ND		ug/kg	14	--	1
Methyl ethyl ketone	23		ug/kg	14	--	1
Methyl isobutyl ketone	ND		ug/kg	14	--	1
2-Hexanone	ND		ug/kg	14	--	1
Bromochloromethane	ND		ug/kg	2.8	--	1
Tetrahydrofuran	ND		ug/kg	5.5	--	1
2,2-Dichloropropane	ND		ug/kg	2.8	--	1
1,2-Dibromoethane	ND		ug/kg	1.4	--	1
1,3-Dichloropropane	ND		ug/kg	2.8	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.69	--	1
Bromobenzene	ND		ug/kg	2.8	--	1
n-Butylbenzene	ND		ug/kg	1.4	--	1
sec-Butylbenzene	ND		ug/kg	1.4	--	1
tert-Butylbenzene	ND		ug/kg	2.8	--	1
o-Chlorotoluene	ND		ug/kg	2.8	--	1
p-Chlorotoluene	ND		ug/kg	2.8	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	4.1	--	1
Hexachlorobutadiene	ND		ug/kg	5.5	--	1
Isopropylbenzene	ND		ug/kg	1.4	--	1
p-Isopropyltoluene	ND		ug/kg	1.4	--	1
Naphthalene	ND		ug/kg	5.5	--	1
n-Propylbenzene	ND		ug/kg	1.4	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1940180

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID: L1940180-02 Date Collected: 09/04/19 11:30

Client ID: TT-5 (7-9') Date Received: 09/04/19

Sample Location: CYPHER ST., S. BOSTON 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	2.8	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.8	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.8	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.8	--	1
Diethyl ether	ND		ug/kg	2.8	--	1
Diisopropyl Ether	ND		ug/kg	2.8	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.8	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.8	--	1
1,4-Dioxane	ND		ug/kg	110	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	95		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1940180
Project Number: 143-278997-19001 **Report Date:** 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/13/19 07:39
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-02 Batch: WG1283962-5					
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: CYPHER ST., S. BOSTON **Lab Number:** L1940180
Project Number: 143-278997-19001 **Report Date:** 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/13/19 07:39
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-02 Batch: WG1283962-5					
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: CYPHER ST., S. BOSTON **Lab Number:** L1940180

Project Number: 143-278997-19001 **Report Date:** 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/13/19 07:39
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-02 Batch: WG1283962-5					
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	102		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	91		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

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): 01-02 Batch: WG1283962-3 WG1283962-4								
Methylene chloride	89		88		70-130	1		20
1,1-Dichloroethane	105		104		70-130	1		20
Chloroform	101		101		70-130	0		20
Carbon tetrachloride	104		105		70-130	1		20
1,2-Dichloropropane	101		101		70-130	0		20
Dibromochloromethane	101		102		70-130	1		20
1,1,2-Trichloroethane	94		97		70-130	3		20
Tetrachloroethene	104		102		70-130	2		20
Chlorobenzene	103		103		70-130	0		20
Trichlorofluoromethane	107		104		70-130	3		20
1,2-Dichloroethane	101		102		70-130	1		20
1,1,1-Trichloroethane	107		106		70-130	1		20
Bromodichloromethane	102		102		70-130	0		20
trans-1,3-Dichloropropene	101		102		70-130	1		20
cis-1,3-Dichloropropene	98		98		70-130	0		20
1,1-Dichloropropene	104		104		70-130	0		20
Bromoform	87		91		70-130	4		20
1,1,2,2-Tetrachloroethane	97		100		70-130	3		20
Benzene	100		99		70-130	1		20
Toluene	102		102		70-130	0		20
Ethylbenzene	105		105		70-130	0		20
Chloromethane	127		126		70-130	1		20
Bromomethane	100		95		70-130	5		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

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): 01-02 Batch: WG1283962-3 WG1283962-4								
Vinyl chloride	108		107		70-130	1		20
Chloroethane	97		95		70-130	2		20
1,1-Dichloroethene	101		100		70-130	1		20
trans-1,2-Dichloroethene	101		100		70-130	1		20
Trichloroethene	103		101		70-130	2		20
1,2-Dichlorobenzene	99		101		70-130	2		20
1,3-Dichlorobenzene	102		104		70-130	2		20
1,4-Dichlorobenzene	102		104		70-130	2		20
Methyl tert butyl ether	89		89		70-130	0		20
p/m-Xylene	106		106		70-130	0		20
o-Xylene	103		103		70-130	0		20
cis-1,2-Dichloroethene	98		97		70-130	1		20
Dibromomethane	94		96		70-130	2		20
1,2,3-Trichloropropane	95		98		70-130	3		20
Styrene	104		105		70-130	1		20
Dichlorodifluoromethane	112		111		70-130	1		20
Acetone	121		119		70-130	2		20
Carbon disulfide	97		96		70-130	1		20
Methyl ethyl ketone	105		111		70-130	6		20
Methyl isobutyl ketone	96		97		70-130	1		20
2-Hexanone	106		113		70-130	6		20
Bromochloromethane	97		97		70-130	0		20
Tetrahydrofuran	107		111		70-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

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): 01-02 Batch: WG1283962-3 WG1283962-4								
2,2-Dichloropropane	101		100		70-130	1		20
1,2-Dibromoethane	98		98		70-130	0		20
1,3-Dichloropropane	96		98		70-130	2		20
1,1,1,2-Tetrachloroethane	104		105		70-130	1		20
Bromobenzene	97		98		70-130	1		20
n-Butylbenzene	107		107		70-130	0		20
sec-Butylbenzene	103		104		70-130	1		20
tert-Butylbenzene	101		103		70-130	2		20
o-Chlorotoluene	105		106		70-130	1		20
p-Chlorotoluene	106		108		70-130	2		20
1,2-Dibromo-3-chloropropane	84		89		70-130	6		20
Hexachlorobutadiene	89		90		70-130	1		20
Isopropylbenzene	104		105		70-130	1		20
p-Isopropyltoluene	102		104		70-130	2		20
Naphthalene	92		97		70-130	5		20
n-Propylbenzene	105		107		70-130	2		20
1,2,3-Trichlorobenzene	93		94		70-130	1		20
1,2,4-Trichlorobenzene	97		98		70-130	1		20
1,3,5-Trimethylbenzene	105		106		70-130	1		20
1,2,4-Trimethylbenzene	105		106		70-130	1		20
Diethyl ether	89		91		70-130	2		20
Diisopropyl Ether	118		118		70-130	0		20
Ethyl-Tert-Butyl-Ether	97		97		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

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): 01-02 Batch: WG1283962-3 WG1283962-4								
Tertiary-Amyl Methyl Ether	86		87		70-130	1		20
1,4-Dioxane	92		96		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	102		102		70-130
Toluene-d8	101		101		70-130
4-Bromofluorobenzene	97		99		70-130
Dibromofluoromethane	96		95		70-130

SEMIVOLATILES

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1940180-01
Client ID: TT-4 (8-10')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 09/04/19 10:00
Date Received: 09/04/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/15/19 20:11
Analyst: PS
Percent Solids: 89%

Extraction Method: EPA 3546
Extraction Date: 09/13/19 21:11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Acenaphthene	ND		ug/kg	140	--	1
Fluoranthene	890		ug/kg	110	--	1
Naphthalene	ND		ug/kg	180	--	1
Benzo(a)anthracene	510		ug/kg	110	--	1
Benzo(a)pyrene	490		ug/kg	140	--	1
Benzo(b)fluoranthene	590		ug/kg	110	--	1
Benzo(k)fluoranthene	190		ug/kg	110	--	1
Chrysene	460		ug/kg	110	--	1
Acenaphthylene	ND		ug/kg	140	--	1
Anthracene	170		ug/kg	110	--	1
Benzo(ghi)perylene	240		ug/kg	140	--	1
Fluorene	ND		ug/kg	180	--	1
Phenanthrene	440		ug/kg	110	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	110	--	1
Indeno(1,2,3-cd)pyrene	280		ug/kg	140	--	1
Pyrene	720		ug/kg	110	--	1
2-Methylnaphthalene	ND		ug/kg	220	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	65		30-130
2-Fluorobiphenyl	72		30-130
4-Terphenyl-d14	58		30-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1940180-02
Client ID: TT-5 (7-9')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 09/04/19 11:30
Date Received: 09/04/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/15/19 20:35
Analyst: PS
Percent Solids: 74%

Extraction Method: EPA 3546
Extraction Date: 09/13/19 21:11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Acenaphthene	180		ug/kg	170	--	1
Fluoranthene	940		ug/kg	130	--	1
Naphthalene	670		ug/kg	220	--	1
Benzo(a)anthracene	330		ug/kg	130	--	1
Benzo(a)pyrene	260		ug/kg	170	--	1
Benzo(b)fluoranthene	350		ug/kg	130	--	1
Benzo(k)fluoranthene	ND		ug/kg	130	--	1
Chrysene	330		ug/kg	130	--	1
Acenaphthylene	ND		ug/kg	170	--	1
Anthracene	290		ug/kg	130	--	1
Benzo(ghi)perylene	ND		ug/kg	170	--	1
Fluorene	320		ug/kg	220	--	1
Phenanthrene	1300		ug/kg	130	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	130	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	170	--	1
Pyrene	800		ug/kg	130	--	1
2-Methylnaphthalene	270		ug/kg	260	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	54		30-130
2-Fluorobiphenyl	75		30-130
4-Terphenyl-d14	61		30-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 09/14/19 11:22
Analyst: KR

Extraction Method: EPA 3546
Extraction Date: 09/13/19 21:11

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG1284036-1					
Acenaphthene	ND		ug/kg	130	--
Fluoranthene	ND		ug/kg	97	--
Naphthalene	ND		ug/kg	160	--
Benzo(a)anthracene	ND		ug/kg	97	--
Benzo(a)pyrene	ND		ug/kg	130	--
Benzo(b)fluoranthene	ND		ug/kg	97	--
Benzo(k)fluoranthene	ND		ug/kg	97	--
Chrysene	ND		ug/kg	97	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	97	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	97	--
Dibenzo(a,h)anthracene	ND		ug/kg	97	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	97	--
2-Methylnaphthalene	ND		ug/kg	190	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	80		30-130
2-Fluorobiphenyl	75		30-130
4-Terphenyl-d14	79		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940180
Report Date: 09/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG1284036-2 WG1284036-3								
Acenaphthene	96		96		40-140	0		30
Fluoranthene	99		96		40-140	3		30
Naphthalene	90		91		40-140	1		30
Benzo(a)anthracene	101		98		40-140	3		30
Benzo(a)pyrene	97		90		40-140	7		30
Benzo(b)fluoranthene	100		98		40-140	2		30
Benzo(k)fluoranthene	102		94		40-140	8		30
Chrysene	102		98		40-140	4		30
Acenaphthylene	95		94		40-140	1		30
Anthracene	99		98		40-140	1		30
Benzo(ghi)perylene	96		94		40-140	2		30
Fluorene	100		97		40-140	3		30
Phenanthrene	98		98		40-140	0		30
Dibenzo(a,h)anthracene	100		97		40-140	3		30
Indeno(1,2,3-cd)pyrene	99		96		40-140	3		30
Pyrene	97		97		40-140	0		30
2-Methylnaphthalene	95		97		40-140	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST., S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1940180

Report Date: 09/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG1284036-2 WG1284036-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	75		74		30-130
2-Fluorobiphenyl	67		68		30-130
4-Terphenyl-d14	70		68		30-130

PETROLEUM HYDROCARBONS

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1940180

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID:	L1940180-01	Date Collected:	09/04/19 10:00
Client ID:	TT-4 (8-10')	Date Received:	09/04/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	09/12/19 21:29
Analyst:	MKS
Percent Solids:	89%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1:1.5

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	4.22	--	1
C9-C12 Aliphatics	ND		mg/kg	4.22	--	1
C9-C10 Aromatics	ND		mg/kg	4.22	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	4.22	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	4.22	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	**131**	Q	70-130
2,5-Dibromotoluene-FID	**131**	Q	70-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID:	L1940180-01	Date Collected:	09/04/19 10:00
Client ID:	TT-4 (8-10')	Date Received:	09/04/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/09/19 00:09
Analytical Date:	09/13/19 20:14	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/10/19
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	7.36	--	1
C19-C36 Aliphatics	11.0		mg/kg	7.36	--	1
C11-C22 Aromatics	20.6		mg/kg	7.36	--	1
C11-C22 Aromatics, Adjusted	19.6		mg/kg	7.36	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	59		40-140
o-Terphenyl	62		40-140
2-Fluorobiphenyl	75		40-140
2-Bromonaphthalene	74		40-140

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1940180

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID:	L1940180-02	Date Collected:	09/04/19 11:30
Client ID:	TT-5 (7-9')	Date Received:	09/04/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	09/12/19 21:59
Analyst:	MKS
Percent Solids:	74%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1:1 +/- 25%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	9.72	--	1
C9-C12 Aliphatics	ND		mg/kg	9.72	--	1
C9-C10 Aromatics	ND		mg/kg	9.72	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	9.72	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	9.72	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	**136**	Q	70-130
2,5-Dibromotoluene-FID	**138**	Q	70-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID:	L1940180-02	Date Collected:	09/04/19 11:30
Client ID:	TT-5 (7-9')	Date Received:	09/04/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/09/19 00:09
Analytical Date:	09/13/19 19:36	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/10/19
Percent Solids:	74%		

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	9.98		mg/kg	8.94	--	1
C19-C36 Aliphatics	36.6		mg/kg	8.94	--	1
C11-C22 Aromatics	86.3		mg/kg	8.94	--	1
C11-C22 Aromatics, Adjusted	80.2		mg/kg	8.94	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	52		40-140
o-Terphenyl	56		40-140
2-Fluorobiphenyl	68		40-140
2-Bromonaphthalene	65		40-140

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1940180

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID:	L1940180-03	Date Collected:	09/04/19 12:30
Client ID:	TT-5/OW	Date Received:	09/04/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/12/19 09:09
Analytical Date:	09/13/19 23:48	Cleanup Method1:	EPH-04-1
Analyst:	SC	Cleanup Date1:	09/13/19

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
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		ug/l	132	--	1
C19-C36 Aliphatics	ND		ug/l	132	--	1
C11-C22 Aromatics	ND		ug/l	132	--	1
C11-C22 Aromatics, Adjusted	ND		ug/l	132	--	1
Naphthalene	ND		ug/l	13.2	--	1
2-Methylnaphthalene	ND		ug/l	13.2	--	1
Acenaphthylene	ND		ug/l	13.2	--	1
Acenaphthene	ND		ug/l	13.2	--	1
Fluorene	ND		ug/l	13.2	--	1
Phenanthrene	ND		ug/l	13.2	--	1
Anthracene	ND		ug/l	13.2	--	1
Fluoranthene	ND		ug/l	13.2	--	1
Pyrene	ND		ug/l	13.2	--	1
Benzo(a)anthracene	ND		ug/l	13.2	--	1
Chrysene	ND		ug/l	13.2	--	1
Benzo(b)fluoranthene	ND		ug/l	13.2	--	1
Benzo(k)fluoranthene	ND		ug/l	13.2	--	1
Benzo(a)pyrene	ND		ug/l	13.2	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	13.2	--	1
Dibenzo(a,h)anthracene	ND		ug/l	13.2	--	1
Benzo(ghi)perylene	ND		ug/l	13.2	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1940180

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID:	L1940180-03	Date Collected:	09/04/19 12:30
Client ID:	TT-5/OW	Date Received:	09/04/19
Sample Location:	CYPHER ST., S. BOSTON	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	73		40-140
2-Fluorobiphenyl	84		40-140
2-Bromonaphthalene	84		40-140

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940180
Report Date: 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 09/13/19 01:50
Analyst: MEO

Extraction Method: EPA 3546
Extraction Date: 09/09/19 00:09
Cleanup Method: EPH-04-1
Cleanup Date: 09/10/19

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-02 Batch: WG1281663-1					
C9-C18 Aliphatics	ND		mg/kg	6.44	--
C19-C36 Aliphatics	ND		mg/kg	6.44	--
C11-C22 Aromatics	ND		mg/kg	6.44	--
C11-C22 Aromatics, Adjusted	ND		mg/kg	6.44	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	54		40-140
o-Terphenyl	51		40-140
2-Fluorobiphenyl	68		40-140
2-Bromonaphthalene	68		40-140

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940180
Report Date: 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 09/13/19 23:16
Analyst: SC

Extraction Method: EPA 3510C
Extraction Date: 09/12/19 05:12
Cleanup Method: EPH-04-1
Cleanup Date: 09/13/19

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 03 Batch: WG1283120-1					
C9-C18 Aliphatics	ND		ug/l	100	--
C19-C36 Aliphatics	ND		ug/l	100	--
C11-C22 Aromatics	ND		ug/l	100	--
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--
Naphthalene	ND		ug/l	10.0	--
2-Methylnaphthalene	ND		ug/l	10.0	--
Acenaphthylene	ND		ug/l	10.0	--
Acenaphthene	ND		ug/l	10.0	--
Fluorene	ND		ug/l	10.0	--
Phenanthrene	ND		ug/l	10.0	--
Anthracene	ND		ug/l	10.0	--
Fluoranthene	ND		ug/l	10.0	--
Pyrene	ND		ug/l	10.0	--
Benzo(a)anthracene	ND		ug/l	10.0	--
Chrysene	ND		ug/l	10.0	--
Benzo(b)fluoranthene	ND		ug/l	10.0	--
Benzo(k)fluoranthene	ND		ug/l	10.0	--
Benzo(a)pyrene	ND		ug/l	10.0	--
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0	--
Dibenzo(a,h)anthracene	ND		ug/l	10.0	--
Benzo(ghi)perylene	ND		ug/l	10.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	73		40-140
o-Terphenyl	95		40-140
2-Fluorobiphenyl	99		40-140
2-Bromonaphthalene	98		40-140

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1940180

Project Number: 143-278997-19001 **Report Date:** 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 131,VPH-18-2.1
Analytical Date: 09/12/19 17:58
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-02 Batch: WG1283870-4					
C5-C8 Aliphatics	ND		mg/kg	5.00	--
C9-C12 Aliphatics	ND		mg/kg	5.00	--
C9-C10 Aromatics	ND		mg/kg	5.00	--
C5-C8 Aliphatics, Adjusted	ND		mg/kg	5.00	--
C9-C12 Aliphatics, Adjusted	ND		mg/kg	5.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	81		70-130
2,5-Dibromotoluene-FID	81		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-02 Batch: WG1281663-2 WG1281663-3								
C9-C18 Aliphatics	52		60		40-140	14		25
C19-C36 Aliphatics	61		74		40-140	19		25
C11-C22 Aromatics	53		66		40-140	22		25
Naphthalene	44		57		40-140	**26**	Q	25
2-Methylnaphthalene	44		56		40-140	24		25
Acenaphthylene	48		60		40-140	22		25
Acenaphthene	52		63		40-140	19		25
Fluorene	51		63		40-140	21		25
Phenanthrene	55		69		40-140	23		25
Anthracene	55		68		40-140	21		25
Fluoranthene	55		69		40-140	23		25
Pyrene	57		71		40-140	22		25
Benzo(a)anthracene	54		68		40-140	23		25
Chrysene	55		68		40-140	21		25
Benzo(b)fluoranthene	52		67		40-140	25		25
Benzo(k)fluoranthene	52		66		40-140	24		25
Benzo(a)pyrene	50		63		40-140	23		25
Indeno(1,2,3-cd)Pyrene	44		59		40-140	**29**	Q	25
Dibenzo(a,h)anthracene	43		55		40-140	24		25
Benzo(ghi)perylene	42		54		40-140	25		25
Nonane (C9)	40		48		30-140	18		25
Decane (C10)	45		53		40-140	16		25
Dodecane (C12)	46		54		40-140	16		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-02 Batch: WG1281663-2 WG1281663-3								
Tetradecane (C14)	47		55		40-140	16		25
Hexadecane (C16)	51		59		40-140	15		25
Octadecane (C18)	54		64		40-140	17		25
Nonadecane (C19)	55		65		40-140	17		25
Eicosane (C20)	56		67		40-140	18		25
Docosane (C22)	57		69		40-140	19		25
Tetracosane (C24)	58		70		40-140	19		25
Hexacosane (C26)	60		72		40-140	18		25
Octacosane (C28)	61		74		40-140	19		25
Triacontane (C30)	62		74		40-140	18		25
Hexatriacontane (C36)	57		73		40-140	25		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	56		62		40-140
o-Terphenyl	56		64		40-140
2-Fluorobiphenyl	74		81		40-140
2-Bromonaphthalene	73		81		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 03 Batch: WG1283120-2 WG1283120-3								
C9-C18 Aliphatics	61		62		40-140	2		25
C19-C36 Aliphatics	89		91		40-140	2		25
C11-C22 Aromatics	94		70		40-140	**29**	Q	25
Naphthalene	69		60		40-140	14		25
2-Methylnaphthalene	70		62		40-140	12		25
Acenaphthylene	78		70		40-140	11		25
Acenaphthene	80		72		40-140	11		25
Fluorene	84		76		40-140	10		25
Phenanthrene	91		83		40-140	9		25
Anthracene	93		85		40-140	9		25
Fluoranthene	98		90		40-140	9		25
Pyrene	101		93		40-140	8		25
Benzo(a)anthracene	98		90		40-140	9		25
Chrysene	96		88		40-140	9		25
Benzo(b)fluoranthene	103		93		40-140	10		25
Benzo(k)fluoranthene	99		90		40-140	10		25
Benzo(a)pyrene	97		88		40-140	10		25
Indeno(1,2,3-cd)Pyrene	99		90		40-140	10		25
Dibenzo(a,h)anthracene	96		86		40-140	11		25
Benzo(ghi)perylene	87		79		40-140	10		25
Nonane (C9)	35		36		30-140	3		25
Decane (C10)	44		45		40-140	2		25
Dodecane (C12)	54		55		40-140	2		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 03 Batch: WG1283120-2 WG1283120-3								
Tetradecane (C14)	62		62		40-140	0		25
Hexadecane (C16)	70		69		40-140	1		25
Octadecane (C18)	78		78		40-140	0		25
Nonadecane (C19)	79		79		40-140	0		25
Eicosane (C20)	81		82		40-140	1		25
Docosane (C22)	81		82		40-140	1		25
Tetracosane (C24)	82		83		40-140	1		25
Hexacosane (C26)	82		83		40-140	1		25
Octacosane (C28)	82		83		40-140	1		25
Triacontane (C30)	82		83		40-140	1		25
Hexatriacontane (C36)	86		88		40-140	2		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	83		84		40-140
o-Terphenyl	99		90		40-140
2-Fluorobiphenyl	94		86		40-140
2-Bromonaphthalene	93		86		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-02 Batch: WG1283870-2 WG1283870-3								
C5-C8 Aliphatics	97		99		70-130	2		25
C9-C12 Aliphatics	100		101		70-130	1		25
C9-C10 Aromatics	98		100		70-130	2		25
Benzene	99		102		70-130	3		25
Toluene	100		102		70-130	2		25
Ethylbenzene	101		104		70-130	3		25
p/m-Xylene	102		104		70-130	2		25
o-Xylene	97		100		70-130	3		25
Methyl tert butyl ether	100		103		70-130	3		25
Naphthalene	102		107		70-130	5		25
1,2,4-Trimethylbenzene	98		100		70-130	2		25
Pentane	92		95		70-130	3		25
2-Methylpentane	101		103		70-130	2		25
2,2,4-Trimethylpentane	97		100		70-130	3		25
n-Nonane	101		103		30-130	2		25
n-Decane	96		97		70-130	0		25
n-Butylcyclohexane	102		105		70-130	3		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	103		106		70-130
2,5-Dibromotoluene-FID	104		106		70-130

PCBS

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1940180-01
Client ID: TT-4 (8-10')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 09/04/19 10:00
Date Received: 09/04/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/11/19 23:13
Analyst: AWS
Percent Solids: 89%

Extraction Method: EPA 3546
Extraction Date: 09/09/19 06:40
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
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	35.4	--	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	ND		ug/kg	35.4	--	1	A
Aroclor 1260	ND		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	ND		ug/kg	35.4	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	61		30-150	B
Decachlorobiphenyl	46		30-150	B
2,4,5,6-Tetrachloro-m-xylene	61		30-150	A
Decachlorobiphenyl	45		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1940180-02
Client ID: TT-5 (7-9')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 09/04/19 11:30
Date Received: 09/04/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/11/19 23:00
Analyst: AWS
Percent Solids: 74%

Extraction Method: EPA 3546
Extraction Date: 09/09/19 06:40
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
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	43.6	--	1	A
Aroclor 1221	ND		ug/kg	43.6	--	1	A
Aroclor 1232	ND		ug/kg	43.6	--	1	A
Aroclor 1242	ND		ug/kg	43.6	--	1	A
Aroclor 1248	ND		ug/kg	43.6	--	1	A
Aroclor 1254	ND		ug/kg	43.6	--	1	A
Aroclor 1260	ND		ug/kg	43.6	--	1	A
Aroclor 1262	ND		ug/kg	43.6	--	1	A
Aroclor 1268	ND		ug/kg	43.6	--	1	A
PCBs, Total	ND		ug/kg	43.6	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	56		30-150	B
Decachlorobiphenyl	44		30-150	B
2,4,5,6-Tetrachloro-m-xylene	57		30-150	A
Decachlorobiphenyl	44		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1940180-03
Client ID: TT-5/OW
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 09/04/19 12:30
Date Received: 09/04/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 97,8082A
Analytical Date: 09/13/19 22:57
Analyst: WR

Extraction Method: EPA 3510C
Extraction Date: 09/12/19 09:14
Cleanup Method: EPA 3665A
Cleanup Date: 09/13/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/13/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/l	0.417	--	1	A
Aroclor 1221	ND		ug/l	0.417	--	1	A
Aroclor 1232	ND		ug/l	0.417	--	1	A
Aroclor 1242	ND		ug/l	0.417	--	1	A
Aroclor 1248	ND		ug/l	0.417	--	1	A
Aroclor 1254	ND		ug/l	0.417	--	1	A
Aroclor 1260	ND		ug/l	0.417	--	1	A
Aroclor 1262	ND		ug/l	0.417	--	1	A
Aroclor 1268	ND		ug/l	0.417	--	1	A
PCBs, Total	ND		ug/l	0.417	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	58		30-150	A
Decachlorobiphenyl	47		30-150	A
2,4,5,6-Tetrachloro-m-xylene	59		30-150	B
Decachlorobiphenyl	49		30-150	B

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940180
Report Date: 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 09/10/19 18:56
Analyst: KB

Extraction Method: EPA 3546
Extraction Date: 09/09/19 06:40
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/10/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01-02 Batch: WG1281734-1						
Aroclor 1016	ND		ug/kg	32.6	--	A
Aroclor 1221	ND		ug/kg	32.6	--	A
Aroclor 1232	ND		ug/kg	32.6	--	A
Aroclor 1242	ND		ug/kg	32.6	--	A
Aroclor 1248	ND		ug/kg	32.6	--	A
Aroclor 1254	ND		ug/kg	32.6	--	A
Aroclor 1260	ND		ug/kg	32.6	--	A
Aroclor 1262	ND		ug/kg	32.6	--	A
Aroclor 1268	ND		ug/kg	32.6	--	A
PCBs, Total	ND		ug/kg	32.6	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	83		30-150	B
Decachlorobiphenyl	74		30-150	B
2,4,5,6-Tetrachloro-m-xylene	79		30-150	A
Decachlorobiphenyl	70		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940180
Report Date: 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 09/12/19 14:15
Analyst: AWS

Extraction Method: EPA 3510C
Extraction Date: 09/12/19 01:26
Cleanup Method: EPA 3665A
Cleanup Date: 09/12/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/12/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 03 Batch: WG1283077-1						
Aroclor 1016	ND		ug/l	0.250	--	A
Aroclor 1221	ND		ug/l	0.250	--	A
Aroclor 1232	ND		ug/l	0.250	--	A
Aroclor 1242	ND		ug/l	0.250	--	A
Aroclor 1248	ND		ug/l	0.250	--	A
Aroclor 1254	ND		ug/l	0.250	--	A
Aroclor 1260	ND		ug/l	0.250	--	A
Aroclor 1262	ND		ug/l	0.250	--	A
Aroclor 1268	ND		ug/l	0.250	--	A
PCBs, Total	ND		ug/l	0.250	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	70		30-150	A
Decachlorobiphenyl	78		30-150	A
2,4,5,6-Tetrachloro-m-xylene	71		30-150	B
Decachlorobiphenyl	87		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST., S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1940180

Report Date: 09/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01-02 Batch: WG1281734-2 WG1281734-3									
Aroclor 1016	74		82		40-140	10		30	A
Aroclor 1260	64		74		40-140	14		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	79		93		30-150	B
Decachlorobiphenyl	67		90		30-150	B
2,4,5,6-Tetrachloro-m-xylene	78		91		30-150	A
Decachlorobiphenyl	66		82		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST., S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1940180

Report Date: 09/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 03 Batch: WG1283077-2 WG1283077-3									
Aroclor 1016	75		74		40-140	1		20	A
Aroclor 1260	75		74		40-140	1		20	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	70		71		30-150	A
Decachlorobiphenyl	82		82		30-150	A
2,4,5,6-Tetrachloro-m-xylene	73		73		30-150	B
Decachlorobiphenyl	91		89		30-150	B

METALS

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1940180-01
Client ID: TT-4 (8-10')
Sample Location: CYPHER ST., S. BOSTON
Date Collected: 09/04/19 10:00
Date Received: 09/04/19
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											
Antimony, Total	ND		mg/kg	2.22	--	1	09/12/19 23:00	09/13/19 19:00	EPA 3050B	97,6010D	MC
Arsenic, Total	1.00		mg/kg	0.443	--	1	09/12/19 23:00	09/13/19 19:00	EPA 3050B	97,6010D	MC
Barium, Total	7.27		mg/kg	0.443	--	1	09/12/19 23:00	09/13/19 19:00	EPA 3050B	97,6010D	MC
Beryllium, Total	ND		mg/kg	0.222	--	1	09/12/19 23:00	09/13/19 19:00	EPA 3050B	97,6010D	MC
Cadmium, Total	ND		mg/kg	0.443	--	1	09/12/19 23:00	09/13/19 19:00	EPA 3050B	97,6010D	MC
Chromium, Total	5.72		mg/kg	0.443	--	1	09/12/19 23:00	09/13/19 19:00	EPA 3050B	97,6010D	MC
Lead, Total	7.68		mg/kg	2.22	--	1	09/12/19 23:00	09/13/19 19:00	EPA 3050B	97,6010D	MC
Mercury, Total	0.160		mg/kg	0.088	--	1	09/14/19 07:00	09/14/19 15:05	EPA 7471B	97,7471B	AL
Nickel, Total	2.82		mg/kg	1.11	--	1	09/12/19 23:00	09/13/19 19:00	EPA 3050B	97,6010D	MC
Selenium, Total	ND		mg/kg	2.22	--	1	09/12/19 23:00	09/13/19 19:00	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.443	--	1	09/12/19 23:00	09/13/19 19:00	EPA 3050B	97,6010D	MC
Thallium, Total	ND		mg/kg	2.22	--	1	09/12/19 23:00	09/13/19 19:00	EPA 3050B	97,6010D	MC
Vanadium, Total	5.26		mg/kg	0.443	--	1	09/12/19 23:00	09/13/19 19:00	EPA 3050B	97,6010D	MC
Zinc, Total	17.2		mg/kg	2.22	--	1	09/12/19 23:00	09/13/19 19:00	EPA 3050B	97,6010D	MC

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1940180-02
Client ID: TT-5 (7-9')
Sample Location: CYPHER ST., S. BOSTON
Date Collected: 09/04/19 11:30
Date Received: 09/04/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 74%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.56	--	1	09/12/19 23:00	09/13/19 19:04	EPA 3050B	97,6010D	MC
Arsenic, Total	5.66		mg/kg	0.511	--	1	09/12/19 23:00	09/13/19 19:04	EPA 3050B	97,6010D	MC
Barium, Total	55.7		mg/kg	0.511	--	1	09/12/19 23:00	09/13/19 19:04	EPA 3050B	97,6010D	MC
Beryllium, Total	ND		mg/kg	0.256	--	1	09/12/19 23:00	09/13/19 19:04	EPA 3050B	97,6010D	MC
Cadmium, Total	0.793		mg/kg	0.511	--	1	09/12/19 23:00	09/13/19 19:04	EPA 3050B	97,6010D	MC
Chromium, Total	8.88		mg/kg	0.511	--	1	09/12/19 23:00	09/13/19 19:04	EPA 3050B	97,6010D	MC
Lead, Total	129		mg/kg	2.56	--	1	09/12/19 23:00	09/13/19 19:04	EPA 3050B	97,6010D	MC
Mercury, Total	4.65		mg/kg	0.203	--	2	09/14/19 07:00	09/14/19 17:48	EPA 7471B	97,7471B	AL
Nickel, Total	8.72		mg/kg	1.28	--	1	09/12/19 23:00	09/13/19 19:04	EPA 3050B	97,6010D	MC
Selenium, Total	ND		mg/kg	2.56	--	1	09/12/19 23:00	09/13/19 19:04	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.511	--	1	09/12/19 23:00	09/13/19 19:04	EPA 3050B	97,6010D	MC
Thallium, Total	ND		mg/kg	2.56	--	1	09/12/19 23:00	09/13/19 19:04	EPA 3050B	97,6010D	MC
Vanadium, Total	14.2		mg/kg	0.511	--	1	09/12/19 23:00	09/13/19 19:04	EPA 3050B	97,6010D	MC
Zinc, Total	73.9		mg/kg	2.56	--	1	09/12/19 23:00	09/13/19 19:04	EPA 3050B	97,6010D	MC

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1940180-03
Client ID: TT-5/OW
Sample Location: CYPHER ST., S. BOSTON
Date Collected: 09/04/19 12:30
Date Received: 09/04/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/l	0.050	--	1	09/12/19 16:20	09/13/19 22:38	EPA 3005A	97,6010D	MC
Arsenic, Total	0.218		mg/l	0.0050	--	1	09/12/19 16:20	09/13/19 22:38	EPA 3005A	97,6010D	MC
Barium, Total	1.03		mg/l	0.010	--	1	09/12/19 16:20	09/13/19 22:38	EPA 3005A	97,6010D	MC
Beryllium, Total	0.014		mg/l	0.005	--	1	09/12/19 16:20	09/13/19 22:38	EPA 3005A	97,6010D	MC
Cadmium, Total	0.014		mg/l	0.004	--	1	09/12/19 16:20	09/13/19 22:38	EPA 3005A	97,6010D	MC
Chromium, Total	0.413		mg/l	0.010	--	1	09/12/19 16:20	09/13/19 22:38	EPA 3005A	97,6010D	MC
Lead, Total	1.37		mg/l	0.010	--	1	09/12/19 16:20	09/13/19 22:38	EPA 3005A	97,6010D	MC
Mercury, Total	0.0035		mg/l	0.0002	--	1	09/12/19 15:43	09/13/19 19:41	EPA 7470A	97,7470A	GD
Nickel, Total	0.329		mg/l	0.025	--	1	09/12/19 16:20	09/13/19 22:38	EPA 3005A	97,6010D	MC
Selenium, Total	ND		mg/l	0.010	--	1	09/12/19 16:20	09/13/19 22:38	EPA 3005A	97,6010D	MC
Silver, Total	ND		mg/l	0.007	--	1	09/12/19 16:20	09/13/19 22:38	EPA 3005A	97,6010D	MC
Thallium, Total	ND		mg/l	0.020	--	1	09/12/19 16:20	09/13/19 22:38	EPA 3005A	97,6010D	MC
Vanadium, Total	0.509		mg/l	0.010	--	1	09/12/19 16:20	09/13/19 22:38	EPA 3005A	97,6010D	MC
Zinc, Total	1.88		mg/l	0.050	--	1	09/12/19 16:20	09/13/19 22:38	EPA 3005A	97,6010D	MC

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1940180

Project Number: 143-278997-19001 **Report Date:** 09/16/19

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): 03 Batch: WG1283396-1										
Antimony, Total	ND		mg/l	0.050	--	1	09/12/19 16:20	09/13/19 22:25	97,6010D	MC
Arsenic, Total	ND		mg/l	0.0050	--	1	09/12/19 16:20	09/13/19 22:25	97,6010D	MC
Barium, Total	ND		mg/l	0.010	--	1	09/12/19 16:20	09/13/19 22:25	97,6010D	MC
Beryllium, Total	ND		mg/l	0.005	--	1	09/12/19 16:20	09/13/19 22:25	97,6010D	MC
Cadmium, Total	ND		mg/l	0.004	--	1	09/12/19 16:20	09/13/19 22:25	97,6010D	MC
Chromium, Total	ND		mg/l	0.010	--	1	09/12/19 16:20	09/13/19 22:25	97,6010D	MC
Lead, Total	ND		mg/l	0.010	--	1	09/12/19 16:20	09/13/19 22:25	97,6010D	MC
Nickel, Total	ND		mg/l	0.025	--	1	09/12/19 16:20	09/13/19 22:25	97,6010D	MC
Selenium, Total	ND		mg/l	0.010	--	1	09/12/19 16:20	09/13/19 22:25	97,6010D	MC
Silver, Total	ND		mg/l	0.007	--	1	09/12/19 16:20	09/13/19 22:25	97,6010D	MC
Thallium, Total	ND		mg/l	0.020	--	1	09/12/19 16:20	09/13/19 22:25	97,6010D	MC
Vanadium, Total	ND		mg/l	0.010	--	1	09/12/19 16:20	09/13/19 22:25	97,6010D	MC
Zinc, Total	ND		mg/l	0.050	--	1	09/12/19 16:20	09/13/19 22:25	97,6010D	MC

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 03 Batch: WG1283413-1										
Mercury, Total	ND		mg/l	0.0002	--	1	09/12/19 15:43	09/13/19 19:31	97,7470A	GD

Prep Information

Digestion Method: EPA 7470A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01-02 Batch: WG1283507-1										
Antimony, Total	ND		mg/kg	2.00	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC
Arsenic, Total	ND		mg/kg	0.400	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC
Barium, Total	ND		mg/kg	0.400	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1940180

Project Number: 143-278997-19001 **Report Date:** 09/16/19

Method Blank Analysis
Batch Quality Control

Beryllium, Total	ND	mg/kg	0.200	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC
Cadmium, Total	ND	mg/kg	0.400	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC
Chromium, Total	ND	mg/kg	0.400	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC
Lead, Total	ND	mg/kg	2.00	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC
Nickel, Total	ND	mg/kg	1.00	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC
Selenium, Total	ND	mg/kg	2.00	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC
Silver, Total	ND	mg/kg	0.400	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC
Thallium, Total	ND	mg/kg	2.00	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC
Vanadium, Total	ND	mg/kg	0.400	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC
Zinc, Total	ND	mg/kg	2.00	--	1	09/12/19 23:00	09/13/19 17:43	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): 01-02 Batch: WG1284107-1										
Mercury, Total	ND		mg/kg	0.083	--	1	09/14/19 07:00	09/14/19 14:59	97,7471B	AL

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 03 Batch: WG1283396-2 WG1283396-3								
Antimony, Total	91		96		80-120	5		20
Arsenic, Total	107		108		80-120	1		20
Barium, Total	97		98		80-120	1		20
Beryllium, Total	99		98		80-120	1		20
Cadmium, Total	102		104		80-120	2		20
Chromium, Total	96		98		80-120	2		20
Lead, Total	100		102		80-120	2		20
Nickel, Total	97		99		80-120	2		20
Selenium, Total	102		105		80-120	3		20
Silver, Total	95		97		80-120	2		20
Thallium, Total	101		102		80-120	1		20
Vanadium, Total	99		100		80-120	1		20
Zinc, Total	101		103		80-120	2		20
MCP Total Metals - Mansfield Lab Associated sample(s): 03 Batch: WG1283413-2 WG1283413-3								
Mercury, Total	106		104		80-120	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG1283507-2 WG1283507-3 SRM Lot Number: D105-540					
Antimony, Total	147	141	19-249	4	30
Arsenic, Total	95	94	70-130	1	30
Barium, Total	82	85	75-125	4	30
Beryllium, Total	89	88	75-125	1	30
Cadmium, Total	87	91	75-125	4	30
Chromium, Total	80	80	70-130	0	30
Lead, Total	88	88	71-128	0	30
Nickel, Total	88	86	70-131	2	30
Selenium, Total	95	93	63-137	2	30
Silver, Total	85	85	69-131	0	30
Thallium, Total	83	88	68-132	6	30
Vanadium, Total	80	79	65-135	1	30
Zinc, Total	87	85	70-130	2	30
MCP Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG1284107-2 WG1284107-3 SRM Lot Number: D105-540					
Mercury, Total	89	87	60-141	2	30

INORGANICS
&
MISCELLANEOUS

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940180
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1940180-01
Client ID: TT-4 (8-10')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 09/04/19 10:00
Date Received: 09/04/19
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	-	09/05/19 03:30	121,2540G	YA

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940180
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1940180-02
Client ID: TT-5 (7-9')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 09/04/19 11:30
Date Received: 09/04/19
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	74.3		%	0.100	NA	1	-	09/05/19 03:30	121,2540G	YA

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940180
Report Date: 09/16/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1940180-01A	Vial MeOH preserved	A	NA		4.7	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1940180-01A1	Vial MeOH preserved	A	NA		4.7	Y	Absent		VPH-18(28)
L1940180-01B	Vial water preserved	A	NA		4.7	Y	Absent	04-SEP-19 20:52	MCP-8260HLW-10(14)
L1940180-01C	Vial water preserved	A	NA		4.7	Y	Absent	04-SEP-19 20:52	MCP-8260HLW-10(14)
L1940180-01D	Plastic 2oz unpreserved for TS	A	NA		4.7	Y	Absent		TS(7)
L1940180-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.7	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1940180-01F	Glass 500ml/16oz unpreserved	A	NA		4.7	Y	Absent		EPH-10(14),MCP-8082-10(365),MCP-PAH-10(14)
L1940180-02A	Vial MeOH preserved	A	NA		4.7	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1940180-02A1	Vial MeOH preserved	A	NA		4.7	Y	Absent		VPH-18(28)
L1940180-02B	Vial water preserved	A	NA		4.7	Y	Absent	04-SEP-19 20:52	MCP-8260HLW-10(14)
L1940180-02C	Vial water preserved	A	NA		4.7	Y	Absent	04-SEP-19 20:52	MCP-8260HLW-10(14)
L1940180-02D	Plastic 2oz unpreserved for TS	A	NA		4.7	Y	Absent		TS(7)
L1940180-02E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.7	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1940180-02F	Glass 500ml/16oz unpreserved	A	NA		4.7	Y	Absent		EPH-10(14),MCP-8082-10(365),MCP-PAH-10(14)

*Values in parentheses indicate holding time in days

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940180
Report Date: 09/16/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1940180-03A	Plastic 250ml HNO3 preserved	A	7	<2	4.7	N	Absent		MCP-CR-6010T-10(180),MCP-7470T-10(28),MCP-AS-6010T-10(180),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1940180-03B	Amber 1000ml Na2S2O3	A	7	7	4.7	Y	Absent		MCP-8082-10(365)
L1940180-03C	Amber 1000ml HCl preserved	A	<2	<2	4.7	Y	Absent		EPH-DELUX-10(14)
L1940180-03D	Amber 950ml H2SO4 preserved	A	<2	<2	4.7	Y	Absent		ARCHIVE()

*Values in parentheses indicate holding time in days

Project Name:	CYPHER ST., S. BOSTON	**Lab Number:**	L1940180
Project Number:	143-278997-19001	**Report Date:**	09/16/19

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:	CYPHER ST., S. BOSTON	**Lab Number:**	L1940180
Project Number:	143-278997-19001	**Report Date:**	09/16/19

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:	CYPHER ST., S. BOSTON	**Lab Number:**	L1940180
Project Number:	143-278997-19001	**Report Date:**	09/16/19

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.

131 Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, February 2018, Revision 2.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, June 1, 2018.

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 1

Date Rec'd in Lab: 9/4/19

ALPHA Job #: L1940180

8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Project Information

Project Name: Cypher St. S. Boston

Project Location: Cypher St. S. Boston

Project #: 143-278997-19001

Project Manager: Mike Billa

ALPHA Quote #:

Report Information - Data Deliverables

☒ ADEx ☒ EMAIL

Billing Information

☒ Same as Client info PO #:

Client Information

Client: Tetra Tech

Address: 100 Nickerson Rd. Marlborough, MA

Phone: 413-272-9534

Email: jon.fiore@tetratech.com

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)

Date Due:

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:

ANALYSIS

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 ☒ MCP 14 ☐ RCP 15	METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13	EPH: ☐ Ranges & Targets ☒ Ranges Only	VPH: ☐ Ranges & Targets ☒ Ranges Only	☒ PCB ☐ PEST	TPH: ☐ Quant Only ☐ Fingerprint	TPH	Total Metals	PCBs				Sample Comments	TOTAL # BOTTLES
U0180-01	TT-4 (8-10')	9/4/19	1000	Soil	JWF	X	X	X		X	X	X									7
-02	TT-5 (7-9')	↓	1130	Soil	↓	X	X	X		X	X	X									7
-03	TT-5/GW	↓	1230	GW	↓								X	X	X						4

Container Type	HP									A	A	A			
Preservative	H/F									D	B				

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
[signature]	9/4/19 1425	[signature]	9/4/19 1425
	9/4/19 1725		9/4/19 1725

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

Method Blank Summary
Form 4
Volatiles

Client	: Tetra Tech Rizzo	**Lab Number**	: L1940180
Project Name	: CYPHER ST. S. BOSTON	**Project Number**	: 143-278997-19001
Lab Sample ID	: WG1283962-5	**Lab File ID**	: V23190913A04
Instrument ID	: VOA123		
Matrix	: SOIL	**Analysis Date**	: 09/13/19 07:39

Client Sample No.	Lab Sample ID	Analysis Date
WG1283962-3LCS	WG1283962-3	09/13/19 06:27
WG1283962-4LCSD	WG1283962-4	09/13/19 06:51
TT-4 (8-10')	L1940180-01	09/13/19 11:21
TT-5 (7-9')	L1940180-02	09/13/19 11:45

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1940180
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA123	Calibration Date	: 09/13/19 06:27
Lab File ID	: V23190913A01	Init. Calib. Date(s)	: 06/21/19 06/21/19
Sample No	: WG1283962-2	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	78	-.01
Dichlorodifluoromethane	0.268	0.302	-	-12.7	20	74	0
Chloromethane	0.275	0.351	-	-27.6*	20	87	0
Vinyl chloride	0.312	0.336	-	-7.7	20	71	0
Bromomethane	0.233	0.233	-	0	20	73	0
Chloroethane	0.235	0.228	-	3	20	68	0
Trichlorofluoromethane	0.429	0.459	-	-7	20	70	0
Ethyl ether	0.143	0.128	-	10.5	20	62	0
1,1-Dichloroethene	0.214	0.216	-	-0.9	20	68	0
Carbon disulfide	0.725	0.705	-	2.8	20	69	0
Freon-113	0.216	0.224	-	-3.7	20	69	0
Acrolein	0.05	0.052	-	-4	20	76	0
Methylene chloride	0.28	0.248	-	11.4	20	66	0
Acetone	20	24.145	-	-20.7*	20	83	-.01
trans-1,2-Dichloroethene	0.245	0.247	-	-0.8	20	68	0
Methyl acetate	0.187	0.214	-	-14.4	20	80	-.01
Methyl tert-butyl ether	0.725	0.643	-	11.3	20	61	-.01
tert-Butyl alcohol	0.038	0.032*	-	15.8	20	58	-.01
Diisopropyl ether	0.748	0.879	-	-17.5	20	81	-.01
1,1-Dichloroethane	0.436	0.456	-	-4.6	20	71	0
Halothane	0.182	0.178	-	2.2	20	65	-.01
Acrylonitrile	0.093	0.096	-	-3.2	20	71	-.01
Ethyl tert-butyl ether	0.763	0.738	-	3.3	20	67	-.02
Vinyl acetate	0.662	0.743	-	-12.2	20	78	-.01
cis-1,2-Dichloroethene	0.275	0.268	-	2.5	20	67	-.01
2,2-Dichloropropane	0.366	0.37	-	-1.1	20	68	-.01
Bromochloromethane	0.134	0.13	-	3	20	66	-.01
Cyclohexane	0.39	0.422	-	-8.2	20	73	0
Chloroform	0.43	0.434	-	-0.9	20	69	-.01
Ethyl acetate	0.3	0.316	-	-5.3	20	75	-.02
Carbon tetrachloride	0.331	0.344	-	-3.9	20	70	-.01
Tetrahydrofuran	0.106	0.114	-	-7.5	20	75	-.02
Dibromofluoromethane	0.262	0.251	-	4.2	20	74	-.01
1,1,1-Trichloroethane	0.365	0.39	-	-6.8	20	70	-.01
2-Butanone	0.139	0.146	-	-5	20	80	-.02
1,1-Dichloropropene	0.318	0.332	-	-4.4	20	68	0
Benzene	0.959	0.958	-	0.1	20	67	-.01
tert-Amyl methyl ether	0.734	0.628	-	14.4	20	59	-.02
1,2-Dichloroethane-d4	0.29	0.294	-	-1.4	20	82	-.01
1,2-Dichloroethane	0.342	0.345	-	-0.9	20	70	-.01
Methyl cyclohexane	0.415	0.38	-	8.4	20	62	-.01
Trichloroethene	0.249	0.256	-	-2.8	20	69	-.01
Dibromomethane	0.164	0.155	-	5.5	20	65	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1940180
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA123	Calibration Date	: 09/13/19 06:27
Lab File ID	: V23190913A01	Init. Calib. Date(s)	: 06/21/19 06/21/19
Sample No	: WG1283962-2	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	0.257	-	-1.2	20	69	-.01
2-Chloroethyl vinyl ether	0.185	0.173	-	6.5	20	64	-.01
Bromodichloromethane	0.327	0.334	-	-2.1	20	69	-.01
1,4-Dioxane	0.00343	0.00317*	-	7.6	20	67	-.01
cis-1,3-Dichloropropene	0.404	0.396	-	2	20	66	-.01
Chlorobenzene-d5	1	1	-	0	20	75	-.01
Toluene-d8	1.211	1.221	-	-0.8	20	75	-.02
Toluene	0.75	0.769	-	-2.5	20	68	-.02
4-Methyl-2-pentanone	0.137	0.131	-	4.4	20	65	-.02
Tetrachloroethene	0.306	0.319	-	-4.2	20	66	-.01
trans-1,3-Dichloropropene	0.447	0.45	-	-0.7	20	65	-.01
Ethyl methacrylate	0.415	0.352	-	15.2	20	56	-.02
1,1,2-Trichloroethane	0.237	0.223	-	5.9	20	62	-.01
Chlorodibromomethane	0.311	0.316	-	-1.6	20	66	-.02
1,3-Dichloropropane	0.475	0.459	-	3.4	20	64	-.01
1,2-Dibromoethane	0.286	0.278	-	2.8	20	63	-.01
2-Hexanone	0.245	0.258	-	-5.3	20	72	-.02
Chlorobenzene	0.845	0.873	-	-3.3	20	68	-.02
Ethylbenzene	1.401	1.47	-	-4.9	20	69	-.01
1,1,1,2-Tetrachloroethane	0.297	0.31	-	-4.4	20	67	-.02
p/m Xylene	0.545	0.576	-	-5.7	20	69	-.02
o Xylene	0.539	0.555	-	-3	20	67	-.02
Styrene	0.876	0.914	-	-4.3	20	67	-.02
1,4-Dichlorobenzene-d4	1	1	-	0	20	77	-.01
Bromoform	0.424	0.369	-	13	20	64	-.01
Isopropylbenzene	2.578	2.68	-	-4	20	68	-.02
4-Bromofluorobenzene	0.913	0.881	-	3.5	20	74	-.01
Bromobenzene	0.679	0.657	-	3.2	20	65	-.02
n-Propylbenzene	3.032	3.192	-	-5.3	20	68	-.01
1,4-Dichlorobutane	0.91	0.954	-	-4.8	20	72	-.01
1,1,2,2-Tetrachloroethane	0.726	0.702	-	3.3	20	63	-.01
4-Ethyltoluene	2.552	2.641	-	-3.5	20	67	-.01
2-Chlorotoluene	2.106	2.205	-	-4.7	20	70	-.01
1,3,5-Trimethylbenzene	2.162	2.264	-	-4.7	20	69	-.02
1,2,3-Trichloropropane	0.612	0.584	-	4.6	20	65	-.02
trans-1,4-Dichloro-2-buten	0.212	0.233	-	-9.9	20	74	-.01
4-Chlorotoluene	1.897	2.014	-	-6.2	20	71	-.01
tert-Butylbenzene	1.876	1.892	-	-0.9	20	66	-.01
1,2,4-Trimethylbenzene	2.172	2.28	-	-5	20	69	-.02
sec-Butylbenzene	2.799	2.887	-	-3.1	20	67	-.01
p-Isopropyltoluene	2.388	2.437	-	-2.1	20	66	-.02
1,3-Dichlorobenzene	1.306	1.339	-	-2.5	20	69	-.01
1,4-Dichlorobenzene	1.32	1.35	-	-2.3	20	69	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1940180
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA123	Calibration Date	: 09/13/19 06:27
Lab File ID	: V23190913A01	Init. Calib. Date(s)	: 06/21/19 06/21/19
Sample No	: WG1283962-2	Init. Calib. Times	: 03:09 06:33
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.466	1.459	-	0.5	20	66	-.01
n-Butylbenzene	2.231	2.39	-	-7.1	20	70	-.01
1,2-Dichlorobenzene	1.255	1.242	-	1	20	67	-.01
1,2,4,5-Tetramethylbenzene	2.325	2.249	-	3.3	20	64	-.01
1,2-Dibromo-3-chloropropan	0.136	0.115	-	15.4	20	60	-.01
1,3,5-Trichlorobenzene	0.913	0.892	-	2.3	20	65	-.01
Hexachlorobutadiene	0.428	0.381	-	11	20	60	-.01
1,2,4-Trichlorobenzene	0.862	0.838	-	2.8	20	65	-.01
Naphthalene	2.486	2.293	-	7.8	20	62	-.01
1,2,3-Trichlorobenzene	0.842	0.783	-	7	20	63	-.01

* Value outside of QC limits.

ANALYTICAL REPORT

Lab Number:	L1940491
Client:	Tetra Tech Rizzo Marlborough Technology Park 100 Nickerson Road Marlborough, MA 01752
ATTN:	Mike Billa
Phone:	(508) 786-2200
Project Name:	CYPHER ST. S. BOSTON
Project Number:	143-278997-19001
Report Date:	09/18/19

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: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940491
Report Date: 09/18/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1940491-01	TT-14 (8-10')	SOIL	CYPHER ST. S. BOSTON	09/05/19 09:30	09/05/19
L1940491-02	TT-16 (8-10')	SOIL	CYPHER ST. S. BOSTON	09/05/19 10:00	09/05/19
L1940491-03	TT-10 (7-10')	SOIL	CYPHER ST. S. BOSTON	09/05/19 11:45	09/05/19
L1940491-04	DRUM #1	SOIL	CYPHER ST. S. BOSTON	09/05/19 13:30	09/05/19

Project Name:	CYPHER ST. S. BOSTON	**Lab Number:**	L1940491
Project Number:	143-278997-19001	**Report Date:**	09/18/19

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?	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:	CYPHER ST. S. BOSTON	**Lab Number:**	L1940491
Project Number:	143-278997-19001	**Report Date:**	09/18/19

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:	CYPHER ST. S. BOSTON	**Lab Number:**	L1940491
Project Number:	143-278997-19001	**Report Date:**	09/18/19

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

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

Volatile Organics

L1940491-01: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

L1940491-02, -03 and -04: The analysis of Volatile Organics by EPA Method 5035/8260 Low Level could not be performed due to the elevated concentrations of target compounds in the sample.

In reference to question G:

L1940491-01 through -04: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The WG1284398-3/-4 LCS/LCSD recoveries, associated with L1940491-01 through -04, are above the individual acceptance criteria for trichlorofluoromethane (LCS at 132%), 1,2-dichloroethane (135%/132%), chloromethane (133%/131%) and dichlorodifluoromethane (152%/148%), but within the overall method allowances. The results of the associated samples are reported; however, all positive detects are considered to have a potentially high bias for these compounds.

The initial calibration, associated with L1940491-01 through -04, 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 standard, associated with L1940491-01 through -04, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

Project Name:	CYPHER ST. S. BOSTON	**Lab Number:**	L1940491
Project Number:	143-278997-19001	**Report Date:**	09/18/19

Case Narrative (continued)

Semivolatile Organics

L1940491-01 and -02: The sample has elevated detection limits due to the dilution required by the sample matrix.

In reference to question G:

L1940491-01: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

L1940491-01: The surrogate recoveries are below the acceptance criteria for nitrobenzene-d5 (0%), 2-fluorobiphenyl (0%) and 4-terphenyl-d14 (0%) due to the dilution required to quantitate the sample. Re-extraction was not required; therefore, the results of the original analysis are reported.

The WG1283107-2/-3 LCS/LCSD recoveries, associated with L1940491-04, are below the individual acceptance criteria for 2,4-dinitrophenol (10%/14%), but within the overall method allowances. The results of the associated sample are reported; however, all results are considered to have a potentially low bias for this compound.

The WG1283107-2/-3 LCS/LCSD RPD, associated with L1940491-04, is above the acceptance criteria for 2,4-dinitrophenol (33%).

In reference to question I:

L1940491-01, -02 and -03 were analyzed for a subset of MCP analytes per client request.

VPH

L1940491-01 was outside the recommended 1:1 methanol:soil ratio, due to the amount of soil provided in the sample vial.

L1940491-01: The sample has elevated detection limits due to the dilution required by the elevated concentrations of non-target compounds in the sample.

In reference to question G:

L1940491-01: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question I:

All samples were analyzed for a subset of MCP analytes per client request.

Project Name:	CYPHER ST. S. BOSTON	**Lab Number:**	L1940491
Project Number:	143-278997-19001	**Report Date:**	09/18/19

Case Narrative (continued)

EPH

In reference to question G:

L1940491-01: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

L1940491-01: 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.

The WG1281663-2/-3 LCS/LCSD RPDs, associated with L1940491-01 through -03, are above the acceptance criteria for naphthalene (26%) and indeno(1,2,3-cd)pyrene (29%).

In reference to question I:

All samples were analyzed for a subset of MCP analytes per client request.

PCBs

L1940491-03: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

In reference to question G:

L1940491-03: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

L1940491-04: One or more dual column RPDs are above the acceptance criteria; however, obvious column interferences are present. The result is qualified with a "P" if the higher of the two results is reported. The result is qualified with an "IP" if the lower of the two results is reported.

Total Metals

L1940491-01 and -02: The sample has an elevated detection limit for mercury due to the dilution required to quantitate the result within the calibration range.

Project Name:	CYPHER ST. S. BOSTON	**Lab Number:**	L1940491
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Case Narrative (continued)

Non-MCP Related Narratives

Petroleum Hydrocarbon Quantitation

L1940491-04: The sample has elevated detection limits due to the dilution required by the sample matrix.

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

Authorized Signature: Amita Naik

Title: Technical Director/Representative

Date: 09/18/19

QC OUTLIER SUMMARY REPORT

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940491
Report Date: 09/18/19

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	WG1284398-3	Trichlorofluoromethane	LCS	132	70-130	01-04	potential high bias
8260C	Batch QC	WG1284398-3	1,2-Dichloroethane	LCS	135	70-130	01-04	potential high bias
8260C	Batch QC	WG1284398-3	Chloromethane	LCS	133	70-130	01-04	potential high bias
8260C	Batch QC	WG1284398-3	Dichlorodifluoromethane	LCS	152	70-130	01-04	potential high bias
8260C	Batch QC	WG1284398-4	1,2-Dichloroethane	LCSD	132	70-130	01-04	potential high bias
8260C	Batch QC	WG1284398-4	Chloromethane	LCSD	131	70-130	01-04	potential high bias
8260C	Batch QC	WG1284398-4	Dichlorodifluoromethane	LCSD	148	70-130	01-04	potential high bias
MCP PAHs - Westborough Lab								
8270D	TT-14 (8-10')	L1940491-01 D	Nitrobenzene-d5	Surrogate	0	30-130	-	- - not applicable - -
8270D	TT-14 (8-10')	L1940491-01 D	2-Fluorobiphenyl	Surrogate	0	30-130	-	- - not applicable - -
8270D	TT-14 (8-10')	L1940491-01 D	4-Terphenyl-d14	Surrogate	0	30-130	-	- - not applicable - -
MCP Semivolatile Organics - Westborough Lab								
8270D	Batch QC	WG1283107-2	2,4-Dinitrophenol	LCS	10	30-130	04	potential low bias
8270D	Batch QC	WG1283107-3	2,4-Dinitrophenol	LCSD	14	30-130	04	potential low bias
8270D	Batch QC	WG1283107-3	2,4-Dinitrophenol	LCSD	33	30	04	non-directional bias
Extractable Petroleum Hydrocarbons - Westborough Lab								
EPH-04-1.1	TT-14 (8-10')	L1940491-01 D	Chloro-Octadecane	Surrogate	0	40-140	-	- - not applicable - -
EPH-04-1.1	TT-14 (8-10')	L1940491-01 D	o-Terphenyl	Surrogate	0	40-140	-	- - not applicable - -
EPH-04-1.1	Batch QC	WG1281663-3	Naphthalene	LCSD	26	25	01-03	non-directional bias
EPH-04-1.1	Batch QC	WG1281663-3	Indeno(1,2,3-cd)Pyrene	LCSD	29	25	01-03	non-directional bias

ORGANICS

VOLATILES

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1940491

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1940491-01 D
Client ID: TT-14 (8-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/05/19 09:30
Date Received: 09/05/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/14/19 16:03
Analyst: KJD
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	1200	--	2.5
1,1-Dichloroethane	ND		ug/kg	240	--	2.5
Chloroform	ND		ug/kg	360	--	2.5
Carbon tetrachloride	ND		ug/kg	240	--	2.5
1,2-Dichloropropane	ND		ug/kg	240	--	2.5
Dibromochloromethane	ND		ug/kg	240	--	2.5
1,1,2-Trichloroethane	ND		ug/kg	240	--	2.5
Tetrachloroethene	ND		ug/kg	120	--	2.5
Chlorobenzene	ND		ug/kg	120	--	2.5
Trichlorofluoromethane	ND		ug/kg	960	--	2.5
1,2-Dichloroethane	ND		ug/kg	240	--	2.5
1,1,1-Trichloroethane	ND		ug/kg	120	--	2.5
Bromodichloromethane	ND		ug/kg	120	--	2.5
trans-1,3-Dichloropropene	ND		ug/kg	240	--	2.5
cis-1,3-Dichloropropene	ND		ug/kg	120	--	2.5
1,3-Dichloropropene, Total	ND		ug/kg	120	--	2.5
1,1-Dichloropropene	ND		ug/kg	120	--	2.5
Bromoform	ND		ug/kg	960	--	2.5
1,1,2,2-Tetrachloroethane	ND		ug/kg	120	--	2.5
Benzene	ND		ug/kg	120	--	2.5
Toluene	260		ug/kg	240	--	2.5
Ethylbenzene	ND		ug/kg	240	--	2.5
Chloromethane	ND		ug/kg	960	--	2.5
Bromomethane	ND		ug/kg	480	--	2.5
Vinyl chloride	ND		ug/kg	240	--	2.5
Chloroethane	ND		ug/kg	480	--	2.5
1,1-Dichloroethene	ND		ug/kg	240	--	2.5
trans-1,2-Dichloroethene	ND		ug/kg	360	--	2.5

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1940491

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1940491-01 D Date Collected: 09/05/19 09:30

Client ID: TT-14 (8-10') Date Received: 09/05/19

Sample Location: CYPHER ST. S. BOSTON 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	120	--	2.5
1,2-Dichlorobenzene	ND		ug/kg	480	--	2.5
1,3-Dichlorobenzene	ND		ug/kg	480	--	2.5
1,4-Dichlorobenzene	ND		ug/kg	480	--	2.5
Methyl tert butyl ether	ND		ug/kg	480	--	2.5
p/m-Xylene	ND		ug/kg	480	--	2.5
o-Xylene	ND		ug/kg	240	--	2.5
Xylenes, Total	ND		ug/kg	240	--	2.5
cis-1,2-Dichloroethene	ND		ug/kg	240	--	2.5
1,2-Dichloroethene, Total	ND		ug/kg	240	--	2.5
Dibromomethane	ND		ug/kg	480	--	2.5
1,2,3-Trichloropropane	ND		ug/kg	480	--	2.5
Styrene	ND		ug/kg	240	--	2.5
Dichlorodifluoromethane	ND		ug/kg	2400	--	2.5
Acetone	ND		ug/kg	2400	--	2.5
Carbon disulfide	ND		ug/kg	2400	--	2.5
Methyl ethyl ketone	ND		ug/kg	2400	--	2.5
Methyl isobutyl ketone	ND		ug/kg	2400	--	2.5
2-Hexanone	ND		ug/kg	2400	--	2.5
Bromochloromethane	ND		ug/kg	480	--	2.5
Tetrahydrofuran	ND		ug/kg	960	--	2.5
2,2-Dichloropropane	ND		ug/kg	480	--	2.5
1,2-Dibromoethane	ND		ug/kg	240	--	2.5
1,3-Dichloropropane	ND		ug/kg	480	--	2.5
1,1,1,2-Tetrachloroethane	ND		ug/kg	120	--	2.5
Bromobenzene	ND		ug/kg	480	--	2.5
n-Butylbenzene	ND		ug/kg	240	--	2.5
sec-Butylbenzene	ND		ug/kg	240	--	2.5
tert-Butylbenzene	ND		ug/kg	480	--	2.5
o-Chlorotoluene	ND		ug/kg	480	--	2.5
p-Chlorotoluene	ND		ug/kg	480	--	2.5
1,2-Dibromo-3-chloropropane	ND		ug/kg	720	--	2.5
Hexachlorobutadiene	ND		ug/kg	960	--	2.5
Isopropylbenzene	ND		ug/kg	240	--	2.5
p-Isopropyltoluene	270		ug/kg	240	--	2.5
Naphthalene	43000		ug/kg	960	--	2.5
n-Propylbenzene	ND		ug/kg	240	--	2.5

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1940491

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1940491-01 D Date Collected: 09/05/19 09:30

Client ID: TT-14 (8-10') Date Received: 09/05/19

Sample Location: CYPHER ST. S. BOSTON 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	480	--	2.5
1,2,4-Trichlorobenzene	ND		ug/kg	480	--	2.5
1,3,5-Trimethylbenzene	ND		ug/kg	480	--	2.5
1,2,4-Trimethylbenzene	580		ug/kg	480	--	2.5
Diethyl ether	ND		ug/kg	480	--	2.5
Diisopropyl Ether	ND		ug/kg	480	--	2.5
Ethyl-Tert-Butyl-Ether	ND		ug/kg	480	--	2.5
Tertiary-Amyl Methyl Ether	ND		ug/kg	480	--	2.5
1,4-Dioxane	ND		ug/kg	19000	--	2.5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	130		70-130
Toluene-d8	88		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	110		70-130

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1940491

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1940491-02
Client ID: TT-16 (8-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/05/19 10:00
Date Received: 09/05/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/14/19 16:30
Analyst: KJD
Percent Solids: 71%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	530	--	1
1,1-Dichloroethane	ND		ug/kg	100	--	1
Chloroform	ND		ug/kg	160	--	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	ND		ug/kg	53	--	1
Chlorobenzene	ND		ug/kg	53	--	1
Trichlorofluoromethane	ND		ug/kg	420	--	1
1,2-Dichloroethane	ND		ug/kg	100	--	1
1,1,1-Trichloroethane	ND		ug/kg	53	--	1
Bromodichloromethane	ND		ug/kg	53	--	1
trans-1,3-Dichloropropene	ND		ug/kg	100	--	1
cis-1,3-Dichloropropene	ND		ug/kg	53	--	1
1,3-Dichloropropene, Total	ND		ug/kg	53	--	1
1,1-Dichloropropene	ND		ug/kg	53	--	1
Bromoform	ND		ug/kg	420	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	53	--	1
Benzene	ND		ug/kg	53	--	1
Toluene	ND		ug/kg	100	--	1
Ethylbenzene	ND		ug/kg	100	--	1
Chloromethane	ND		ug/kg	420	--	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	160	--	1

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1940491

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1940491-02 Date Collected: 09/05/19 10:00

Client ID: TT-16 (8-10') Date Received: 09/05/19

Sample Location: CYPHER ST. S. BOSTON 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	53	--	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	ND		ug/kg	100	--	1
1,2-Dichloroethene, Total	ND		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	420	--	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	53	--	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	320	--	1
Hexachlorobutadiene	ND		ug/kg	420	--	1
Isopropylbenzene	ND		ug/kg	100	--	1
p-Isopropyltoluene	ND		ug/kg	100	--	1
Naphthalene	1500		ug/kg	420	--	1
n-Propylbenzene	ND		ug/kg	100	--	1

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1940491

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1940491-02 Date Collected: 09/05/19 10:00

Client ID: TT-16 (8-10') Date Received: 09/05/19

Sample Location: CYPHER ST. S. BOSTON 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	8400	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	125		70-130
Toluene-d8	89		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	106		70-130

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1940491

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1940491-03
Client ID: TT-10 (7-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/05/19 11:45
Date Received: 09/05/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/14/19 16:56
Analyst: KJD
Percent Solids: 78%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	410	--	1
1,1-Dichloroethane	ND		ug/kg	83	--	1
Chloroform	ND		ug/kg	120	--	1
Carbon tetrachloride	ND		ug/kg	83	--	1
1,2-Dichloropropane	ND		ug/kg	83	--	1
Dibromochloromethane	ND		ug/kg	83	--	1
1,1,2-Trichloroethane	ND		ug/kg	83	--	1
Tetrachloroethene	ND		ug/kg	41	--	1
Chlorobenzene	ND		ug/kg	41	--	1
Trichlorofluoromethane	ND		ug/kg	330	--	1
1,2-Dichloroethane	ND		ug/kg	83	--	1
1,1,1-Trichloroethane	ND		ug/kg	41	--	1
Bromodichloromethane	ND		ug/kg	41	--	1
trans-1,3-Dichloropropene	ND		ug/kg	83	--	1
cis-1,3-Dichloropropene	ND		ug/kg	41	--	1
1,3-Dichloropropene, Total	ND		ug/kg	41	--	1
1,1-Dichloropropene	ND		ug/kg	41	--	1
Bromoform	ND		ug/kg	330	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	41	--	1
Benzene	ND		ug/kg	41	--	1
Toluene	ND		ug/kg	83	--	1
Ethylbenzene	ND		ug/kg	83	--	1
Chloromethane	ND		ug/kg	330	--	1
Bromomethane	ND		ug/kg	160	--	1
Vinyl chloride	ND		ug/kg	83	--	1
Chloroethane	ND		ug/kg	160	--	1
1,1-Dichloroethene	ND		ug/kg	83	--	1
trans-1,2-Dichloroethene	ND		ug/kg	120	--	1

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1940491

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1940491-03 Date Collected: 09/05/19 11:45

Client ID: TT-10 (7-10') Date Received: 09/05/19

Sample Location: CYPHER ST. S. BOSTON 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	41	--	1
1,2-Dichlorobenzene	ND		ug/kg	160	--	1
1,3-Dichlorobenzene	ND		ug/kg	160	--	1
1,4-Dichlorobenzene	ND		ug/kg	160	--	1
Methyl tert butyl ether	ND		ug/kg	160	--	1
p/m-Xylene	ND		ug/kg	160	--	1
o-Xylene	ND		ug/kg	83	--	1
Xylenes, Total	ND		ug/kg	83	--	1
cis-1,2-Dichloroethene	ND		ug/kg	83	--	1
1,2-Dichloroethene, Total	ND		ug/kg	83	--	1
Dibromomethane	ND		ug/kg	160	--	1
1,2,3-Trichloropropane	ND		ug/kg	160	--	1
Styrene	ND		ug/kg	83	--	1
Dichlorodifluoromethane	ND		ug/kg	830	--	1
Acetone	ND		ug/kg	830	--	1
Carbon disulfide	ND		ug/kg	830	--	1
Methyl ethyl ketone	ND		ug/kg	830	--	1
Methyl isobutyl ketone	ND		ug/kg	830	--	1
2-Hexanone	ND		ug/kg	830	--	1
Bromochloromethane	ND		ug/kg	160	--	1
Tetrahydrofuran	ND		ug/kg	330	--	1
2,2-Dichloropropane	ND		ug/kg	160	--	1
1,2-Dibromoethane	ND		ug/kg	83	--	1
1,3-Dichloropropane	ND		ug/kg	160	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	41	--	1
Bromobenzene	ND		ug/kg	160	--	1
n-Butylbenzene	ND		ug/kg	83	--	1
sec-Butylbenzene	ND		ug/kg	83	--	1
tert-Butylbenzene	ND		ug/kg	160	--	1
o-Chlorotoluene	ND		ug/kg	160	--	1
p-Chlorotoluene	ND		ug/kg	160	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	250	--	1
Hexachlorobutadiene	ND		ug/kg	330	--	1
Isopropylbenzene	ND		ug/kg	83	--	1
p-Isopropyltoluene	130		ug/kg	83	--	1
Naphthalene	2400		ug/kg	330	--	1
n-Propylbenzene	ND		ug/kg	83	--	1

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1940491

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1940491-03 Date Collected: 09/05/19 11:45

Client ID: TT-10 (7-10') Date Received: 09/05/19

Sample Location: CYPHER ST. S. BOSTON 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	160	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	160	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	160	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	160	--	1
Diethyl ether	ND		ug/kg	160	--	1
Diisopropyl Ether	ND		ug/kg	160	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	160	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	160	--	1
1,4-Dioxane	ND		ug/kg	6600	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	124		70-130
Toluene-d8	90		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	104		70-130

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1940491

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1940491-04
Client ID: DRUM #1
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/05/19 13:30
Date Received: 09/05/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/14/19 17:22
Analyst: KJD
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	210	--	1
1,1-Dichloroethane	ND		ug/kg	43	--	1
Chloroform	ND		ug/kg	64	--	1
Carbon tetrachloride	ND		ug/kg	43	--	1
1,2-Dichloropropane	ND		ug/kg	43	--	1
Dibromochloromethane	ND		ug/kg	43	--	1
1,1,2-Trichloroethane	ND		ug/kg	43	--	1
Tetrachloroethene	ND		ug/kg	21	--	1
Chlorobenzene	ND		ug/kg	21	--	1
Trichlorofluoromethane	ND		ug/kg	170	--	1
1,2-Dichloroethane	ND		ug/kg	43	--	1
1,1,1-Trichloroethane	ND		ug/kg	21	--	1
Bromodichloromethane	ND		ug/kg	21	--	1
trans-1,3-Dichloropropene	ND		ug/kg	43	--	1
cis-1,3-Dichloropropene	ND		ug/kg	21	--	1
1,3-Dichloropropene, Total	ND		ug/kg	21	--	1
1,1-Dichloropropene	ND		ug/kg	21	--	1
Bromoform	ND		ug/kg	170	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	21	--	1
Benzene	ND		ug/kg	21	--	1
Toluene	ND		ug/kg	43	--	1
Ethylbenzene	ND		ug/kg	43	--	1
Chloromethane	ND		ug/kg	170	--	1
Bromomethane	ND		ug/kg	86	--	1
Vinyl chloride	ND		ug/kg	43	--	1
Chloroethane	ND		ug/kg	86	--	1
1,1-Dichloroethene	ND		ug/kg	43	--	1
trans-1,2-Dichloroethene	ND		ug/kg	64	--	1

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1940491

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1940491-04 Date Collected: 09/05/19 13:30

Client ID: DRUM #1 Date Received: 09/05/19

Sample Location: CYPHER ST. S. BOSTON 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	21	--	1
1,2-Dichlorobenzene	ND		ug/kg	86	--	1
1,3-Dichlorobenzene	ND		ug/kg	86	--	1
1,4-Dichlorobenzene	ND		ug/kg	86	--	1
Methyl tert butyl ether	ND		ug/kg	86	--	1
p/m-Xylene	ND		ug/kg	86	--	1
o-Xylene	ND		ug/kg	43	--	1
Xylenes, Total	ND		ug/kg	43	--	1
cis-1,2-Dichloroethene	ND		ug/kg	43	--	1
1,2-Dichloroethene, Total	ND		ug/kg	43	--	1
Dibromomethane	ND		ug/kg	86	--	1
1,2,3-Trichloropropane	ND		ug/kg	86	--	1
Styrene	ND		ug/kg	43	--	1
Dichlorodifluoromethane	ND		ug/kg	430	--	1
Acetone	ND		ug/kg	430	--	1
Carbon disulfide	ND		ug/kg	430	--	1
Methyl ethyl ketone	ND		ug/kg	430	--	1
Methyl isobutyl ketone	ND		ug/kg	430	--	1
2-Hexanone	ND		ug/kg	430	--	1
Bromochloromethane	ND		ug/kg	86	--	1
Tetrahydrofuran	ND		ug/kg	170	--	1
2,2-Dichloropropane	ND		ug/kg	86	--	1
1,2-Dibromoethane	ND		ug/kg	43	--	1
1,3-Dichloropropane	ND		ug/kg	86	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	21	--	1
Bromobenzene	ND		ug/kg	86	--	1
n-Butylbenzene	ND		ug/kg	43	--	1
sec-Butylbenzene	ND		ug/kg	43	--	1
tert-Butylbenzene	ND		ug/kg	86	--	1
o-Chlorotoluene	ND		ug/kg	86	--	1
p-Chlorotoluene	ND		ug/kg	86	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	130	--	1
Hexachlorobutadiene	ND		ug/kg	170	--	1
Isopropylbenzene	ND		ug/kg	43	--	1
p-Isopropyltoluene	ND		ug/kg	43	--	1
Naphthalene	340		ug/kg	170	--	1
n-Propylbenzene	ND		ug/kg	43	--	1

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1940491

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1940491-04 Date Collected: 09/05/19 13:30

Client ID: DRUM #1 Date Received: 09/05/19

Sample Location: CYPHER ST. S. BOSTON 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	86	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	86	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	86	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	86	--	1
Diethyl ether	ND		ug/kg	86	--	1
Diisopropyl Ether	ND		ug/kg	86	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	86	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	86	--	1
1,4-Dioxane	ND		ug/kg	3400	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	124		70-130
Toluene-d8	89		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	105		70-130

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1940491

Project Number: 143-278997-19001 **Report Date:** 09/18/19

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 High - Westborough Lab for sample(s): 01-04 Batch: WG1284398-5					
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: CYPHER ST. S. BOSTON **Lab Number:** L1940491

Project Number: 143-278997-19001 **Report Date:** 09/18/19

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 High - Westborough Lab for sample(s): 01-04 Batch: WG1284398-5					
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: CYPHER ST. S. BOSTON **Lab Number:** L1940491

Project Number: 143-278997-19001 **Report Date:** 09/18/19

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 High - Westborough Lab for sample(s): 01-04 Batch: WG1284398-5					
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	124		70-130
Toluene-d8	90		70-130
4-Bromofluorobenzene	86		70-130
Dibromofluoromethane	104		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940491
Report Date: 09/18/19

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): 01-04 Batch: WG1284398-3 WG1284398-4								
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: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940491
Report Date: 09/18/19

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): 01-04 Batch: WG1284398-3 WG1284398-4								
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: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940491
Report Date: 09/18/19

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): 01-04 Batch: WG1284398-3 WG1284398-4								
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: CYPHER ST. S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1940491

Report Date: 09/18/19

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): 01-04 Batch: WG1284398-3 WG1284398-4								
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

SEMIVOLATILES

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940491
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1940491-01 D
Client ID: TT-14 (8-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/05/19 09:30
Date Received: 09/05/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/18/19 15:41
Analyst: JG
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 09/13/19 01:03

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Acenaphthene	49000		ug/kg	16000	--	100
Fluoranthene	190000		ug/kg	12000	--	100
Naphthalene	150000		ug/kg	20000	--	100
Benzo(a)anthracene	90000		ug/kg	12000	--	100
Benzo(a)pyrene	59000		ug/kg	16000	--	100
Benzo(b)fluoranthene	70000		ug/kg	12000	--	100
Benzo(k)fluoranthene	25000		ug/kg	12000	--	100
Chrysene	69000		ug/kg	12000	--	100
Acenaphthylene	23000		ug/kg	16000	--	100
Anthracene	92000		ug/kg	12000	--	100
Benzo(ghi)perylene	30000		ug/kg	16000	--	100
Fluorene	66000		ug/kg	20000	--	100
Phenanthrene	300000		ug/kg	12000	--	100
Dibenzo(a,h)anthracene	ND		ug/kg	12000	--	100
Indeno(1,2,3-cd)pyrene	36000		ug/kg	16000	--	100
Pyrene	150000		ug/kg	12000	--	100
2-Methylnaphthalene	47000		ug/kg	24000	--	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**0**	Q	30-130
2-Fluorobiphenyl	**0**	Q	30-130
4-Terphenyl-d14	**0**	Q	30-130

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940491
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1940491-02 D
Client ID: TT-16 (8-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/05/19 10:00
Date Received: 09/05/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/18/19 16:04
Analyst: JG
Percent Solids: 71%

Extraction Method: EPA 3546
Extraction Date: 09/13/19 01:03

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Acenaphthene	3300		ug/kg	910	--	5
Fluoranthene	14000		ug/kg	680	--	5
Naphthalene	8000		ug/kg	1100	--	5
Benzo(a)anthracene	7600		ug/kg	680	--	5
Benzo(a)pyrene	5600		ug/kg	910	--	5
Benzo(b)fluoranthene	6400		ug/kg	680	--	5
Benzo(k)fluoranthene	2500		ug/kg	680	--	5
Chrysene	5900		ug/kg	680	--	5
Acenaphthylene	1300		ug/kg	910	--	5
Anthracene	6000		ug/kg	680	--	5
Benzo(ghi)perylene	3000		ug/kg	910	--	5
Fluorene	4800		ug/kg	1100	--	5
Phenanthrene	19000		ug/kg	680	--	5
Dibenzo(a,h)anthracene	920		ug/kg	680	--	5
Indeno(1,2,3-cd)pyrene	3500		ug/kg	910	--	5
Pyrene	12000		ug/kg	680	--	5
2-Methylnaphthalene	2900		ug/kg	1400	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	58		30-130
2-Fluorobiphenyl	76		30-130
4-Terphenyl-d14	76		30-130

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940491
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1940491-03
Client ID: TT-10 (7-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/05/19 11:45
Date Received: 09/05/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/16/19 13:54
Analyst: JG
Percent Solids: 78%

Extraction Method: EPA 3546
Extraction Date: 09/13/19 01:03

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Acenaphthene	490		ug/kg	170	--	1
Fluoranthene	2500		ug/kg	130	--	1
Naphthalene	1400		ug/kg	210	--	1
Benzo(a)anthracene	1300		ug/kg	130	--	1
Benzo(a)pyrene	750		ug/kg	170	--	1
Benzo(b)fluoranthene	960		ug/kg	130	--	1
Benzo(k)fluoranthene	300		ug/kg	130	--	1
Chrysene	1000		ug/kg	130	--	1
Acenaphthylene	250		ug/kg	170	--	1
Anthracene	830		ug/kg	130	--	1
Benzo(ghi)perylene	440		ug/kg	170	--	1
Fluorene	690		ug/kg	210	--	1
Phenanthrene	3300		ug/kg	130	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	130	--	1
Indeno(1,2,3-cd)pyrene	450		ug/kg	170	--	1
Pyrene	3000		ug/kg	130	--	1
2-Methylnaphthalene	540		ug/kg	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	70		30-130
2-Fluorobiphenyl	81		30-130
4-Terphenyl-d14	50		30-130

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940491
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1940491-04
Client ID: DRUM #1
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/05/19 13:30
Date Received: 09/05/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/17/19 08:21
Analyst: IM
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 09/12/19 04:38

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	180		ug/kg	140	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	170	--	1
Hexachlorobenzene	ND		ug/kg	100	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	150	--	1
2-Chloronaphthalene	ND		ug/kg	170	--	1
1,2-Dichlorobenzene	ND		ug/kg	170	--	1
1,3-Dichlorobenzene	ND		ug/kg	170	--	1
1,4-Dichlorobenzene	ND		ug/kg	170	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	170	--	1
2,4-Dinitrotoluene	ND		ug/kg	170	--	1
2,6-Dinitrotoluene	ND		ug/kg	170	--	1
Azobenzene	ND		ug/kg	170	--	1
Fluoranthene	1400		ug/kg	100	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	170	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	200	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--	1
Hexachlorobutadiene	ND		ug/kg	170	--	1
Hexachloroethane	ND		ug/kg	140	--	1
Isophorone	ND		ug/kg	150	--	1
Naphthalene	180		ug/kg	170	--	1
Nitrobenzene	ND		ug/kg	150	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	170	--	1
Butyl benzyl phthalate	ND		ug/kg	170	--	1
Di-n-butylphthalate	ND		ug/kg	170	--	1
Di-n-octylphthalate	ND		ug/kg	170	--	1
Diethyl phthalate	ND		ug/kg	170	--	1
Dimethyl phthalate	ND		ug/kg	170	--	1
Benzo(a)anthracene	750		ug/kg	100	--	1

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1940491

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1940491-04 Date Collected: 09/05/19 13:30

Client ID: DRUM #1 Date Received: 09/05/19

Sample Location: CYPHER ST. S. BOSTON Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	590		ug/kg	140	--	1
Benzo(b)fluoranthene	600		ug/kg	100	--	1
Benzo(k)fluoranthene	460		ug/kg	100	--	1
Chrysene	750		ug/kg	100	--	1
Acenaphthylene	ND		ug/kg	140	--	1
Anthracene	390		ug/kg	100	--	1
Benzo(ghi)perylene	430		ug/kg	140	--	1
Fluorene	170		ug/kg	170	--	1
Phenanthrene	1400		ug/kg	100	--	1
Dibenzo(a,h)anthracene	150		ug/kg	100	--	1
Indeno(1,2,3-cd)pyrene	420		ug/kg	140	--	1
Pyrene	1200		ug/kg	100	--	1
Aniline	ND		ug/kg	200	--	1
4-Chloroaniline	ND		ug/kg	170	--	1
Dibenzofuran	ND		ug/kg	170	--	1
2-Methylnaphthalene	ND		ug/kg	200	--	1
Acetophenone	ND		ug/kg	170	--	1
2,4,6-Trichlorophenol	ND		ug/kg	100	--	1
2-Chlorophenol	ND		ug/kg	170	--	1
2,4-Dichlorophenol	ND		ug/kg	150	--	1
2,4-Dimethylphenol	ND		ug/kg	170	--	1
2-Nitrophenol	ND		ug/kg	370	--	1
4-Nitrophenol	ND		ug/kg	240	--	1
2,4-Dinitrophenol	ND		ug/kg	820	--	1
Pentachlorophenol	ND		ug/kg	340	--	1
Phenol	ND		ug/kg	170	--	1
2-Methylphenol	ND		ug/kg	170	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	--	1
2,4,5-Trichlorophenol	ND		ug/kg	170	--	1
Pyridine	ND		ug/kg	180	--	1

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1940491

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID: L1940491-04 Date Collected: 09/05/19 13:30

Client ID: DRUM #1 Date Received: 09/05/19

Sample Location: CYPHER ST. S. BOSTON Field Prep: Not Specified

Sample Depth:

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	45		30-130
Phenol-d6	47		30-130
Nitrobenzene-d5	48		30-130
2-Fluorobiphenyl	37		30-130
2,4,6-Tribromophenol	33		30-130
4-Terphenyl-d14	31		30-130

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940491
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 09/13/19 15:08
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 09/12/19 04:38

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 04 Batch: WG1283107-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	97	--
Bis(2-chloroethyl)ether	ND		ug/kg	140	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	160	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	160	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	97	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	190	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	130	--
Isophorone	ND		ug/kg	140	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	140	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	160	--
Benzo(a)anthracene	ND		ug/kg	97	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940491
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 09/13/19 15:08
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 09/12/19 04:38

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 04 Batch: WG1283107-1					
Benzo(b)fluoranthene	ND		ug/kg	97	--
Benzo(k)fluoranthene	ND		ug/kg	97	--
Chrysene	ND		ug/kg	97	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	97	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	97	--
Dibenzo(a,h)anthracene	ND		ug/kg	97	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	97	--
Aniline	ND		ug/kg	190	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	190	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	97	--
2-Chlorophenol	ND		ug/kg	160	--
2,4-Dichlorophenol	ND		ug/kg	140	--
2,4-Dimethylphenol	ND		ug/kg	160	--
2-Nitrophenol	ND		ug/kg	350	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	780	--
Pentachlorophenol	ND		ug/kg	320	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	230	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940491
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 09/13/19 15:08
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 09/12/19 04:38

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 04 Batch: WG1283107-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	77		30-130
Phenol-d6	79		30-130
Nitrobenzene-d5	61		30-130
2-Fluorobiphenyl	60		30-130
2,4,6-Tribromophenol	72		30-130
4-Terphenyl-d14	62		30-130

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940491
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 09/13/19 09:55
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 09/13/19 01:03

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-03 Batch: WG1283571-1					
Acenaphthene	ND		ug/kg	130	--
Fluoranthene	ND		ug/kg	98	--
Naphthalene	ND		ug/kg	160	--
Benzo(a)anthracene	ND		ug/kg	98	--
Benzo(a)pyrene	ND		ug/kg	130	--
Benzo(b)fluoranthene	ND		ug/kg	98	--
Benzo(k)fluoranthene	ND		ug/kg	98	--
Chrysene	ND		ug/kg	98	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	98	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	98	--
Dibenzo(a,h)anthracene	ND		ug/kg	98	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	98	--
2-Methylnaphthalene	ND		ug/kg	200	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	67		30-130
2-Fluorobiphenyl	67		30-130
4-Terphenyl-d14	68		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940491
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 04 Batch: WG1283107-2 WG1283107-3								
Acenaphthene	75		75		40-140	0		30
1,2,4-Trichlorobenzene	71		72		40-140	1		30
Hexachlorobenzene	73		74		40-140	1		30
Bis(2-chloroethyl)ether	72		73		40-140	1		30
2-Chloronaphthalene	71		74		40-140	4		30
1,2-Dichlorobenzene	70		72		40-140	3		30
1,3-Dichlorobenzene	67		69		40-140	3		30
1,4-Dichlorobenzene	66		69		40-140	4		30
3,3'-Dichlorobenzidine	66		69		40-140	4		30
2,4-Dinitrotoluene	70		69		40-140	1		30
2,6-Dinitrotoluene	69		70		40-140	1		30
Azobenzene	81		81		40-140	0		30
Fluoranthene	75		76		40-140	1		30
4-Bromophenyl phenyl ether	71		72		40-140	1		30
Bis(2-chloroisopropyl)ether	77		78		40-140	1		30
Bis(2-chloroethoxy)methane	74		75		40-140	1		30
Hexachlorobutadiene	72		71		40-140	1		30
Hexachloroethane	55		58		40-140	5		30
Isophorone	76		77		40-140	1		30
Naphthalene	70		72		40-140	3		30
Nitrobenzene	74		75		40-140	1		30
Bis(2-ethylhexyl)phthalate	82		81		40-140	1		30
Butyl benzyl phthalate	80		80		40-140	0		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940491
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 04 Batch: WG1283107-2 WG1283107-3								
Di-n-butylphthalate	80		78		40-140	3		30
Di-n-octylphthalate	83		84		40-140	1		30
Diethyl phthalate	75		75		40-140	0		30
Dimethyl phthalate	72		73		40-140	1		30
Benzo(a)anthracene	74		73		40-140	1		30
Benzo(a)pyrene	70		70		40-140	0		30
Benzo(b)fluoranthene	74		75		40-140	1		30
Benzo(k)fluoranthene	74		73		40-140	1		30
Chrysene	72		72		40-140	0		30
Acenaphthylene	72		72		40-140	0		30
Anthracene	76		76		40-140	0		30
Benzo(ghi)perylene	76		74		40-140	3		30
Fluorene	77		78		40-140	1		30
Phenanthrene	76		76		40-140	0		30
Dibenzo(a,h)anthracene	75		75		40-140	0		30
Indeno(1,2,3-cd)pyrene	77		76		40-140	1		30
Pyrene	74		74		40-140	0		30
Aniline	54		60		40-140	11		30
4-Chloroaniline	65		78		40-140	18		30
Dibenzofuran	74		73		40-140	1		30
2-Methylnaphthalene	74		75		40-140	1		30
Acetophenone	76		76		40-140	0		30
2,4,6-Trichlorophenol	73		73		30-130	0		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940491
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 04 Batch: WG1283107-2 WG1283107-3								
2-Chlorophenol	73		74		30-130	1		30
2,4-Dichlorophenol	75		75		30-130	0		30
2,4-Dimethylphenol	72		76		30-130	5		30
2-Nitrophenol	56		59		30-130	5		30
4-Nitrophenol	79		80		30-130	1		30
2,4-Dinitrophenol	**10**	Q	**14**	Q	30-130	**33**	Q	30
Pentachlorophenol	66		72		30-130	9		30
Phenol	73		76		30-130	4		30
2-Methylphenol	74		76		30-130	3		30
3-Methylphenol/4-Methylphenol	76		78		30-130	3		30
2,4,5-Trichlorophenol	75		77		30-130	3		30
Pyridine	55		57		30-130	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	71		73		30-130
Phenol-d6	74		75		30-130
Nitrobenzene-d5	59		60		30-130
2-Fluorobiphenyl	56		55		30-130
2,4,6-Tribromophenol	69		69		30-130
4-Terphenyl-d14	58		57		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940491
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG1283571-2 WG1283571-3								
Acenaphthene	92		93		40-140	1		30
Fluoranthene	89		89		40-140	0		30
Naphthalene	87		87		40-140	0		30
Benzo(a)anthracene	92		91		40-140	1		30
Benzo(a)pyrene	86		87		40-140	1		30
Benzo(b)fluoranthene	91		90		40-140	1		30
Benzo(k)fluoranthene	91		89		40-140	2		30
Chrysene	90		91		40-140	1		30
Acenaphthylene	91		87		40-140	4		30
Anthracene	90		89		40-140	1		30
Benzo(ghi)perylene	87		87		40-140	0		30
Fluorene	92		92		40-140	0		30
Phenanthrene	89		90		40-140	1		30
Dibenzo(a,h)anthracene	91		88		40-140	3		30
Indeno(1,2,3-cd)pyrene	89		88		40-140	1		30
Pyrene	88		87		40-140	1		30
2-Methylnaphthalene	92		90		40-140	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST. S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1940491

Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG1283571-2 WG1283571-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	74		71		30-130
2-Fluorobiphenyl	72		70		30-130
4-Terphenyl-d14	69		68		30-130

PETROLEUM HYDROCARBONS

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940491
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1940491-04 D
Client ID: DRUM #1
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/05/19 13:30
Date Received: 09/05/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 09/16/19 19:56
Analyst: MEO
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 09/12/19 06:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	2770000		ug/kg	343000	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	87		40-140

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940491
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 09/13/19 12:37
Analyst: MEO

Extraction Method: EPA 3546
Extraction Date: 09/12/19 06:15

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 04 Batch: WG1283144-1					
TPH	ND		ug/kg	31700	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	60		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST. S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1940491

Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 04 Batch: WG1283144-2								
TPH	66		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	60				40-140

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1940491

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID:	L1940491-01 D	Date Collected:	09/05/19 09:30
Client ID:	TT-14 (8-10')	Date Received:	09/05/19
Sample Location:	CYPHER ST. S. BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	09/14/19 14:34
Analyst:	BAD
Percent Solids:	82%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1.4:1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	38.6	--	4
C9-C12 Aliphatics	46.7		mg/kg	38.6	--	4
C9-C10 Aromatics	ND		mg/kg	38.6	--	4
C5-C8 Aliphatics, Adjusted	ND		mg/kg	38.6	--	4
C9-C12 Aliphatics, Adjusted	46.7		mg/kg	38.6	--	4

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	129		70-130
2,5-Dibromotoluene-FID	123		70-130

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940491
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID:	L1940491-01 D	Date Collected:	09/05/19 09:30
Client ID:	TT-14 (8-10')	Date Received:	09/05/19
Sample Location:	CYPHER ST. S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/09/19 00:09
Analytical Date:	09/16/19 11:18	Cleanup Method1:	EPH-04-1
Analyst:	SC	Cleanup Date1:	09/16/19
Percent Solids:	82%		

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	162	--	20
C19-C36 Aliphatics	298		mg/kg	162	--	20
C11-C22 Aromatics	1740		mg/kg	162	--	20
C11-C22 Aromatics, Adjusted	1060		mg/kg	162	--	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	0	Q	40-140
o-Terphenyl	0	Q	40-140
2-Fluorobiphenyl	73		40-140
2-Bromonaphthalene	73		40-140

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1940491

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID:	L1940491-02	Date Collected:	09/05/19 10:00
Client ID:	TT-16 (8-10')	Date Received:	09/05/19
Sample Location:	CYPHER ST. S. BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	09/13/19 17:59
Analyst:	BAD
Percent Solids:	71%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1:1 +/- 25%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	10.5	--	1
C9-C12 Aliphatics	ND		mg/kg	10.5	--	1
C9-C10 Aromatics	ND		mg/kg	10.5	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	10.5	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	10.5	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	122		70-130
2,5-Dibromotoluene-FID	123		70-130

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940491
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID:	L1940491-02	Date Collected:	09/05/19 10:00
Client ID:	TT-16 (8-10')	Date Received:	09/05/19
Sample Location:	CYPHER ST. S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/09/19 00:09
Analytical Date:	09/16/19 07:33	Cleanup Method1:	EPH-04-1
Analyst:	SR	Cleanup Date1:	09/10/19
Percent Solids:	71%		

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	92.2		mg/kg	8.81	--	1
C19-C36 Aliphatics	206		mg/kg	8.81	--	1
C11-C22 Aromatics	190		mg/kg	8.81	--	1
C11-C22 Aromatics, Adjusted	150		mg/kg	8.81	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	52		40-140
o-Terphenyl	72		40-140
2-Fluorobiphenyl	71		40-140
2-Bromonaphthalene	74		40-140

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1940491

Project Number: 143-278997-19001 **Report Date:** 09/18/19

SAMPLE RESULTS

Lab ID:	L1940491-03	Date Collected:	09/05/19 11:45
Client ID:	TT-10 (7-10')	Date Received:	09/05/19
Sample Location:	CYPHER ST. S. BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	09/13/19 18:30
Analyst:	BAD
Percent Solids:	78%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1:1 +/- 25%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	8.26	--	1
C9-C12 Aliphatics	ND		mg/kg	8.26	--	1
C9-C10 Aromatics	ND		mg/kg	8.26	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	8.26	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	8.26	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	123		70-130
2,5-Dibromotoluene-FID	123		70-130

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940491
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID:	L1940491-03	Date Collected:	09/05/19 11:45
Client ID:	TT-10 (7-10')	Date Received:	09/05/19
Sample Location:	CYPHER ST. S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/09/19 00:09
Analytical Date:	09/14/19 00:04	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/10/19
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	15.7		mg/kg	8.38	--	1
C19-C36 Aliphatics	61.2		mg/kg	8.38	--	1
C11-C22 Aromatics	113		mg/kg	8.38	--	1
C11-C22 Aromatics, Adjusted	97.6		mg/kg	8.38	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	54		40-140
o-Terphenyl	65		40-140
2-Fluorobiphenyl	84		40-140
2-Bromonaphthalene	83		40-140

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940491
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 09/13/19 01:50
Analyst: MEO

Extraction Method: EPA 3546
Extraction Date: 09/09/19 00:09
Cleanup Method: EPH-04-1
Cleanup Date: 09/10/19

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-03 Batch: WG1281663-1					
C9-C18 Aliphatics	ND		mg/kg	6.44	--
C19-C36 Aliphatics	ND		mg/kg	6.44	--
C11-C22 Aromatics	ND		mg/kg	6.44	--
C11-C22 Aromatics, Adjusted	ND		mg/kg	6.44	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	54		40-140
o-Terphenyl	51		40-140
2-Fluorobiphenyl	68		40-140
2-Bromonaphthalene	68		40-140

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1940491

Project Number: 143-278997-19001 **Report Date:** 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 131,VPH-18-2.1
Analytical Date: 09/13/19 10:14
Analyst: BAD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 02-03 Batch: WG1284214-4					
C5-C8 Aliphatics	ND		mg/kg	5.00	--
C9-C12 Aliphatics	ND		mg/kg	5.00	--
C9-C10 Aromatics	ND		mg/kg	5.00	--
C5-C8 Aliphatics, Adjusted	ND		mg/kg	5.00	--
C9-C12 Aliphatics, Adjusted	ND		mg/kg	5.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	106		70-130
2,5-Dibromotoluene-FID	105		70-130

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1940491

Project Number: 143-278997-19001 **Report Date:** 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 131,VPH-18-2.1
Analytical Date: 09/14/19 09:35
Analyst: BAD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 01 Batch: WG1284252-4					
C5-C8 Aliphatics	ND		mg/kg	5.00	--
C9-C12 Aliphatics	ND		mg/kg	5.00	--
C9-C10 Aromatics	ND		mg/kg	5.00	--
C5-C8 Aliphatics, Adjusted	ND		mg/kg	5.00	--
C9-C12 Aliphatics, Adjusted	ND		mg/kg	5.00	--

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

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940491
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-03 Batch: WG1281663-2 WG1281663-3								
C9-C18 Aliphatics	52		60		40-140	14		25
C19-C36 Aliphatics	61		74		40-140	19		25
C11-C22 Aromatics	53		66		40-140	22		25
Naphthalene	44		57		40-140	**26**	Q	25
2-Methylnaphthalene	44		56		40-140	24		25
Acenaphthylene	48		60		40-140	22		25
Acenaphthene	52		63		40-140	19		25
Fluorene	51		63		40-140	21		25
Phenanthrene	55		69		40-140	23		25
Anthracene	55		68		40-140	21		25
Fluoranthene	55		69		40-140	23		25
Pyrene	57		71		40-140	22		25
Benzo(a)anthracene	54		68		40-140	23		25
Chrysene	55		68		40-140	21		25
Benzo(b)fluoranthene	52		67		40-140	25		25
Benzo(k)fluoranthene	52		66		40-140	24		25
Benzo(a)pyrene	50		63		40-140	23		25
Indeno(1,2,3-cd)Pyrene	44		59		40-140	**29**	Q	25
Dibenzo(a,h)anthracene	43		55		40-140	24		25
Benzo(ghi)perylene	42		54		40-140	25		25
Nonane (C9)	40		48		30-140	18		25
Decane (C10)	45		53		40-140	16		25
Dodecane (C12)	46		54		40-140	16		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940491
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-03 Batch: WG1281663-2 WG1281663-3								
Tetradecane (C14)	47		55		40-140	16		25
Hexadecane (C16)	51		59		40-140	15		25
Octadecane (C18)	54		64		40-140	17		25
Nonadecane (C19)	55		65		40-140	17		25
Eicosane (C20)	56		67		40-140	18		25
Docosane (C22)	57		69		40-140	19		25
Tetracosane (C24)	58		70		40-140	19		25
Hexacosane (C26)	60		72		40-140	18		25
Octacosane (C28)	61		74		40-140	19		25
Triacontane (C30)	62		74		40-140	18		25
Hexatriacontane (C36)	57		73		40-140	25		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	56		62		40-140
o-Terphenyl	56		64		40-140
2-Fluorobiphenyl	74		81		40-140
2-Bromonaphthalene	73		81		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940491
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 02-03 Batch: WG1284214-2 WG1284214-3								
C5-C8 Aliphatics	93		98		70-130	5		25
C9-C12 Aliphatics	94		100		70-130	6		25
C9-C10 Aromatics	96		101		70-130	5		25
Benzene	98		103		70-130	5		25
Toluene	98		104		70-130	6		25
Ethylbenzene	99		105		70-130	6		25
p/m-Xylene	100		105		70-130	5		25
o-Xylene	95		101		70-130	6		25
Methyl tert butyl ether	98		105		70-130	6		25
Naphthalene	99		108		70-130	8		25
1,2,4-Trimethylbenzene	96		101		70-130	5		25
Pentane	89		93		70-130	4		25
2-Methylpentane	96		102		70-130	6		25
2,2,4-Trimethylpentane	94		99		70-130	5		25
n-Nonane	96		102		30-130	6		25
n-Decane	90		95		70-130	5		25
n-Butylcyclohexane	98		104		70-130	6		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	98		104		70-130
2,5-Dibromotoluene-FID	96		102		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940491
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG1284252-2 WG1284252-3								
C5-C8 Aliphatics	98		100		70-130	2		25
C9-C12 Aliphatics	100		101		70-130	1		25
C9-C10 Aromatics	101		102		70-130	1		25
Benzene	103		104		70-130	1		25
Toluene	103		104		70-130	1		25
Ethylbenzene	104		106		70-130	2		25
p/m-Xylene	105		107		70-130	2		25
o-Xylene	100		102		70-130	2		25
Methyl tert butyl ether	104		106		70-130	2		25
Naphthalene	108		110		70-130	2		25
1,2,4-Trimethylbenzene	101		102		70-130	1		25
Pentane	93		94		70-130	2		25
2-Methylpentane	102		104		70-130	2		25
2,2,4-Trimethylpentane	98		100		70-130	2		25
n-Nonane	102		103		30-130	1		25
n-Decane	96		97		70-130	0		25
n-Butylcyclohexane	104		105		70-130	1		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	106		107		70-130
2,5-Dibromotoluene-FID	104		106		70-130

PCBS

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940491
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1940491-01
Client ID: TT-14 (8-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/05/19 09:30
Date Received: 09/05/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/11/19 22:48
Analyst: AWS
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 09/09/19 06:40
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
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	39.6	--	1	A
Aroclor 1221	ND		ug/kg	39.6	--	1	A
Aroclor 1232	ND		ug/kg	39.6	--	1	A
Aroclor 1242	ND		ug/kg	39.6	--	1	A
Aroclor 1248	ND		ug/kg	39.6	--	1	A
Aroclor 1254	ND		ug/kg	39.6	--	1	A
Aroclor 1260	ND		ug/kg	39.6	--	1	A
Aroclor 1262	ND		ug/kg	39.6	--	1	A
Aroclor 1268	ND		ug/kg	39.6	--	1	A
PCBs, Total	ND		ug/kg	39.6	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	57		30-150	B
Decachlorobiphenyl	43		30-150	B
2,4,5,6-Tetrachloro-m-xylene	55		30-150	A
Decachlorobiphenyl	45		30-150	A

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940491
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1940491-02
Client ID: TT-16 (8-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/05/19 10:00
Date Received: 09/05/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/11/19 22:36
Analyst: AWS
Percent Solids: 71%

Extraction Method: EPA 3546
Extraction Date: 09/09/19 06:40
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
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	44.5	--	1	A
Aroclor 1221	ND		ug/kg	44.5	--	1	A
Aroclor 1232	ND		ug/kg	44.5	--	1	A
Aroclor 1242	ND		ug/kg	44.5	--	1	A
Aroclor 1248	ND		ug/kg	44.5	--	1	A
Aroclor 1254	ND		ug/kg	44.5	--	1	A
Aroclor 1260	ND		ug/kg	44.5	--	1	A
Aroclor 1262	ND		ug/kg	44.5	--	1	A
Aroclor 1268	ND		ug/kg	44.5	--	1	A
PCBs, Total	ND		ug/kg	44.5	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	60		30-150	B
Decachlorobiphenyl	34		30-150	B
2,4,5,6-Tetrachloro-m-xylene	52		30-150	A
Decachlorobiphenyl	30		30-150	A

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940491
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1940491-03 D
Client ID: TT-10 (7-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/05/19 11:45
Date Received: 09/05/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/16/19 14:09
Analyst: WR
Percent Solids: 78%

Extraction Method: EPA 3546
Extraction Date: 09/09/19 06:40
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
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	210	--	5	A
Aroclor 1221	ND		ug/kg	210	--	5	A
Aroclor 1232	ND		ug/kg	210	--	5	A
Aroclor 1242	ND		ug/kg	210	--	5	A
Aroclor 1248	847		ug/kg	210	--	5	B
Aroclor 1254	895		ug/kg	210	--	5	B
Aroclor 1260	625		ug/kg	210	--	5	A
Aroclor 1262	ND		ug/kg	210	--	5	A
Aroclor 1268	ND		ug/kg	210	--	5	A
PCBs, Total	2370		ug/kg	210	--	5	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	41		30-150	B
Decachlorobiphenyl	54		30-150	B
2,4,5,6-Tetrachloro-m-xylene	38		30-150	A
Decachlorobiphenyl	54		30-150	A

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940491
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1940491-04
Client ID: DRUM #1
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/05/19 13:30
Date Received: 09/05/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/12/19 20:19
Analyst: WR
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 09/12/19 04:36
Cleanup Method: EPA 3665A
Cleanup Date: 09/12/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/12/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	32.8	--	1	A
Aroclor 1221	ND		ug/kg	32.8	--	1	A
Aroclor 1232	ND		ug/kg	32.8	--	1	A
Aroclor 1242	ND		ug/kg	32.8	--	1	A
Aroclor 1248	214		ug/kg	32.8	--	1	B
Aroclor 1254	234		ug/kg	32.8	--	1	B
Aroclor 1260	177	IP	ug/kg	32.8	--	1	A
Aroclor 1262	ND		ug/kg	32.8	--	1	A
Aroclor 1268	ND		ug/kg	32.8	--	1	A
PCBs, Total	625		ug/kg	32.8	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	59		30-150	B
Decachlorobiphenyl	49		30-150	B
2,4,5,6-Tetrachloro-m-xylene	61		30-150	A
Decachlorobiphenyl	31		30-150	A

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940491
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 09/10/19 18:56
Analyst: KB

Extraction Method: EPA 3546
Extraction Date: 09/09/19 06:40
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/10/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01-03 Batch: WG1281734-1						
Aroclor 1016	ND		ug/kg	32.6	--	A
Aroclor 1221	ND		ug/kg	32.6	--	A
Aroclor 1232	ND		ug/kg	32.6	--	A
Aroclor 1242	ND		ug/kg	32.6	--	A
Aroclor 1248	ND		ug/kg	32.6	--	A
Aroclor 1254	ND		ug/kg	32.6	--	A
Aroclor 1260	ND		ug/kg	32.6	--	A
Aroclor 1262	ND		ug/kg	32.6	--	A
Aroclor 1268	ND		ug/kg	32.6	--	A
PCBs, Total	ND		ug/kg	32.6	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	83		30-150	B
Decachlorobiphenyl	74		30-150	B
2,4,5,6-Tetrachloro-m-xylene	79		30-150	A
Decachlorobiphenyl	70		30-150	A

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940491
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 09/12/19 19:06
Analyst: WR

Extraction Method: EPA 3546
Extraction Date: 09/12/19 04:36
Cleanup Method: EPA 3665A
Cleanup Date: 09/12/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/12/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 04 Batch: WG1283106-1						
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	87		30-150	B
Decachlorobiphenyl	85		30-150	B
2,4,5,6-Tetrachloro-m-xylene	85		30-150	A
Decachlorobiphenyl	82		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST. S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1940491

Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01-03 Batch: WG1281734-2 WG1281734-3									
Aroclor 1016	74		82		40-140	10		30	A
Aroclor 1260	64		74		40-140	14		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	79		93		30-150	B
Decachlorobiphenyl	67		90		30-150	B
2,4,5,6-Tetrachloro-m-xylene	78		91		30-150	A
Decachlorobiphenyl	66		82		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST. S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1940491

Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 04 Batch: WG1283106-2 WG1283106-3									
Aroclor 1016	83		85		40-140	2		30	A
Aroclor 1260	85		87		40-140	2		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	80		82		30-150	B
Decachlorobiphenyl	76		78		30-150	B
2,4,5,6-Tetrachloro-m-xylene	79		81		30-150	A
Decachlorobiphenyl	78		78		30-150	A

PESTICIDES

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940491
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1940491-04
Client ID: DRUM #1
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/05/19 13:30
Date Received: 09/05/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8081B
Analytical Date: 09/17/19 17:00
Analyst: SL
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 09/13/19 04:02
Cleanup Method: EPA 3620B
Cleanup Date: 09/15/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Organochlorine Pesticides - Westborough Lab							
Delta-BHC	ND		ug/kg	1.63	--	1	A
Lindane	ND		ug/kg	0.545	--	1	A
Alpha-BHC	ND		ug/kg	0.681	--	1	A
Beta-BHC	ND		ug/kg	1.63	--	1	A
Heptachlor	ND		ug/kg	0.817	--	1	A
Aldrin	ND		ug/kg	1.63	--	1	A
Heptachlor epoxide	ND		ug/kg	3.06	--	1	A
Endrin	ND		ug/kg	0.681	--	1	A
Endrin ketone	ND		ug/kg	1.63	--	1	A
Dieldrin	ND		ug/kg	1.02	--	1	A
4,4'-DDE	ND		ug/kg	1.63	--	1	A
4,4'-DDD	ND		ug/kg	1.63	--	1	A
4,4'-DDT	ND		ug/kg	3.06	--	1	A
Endosulfan I	ND		ug/kg	1.63	--	1	A
Endosulfan II	ND		ug/kg	1.63	--	1	A
Endosulfan sulfate	ND		ug/kg	0.681	--	1	A
Methoxychlor	ND		ug/kg	3.06	--	1	A
Chlordane	ND		ug/kg	13.3	--	1	A
Hexachlorobenzene	ND		ug/kg	1.63	--	1	A
Toxaphene	ND		ug/kg	30.6	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	77		30-150	B
Decachlorobiphenyl	77		30-150	B
2,4,5,6-Tetrachloro-m-xylene	84		30-150	A
Decachlorobiphenyl	54		30-150	A

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940491
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1940491-04
Client ID: DRUM #1
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/05/19 13:30
Date Received: 09/05/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8151A
Analytical Date: 09/15/19 18:56
Analyst: DGM
Percent Solids: 96%
Methylation Date: 09/14/19 12:28

Extraction Method: EPA 8151A
Extraction Date: 09/13/19 01:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Chlorinated Herbicides - Westborough Lab							
MCPP	ND		ug/kg	3500	--	1	A
MCPA	ND		ug/kg	3500	--	1	A
Dalapon	ND		ug/kg	35	--	1	A
Dicamba	ND		ug/kg	35	--	1	A
Dichloroprop	ND		ug/kg	35	--	1	A
2,4-D	ND		ug/kg	35	--	1	A
2,4-DB	ND		ug/kg	35	--	1	A
2,4,5-T	ND		ug/kg	35	--	1	A
2,4,5-TP (Silvex)	ND		ug/kg	35	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	111		30-150	A
DCAA	92		30-150	B

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940491
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8151A
Analytical Date: 09/13/19 15:15
Analyst: BM

Extraction Method: EPA 8151A
Extraction Date: 09/13/19 01:14

Methylation Date: 09/13/19 13:23

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Chlorinated Herbicides - Westborough Lab for sample(s): 04 Batch: WG1283576-1						
MCPP	ND		ug/kg	3200	--	A
Dalapon	ND		ug/kg	32	--	A
Dicamba	ND		ug/kg	32	--	A
2,4-D	ND		ug/kg	32	--	A
2,4-DB	ND		ug/kg	32	--	A
2,4,5-T	ND		ug/kg	32	--	A
2,4,5-TP (Silvex)	ND		ug/kg	32	--	A
MCPA	ND		ug/kg	3200	--	B
Dichloroprop	ND		ug/kg	32	--	B

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	105		30-150	A
DCAA	99		30-150	B

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940491
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8081B
Analytical Date: 09/17/19 15:52
Analyst: SL

Extraction Method: EPA 3546
Extraction Date: 09/13/19 04:02
Cleanup Method: EPA 3620B
Cleanup Date: 09/15/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Organochlorine Pesticides - Westborough Lab for sample(s): 04 Batch: WG1283600-1						
Delta-BHC	ND		ug/kg	1.54	--	A
Lindane	ND		ug/kg	0.513	--	A
Alpha-BHC	ND		ug/kg	0.641	--	A
Beta-BHC	ND		ug/kg	1.54	--	A
Heptachlor	ND		ug/kg	0.769	--	A
Aldrin	ND		ug/kg	1.54	--	A
Heptachlor epoxide	ND		ug/kg	2.88	--	A
Endrin	ND		ug/kg	0.641	--	A
Endrin ketone	ND		ug/kg	1.54	--	A
Dieldrin	ND		ug/kg	0.962	--	A
4,4'-DDE	ND		ug/kg	1.54	--	A
4,4'-DDD	ND		ug/kg	1.54	--	A
4,4'-DDT	ND		ug/kg	2.88	--	A
Endosulfan I	ND		ug/kg	1.54	--	A
Endosulfan II	ND		ug/kg	1.54	--	A
Endosulfan sulfate	ND		ug/kg	0.641	--	A
Methoxychlor	ND		ug/kg	2.88	--	A
Chlordane	ND		ug/kg	12.5	--	A
Toxaphene	ND		ug/kg	28.8	--	A
Hexachlorobenzene	ND		ug/kg	1.54	--	B

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	100		30-150	B
Decachlorobiphenyl	86		30-150	B
2,4,5,6-Tetrachloro-m-xylene	91		30-150	A
Decachlorobiphenyl	80		30-150	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940491
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Chlorinated Herbicides - Westborough Lab Associated sample(s): 04 Batch: WG1283576-2 WG1283576-3									
MCPP	117		117		40-140	0		30	A
Dalapon	105		102		40-140	3		30	A
Dicamba	99		100		40-140	1		30	A
2,4-D	105		106		40-140	1		30	A
2,4-DB	86		90		40-140	5		30	A
2,4,5-T	102		105		40-140	3		30	A
2,4,5-TP (Silvex)	101		104		40-140	3		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	104		105		30-150	A
DCAA	103		100		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST. S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1940491

Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Chlorinated Herbicides - Westborough Lab Associated sample(s): 04 Batch: WG1283576-2 WG1283576-3									
MCPA	90		92		40-140	2		30	B
Dichloroprop	117		120		40-140	3		30	B

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	104		105		30-150	A
DCAA	103		100		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940491
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 04 Batch: WG1283600-2 WG1283600-3									
Delta-BHC	86		98		40-140	13		30	A
Lindane	83		93		40-140	11		30	A
Alpha-BHC	87		100		40-140	14		30	A
Beta-BHC	82		88		40-140	7		30	A
Heptachlor	87		97		40-140	11		30	A
Aldrin	77		87		40-140	12		30	A
Heptachlor epoxide	70		82		40-140	16		30	A
Endrin	85		96		40-140	12		30	A
Endrin ketone	82		96		40-140	16		30	A
Dieldrin	88		102		40-140	15		30	A
4,4'-DDE	80		92		40-140	14		30	A
4,4'-DDD	85		94		40-140	10		30	A
4,4'-DDT	88		98		40-140	11		30	A
Endosulfan I	76		88		40-140	15		30	A
Endosulfan II	83		90		40-140	8		30	A
Endosulfan sulfate	75		88		40-140	16		30	A
Methoxychlor	79		89		40-140	12		30	A
Hexachlorobenzene	72		81		40-140	12		30	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST. S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1940491

Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 04 Batch: WG1283600-2 WG1283600-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	97		110		30-150	B
Decachlorobiphenyl	145		94		30-150	B
2,4,5,6-Tetrachloro-m-xylene	91		108		30-150	A
Decachlorobiphenyl	73		93		30-150	A

METALS

Project Name: CYPHER ST. S. BOSTON
Lab Number: L1940491
Project Number: 143-278997-19001
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1940491-01
Client ID: TT-14 (8-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/05/19 09:30
Date Received: 09/05/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.35	--	1	09/12/19 22:40	09/13/19 17:57	EPA 3050B	97,6010D	MC
Arsenic, Total	15.0		mg/kg	0.469	--	1	09/12/19 22:40	09/13/19 17:57	EPA 3050B	97,6010D	MC
Barium, Total	87.7		mg/kg	0.469	--	1	09/12/19 22:40	09/13/19 17:57	EPA 3050B	97,6010D	MC
Beryllium, Total	ND		mg/kg	0.235	--	1	09/12/19 22:40	09/13/19 17:57	EPA 3050B	97,6010D	MC
Cadmium, Total	ND		mg/kg	0.469	--	1	09/12/19 22:40	09/13/19 17:57	EPA 3050B	97,6010D	MC
Chromium, Total	16.9		mg/kg	0.469	--	1	09/12/19 22:40	09/13/19 17:57	EPA 3050B	97,6010D	MC
Lead, Total	566		mg/kg	2.35	--	1	09/12/19 22:40	09/13/19 17:57	EPA 3050B	97,6010D	MC
Mercury, Total	16.9		mg/kg	0.778	--	5	09/16/19 07:00	09/16/19 21:07	EPA 7471B	97,7471B	GD
Nickel, Total	6.38		mg/kg	1.17	--	1	09/12/19 22:40	09/13/19 17:57	EPA 3050B	97,6010D	MC
Selenium, Total	ND		mg/kg	2.35	--	1	09/12/19 22:40	09/13/19 17:57	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.469	--	1	09/12/19 22:40	09/13/19 17:57	EPA 3050B	97,6010D	MC
Thallium, Total	ND		mg/kg	2.35	--	1	09/12/19 22:40	09/13/19 17:57	EPA 3050B	97,6010D	MC
Vanadium, Total	12.0		mg/kg	0.469	--	1	09/12/19 22:40	09/13/19 17:57	EPA 3050B	97,6010D	MC
Zinc, Total	342		mg/kg	2.35	--	1	09/12/19 22:40	09/13/19 17:57	EPA 3050B	97,6010D	MC

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940491
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1940491-02
Client ID: TT-16 (8-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/05/19 10:00
Date Received: 09/05/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 71%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	5.01		mg/kg	2.68	--	1	09/12/19 22:40	09/13/19 18:02	EPA 3050B	97,6010D	MC
Arsenic, Total	98.0		mg/kg	0.535	--	1	09/12/19 22:40	09/13/19 18:02	EPA 3050B	97,6010D	MC
Barium, Total	106		mg/kg	0.535	--	1	09/12/19 22:40	09/13/19 18:02	EPA 3050B	97,6010D	MC
Beryllium, Total	0.369		mg/kg	0.268	--	1	09/12/19 22:40	09/13/19 18:02	EPA 3050B	97,6010D	MC
Cadmium, Total	ND		mg/kg	0.535	--	1	09/12/19 22:40	09/13/19 18:02	EPA 3050B	97,6010D	MC
Chromium, Total	23.9		mg/kg	0.535	--	1	09/12/19 22:40	09/13/19 18:02	EPA 3050B	97,6010D	MC
Lead, Total	494		mg/kg	2.68	--	1	09/12/19 22:40	09/13/19 18:02	EPA 3050B	97,6010D	MC
Mercury, Total	4.43		mg/kg	0.205	--	2	09/16/19 07:00	09/16/19 21:09	EPA 7471B	97,7471B	GD
Nickel, Total	15.1		mg/kg	1.34	--	1	09/12/19 22:40	09/13/19 18:02	EPA 3050B	97,6010D	MC
Selenium, Total	ND		mg/kg	2.68	--	1	09/12/19 22:40	09/13/19 18:02	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.535	--	1	09/12/19 22:40	09/13/19 18:02	EPA 3050B	97,6010D	MC
Thallium, Total	ND		mg/kg	2.68	--	1	09/12/19 22:40	09/13/19 18:02	EPA 3050B	97,6010D	MC
Vanadium, Total	23.4		mg/kg	0.535	--	1	09/12/19 22:40	09/13/19 18:02	EPA 3050B	97,6010D	MC
Zinc, Total	311		mg/kg	2.68	--	1	09/12/19 22:40	09/13/19 18:02	EPA 3050B	97,6010D	MC

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940491
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1940491-03
Client ID: TT-10 (7-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/05/19 11:45
Date Received: 09/05/19
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											
Antimony, Total	123		mg/kg	2.54	--	1	09/12/19 22:40	09/13/19 18:06	EPA 3050B	97,6010D	MC
Arsenic, Total	16.9		mg/kg	0.508	--	1	09/12/19 22:40	09/13/19 18:06	EPA 3050B	97,6010D	MC
Barium, Total	126		mg/kg	0.508	--	1	09/12/19 22:40	09/13/19 18:06	EPA 3050B	97,6010D	MC
Beryllium, Total	ND		mg/kg	0.254	--	1	09/12/19 22:40	09/13/19 18:06	EPA 3050B	97,6010D	MC
Cadmium, Total	ND		mg/kg	0.508	--	1	09/12/19 22:40	09/13/19 18:06	EPA 3050B	97,6010D	MC
Chromium, Total	6.79		mg/kg	0.508	--	1	09/12/19 22:40	09/13/19 18:06	EPA 3050B	97,6010D	MC
Lead, Total	442		mg/kg	2.54	--	1	09/12/19 22:40	09/13/19 18:06	EPA 3050B	97,6010D	MC
Mercury, Total	2.33		mg/kg	0.096	--	1	09/16/19 07:00	09/16/19 18:14	EPA 7471B	97,7471B	GD
Nickel, Total	21.8		mg/kg	1.27	--	1	09/12/19 22:40	09/13/19 18:06	EPA 3050B	97,6010D	MC
Selenium, Total	5.97		mg/kg	2.54	--	1	09/12/19 22:40	09/13/19 18:06	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.508	--	1	09/12/19 22:40	09/13/19 18:06	EPA 3050B	97,6010D	MC
Thallium, Total	ND		mg/kg	2.54	--	1	09/12/19 22:40	09/13/19 18:06	EPA 3050B	97,6010D	MC
Vanadium, Total	15.0		mg/kg	0.508	--	1	09/12/19 22:40	09/13/19 18:06	EPA 3050B	97,6010D	MC
Zinc, Total	127		mg/kg	2.54	--	1	09/12/19 22:40	09/13/19 18:06	EPA 3050B	97,6010D	MC

Project Name: CYPHER ST. S. BOSTON
Lab Number: L1940491
Project Number: 143-278997-19001
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1940491-04
Client ID: DRUM #1
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/05/19 13:30
Date Received: 09/05/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.00	--	1	09/12/19 22:40	09/13/19 18:10	EPA 3050B	97,6010D	MC
Arsenic, Total	5.91		mg/kg	0.401	--	1	09/12/19 22:40	09/13/19 18:10	EPA 3050B	97,6010D	MC
Barium, Total	39.0		mg/kg	0.401	--	1	09/12/19 22:40	09/13/19 18:10	EPA 3050B	97,6010D	MC
Beryllium, Total	0.228		mg/kg	0.200	--	1	09/12/19 22:40	09/13/19 18:10	EPA 3050B	97,6010D	MC
Cadmium, Total	ND		mg/kg	0.401	--	1	09/12/19 22:40	09/13/19 18:10	EPA 3050B	97,6010D	MC
Chromium, Total	26.1		mg/kg	0.401	--	1	09/12/19 22:40	09/13/19 18:10	EPA 3050B	97,6010D	MC
Lead, Total	92.9		mg/kg	2.00	--	1	09/12/19 22:40	09/13/19 18:10	EPA 3050B	97,6010D	MC
Mercury, Total	0.276		mg/kg	0.077	--	1	09/16/19 07:00	09/16/19 18:16	EPA 7471B	97,7471B	GD
Nickel, Total	15.1		mg/kg	1.00	--	1	09/12/19 22:40	09/13/19 18:10	EPA 3050B	97,6010D	MC
Selenium, Total	ND		mg/kg	2.00	--	1	09/12/19 22:40	09/13/19 18:10	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.401	--	1	09/12/19 22:40	09/13/19 18:10	EPA 3050B	97,6010D	MC
Thallium, Total	ND		mg/kg	2.00	--	1	09/12/19 22:40	09/13/19 18:10	EPA 3050B	97,6010D	MC
Vanadium, Total	29.1		mg/kg	0.401	--	1	09/12/19 22:40	09/13/19 18:10	EPA 3050B	97,6010D	MC
Zinc, Total	105		mg/kg	2.00	--	1	09/12/19 22:40	09/13/19 18:10	EPA 3050B	97,6010D	MC

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1940491

Project Number: 143-278997-19001 **Report Date:** 09/18/19

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): 01-04 Batch: WG1283508-1										
Antimony, Total	ND		mg/kg	2.00	--	1	09/12/19 22:40	09/13/19 15:55	97,6010D	MC
Arsenic, Total	ND		mg/kg	0.400	--	1	09/12/19 22:40	09/13/19 15:55	97,6010D	MC
Barium, Total	ND		mg/kg	0.400	--	1	09/12/19 22:40	09/13/19 15:55	97,6010D	MC
Beryllium, Total	ND		mg/kg	0.200	--	1	09/12/19 22:40	09/13/19 15:55	97,6010D	MC
Cadmium, Total	ND		mg/kg	0.400	--	1	09/12/19 22:40	09/13/19 15:55	97,6010D	MC
Chromium, Total	ND		mg/kg	0.400	--	1	09/12/19 22:40	09/13/19 15:55	97,6010D	MC
Lead, Total	ND		mg/kg	2.00	--	1	09/12/19 22:40	09/13/19 15:55	97,6010D	MC
Nickel, Total	ND		mg/kg	1.00	--	1	09/12/19 22:40	09/13/19 15:55	97,6010D	MC
Selenium, Total	ND		mg/kg	2.00	--	1	09/12/19 22:40	09/13/19 15:55	97,6010D	MC
Silver, Total	ND		mg/kg	0.400	--	1	09/12/19 22:40	09/13/19 15:55	97,6010D	MC
Thallium, Total	ND		mg/kg	2.00	--	1	09/12/19 22:40	09/13/19 15:55	97,6010D	MC
Vanadium, Total	ND		mg/kg	0.400	--	1	09/12/19 22:40	09/13/19 15:55	97,6010D	MC
Zinc, Total	ND		mg/kg	2.00	--	1	09/12/19 22:40	09/13/19 15:55	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): 01-04 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

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940491
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01-04 Batch: WG1283508-2 WG1283508-3 SRM Lot Number: D105-540								
Antimony, Total	156		152		19-249	3		30
Arsenic, Total	94		96		70-130	2		30
Barium, Total	86		85		75-125	1		30
Beryllium, Total	94		92		75-125	2		30
Cadmium, Total	85		90		75-125	6		30
Chromium, Total	79		82		70-130	4		30
Lead, Total	83		84		71-128	1		30
Nickel, Total	86		87		70-131	1		30
Selenium, Total	92		96		63-137	4		30
Silver, Total	84		84		69-131	0		30
Thallium, Total	87		89		68-132	2		30
Vanadium, Total	81		81		65-135	0		30
Zinc, Total	86		87		70-130	1		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01-04 Batch: WG1284436-2 WG1284436-3 SRM Lot Number: D105-540								
Mercury, Total	90		94		60-141	4		30

INORGANICS
&
MISCELLANEOUS

Project Name:	CYPHER ST. S. BOSTON	**Lab Number:**	L1940491
Project Number:	143-278997-19001	**Report Date:**	09/18/19

SAMPLE RESULTS

Lab ID:	L1940491-04	Date Collected:	09/05/19 13:30
Client ID:	DRUM #1	Date Received:	09/05/19
Sample Location:	CYPHER ST. S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil		

Test Material Information

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

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	09/06/19 07:21	1,1030	BR

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940491
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1940491-01
Client ID: TT-14 (8-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/05/19 09:30
Date Received: 09/05/19
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	81.5		%	0.100	NA	1	-	09/06/19 05:03	121,2540G	YA

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940491
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1940491-02
Client ID: TT-16 (8-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/05/19 10:00
Date Received: 09/05/19
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	71.4		%	0.100	NA	1	-	09/06/19 05:03	121,2540G	YA

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940491
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1940491-03
Client ID: TT-10 (7-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/05/19 11:45
Date Received: 09/05/19
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	77.7		%	0.100	NA	1	-	09/06/19 05:03	121,2540G	YA

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940491
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1940491-04
Client ID: DRUM #1
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/05/19 13:30
Date Received: 09/05/19
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	95.7		%	0.100	NA	1	-	09/06/19 05:03	121,2540G	YA
pH (H)	9.8		SU	-	NA	1	-	09/05/19 20:02	1,9045D	AS
Cyanide, Reactive	ND		mg/kg	10	--	1	09/06/19 20:34	09/06/19 22:16	125,7.3	RM
Sulfide, Reactive	ND		mg/kg	10	--	1	09/06/19 20:34	09/06/19 22:00	125,7.3	RM

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1940491

Project Number: 143-278997-19001 **Report Date:** 09/18/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 04 Batch: WG1281294-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	09/06/19 20:34	09/06/19 21:57	125,7.3	RM
General Chemistry - Westborough Lab for sample(s): 04 Batch: WG1281298-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	09/06/19 20:34	09/06/19 22:12	125,7.3	RM

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST. S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1940491

Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 04 Batch: WG1280761-1								
pH	101		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 04 Batch: WG1281294-2								
Sulfide, Reactive	74		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 04 Batch: WG1281298-2								
Cyanide, Reactive	73		-		30-125	-		40

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940491
Report Date: 09/18/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1940491-01A	Vial MeOH preserved	A	NA		4.1	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1940491-01B	Vial MeOH preserved	A	NA		4.1	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1940491-01C	Vial water preserved	A	NA		4.1	Y	Absent	05-SEP-19 17:06	MCP-8260HLW-10(14)
L1940491-01D	Vial water preserved	A	NA		4.1	Y	Absent	05-SEP-19 17:06	MCP-8260HLW-10(14)
L1940491-01E	Plastic 2oz unpreserved for TS	A	NA		4.1	Y	Absent		TS(7)
L1940491-01F	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1940491-01G	Glass 500ml/16oz unpreserved	A	NA		4.1	Y	Absent		EPH-10(14),MCP-8082-10(365),MCP-PAH-10(14)
L1940491-02A	Vial MeOH preserved	A	NA		4.1	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1940491-02B	Vial MeOH preserved	A	NA		4.1	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1940491-02C	Vial water preserved	A	NA		4.1	Y	Absent	05-SEP-19 17:06	MCP-8260HLW-10(14)
L1940491-02D	Vial water preserved	A	NA		4.1	Y	Absent	05-SEP-19 17:06	MCP-8260HLW-10(14)
L1940491-02E	Plastic 2oz unpreserved for TS	A	NA		4.1	Y	Absent		TS(7)
L1940491-02F	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1940491-02G	Glass 500ml/16oz unpreserved	A	NA		4.1	Y	Absent		EPH-10(14),MCP-8082-10(365),MCP-PAH-10(14)
L1940491-03A	Vial MeOH preserved	A	NA		4.1	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)

*Values in parentheses indicate holding time in days

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940491
Report Date: 09/18/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1940491-03B	Vial MeOH preserved	A	NA		4.1	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1940491-03C	Vial water preserved	A	NA		4.1	Y	Absent	05-SEP-19 17:06	MCP-8260HLW-10(14)
L1940491-03D	Vial water preserved	A	NA		4.1	Y	Absent	05-SEP-19 17:06	MCP-8260HLW-10(14)
L1940491-03E	Plastic 2oz unpreserved for TS	A	NA		4.1	Y	Absent		TS(7)
L1940491-03F	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1940491-03G	Glass 500ml/16oz unpreserved	A	NA		4.1	Y	Absent		EPH-10(14),MCP-8082-10(365),MCP-PAH-10(14)
L1940491-04A	Vial MeOH preserved	A	NA		4.1	Y	Absent		MCP-8260HLW-10(14)
L1940491-04B	Vial MeOH preserved	A	NA		4.1	Y	Absent		MCP-8260HLW-10(14)
L1940491-04C	Vial water preserved	A	NA		4.1	Y	Absent	05-SEP-19 17:06	MCP-8260HLW-10(14)
L1940491-04D	Vial water preserved	A	NA		4.1	Y	Absent	05-SEP-19 17:06	MCP-8260HLW-10(14)
L1940491-04E	Plastic 2oz unpreserved for TS	A	NA		4.1	Y	Absent		TS(7)
L1940491-04F	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1940491-04G	Glass 500ml/16oz unpreserved	A	NA		4.1	Y	Absent		IGNIT-1030(14),MCP-8082-10(365),REACTS(14),MCP-8081-10(14),MCP-8151-10(14),MCP-8270-10(14),PH-9045(1),REACTCN(14),TPH-DRO-D(14)

*Values in parentheses indicate holding time in days

Project Name:	CYPHER ST. S. BOSTON	**Lab Number:**	L1940491
Project Number:	143-278997-19001	**Report Date:**	09/18/19

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:	CYPHER ST. S. BOSTON	**Lab Number:**	L1940491
Project Number:	143-278997-19001	**Report Date:**	09/18/19

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:	CYPHER ST. S. BOSTON	**Lab Number:**	L1940491
Project Number:	143-278997-19001	**Report Date:**	09/18/19

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

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.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

131 Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, February 2018, Revision 2.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, June 1, 2018.

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 1

Date Rec'd in Lab: 9/5/19

ALPHA Job #: L1970491

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: Tetra Tech
Address: 100 Nickerson Rd, Marlborough, MA
Phone: 413-272-9539
Email: jon.fiore@tetratech.com

Project Information

Project Name: Cypher St. S. Boston
Project Location: Cypher St. S. Boston
Project #: 143-278997-19001
Project Manager: Mike Billa
ALPHA Quote #:

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 _____

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)

Date Due:

Additional Project Information:

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; TPH: ☐ Quant Only ☐ Fingerprint; Herbicides/Pesticides; pH, reactivity, ignitability; TPH; ABN

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	Herbicides/Pesticides	pH, reactivity, ignitability	TPH	ABN	Sample Comments	TOTAL # BOTTLES
70491-01	TT-14 (8-10')	9/5/19	0930	Soil	JWF	X	X	X		X	X	X							7
-02	TT-16 (8-10')	↓	1000	↓	↓	X	X	X		X	X	X							7
-03	TT-10 (7-10')	↓	1145	↓	↓	X	X	X		X	X	X							7
-04	Drum #1	↓	1330	↓	↓	X		X				X		X	X	X	X		7
	~~Drum #2~~	↓	~~1345~~	~~Water~~	↓	X						X							6

Container Type: P/A/V/G
Preservative: A/F

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
[signature]	9/5/19 1505	[signature]	9/5/19 1505

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

Method Blank Summary
Form 4
Volatiles

Client	: Tetra Tech Rizzo	**Lab Number**	: L1940491
Project Name	: CYPHER ST. S. BOSTON	**Project Number**	: 143-278997-19001
Lab Sample ID	: WG1284398-5	**Lab File ID**	: V17190914A05
Instrument ID	: VOA117		
Matrix	: SOIL	**Analysis Date**	: 09/14/19 09:06

Client Sample No.	Lab Sample ID	Analysis Date
WG1284398-3LCS	WG1284398-3	09/14/19 07:48
WG1284398-4LCSD	WG1284398-4	09/14/19 08:14
TT-14 (8-10')	L1940491-01D	09/14/19 16:03
TT-16 (8-10')	L1940491-02	09/14/19 16:30
TT-10 (7-10')	L1940491-03	09/14/19 16:56
DRUM #1	L1940491-04	09/14/19 17:22

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1940491
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
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	: WG1284398-2	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	: Tetra Tech Rizzo	Lab Number	: L1940491
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
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	: WG1284398-2	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	: Tetra Tech Rizzo	Lab Number	: L1940491
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
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	: WG1284398-2	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.

Performance Evaluation Mixture Summary
Form 15
Pesticides

Client	: Tetra Tech Rizzo	**Lab Number**	: L1940491
Project Name	: CYPHER ST. S. BOSTON	**Project Number**	: 143-278997-19001
Instrument ID	: PEST20	**Analysis Date**	: 09/17/19 08:35
PEM Standard	: R1231715-1		
Column 1	: RTX-5	**Column 2**	: RTX-CLPPesticides2

Parameter	Signal 1	Signal 2
4,4'-DDE	764204.3116	1238452.3516
Endrin	351511384.04706	185048789.24964
4,4'-DDD	1578645.81	727990.777
4,4'-DDT	656521028.52	391351239.35411
Endrin Aldehyde	1576490.7152	1165869.06391
Endrin Ketone	4401090.73	1576017.14332

Parameter	%Breakdown 1	%Breakdown 2
Endrin	1.67	1.46
DDT	0.356	0.500

ANALYTICAL REPORT

Lab Number:	L1941630
Client:	Tetra Tech Rizzo Marlborough Technology Park 100 Nickerson Road Marlborough, MA 01752
ATTN:	Mike Billa
Phone:	(508) 786-2200
Project Name:	CYPHER ST. S. BOSTON
Project Number:	143-278997-19001
Report Date:	09/23/19

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Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

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

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1941630
Report Date: 09/23/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1941630-01	TT-17 (7')	SOIL	CYPHER ST. S. BOSTON	08/27/19 11:30	08/27/19
L1941630-02	TT-12 (2-4')	SOIL	CYPHER ST. S. BOSTON	08/27/19 13:00	08/27/19
L1941630-03	TT-12 (4-6')	SOIL	CYPHER ST. S. BOSTON	08/27/19 13:30	08/27/19
L1941630-04	TT-13 (2-4')	SOIL	CYPHER ST. S. BOSTON	08/26/19 11:10	08/26/19
L1941630-05	TT-14 (0-2')	SOIL	CYPHER ST. S. BOSTON	08/26/19 12:00	08/26/19
L1941630-06	TT-19 (2-4')	SOIL	CYPHER ST. S. BOSTON	08/26/19 14:28	08/26/19

Project Name:	CYPHER ST. S. BOSTON	**Lab Number:**	L1941630
Project Number:	143-278997-19001	**Report Date:**	09/23/19

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?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

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

Project Name:	CYPHER ST. S. BOSTON	**Lab Number:**	L1941630
Project Number:	143-278997-19001	**Report Date:**	09/23/19

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:	CYPHER ST. S. BOSTON	**Lab Number:**	L1941630
Project Number:	143-278997-19001	**Report Date:**	09/23/19

Case Narrative (continued)

MCP Related Narratives

Report Submission

All MCP required questions were answered with affirmative responses; therefore, there are no relevant protocol-specific QC and/or performance standard non-conformances to report.

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

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative

Date: 09/23/19

QC OUTLIER SUMMARY REPORT

Project Name: CYPHER ST. S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1941630

Report Date: 09/23/19

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment

There are no QC Outliers associated with this report.

METALS

Project Name: CYPHER ST. S. BOSTON
Lab Number: L1941630
Project Number: 143-278997-19001
Report Date: 09/23/19

SAMPLE RESULTS

Lab ID: L1941630-01
Client ID: TT-17 (7')
Sample Location: CYPHER ST. S. BOSTON
Sample Depth:
Matrix: Soil

Date Collected: 08/27/19 11:30
Date Received: 08/27/19
Field Prep: Not Specified
TCLP/SPLP Ext. Date: 09/17/19 23:51

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.500	--	1	09/20/19 09:49	09/20/19 22:45	EPA 3015	1,6010D	MC

Project Name: CYPHER ST. S. BOSTON
Lab Number: L1941630
Project Number: 143-278997-19001
Report Date: 09/23/19

SAMPLE RESULTS

Lab ID: L1941630-02
Client ID: TT-12 (2-4')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/27/19 13:00
Date Received: 08/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 09/17/19 23:51

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.500	--	1	09/20/19 09:49	09/20/19 23:15	EPA 3015	1,6010D	MC

Project Name: CYPHER ST. S. BOSTON
Lab Number: L1941630
Project Number: 143-278997-19001
Report Date: 09/23/19

SAMPLE RESULTS

Lab ID: L1941630-03
Client ID: TT-12 (4-6')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/27/19 13:30
Date Received: 08/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 09/17/19 23:51

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.500	--	1	09/20/19 09:49	09/20/19 23:19	EPA 3015	1,6010D	MC

Project Name: CYPHER ST. S. BOSTON
Lab Number: L1941630
Project Number: 143-278997-19001
Report Date: 09/23/19

SAMPLE RESULTS

Lab ID: L1941630-04
Client ID: TT-13 (2-4')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/26/19 11:10
Date Received: 08/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 09/17/19 23:51

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.500	--	1	09/20/19 09:49	09/20/19 23:24	EPA 3015	1,6010D	MC

Project Name: CYPHER ST. S. BOSTON
Lab Number: L1941630
Project Number: 143-278997-19001
Report Date: 09/23/19

SAMPLE RESULTS

Lab ID: L1941630-05
Client ID: TT-14 (0-2')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/26/19 12:00
Date Received: 08/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 09/17/19 23:51

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.500	--	1	09/20/19 09:49	09/20/19 23:28	EPA 3015	1,6010D	MC

Project Name: CYPHER ST. S. BOSTON
Lab Number: L1941630
Project Number: 143-278997-19001
Report Date: 09/23/19

SAMPLE RESULTS

Lab ID: L1941630-06
Client ID: TT-19 (2-4')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/26/19 14:28
Date Received: 08/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 09/17/19 23:51

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.500	--	1	09/20/19 09:49	09/20/19 23:33	EPA 3015	1,6010D	MC

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1941630

Project Number: 143-278997-19001 **Report Date:** 09/23/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab for sample(s): 01-06 Batch: WG1286564-1										
Lead, TCLP	ND		mg/l	0.500	--	1	09/20/19 09:49	09/20/19 22:24	1,6010D	MC

Prep Information

Digestion Method: EPA 3015

TCLP/SPLP Extraction Date: 09/16/19 22:10

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST. S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1941630

Report Date: 09/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-06 Batch: WG1286564-2								
Lead, TCLP	101		-		75-125	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1941630
Report Date: 09/23/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1286564-3 QC Sample: L1941630-01 Client ID: TT-17 (7')												
Lead, TCLP	ND	5.1	5.32	104		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: CYPHER ST. S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1941630

Report Date: 09/23/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1286564-4 QC Sample: L1941630-01 Client ID: TT-17 (7')						
Lead, TCLP	ND	ND	mg/l	NC		20

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1941630
Report Date: 09/23/19

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(*)
L1941630-01A	Glass 500ml/16oz unpreserved	B	NA		3.6	Y	Absent		-
L1941630-01X	Plastic 120ml HNO3 preserved Extracts	B	NA		3.6	Y	Absent		PB-CI(180)
L1941630-01X9	Tumble Vessel	B	NA		3.6	Y	Absent		-
L1941630-02A	Glass 500ml/16oz unpreserved	B	NA		3.6	Y	Absent		-
L1941630-02X	Plastic 120ml HNO3 preserved Extracts	B	NA		3.6	Y	Absent		PB-CI(180)
L1941630-02X9	Tumble Vessel	B	NA		3.6	Y	Absent		-
L1941630-03A	Glass 500ml/16oz unpreserved	B	NA		3.6	Y	Absent		-
L1941630-03X	Plastic 120ml HNO3 preserved Extracts	B	NA		3.6	Y	Absent		PB-CI(180)
L1941630-03X9	Tumble Vessel	B	NA		3.6	Y	Absent		-
L1941630-04A	Glass 500ml/16oz unpreserved	A	NA		3.6	Y	Absent		-
L1941630-04X	Plastic 120ml HNO3 preserved Extracts	A	NA		3.6	Y	Absent		PB-CI(180)
L1941630-04X9	Tumble Vessel	A	NA		3.6	Y	Absent		-
L1941630-05A	Glass 500ml/16oz unpreserved	A	NA		3.6	Y	Absent		-
L1941630-05X	Plastic 120ml HNO3 preserved Extracts	A	NA		3.6	Y	Absent		PB-CI(180)
L1941630-05X9	Tumble Vessel	A	NA		3.6	Y	Absent		-
L1941630-06A	Glass 500ml/16oz unpreserved	A	NA		3.6	Y	Absent		-
L1941630-06X	Plastic 120ml HNO3 preserved Extracts	A	NA		3.6	Y	Absent		PB-CI(180)
L1941630-06X9	Tumble Vessel	A	NA		3.6	Y	Absent		-

*Values in parentheses indicate holding time in days

Project Name:	CYPHER ST. S. BOSTON	**Lab Number:**	L1941630
Project Number:	143-278997-19001	**Report Date:**	09/23/19

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:	CYPHER ST. S. BOSTON	**Lab Number:**	L1941630
Project Number:	143-278997-19001	**Report Date:**	09/23/19

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:	CYPHER ST. S. BOSTON	**Lab Number:**	L1941630
Project Number:	143-278997-19001	**Report Date:**	09/23/19

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

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.

L1941630 SH 9/12/19

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA Analytical

8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Date Rec'd in Lab: 8/27/19

ALPHA Job #: ~~L1958825~~

Client Information

Client: Tetra Tech
Address: 100 Nickerson Rd, Marlborough, MA
Phone: 413-272-9539
Email: jon.fiore@tetratech.com

Project Information

Project Name: Cyphe A.S. Boston
Project Location: Cyphe St. S. Boston
Project #: Mike Billa
Project Manager: 413-278997-19001
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:

ANALYSIS: ~~VOC~~ ~~SVOC~~ ~~METALS~~ METALS: ☐ RCRA8 ☐ MCP 14 ☐ RCP 15 ☐ RCRA8 ☐ PP13 ~~EPH~~ ~~VPH~~ ~~PCB~~ ☐ PEST ~~TPH~~: ☐ Quant Only ☐ Fingerprint ~~Cyanide~~ ~~Hexavalent Chromium~~ TCLP Pb

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	METALS: RCRA8	MCP 14	RCP 15	RCRA8	PP13	PEST	TPH: Quant Only	Fingerprint	TCLP Pb	Sample Comments	TOTAL # BOTTLES
~~38825-01~~	TT-18 (0-2)	8/27/19	0900	Soil	JVF	X	X	X	X	X	X				* for TT-12(2-4')	7
02	TT-17 (1-3')	↓	1100	↓	↓	X	X	X	X	X	X					7
41630-01 03	TT-17 (7')	↓	1130	↓	↓	X	X	X	X	X	X		X		Run ABN	5
-02 04	TT-12 (2-4')	↓	1300	↓	↓	X	X	X	X	X	X	X	X		for SVOC	8
-03 05	TT-12 (4-6')	↓	1330	↓	↓	X	X	X	X	X	X		X		for two	7
															each	
															pest/HCV	
															analytes	

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

Container Type	P/G		
Preservative	A/C		

Relinquished By:	Date/Time	Received By:	Date/Time
TTL	8/27/19 1400	TTL - ARL	8/27/19 1420
TTL	8/27/19 1216		

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

L1941630 SH 9/12/19

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL

8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220

320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Date Rec'd in Lab: 8/26/19

ALPHA Job #: L1938617

Client Information

Client: Tetra Tech

Address: 100 Nickerson Rd, Marlborough, MA

Phone: 413-272-9539

Email: jon.fiore@tetratech.com

Project Information

Project Name: Cyphers St. Boston

Project Location: Cyphers St. South Boston

Project #: 143-278997-19001

Project Manager: Mike Billa

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:

ANALYSIS: VOC | SVOC | METALS: MCP 13 | METALS: RCRA5 | EPH | VPH | PCB / PEST | TPH: Quant Only / Fingerprint | | TCLP Pb

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: MCP 13	METALS: RCRA5	EPH	VPH	PCB/PEST	TPH		TCLP Pb	Sample Comments	Total # Bottles
38617-01 (-04)	TT-13 (2-4')	8/26/19	1110	Soil	JWF	X	+	+		+	X	+			X		7/8
02	TT-13 (4-4.75')	↓	1120	↓	↓	X	X	X		X	X	X				Hold	
03 (41630-05)	TT-14 (0-2')		1200			X	X	X		X	X	X			X		
04	TT-14 (4-6')		1220			X	X	X		X	X	X					
05	TT-15 (0-2')		1240			X	X	X		X	X	X					5
06	TT-15 (4-6')		1255			X	X	X		X	X	X					
07	TT-19 (0-2')		1406			X	X	X		X	X	X		X	X		5
08 (-06)	TT-19 (2-4')		1428														

Container Type: P/A

Preservative: A/-

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
[signature]	8/26/19 1445	[signature] AAL	8/26/19 1445
[signature]	8/26/19 1832	[signature]	8/26/19 1835

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

ANALYTICAL REPORT

Lab Number:	L1942594
Client:	Tetra Tech Rizzo Marlborough Technology Park 100 Nickerson Road Marlborough, MA 01752
ATTN:	Mike Billa
Phone:	(508) 786-2200
Project Name:	CYPHER ST. S. BOSTON
Project Number:	143-278997-19001
Report Date:	09/23/19

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: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1942594
Report Date: 09/23/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1942594-01	TT-13 (4-4.75')	SOIL	CYPHER ST. S. BOSTON	08/26/19 11:20	08/26/19
L1942594-02	TT-11 (0-2')	SOIL	CYPHER ST. S. BOSTON	08/29/19 09:50	08/29/19
L1942594-03	TT-11 (2-4')	SOIL	CYPHER ST. S. BOSTON	08/29/19 10:30	08/29/19
L1942594-04	DC1112	SOIL	CYPHER ST. S. BOSTON	08/29/19 12:00	08/29/19
L1942594-05	DC20A18	SOIL	CYPHER ST. S. BOSTON	08/29/19 12:30	08/29/19
L1942594-06	DC123	SOIL	CYPHER ST. S. BOSTON	08/29/19 13:00	08/29/19

Project Name:	CYPHER ST. S. BOSTON	**Lab Number:**	L1942594
Project Number:	143-278997-19001	**Report Date:**	09/23/19

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.

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: 09/23/19

METALS

Project Name: CYPHER ST. S. BOSTON
Lab Number: L1942594
Project Number: 143-278997-19001
Report Date: 09/23/19

SAMPLE RESULTS

Lab ID: L1942594-01
Client ID: TT-13 (4-4.75')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/26/19 11:20
Date Received: 08/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 09/18/19 05:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.500	--	1	09/19/19 11:39	09/20/19 14:53	EPA 3015	1,6010D	LC

Project Name: CYPHER ST. S. BOSTON
Lab Number: L1942594
Project Number: 143-278997-19001
Report Date: 09/23/19

SAMPLE RESULTS

Lab ID: L1942594-02
Client ID: TT-11 (0-2')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/29/19 09:50
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 09/18/19 05:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.500	--	1	09/19/19 11:39	09/20/19 14:57	EPA 3015	1,6010D	LC

Project Name: CYPHER ST. S. BOSTON
Lab Number: L1942594
Project Number: 143-278997-19001
Report Date: 09/23/19

SAMPLE RESULTS

Lab ID: L1942594-03
Client ID: TT-11 (2-4')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/29/19 10:30
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 09/18/19 05:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.500	--	1	09/19/19 11:39	09/20/19 15:01	EPA 3015	1,6010D	LC

Project Name: CYPHER ST. S. BOSTON
Lab Number: L1942594
Project Number: 143-278997-19001
Report Date: 09/23/19

SAMPLE RESULTS

Lab ID: L1942594-04
Client ID: DC1112
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/29/19 12:00
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 09/18/19 18:21

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.500	--	1	09/20/19 13:16	09/21/19 01:24	EPA 3015	1,6010D	AB

Project Name: CYPHER ST. S. BOSTON
Lab Number: L1942594
Project Number: 143-278997-19001
Report Date: 09/23/19

SAMPLE RESULTS

Lab ID: L1942594-05
Client ID: DC20A18
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/29/19 12:30
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 09/18/19 18:21

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	0.693		mg/l	0.500	--	1	09/20/19 13:16	09/21/19 01:29	EPA 3015	1,6010D	AB

Project Name: CYPHER ST. S. BOSTON
Lab Number: L1942594
Project Number: 143-278997-19001
Report Date: 09/23/19

SAMPLE RESULTS

Lab ID: L1942594-06
Client ID: DC123
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/29/19 13:00
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 09/18/19 18:21

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.500	--	1	09/20/19 13:16	09/21/19 01:42	EPA 3015	1,6010D	AB

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1942594

Project Number: 143-278997-19001 **Report Date:** 09/23/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab for sample(s): 01-03 Batch: WG1286095-1										
Lead, TCLP	ND		mg/l	0.500	--	1	09/19/19 11:39	09/20/19 00:57	1,6010D	MC

Prep Information

Digestion Method: EPA 3015

TCLP/SPLP Extraction Date: 09/18/19 05:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab for sample(s): 04-06 Batch: WG1286628-1										
Lead, TCLP	ND		mg/l	0.500	--	1	09/20/19 13:16	09/20/19 23:54	1,6010D	AB

Prep Information

Digestion Method: EPA 3015

TCLP/SPLP Extraction Date: 09/18/19 05:30

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST. S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1942594

Report Date: 09/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-03 Batch: WG1286095-2								
Lead, TCLP	106		-		75-125	-		20
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 04-06 Batch: WG1286628-2								
Lead, TCLP	101		-		75-125	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1942594
Report Date: 09/23/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1286095-3 QC Sample: L1942663-01 Client ID: MS Sample												
Lead, TCLP	ND	5.1	5.13	100		-	-		75-125	-		20
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 04-06 QC Batch ID: WG1286628-3 QC Sample: L1942433-06 Client ID: MS Sample												
Lead, TCLP	ND	5.1	4.95	97		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: CYPHER ST. S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1942594

Report Date: 09/23/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1286095-4 QC Sample: L1942663-01 Client ID: DUP Sample						
Lead, TCLP	ND	ND	mg/l	NC		20
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 04-06 QC Batch ID: WG1286628-4 QC Sample: L1942433-06 Client ID: DUP Sample						
Lead, TCLP	ND	ND	mg/l	NC		20

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1942594
Report Date: 09/23/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
A1	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1942594-01A	Glass 500ml/16oz unpreserved	A	NA		3.6	Y	Absent		-
L1942594-01X	Plastic 120ml HNO3 preserved Extracts	A1	NA		3.3	Y	Absent		PB-CI(180)
L1942594-01X9	Tumble Vessel	A1	NA		3.3	Y	Absent		-
L1942594-02A	Glass 500ml/16oz unpreserved	A1	NA		3.3	Y	Absent		-
L1942594-02X	Plastic 120ml HNO3 preserved Extracts	A1	NA		3.3	Y	Absent		PB-CI(180)
L1942594-02X9	Tumble Vessel	A1	NA		3.3	Y	Absent		-
L1942594-03A	Glass 500ml/16oz unpreserved	A1	NA		3.3	Y	Absent		-
L1942594-03X	Plastic 120ml HNO3 preserved Extracts	A1	NA		3.3	Y	Absent		PB-CI(180)
L1942594-03X9	Tumble Vessel	A1	NA		3.3	Y	Absent		-
L1942594-04A	Glass 500ml/16oz unpreserved	A1	NA		3.3	Y	Absent		-
L1942594-04X	Plastic 120ml HNO3 preserved Extracts	A1	NA		3.3	Y	Absent		PB-CI(180)
L1942594-04X9	Tumble Vessel	A1	NA		3.3	Y	Absent		-
L1942594-05A	Glass 500ml/16oz unpreserved	A1	NA		3.3	Y	Absent		-
L1942594-05X	Plastic 120ml HNO3 preserved Extracts	A1	NA		3.3	Y	Absent		PB-CI(180)
L1942594-05X9	Tumble Vessel	A1	NA		3.3	Y	Absent		-
L1942594-06A	Glass 500ml/16oz unpreserved	A1	NA		3.3	Y	Absent		-
L1942594-06X	Plastic 120ml HNO3 preserved Extracts	A1	NA		3.3	Y	Absent		PB-CI(180)
L1942594-06X9	Tumble Vessel	A1	NA		3.3	Y	Absent		-

*Values in parentheses indicate holding time in days

Project Name:	CYPHER ST. S. BOSTON	**Lab Number:**	L1942594
Project Number:	143-278997-19001	**Report Date:**	09/23/19

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:	CYPHER ST. S. BOSTON	**Lab Number:**	L1942594
Project Number:	143-278997-19001	**Report Date:**	09/23/19

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

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

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 1

Date Rec'd in Lab: 8/26/19

ALPHA Job #: ~~L1936617~~

ALPHA Analytical
8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Project Information

Project Name: Cypress St Boston
Project Location: Cypress St, South Boston
Project #: 143-278997-19001
Project Manager: Mike Billig
ALPHA Quote #:

Report Information - Data Deliverables

☒ ADEx ☒ EMAIL

Billing Information

☒ Same as Client Info PO #:

Client Information

Client: ~~Tetra Tech~~
Address: 100 Nickerson Rd, Marlborough, MA
Phone: 413-272-9539
Email: jon.fiore@tetratech.com

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 _____

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due:

Additional Project Information:

ANALYSIS: ~~TCLP: Pesticides, Herbicides~~ ~~SVOC: 8270 Full List~~ ~~METALS: ☐ MCP 13~~ METALS: ☐ RCRA8 ☐ PP13 ~~EPH: ☐ Range ☐ Target Analytes Only~~ ~~VOC: ☐ MCP 14 ☐ MCP 12~~ ~~TPH: ☐ Quant Only~~ ☐ Fingerprint ~~Hydrocarbon / Petroleum~~ TCLP-Pb

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	TCLP: Pesticides, Herbicides	SVOC: 8270 Full List	METALS: MCP 13	METALS: RCRA8	EPH: Range + Target Analytes Only	PP13	VOC: MCP 14	VOC: MCP 12	TPH: Quant Only	Fingerprint	TCLP-Pb	Sample Comments	Total # Bottles
~~L1936617-01~~	TT-13 (2-4')	8/26/19	1110	Soil	JWF	X	X	X	X	X	X	X	X					7/8
42594-01 02	TT-13 (4-~~4~~4.75')		1120			X	X	X	X	X	X	X	X			X	Hold	
03	TT-14 (0-2')		1200			X	X	X	X	X	X	X	X					
04	TT-14 (4-6')		1220			X	X	X	X	X	X	X	X					5
05	TT-15 (0-2')		1240			X	X	X	X	X	X	X	X					
06	TT-15 (4-6')		1255			X	X	X	X	X	X	X	X					5
07	TT-19 (0-2')		1406			X	X	X	X	X	X	X	X		X			
08	TT-19 (2-4')		1426															

Container Type: P/A
Preservative: H/E

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
[signature]	8/26/19 1445	[signature]	8/26/19 1445
[signature]	8/26/19 1832	[signature]	8/26/19 1835

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 1 OF 2

Date Rec'd in Lab: 8/29/19

ALPHA Job #: ~~L1939381~~

ALPHA Analytical Laboratories
8 Walkup Drive, Westboro, MA 01581, Tel. 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel. 508-822-9300

Project Information

Project Name: Cypher St. S. Boston
Project Location: Cypher St. S Boston
Project #: 143-278997-19001
Project Manager: Mike Billa
ALPHA Quote #:

Report Information - Data Deliverables

☒ ADEx ☒ EMAIL

Billing Information

☒ Same as Client info PO #:

Client Information

Client: Tetra Tech
Address: 100 Nicherson Rd. Marlborough, MA
Phone: 413-272-9537
Email: g.fiore@tetratech.com

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 _____

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)

Date Due:

Additional Project Information:

ANALYSIS: VOC, SVOC, PCBs, Metals, Metals, Metals, EPH, TPH, Pesticides, Herbicides, All haz waste disposal, TCLP-Pb

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	Metals	EPH	TPH	Pesticides	Herbicides	All haz waste disposal	TCLP-Pb	Sample Comments	Total # Bottles
~~39381-01~~	TT-21(0-2')	8/29/19	0900	JWF	Soil	X	X	X		X	X	X					Run for K	7
-02	TT-22a (0-2')		0930			X	X	X		X	X	X	X	X	X		ABN required	7
-03	TT-22a (3')		0945			X	X	X		X	X	X	X	X	X		for disposal	7
-04	Mound Comp		1045			X	X	X		X	X	X	X	X	X		where disposal	7
-05	TT-20A (0-2')		830	KS		X	X	X		X	X	X					analysis	7
42594-02 -06	TT-11 (0-2')		950			X	X	X		X	X	X				X	requested.	7
03 -07	TT-11 (2-4')		1030			X	X	X		X	X	X				X		7
-08	TT-3 (0-2')		1145			X	X	X		X	X	X						7
04 -09	DC1112		1200	JWF		X			X			X	X	X	X	X	Disposal sample Hold	7
05 -10	DC20a18		1230	JWF		X			X			X	X	X	X	X	Disposal sample	7

Container Type: N/A
Preservative: N/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
	8/29/19 1410	AAL	8/29/19 1410
	8/29/19 1850	AAL	8/29/19 1850

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 2

Date Rec'd in Lab: 8/29/19

ALPHA Job #: ~~L1939331~~

ALPHA Analytical Laboratories
8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Project Information

Project Name: Cyphur St. S. Boston
Project Location: Cyphur St. S. Boston
Project #: 145-278997-19001
Project Manager: Mike Gilla
ALPHA Quote #:

Report Information - Data Deliverables

☑ ADEx ☑ EMAIL

Billing Information

☑ Same as Client info | PO #:

Client Information

Client: Tetra Tech
Address: 100 Nickerson Rd, Marlborough, MA 01752
Phone: 413-272-9539
Email: jon.fiore@tetratech.com

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 _____

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved)

Date Due:

Additional Project Information:

ANALYSIS: VOC: ☐ 8260 ☐ 624 ☐ 524.2; SVOC: ☐ ABN ☐ PAH; METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15; METALS: ☐ RCRA ☐ PP13 ☐ 8082; EPH: ☐ Ranges & Targets ☑ Ranges Only; VPH: ☐ Ranges & Targets ☐ Ranges Only; 8100 ☐ RCP ☐ RCP; TPH: ☐ Total ☐ Only ☐ Fingerprint; Lab to do: ☐ Diesel ☐ Diesel w/ Silica Gel; PFAS: ☐ TOP Assay ☐ Total ☐ Extractable ☐ Extractable; SVOCs; TCLP-Pb

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	PAH	EPH	VPH	8100	TPH	Lab to do	PFAS	SVOCs	TCLP-Pb	Sample Comments	TOTAL # BOTTLES
~~31351 H~~ 42594-06	DC123	~~8/29/19~~ 8/29/19	1300	Soil	JWF	X			X		X	X	X	X	X		X	X	Disposal sample - AoCD	7

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

Container Type	A/I																		
Preservative	A/E																		

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	8/29/19 1710	[signature] MAL	8/29/19 1410
[signature]	8/29/19 1850	[signature] MAL	8/29/19 1850

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

ANALYTICAL REPORT

Lab Number:	L1942725
Client:	Tetra Tech Rizzo Marlborough Technology Park 100 Nickerson Road Marlborough, MA 01752
ATTN:	Mike Billa
Phone:	(508) 786-2200
Project Name:	CYPHER ST. S. BOSTON
Project Number:	143-278997-19001
Report Date:	10/01/19

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: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1942725
Report Date: 10/01/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1942725-01	TT-16 (0-2')	SOIL	CYPHER ST. S. BOSTON	08/28/19 08:20	08/28/19
L1942725-02	TT-2 (2.75'-4.75')	SOIL	CYPHER ST. S. BOSTON	08/28/19 12:00	08/28/19
L1942725-03	TT-5 (7-9')	SOIL	CYPHER ST. S. BOSTON	09/04/19 11:30	09/04/19

Project Name:	CYPHER ST. S. BOSTON	**Lab Number:**	L1942725
Project Number:	143-278997-19001	**Report Date:**	10/01/19

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:	CYPHER ST. S. BOSTON	**Lab Number:**	L1942725
Project Number:	143-278997-19001	**Report Date:**	10/01/19

Case Narrative (continued)

Sample Receipt

The element list for metals analysis was specified by the client.

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: Amita Naik

Title: Technical Director/Representative

Date: 10/01/19

METALS

Project Name: CYPHER ST. S. BOSTON
Lab Number: L1942725
Project Number: 143-278997-19001
Report Date: 10/01/19

SAMPLE RESULTS

Lab ID: L1942725-01
Client ID: TT-16 (0-2')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/28/19 08:20
Date Received: 08/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 09/19/19 21:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.500	--	1	09/30/19 13:40	09/30/19 18:34	EPA 3015	1,6010D	AB

Project Name: CYPHER ST. S. BOSTON
Lab Number: L1942725
Project Number: 143-278997-19001
Report Date: 10/01/19

SAMPLE RESULTS

Lab ID: L1942725-02
Client ID: TT-2 (2.75'-4.75')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/28/19 12:00
Date Received: 08/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 09/19/19 21:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.500	--	1	09/30/19 13:40	09/30/19 19:20	EPA 3015	1,6010D	AB

Project Name: CYPHER ST. S. BOSTON
Lab Number: L1942725
Project Number: 143-278997-19001
Report Date: 10/01/19

SAMPLE RESULTS

Lab ID: L1942725-03
Client ID: TT-5 (7-9')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/04/19 11:30
Date Received: 09/04/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 09/19/19 21:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	0.502		mg/l	0.500	--	1	09/30/19 13:40	09/30/19 19:24	EPA 3015	1,6010D	AB
Mercury, TCLP	ND		mg/l	0.0010	--	1	09/30/19 14:37	10/01/19 11:35	EPA 7470A	1,7470A	GD

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1942725

Project Number: 143-278997-19001 **Report Date:** 10/01/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab for sample(s): 01-03 Batch: WG1290259-1										
Lead, TCLP	ND		mg/l	0.500	--	1	09/30/19 13:40	09/30/19 19:03	1,6010D	AB

Prep Information

Digestion Method: EPA 3015

TCLP/SPLP Extraction Date: 09/18/19 05:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab for sample(s): 03 Batch: WG1290307-1										
Mercury, TCLP	ND		mg/l	0.0010	--	1	09/30/19 14:37	10/01/19 11:31	1,7470A	GD

Prep Information

Digestion Method: EPA 7470A

TCLP/SPLP Extraction Date: 09/18/19 05:30

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST. S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1942725

Report Date: 10/01/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-03 Batch: WG1290259-2								
Lead, TCLP	110		-		75-125	-		20
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 03 Batch: WG1290307-2								
Mercury, TCLP	109		-		80-120	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1942725
Report Date: 10/01/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1290259-3 QC Sample: L1942725-01 Client ID: TT-16 (0-2')												
Lead, TCLP	ND	5.1	5.11	100		-	-		75-125	-		20
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 03 QC Batch ID: WG1290307-3 QC Sample: L1942725-03 Client ID: TT-5 (7-9')												
Mercury, TCLP	ND	0.025	0.0269	108		-	-		80-120	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: CYPHER ST. S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1942725

Report Date: 10/01/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1290259-4 QC Sample: L1942725-01 Client ID: TT-16 (0-2')						
Lead, TCLP	ND	ND	mg/l	NC		20
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 03 QC Batch ID: WG1290307-4 QC Sample: L1942725-03 Client ID: TT-5 (7-9')						
Mercury, TCLP	ND	ND	mg/l	NC		20

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1942725
Report Date: 10/01/19

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(*)
L1942725-01A	Glass 500ml/16oz unpreserved	B	NA		2.8	Y	Absent		-
L1942725-01X	Plastic 120ml HNO3 preserved Extracts	B	NA		2.8	Y	Absent		PB-CI(180)
L1942725-01X9	Tumble Vessel	B	NA		2.8	Y	Absent		-
L1942725-02A	Glass 500ml/16oz unpreserved	B	NA		2.8	Y	Absent		-
L1942725-02X	Plastic 120ml HNO3 preserved Extracts	B	NA		2.8	Y	Absent		PB-CI(180)
L1942725-02X9	Tumble Vessel	B	NA		2.8	Y	Absent		-
L1942725-03A	Glass 500ml/16oz unpreserved	A	NA		4.7	Y	Absent		-
L1942725-03X	Plastic 120ml HNO3 preserved Extracts	A	NA		4.7	Y	Absent		HG-C(28),PB-CI(180)
L1942725-03X9	Tumble Vessel	A	NA		4.7	Y	Absent		-

*Values in parentheses indicate holding time in days

Project Name:	CYPHER ST. S. BOSTON	**Lab Number:**	L1942725
Project Number:	143-278997-19001	**Report Date:**	10/01/19

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:	CYPHER ST. S. BOSTON	**Lab Number:**	L1942725
Project Number:	143-278997-19001	**Report Date:**	10/01/19

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:	CYPHER ST. S. BOSTON	**Lab Number:**	L1942725
Project Number:	143-278997-19001	**Report Date:**	10/01/19

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

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 ____ OF ____

Date Rec'd In Lab: 8/28/19

ALPHA Job #: L1939114

ALPHA Analytical Laboratories
8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Client Information

Client: TetraTech
Address: 100 Nickerson Rd. Marlborough, MA
Phone: 412-272-9539
Email: jon.fiore@tetratech.com

Project Information

Project Name: Cypher St. S. Boston
Project Location: Cypher St. S. Boston
Project #: 143-278997-19001
Project Manager: Mike Billa
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due:

Additional Project Information:

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 _____

ANALYSIS: VOC: ☐ 624 ☐ 524 ☐ 524.2; SVOC: ☐ ABN ☒ PAH; METALS: ☐ MCP 13 ☒ MCP 14 ☐ RCP 15; METALS: ☐ RCRA8 ☐ RCRA8 ☐ PP13; EPH: ☐ Ranges & Targets ☒ Ranges Only; VPH: ☐ Ranges & Targets ☒ Ranges Only; ☐ PCB ☐ PEST; TPH: ☐ Quant Only ☐ Fingerprint; PCB Aroclors (Water only); TCLP PB

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	VOC	SVOC	METALS	METALS	EPH	VPH	PCB	TPH	PCB Aroclors	TCLP PB	Sample Comments	Total # Bottles
39114-01	TT-16 (0-2')	8/28/19	0820	Soil	JWF	X	X	X		X	X	X			X		7
-02	TT-1 (0.5-2.5')		0930			X	X	X		X	X	X					7
-03	TT-1 (2.5-4.5')		1000			X	X	X		X	X	X					7
-04	TT-2 (0.75'-2.75')		1145			X	X	X		X	X	X		X			8
42725-02 -05	TT-2 (2.75'-4.75')		1200			X	X	X		X	X	X			X		7

SAMPLE INFO
Filtration
☐ Field
☐ Lab to do
Preservation
☐ Lab to do

Container Type: VA
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
[signature]	8/28/19 1405	[signature] ALL	8/28/19 1405
[signature]	8/28/19 1848	[signature] ALL	8/28/19 1848

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 1 OF 1

Date Rec'd in Lab: 9/4/19

ALPHA Job #: L1940180

ALPHA Analytical Laboratories
8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Project Information

Project Name: Cypher St. S. Boston
Project Location: Cypher St. S. Boston
Project #: 143-278997-19001
Project Manager: Mike Billa
ALPHA Quote #:

Report Information - Data Deliverables

☒ ADEx ☒ EMAIL

Billing Information

☒ Same as Client Info PO #:

Client Information

Client: Tetra Tech
Address: 100 Nickelson Rd. Marlborough, MA
Phone: 413-272-9534
Email: jon.frono@tetratech.com

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 _____

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)

Date Due:

Additional Project Information:

ANALYSIS: VOC-☒8260 ☐624 ☐524.2; SVOC: ☐7081 ☒PAH; METALS: ☐MCP-13 ☒MCP-14 ☐RCRA ☐RCRA ☐RGP-15 ☐PP13; EPH: ☐Ranges & Targets ☒ Ranges Only; VPH: ☐Ranges & Targets ☒ Ranges Only; ☐PCB ☐PEST; TPH: ☐Quant Only ☐Fingerprint; PAH; Total Metals; PCBs; TCLP PB

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	EPH	VPH	PCB	TCLP PB	Total Metals	Sample Comments	Total # Bottles
~~L0180-01~~	TT-4 (8-10')	9/4/19	1000	Soil	JWF	X	X	X	X	X	X				7
42725-03-02	TT-5 (7-9')	↓	1130	Soil	↓	X	X	X	X	X	X		X		7
-03	TT-5/GW	↓	1230	GW	↓							X	X		4

Container Type: A/P/V | A/P | A/P
Preservative: A/P | DIB

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
[signature]	9/4/19 1425	[signature]	9/4/19 1425
[signature]	9/4/19 1725	[signature]	9/4/19 1725

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

ANALYTICAL REPORT

Lab Number:	L1943327
Client:	Tetra Tech Rizzo Marlborough Technology Park 100 Nickerson Road Marlborough, MA 01752
ATTN:	Mike Billa
Phone:	(508) 786-2200
Project Name:	CYPHER ST. S. BOSTON
Project Number:	143-278997-19001
Report Date:	09/26/19

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: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1943327
Report Date: 09/26/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1943327-01	TT-20A (8-10')	SOIL	CYPHER ST. S. BOSTON	09/03/19 09:00	09/03/19
L1943327-02	TT-18 (8-10')	SOIL	CYPHER ST. S. BOSTON	09/03/19 10:30	09/03/19
L1943327-03	DC1820DEEP	SOIL	CYPHER ST. S. BOSTON	09/03/19 12:00	09/03/19
L1943327-04	TT-15 (8-10')	SOIL	CYPHER ST. S. BOSTON	09/03/19 13:00	09/03/19
L1943327-05	TT-14 (8-10')	SOIL	CYPHER ST. S. BOSTON	09/05/19 09:30	09/05/19
L1943327-06	TT-16 (8-10')	SOIL	CYPHER ST. S. BOSTON	09/05/19 10:00	09/05/19
L1943327-07	TT-10 (7-10')	SOIL	CYPHER ST. S. BOSTON	09/05/19 11:45	09/05/19
L1943327-08	TT-8 (1.5-3.5')	SOIL	CYPHER ST. S. BOSTON	08/30/19 10:30	08/30/19
L1943327-09	TT-9 (2-4')	SOIL	CYPHER ST. S. BOSTON	08/30/19 12:00	08/30/19

Project Name:	CYPHER ST. S. BOSTON	**Lab Number:**	L1943327
Project Number:	143-278997-19001	**Report Date:**	09/26/19

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.

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: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 09/26/19

METALS

Project Name: CYPHER ST. S. BOSTON
Lab Number: L1943327
Project Number: 143-278997-19001
Report Date: 09/26/19

SAMPLE RESULTS

Lab ID: L1943327-01
Client ID: TT-20A (8-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/03/19 09:00
Date Received: 09/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 09/19/19 23:57

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	2.14		mg/l	0.500	--	1	09/23/19 21:36	09/25/19 21:36	EPA 3015	1,6010D	AB

Project Name: CYPHER ST. S. BOSTON
Lab Number: L1943327
Project Number: 143-278997-19001
Report Date: 09/26/19

SAMPLE RESULTS

Lab ID: L1943327-02
Client ID: TT-18 (8-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/03/19 10:30
Date Received: 09/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 09/19/19 23:57

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	1.13		mg/l	0.500	--	1	09/23/19 21:36	09/25/19 22:33	EPA 3015	1,6010D	AB
Mercury, TCLP	ND		mg/l	0.0010	--	1	09/25/19 12:55	09/25/19 23:21	EPA 7470A	1,7470A	AL

Project Name: CYPHER ST. S. BOSTON
Lab Number: L1943327
Project Number: 143-278997-19001
Report Date: 09/26/19

SAMPLE RESULTS

Lab ID: L1943327-03
Client ID: DC1820DEEP
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/03/19 12:00
Date Received: 09/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 09/19/19 23:57

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	1.74		mg/l	0.500	--	1	09/23/19 21:36	09/25/19 22:37	EPA 3015	1,6010D	AB

Project Name: CYPHER ST. S. BOSTON
Lab Number: L1943327
Project Number: 143-278997-19001
Report Date: 09/26/19

SAMPLE RESULTS

Lab ID: L1943327-04
Client ID: TT-15 (8-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/03/19 13:00
Date Received: 09/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 09/19/19 23:57

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	0.562		mg/l	0.500	--	1	09/23/19 21:36	09/25/19 22:42	EPA 3015	1,6010D	AB
Mercury, TCLP	ND		mg/l	0.0010	--	1	09/25/19 12:55	09/25/19 23:26	EPA 7470A	1,7470A	AL

Project Name: CYPHER ST. S. BOSTON
Lab Number: L1943327
Project Number: 143-278997-19001
Report Date: 09/26/19

SAMPLE RESULTS

Lab ID: L1943327-05
Client ID: TT-14 (8-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/05/19 09:30
Date Received: 09/05/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 09/19/19 23:57

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	1.14		mg/l	0.500	--	1	09/23/19 21:36	09/25/19 22:59	EPA 3015	1,6010D	AB
Mercury, TCLP	ND		mg/l	0.0010	--	1	09/25/19 12:55	09/25/19 23:28	EPA 7470A	1,7470A	AL

Project Name: CYPHER ST. S. BOSTON
Lab Number: L1943327
Project Number: 143-278997-19001
Report Date: 09/26/19

SAMPLE RESULTS

Lab ID: L1943327-06
Client ID: TT-16 (8-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/05/19 10:00
Date Received: 09/05/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 09/19/19 23:57

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	0.621		mg/l	0.500	--	1	09/23/19 21:36	09/25/19 23:04	EPA 3015	1,6010D	AB
Mercury, TCLP	ND		mg/l	0.0010	--	1	09/25/19 12:55	09/25/19 23:33	EPA 7470A	1,7470A	AL

Project Name: CYPHER ST. S. BOSTON
Lab Number: L1943327
Project Number: 143-278997-19001
Report Date: 09/26/19

SAMPLE RESULTS

Lab ID: L1943327-07
Client ID: TT-10 (7-10')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 09/05/19 11:45
Date Received: 09/05/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 09/19/19 23:57

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	22.4		mg/l	0.500	--	1	09/23/19 21:36	09/25/19 23:08	EPA 3015	1,6010D	AB

Project Name: CYPHER ST. S. BOSTON
Lab Number: L1943327
Project Number: 143-278997-19001
Report Date: 09/26/19

SAMPLE RESULTS

Lab ID: L1943327-08
Client ID: TT-8 (1.5-3.5')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/30/19 10:30
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 09/19/19 23:57

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	1.11		mg/l	0.500	--	1	09/23/19 21:36	09/25/19 23:13	EPA 3015	1,6010D	AB

Project Name: CYPHER ST. S. BOSTON
Lab Number: L1943327
Project Number: 143-278997-19001
Report Date: 09/26/19

SAMPLE RESULTS

Lab ID: L1943327-09
Client ID: TT-9 (2-4')
Sample Location: CYPHER ST. S. BOSTON

Date Collected: 08/30/19 12:00
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

TCLP/SPLP Ext. Date: 09/19/19 23:57

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	86.8		mg/l	0.500	--	1	09/23/19 21:36	09/25/19 23:17	EPA 3015	1,6010D	AB

Project Name: CYPHER ST. S. BOSTON **Lab Number:** L1943327

Project Number: 143-278997-19001 **Report Date:** 09/26/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab for sample(s): 01-09 Batch: WG1287542-1										
Lead, TCLP	ND		mg/l	0.500	--	1	09/23/19 21:36	09/25/19 20:21	1,6010D	AB

Prep Information

Digestion Method: EPA 3015

TCLP/SPLP Extraction Date: 09/19/19 23:57

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab for sample(s): 02,04-06 Batch: WG1288434-1										
Mercury, TCLP	ND		mg/l	0.0010	--	1	09/25/19 12:55	09/25/19 23:18	1,7470A	AL

Prep Information

Digestion Method: EPA 7470A

TCLP/SPLP Extraction Date: 09/19/19 23:57

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST. S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1943327

Report Date: 09/26/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-09 Batch: WG1287542-2								
Lead, TCLP	95		-		75-125	-		20
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 02,04-06 Batch: WG1288434-2								
Mercury, TCLP	93		-		80-120	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1943327
Report Date: 09/26/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG1287542-3 QC Sample: L1943327-01 Client ID: TT-20A (8-10')												
Lead, TCLP	2.14	5.1	7.38	103		-	-		75-125	-		20
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 02,04-06 QC Batch ID: WG1288434-3 QC Sample: L1943327-02 Client ID: TT-18 (8-10')												
Mercury, TCLP	ND	0.025	0.0241	96		-	-		80-120	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: CYPHER ST. S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1943327

Report Date: 09/26/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG1287542-4 QC Sample: L1943327-01 Client ID: TT-20A (8-10')						
Lead, TCLP	2.14	2.17	mg/l	1		20
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 02,04-06 QC Batch ID: WG1288434-4 QC Sample: L1943327-02 Client ID: TT-18 (8-10')						
Mercury, TCLP	ND	ND	mg/l	NC		20

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1943327
Report Date: 09/26/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
A1	Absent
A2	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1943327-01A	Glass 500ml/16oz unpreserved	A	NA		2.6	Y	Absent		-
L1943327-01X	Plastic 120ml HNO3 preserved Extracts	A	NA		2.6	Y	Absent		PB-CI(180)
L1943327-01X9	Tumble Vessel	A	NA		2.6	Y	Absent		-
L1943327-02A	Glass 500ml/16oz unpreserved	A	NA		2.6	Y	Absent		-
L1943327-02X	Plastic 120ml HNO3 preserved Extracts	A	NA		2.6	Y	Absent		HG-C(28),PB-CI(180)
L1943327-02X9	Tumble Vessel	A	NA		2.6	Y	Absent		-
L1943327-03A	Glass 500ml/16oz unpreserved	A	NA		2.6	Y	Absent		-
L1943327-03X	Plastic 120ml HNO3 preserved Extracts	A	NA		2.6	Y	Absent		PB-CI(180)
L1943327-03X9	Tumble Vessel	A	NA		2.6	Y	Absent		-
L1943327-04A	Glass 500ml/16oz unpreserved	A	NA		2.6	Y	Absent		-
L1943327-04X	Plastic 120ml HNO3 preserved Extracts	A	NA		2.6	Y	Absent		HG-C(28),PB-CI(180)
L1943327-04X9	Tumble Vessel	A	NA		2.6	Y	Absent		-
L1943327-05A	Glass 500ml/16oz unpreserved	A1	NA		4.1	Y	Absent		-
L1943327-05X	Plastic 120ml HNO3 preserved Extracts	A1	NA		4.1	Y	Absent		HG-C(28),PB-CI(180)
L1943327-05X9	Tumble Vessel	A1	NA		4.1	Y	Absent		-
L1943327-06A	Glass 500ml/16oz unpreserved	A1	NA		4.1	Y	Absent		-
L1943327-06X	Plastic 120ml HNO3 preserved Extracts	A1	NA		4.1	Y	Absent		HG-C(28),PB-CI(180)
L1943327-06X9	Tumble Vessel	A1	NA		4.1	Y	Absent		-
L1943327-07A	Glass 500ml/16oz unpreserved	A1	NA		4.1	Y	Absent		-
L1943327-07X	Plastic 120ml HNO3 preserved Extracts	A1	NA		4.1	Y	Absent		PB-CI(180)
L1943327-07X9	Tumble Vessel	A1	NA		4.1	Y	Absent		-

*Values in parentheses indicate holding time in days

Project Name: CYPHER ST. S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1943327
Report Date: 09/26/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1943327-08A	Glass 500ml/16oz unpreserved	A2	NA		5.5	Y	Absent		-
L1943327-08X	Plastic 120ml HNO3 preserved Extracts	A2	NA		5.5	Y	Absent		PB-CI(180)
L1943327-08X9	Tumble Vessel	A2	NA		5.5	Y	Absent		-
L1943327-09A	Glass 500ml/16oz unpreserved	A2	NA		5.5	Y	Absent		-
L1943327-09X	Plastic 120ml HNO3 preserved Extracts	A2	NA		5.5	Y	Absent		PB-CI(180)
L1943327-09X9	Tumble Vessel	A2	NA		5.5	Y	Absent		-

*Values in parentheses indicate holding time in days

Project Name:	CYPHER ST. S. BOSTON	**Lab Number:**	L1943327
Project Number:	143-278997-19001	**Report Date:**	09/26/19

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:	CYPHER ST. S. BOSTON	**Lab Number:**	L1943327
Project Number:	143-278997-19001	**Report Date:**	09/26/19

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:	CYPHER ST. S. BOSTON	**Lab Number:**	L1943327
Project Number:	143-278997-19001	**Report Date:**	09/26/19

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

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.

Serial_No:09261913:06

L1943327 JM 9/19/19

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 9/3/19

ALPHA Job #: ~~L1939976~~

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: Tetra Tech

Address: 100 Nickerson Rd. Marlborough, MA

Phone: 413-272-9539

Email: gnfiore@tetratech.com

Additional Project Information:

Project Information

Project Name: Cypher St, S. Boston

Project Location: Cypher St, S. Boston

Project #: 143-278997-19001

Project Manager: Mike Billa

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 _____

ANALYSIS: ~~VOC: ☐8260 ☐624 ☐524~~; ~~SVOC: ☐ABN ☐8270~~; ~~METALS: ☐RCRA8 ☐PP13~~; METALS: ☐RCRA8 ☐PP13; ~~EPH: ☐Ranges ☐Ranges & Targets~~; ~~VPH: ☐Ranges ☐Ranges & Targets~~; ~~TPH: ☐GRO ☐DRO~~; TPH: ☐Quant Only ☐Fingerprint; ~~PAH: ☐8270 ☐8310~~; TCLP-Pb; TCLP-Hg

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: RCRA8	EPH	VPH	PAH	TPH: Quant Only	Fingerprint	TCLP-Pb	TCLP-Hg	Sample Comments	TOTAL # BOTTLES
~~L1939976~~-01	TT-20a (8-10')	9/3/19	0900	Soil	JWK	X	X	X		X	X	X			X			7
43327- -02	TT-18 (8-10')		1030			X	X	X		X	X	X			X	X		7
-03	DC1820deep		1200				X	X		X		X			X		Hold	1
-04	TT-15 (8-10')		1300			X	X	X		X	X	X			X	X		7
~~-05~~	TT-18/OW			GW										X				30?

Container Type: P/A

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
[signature]	9/3/19 1505	[signature]	9/3/19 1605

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 1 OF 1

Date Rec'd in Lab: 9/5/19

ALPHA Job #: ~~L1943491~~

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: Tetra Tech
Address: 100 Nickerson Rd. Marlborough, MA
Phone: 413-272-9539
Email: jon.fiore@tetratech.com

Additional Project Information:

43327-05

Project Information

Project Name: Cypher St. S. Boston
Project Location: Cypher St. S. Boston
Project #: 143-278997-19001
Project Manager: Mike Billa
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 _____

ANALYSIS: VOC-8260 ☐ 624 ☐ 524.2; SVOC-8270 ☐ 625; METALS: ☐ RCRA8 ☐ RCRA5 ☐ PP13; EPH: ☐ Ranges Only ☐ Ranges & Targets; VPH: ☐ Ranges Only ☐ Ranges & Targets; TPH: ☐ Quant Only ☐ Fingerprint; TCLP-Pb; TCLP-Hg

SAMPLE INFO: Filtration ☐ Lab to do; Preservation ☐ Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	VOC-8260	SVOC-8270	METALS	RCRA8	PP13	EPH	TPH	TCLP-Pb	TCLP-Hg	Sample Comments	TOTAL # BOTTLES
~~01 ~~ 01~~	TT-14 (8-10')	9/5/19	0930	Soil	JWF	X	X	X	X	X	X		X	X		7
06 -02	TT-16 (8-10')		1000			X	X	X	X	X	X		X	X		7
07 -03	TT-10 (7-10')		1145			X	X	X	X	X	X		X			7
-04	Drum #1		1330			X		X			X	X X X X				7
	~~Drum #2~~		1345	Water		X					X					6

Container Type: P/A/V
Preservative: N/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
[signature]	9/5/19 1505	[signature]	9/5/19 1505

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

Serial_No:09261913:06
L1943327 JM 9/19/19

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 8/30/19

ALPHA Job #: ~~L1943327~~

ALPHA

8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Client Information

Client: Tetra Tech
Address: 100 Nickerson Rd. Marlborough, MA
Phone: 413-272-9539
Email: jon.fiore@tetratech.com

Project Information

Project Name: Cypher St. S. Boston
Project Location: Cypher St. S. Boston
Project #: 143-278997-19001
Project Manager: Mike Billig
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:

ANALYSIS: ~~TOC~~, ~~Phenols~~, ~~8260~~, ~~8021~~, ~~8260~~, ~~METALS: ☐ MCP 13~~, ~~METALS: ☐ RCRA 8~~, ~~☐ RCRA 8~~, ☐ PP13, ~~Pesticides Only~~, ~~Herbicides Only~~, ~~TPH ☐ Quant only~~, ~~TPH ☐ Quant only~~, ~~Petroleum Hydrocarbons~~, ~~TCLP-Pb~~, ~~TCLP-Cd~~, ~~TCLP-Cr~~, ~~TCLP-Ni~~, ~~TCLP-Zn~~, ~~TCLP-Cu~~, ~~TCLP-Ag~~, ~~TCLP-Se~~, ~~TCLP-As~~, ~~TCLP-Ba~~, ~~TCLP-Hg~~, ~~TCLP-Sb~~, ~~TCLP-Be~~, ~~TCLP-Tl~~, ~~TCLP-Mo~~, ~~TCLP-Sn~~, ~~TCLP-V~~, ~~TCLP-Cl~~, ~~TCLP-F~~, ~~TCLP-NO3~~, ~~TCLP-NO2~~, ~~TCLP-SO4~~, ~~TCLP-PO4~~, ~~TCLP-CN~~, ~~TCLP-S~~, ~~TCLP-Hg~~, ~~TCLP-Cr6~~, ~~TCLP-Cr3~~, ~~TCLP-Fe~~, ~~TCLP-Mn~~, ~~TCLP-Al~~, ~~TCLP-Ca~~, ~~TCLP-Mg~~, ~~TCLP-K~~, ~~TCLP-Na~~, ~~TCLP-Li~~, ~~TCLP-Sr~~, ~~TCLP-Ti~~, ~~TCLP-B~~, ~~TCLP-Si~~, ~~TCLP-Zr~~, ~~TCLP-Ce~~, ~~TCLP-La~~, ~~TCLP-Y~~, ~~TCLP-Nd~~, ~~TCLP-Pr~~, ~~TCLP-Sm~~, ~~TCLP-Eu~~, ~~TCLP-Gd~~, ~~TCLP-Tb~~, ~~TCLP-Dy~~, ~~TCLP-Ho~~, ~~TCLP-Er~~, ~~TCLP-Tm~~, ~~TCLP-Yb~~, ~~TCLP-Lu~~, ~~TCLP-Th~~, ~~TCLP-U~~, ~~TCLP-Pa~~, ~~TCLP-Np~~, ~~TCLP-Pu~~, ~~TCLP-Am~~, ~~TCLP-Cm~~, ~~TCLP-Bk~~, ~~TCLP-Cf~~, ~~TCLP-Es~~, ~~TCLP-Fm~~, ~~TCLP-Md~~, ~~TCLP-No~~, ~~TCLP-Lr~~, ~~TCLP-Rf~~, ~~TCLP-Db~~, ~~TCLP-Sg~~, ~~TCLP-Bh~~, ~~TCLP-Hs~~, ~~TCLP-Mt~~, ~~TCLP-Ds~~, ~~TCLP-Rg~~, ~~TCLP-Cn~~, ~~TCLP-Nh~~, ~~TCLP-Fl~~, ~~TCLP-Mc~~, ~~TCLP-Lv~~, ~~TCLP-Ts~~, ~~TCLP-Og~~

SAMPLE INFO: TCLP-Pb
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
~~L1943327~~-01	TT-5 (4.5-6')	8/30/19	0845	Soil	JWF		7
-02	TT-8 (0.75-1.25')		1000				1
43327-08 -03	TT-8 (1.5-3.5')		1030			X	1
09 -04	TT-9 (2-4')		1200			X	7
-05	TT-9 (4-5')		1245				7

Container Type: P/A
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
[signature]	8/29/19 1500	[signature]	8/30/19 1500
[signature]	8/30/19 1720	[signature]	8/30/19 1720

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

ANALYTICAL REPORT

Lab Number:	L1940180
Client:	Tetra Tech Rizzo Marlborough Technology Park 100 Nickerson Road Marlborough, MA 01752
ATTN:	Mike Billa
Phone:	(508) 786-2200
Project Name:	CYPHER ST., S. BOSTON
Project Number:	143-278997-19001
Report Date:	09/16/19

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

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

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940180
Report Date: 09/16/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1940180-01	TT-4 (8-10')	SOIL	CYPHER ST., S. BOSTON	09/04/19 10:00	09/04/19
L1940180-02	TT-5 (7-9')	SOIL	CYPHER ST., S. BOSTON	09/04/19 11:30	09/04/19
L1940180-03	TT-5/OW	WATER	CYPHER ST., S. BOSTON	09/04/19 12:30	09/04/19

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1940180

Project Number: 143-278997-19001 **Report Date:** 09/16/19

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?	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:	CYPHER ST., S. BOSTON	**Lab Number:**	L1940180
Project Number:	143-278997-19001	**Report Date:**	09/16/19

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:	CYPHER ST., S. BOSTON	**Lab Number:**	L1940180
Project Number:	143-278997-19001	**Report Date:**	09/16/19

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

L1940180-03: The sample was received above the appropriate pH for the Total Metals analysis. The laboratory added additional HNO3 to a pH <2.

In reference to question H:

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

Volatile Organics

In reference to question H:

The initial calibration, associated with L1940180-01 and -02, 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 continuing calibration standard, associated with L1940180-01 and -02, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

PAHs

In reference to question I:

All samples were analyzed for a subset of MCP analytes per client request.

VPH

In reference to question H:

The surrogate recoveries for the following samples are above the acceptance criteria. Since the samples were non-detect for all target analytes, re-analysis was not required:

L1940180-01: 2,5-dibromotoluene-pid (131%) and 2,5-dibromotoluene-fid (131%)

L1940180-02: 2,5-dibromotoluene-pid (136%) and 2,5-dibromotoluene-fid (138%)

In reference to question I:

Project Name:	CYPHER ST., S. BOSTON	**Lab Number:**	L1940180
Project Number:	143-278997-19001	**Report Date:**	09/16/19

Case Narrative (continued)

All samples were analyzed for a subset of MCP analytes per client request.

EPH

L1940180-03: The sample has elevated detection limits due to limited sample volume available for analysis.

In reference to question G:

L1940180-03: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The WG1281663-2/-3 LCS/LCSD RPDs, associated with L1940180-01 and -02, are above the acceptance criteria for naphthalene (26%) and indeno(1,2,3-cd)pyrene (29%).

The WG1283120-2/-3 LCS/LCSD RPD, associated with L1940180-03, is above the acceptance criteria for c11-c22 aromatics (29%).

In reference to question I:

L1940180-01 and -02 were analyzed for a subset of MCP analytes per client request.

PCBs

L1940180-03: The sample has elevated detection limits due to limited sample volume available for analysis.

In reference to question G:

L1940180-03: One or more of the target analytes did not achieve the requested CAM reporting limits.

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: 09/16/19

QC OUTLIER SUMMARY REPORT

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940180
Report Date: 09/16/19

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
Extractable Petroleum Hydrocarbons - Westborough Lab								
EPH-04-1.1	Batch QC	WG1281663-3	Naphthalene	LCSD	26	25	01-02	non-directional bias
EPH-04-1.1	Batch QC	WG1281663-3	Indeno(1,2,3-cd)Pyrene	LCSD	29	25	01-02	non-directional bias
EPH-04-1.1	Batch QC	WG1283120-3	C11-C22 Aromatics	LCSD	29	25	03	non-directional bias
Volatile Petroleum Hydrocarbons - Westborough Lab								
VPH-18-2.1	TT-4 (8-10')	L1940180-01	2,5-Dibromotoluene-PID	Surrogate	131	70-130	-	potential high bias
VPH-18-2.1	TT-4 (8-10')	L1940180-01	2,5-Dibromotoluene-FID	Surrogate	131	70-130	-	potential high bias
VPH-18-2.1	TT-5 (7-9')	L1940180-02	2,5-Dibromotoluene-PID	Surrogate	136	70-130	-	potential high bias
VPH-18-2.1	TT-5 (7-9')	L1940180-02	2,5-Dibromotoluene-FID	Surrogate	138	70-130	-	potential high bias

ORGANICS

VOLATILES

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1940180

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID: L1940180-01
Client ID: TT-4 (8-10')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 09/04/19 10:00
Date Received: 09/04/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/13/19 11:21
Analyst: JC
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	4.1	--	1
1,1-Dichloroethane	ND		ug/kg	0.82	--	1
Chloroform	ND		ug/kg	1.2	--	1
Carbon tetrachloride	ND		ug/kg	0.82	--	1
1,2-Dichloropropane	ND		ug/kg	0.82	--	1
Dibromochloromethane	ND		ug/kg	0.82	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.82	--	1
Tetrachloroethene	ND		ug/kg	0.41	--	1
Chlorobenzene	ND		ug/kg	0.41	--	1
Trichlorofluoromethane	ND		ug/kg	3.3	--	1
1,2-Dichloroethane	ND		ug/kg	0.82	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.41	--	1
Bromodichloromethane	ND		ug/kg	0.41	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.82	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.41	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.41	--	1
1,1-Dichloropropene	ND		ug/kg	0.41	--	1
Bromoform	ND		ug/kg	3.3	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.41	--	1
Benzene	ND		ug/kg	0.41	--	1
Toluene	ND		ug/kg	0.82	--	1
Ethylbenzene	ND		ug/kg	0.82	--	1
Chloromethane	ND		ug/kg	3.3	--	1
Bromomethane	ND		ug/kg	1.6	--	1
Vinyl chloride	ND		ug/kg	0.82	--	1
Chloroethane	ND		ug/kg	1.6	--	1
1,1-Dichloroethene	ND		ug/kg	0.82	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.2	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1940180

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID: L1940180-01 Date Collected: 09/04/19 10:00

Client ID: TT-4 (8-10') Date Received: 09/04/19

Sample Location: CYPHER ST., S. BOSTON 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	0.41	--	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	0.82	--	1
Xylenes, Total	ND		ug/kg	0.82	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.82	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.82	--	1
Dibromomethane	ND		ug/kg	1.6	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.6	--	1
Styrene	ND		ug/kg	0.82	--	1
Dichlorodifluoromethane	ND		ug/kg	8.2	--	1
Acetone	20		ug/kg	8.2	--	1
Carbon disulfide	ND		ug/kg	8.2	--	1
Methyl ethyl ketone	ND		ug/kg	8.2	--	1
Methyl isobutyl ketone	ND		ug/kg	8.2	--	1
2-Hexanone	ND		ug/kg	8.2	--	1
Bromochloromethane	ND		ug/kg	1.6	--	1
Tetrahydrofuran	ND		ug/kg	3.3	--	1
2,2-Dichloropropane	ND		ug/kg	1.6	--	1
1,2-Dibromoethane	ND		ug/kg	0.82	--	1
1,3-Dichloropropane	ND		ug/kg	1.6	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.41	--	1
Bromobenzene	ND		ug/kg	1.6	--	1
n-Butylbenzene	ND		ug/kg	0.82	--	1
sec-Butylbenzene	ND		ug/kg	0.82	--	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	2.5	--	1
Hexachlorobutadiene	ND		ug/kg	3.3	--	1
Isopropylbenzene	ND		ug/kg	0.82	--	1
p-Isopropyltoluene	ND		ug/kg	0.82	--	1
Naphthalene	ND		ug/kg	3.3	--	1
n-Propylbenzene	ND		ug/kg	0.82	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1940180

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID: L1940180-01 Date Collected: 09/04/19 10:00

Client ID: TT-4 (8-10') Date Received: 09/04/19

Sample Location: CYPHER ST., S. BOSTON 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	66	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	95		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1940180

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID: L1940180-02
Client ID: TT-5 (7-9')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 09/04/19 11:30
Date Received: 09/04/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 09/13/19 11:45
Analyst: JC
Percent Solids: 74%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	6.9	--	1
1,1-Dichloroethane	ND		ug/kg	1.4	--	1
Chloroform	ND		ug/kg	2.1	--	1
Carbon tetrachloride	ND		ug/kg	1.4	--	1
1,2-Dichloropropane	ND		ug/kg	1.4	--	1
Dibromochloromethane	ND		ug/kg	1.4	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.4	--	1
Tetrachloroethene	ND		ug/kg	0.69	--	1
Chlorobenzene	ND		ug/kg	0.69	--	1
Trichlorofluoromethane	ND		ug/kg	5.5	--	1
1,2-Dichloroethane	ND		ug/kg	1.4	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.69	--	1
Bromodichloromethane	ND		ug/kg	0.69	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.4	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.69	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.69	--	1
1,1-Dichloropropene	ND		ug/kg	0.69	--	1
Bromoform	ND		ug/kg	5.5	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.69	--	1
Benzene	ND		ug/kg	0.69	--	1
Toluene	ND		ug/kg	1.4	--	1
Ethylbenzene	ND		ug/kg	1.4	--	1
Chloromethane	ND		ug/kg	5.5	--	1
Bromomethane	ND		ug/kg	2.8	--	1
Vinyl chloride	ND		ug/kg	1.4	--	1
Chloroethane	ND		ug/kg	2.8	--	1
1,1-Dichloroethene	ND		ug/kg	1.4	--	1
trans-1,2-Dichloroethene	ND		ug/kg	2.1	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1940180

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID: L1940180-02 Date Collected: 09/04/19 11:30

Client ID: TT-5 (7-9') Date Received: 09/04/19

Sample Location: CYPHER ST., S. BOSTON 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	0.69	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.8	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.8	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.8	--	1
Methyl tert butyl ether	ND		ug/kg	2.8	--	1
p/m-Xylene	ND		ug/kg	2.8	--	1
o-Xylene	ND		ug/kg	1.4	--	1
Xylenes, Total	ND		ug/kg	1.4	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.4	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.4	--	1
Dibromomethane	ND		ug/kg	2.8	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.8	--	1
Styrene	ND		ug/kg	1.4	--	1
Dichlorodifluoromethane	ND		ug/kg	14	--	1
Acetone	140		ug/kg	14	--	1
Carbon disulfide	ND		ug/kg	14	--	1
Methyl ethyl ketone	23		ug/kg	14	--	1
Methyl isobutyl ketone	ND		ug/kg	14	--	1
2-Hexanone	ND		ug/kg	14	--	1
Bromochloromethane	ND		ug/kg	2.8	--	1
Tetrahydrofuran	ND		ug/kg	5.5	--	1
2,2-Dichloropropane	ND		ug/kg	2.8	--	1
1,2-Dibromoethane	ND		ug/kg	1.4	--	1
1,3-Dichloropropane	ND		ug/kg	2.8	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.69	--	1
Bromobenzene	ND		ug/kg	2.8	--	1
n-Butylbenzene	ND		ug/kg	1.4	--	1
sec-Butylbenzene	ND		ug/kg	1.4	--	1
tert-Butylbenzene	ND		ug/kg	2.8	--	1
o-Chlorotoluene	ND		ug/kg	2.8	--	1
p-Chlorotoluene	ND		ug/kg	2.8	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	4.1	--	1
Hexachlorobutadiene	ND		ug/kg	5.5	--	1
Isopropylbenzene	ND		ug/kg	1.4	--	1
p-Isopropyltoluene	ND		ug/kg	1.4	--	1
Naphthalene	ND		ug/kg	5.5	--	1
n-Propylbenzene	ND		ug/kg	1.4	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1940180

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID: L1940180-02 Date Collected: 09/04/19 11:30

Client ID: TT-5 (7-9') Date Received: 09/04/19

Sample Location: CYPHER ST., S. BOSTON 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	2.8	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.8	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.8	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.8	--	1
Diethyl ether	ND		ug/kg	2.8	--	1
Diisopropyl Ether	ND		ug/kg	2.8	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.8	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.8	--	1
1,4-Dioxane	ND		ug/kg	110	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	95		70-130

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1940180
Project Number: 143-278997-19001 **Report Date:** 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/13/19 07:39
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-02 Batch: WG1283962-5					
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: CYPHER ST., S. BOSTON **Lab Number:** L1940180
Project Number: 143-278997-19001 **Report Date:** 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/13/19 07:39
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-02 Batch: WG1283962-5					
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: CYPHER ST., S. BOSTON **Lab Number:** L1940180

Project Number: 143-278997-19001 **Report Date:** 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/13/19 07:39
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-02 Batch: WG1283962-5					
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	102		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	91		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

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): 01-02 Batch: WG1283962-3 WG1283962-4								
Methylene chloride	89		88		70-130	1		20
1,1-Dichloroethane	105		104		70-130	1		20
Chloroform	101		101		70-130	0		20
Carbon tetrachloride	104		105		70-130	1		20
1,2-Dichloropropane	101		101		70-130	0		20
Dibromochloromethane	101		102		70-130	1		20
1,1,2-Trichloroethane	94		97		70-130	3		20
Tetrachloroethene	104		102		70-130	2		20
Chlorobenzene	103		103		70-130	0		20
Trichlorofluoromethane	107		104		70-130	3		20
1,2-Dichloroethane	101		102		70-130	1		20
1,1,1-Trichloroethane	107		106		70-130	1		20
Bromodichloromethane	102		102		70-130	0		20
trans-1,3-Dichloropropene	101		102		70-130	1		20
cis-1,3-Dichloropropene	98		98		70-130	0		20
1,1-Dichloropropene	104		104		70-130	0		20
Bromoform	87		91		70-130	4		20
1,1,2,2-Tetrachloroethane	97		100		70-130	3		20
Benzene	100		99		70-130	1		20
Toluene	102		102		70-130	0		20
Ethylbenzene	105		105		70-130	0		20
Chloromethane	127		126		70-130	1		20
Bromomethane	100		95		70-130	5		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

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): 01-02 Batch: WG1283962-3 WG1283962-4								
Vinyl chloride	108		107		70-130	1		20
Chloroethane	97		95		70-130	2		20
1,1-Dichloroethene	101		100		70-130	1		20
trans-1,2-Dichloroethene	101		100		70-130	1		20
Trichloroethene	103		101		70-130	2		20
1,2-Dichlorobenzene	99		101		70-130	2		20
1,3-Dichlorobenzene	102		104		70-130	2		20
1,4-Dichlorobenzene	102		104		70-130	2		20
Methyl tert butyl ether	89		89		70-130	0		20
p/m-Xylene	106		106		70-130	0		20
o-Xylene	103		103		70-130	0		20
cis-1,2-Dichloroethene	98		97		70-130	1		20
Dibromomethane	94		96		70-130	2		20
1,2,3-Trichloropropane	95		98		70-130	3		20
Styrene	104		105		70-130	1		20
Dichlorodifluoromethane	112		111		70-130	1		20
Acetone	121		119		70-130	2		20
Carbon disulfide	97		96		70-130	1		20
Methyl ethyl ketone	105		111		70-130	6		20
Methyl isobutyl ketone	96		97		70-130	1		20
2-Hexanone	106		113		70-130	6		20
Bromochloromethane	97		97		70-130	0		20
Tetrahydrofuran	107		111		70-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

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): 01-02 Batch: WG1283962-3 WG1283962-4								
2,2-Dichloropropane	101		100		70-130	1		20
1,2-Dibromoethane	98		98		70-130	0		20
1,3-Dichloropropane	96		98		70-130	2		20
1,1,1,2-Tetrachloroethane	104		105		70-130	1		20
Bromobenzene	97		98		70-130	1		20
n-Butylbenzene	107		107		70-130	0		20
sec-Butylbenzene	103		104		70-130	1		20
tert-Butylbenzene	101		103		70-130	2		20
o-Chlorotoluene	105		106		70-130	1		20
p-Chlorotoluene	106		108		70-130	2		20
1,2-Dibromo-3-chloropropane	84		89		70-130	6		20
Hexachlorobutadiene	89		90		70-130	1		20
Isopropylbenzene	104		105		70-130	1		20
p-Isopropyltoluene	102		104		70-130	2		20
Naphthalene	92		97		70-130	5		20
n-Propylbenzene	105		107		70-130	2		20
1,2,3-Trichlorobenzene	93		94		70-130	1		20
1,2,4-Trichlorobenzene	97		98		70-130	1		20
1,3,5-Trimethylbenzene	105		106		70-130	1		20
1,2,4-Trimethylbenzene	105		106		70-130	1		20
Diethyl ether	89		91		70-130	2		20
Diisopropyl Ether	118		118		70-130	0		20
Ethyl-Tert-Butyl-Ether	97		97		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

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): 01-02 Batch: WG1283962-3 WG1283962-4								
Tertiary-Amyl Methyl Ether	86		87		70-130	1		20
1,4-Dioxane	92		96		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	102		102		70-130
Toluene-d8	101		101		70-130
4-Bromofluorobenzene	97		99		70-130
Dibromofluoromethane	96		95		70-130

SEMIVOLATILES

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1940180-01
Client ID: TT-4 (8-10')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 09/04/19 10:00
Date Received: 09/04/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/15/19 20:11
Analyst: PS
Percent Solids: 89%

Extraction Method: EPA 3546
Extraction Date: 09/13/19 21:11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Acenaphthene	ND		ug/kg	140	--	1
Fluoranthene	890		ug/kg	110	--	1
Naphthalene	ND		ug/kg	180	--	1
Benzo(a)anthracene	510		ug/kg	110	--	1
Benzo(a)pyrene	490		ug/kg	140	--	1
Benzo(b)fluoranthene	590		ug/kg	110	--	1
Benzo(k)fluoranthene	190		ug/kg	110	--	1
Chrysene	460		ug/kg	110	--	1
Acenaphthylene	ND		ug/kg	140	--	1
Anthracene	170		ug/kg	110	--	1
Benzo(ghi)perylene	240		ug/kg	140	--	1
Fluorene	ND		ug/kg	180	--	1
Phenanthrene	440		ug/kg	110	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	110	--	1
Indeno(1,2,3-cd)pyrene	280		ug/kg	140	--	1
Pyrene	720		ug/kg	110	--	1
2-Methylnaphthalene	ND		ug/kg	220	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	65		30-130
2-Fluorobiphenyl	72		30-130
4-Terphenyl-d14	58		30-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1940180-02
Client ID: TT-5 (7-9')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 09/04/19 11:30
Date Received: 09/04/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 09/15/19 20:35
Analyst: PS
Percent Solids: 74%

Extraction Method: EPA 3546
Extraction Date: 09/13/19 21:11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs - Westborough Lab						
Acenaphthene	180		ug/kg	170	--	1
Fluoranthene	940		ug/kg	130	--	1
Naphthalene	670		ug/kg	220	--	1
Benzo(a)anthracene	330		ug/kg	130	--	1
Benzo(a)pyrene	260		ug/kg	170	--	1
Benzo(b)fluoranthene	350		ug/kg	130	--	1
Benzo(k)fluoranthene	ND		ug/kg	130	--	1
Chrysene	330		ug/kg	130	--	1
Acenaphthylene	ND		ug/kg	170	--	1
Anthracene	290		ug/kg	130	--	1
Benzo(ghi)perylene	ND		ug/kg	170	--	1
Fluorene	320		ug/kg	220	--	1
Phenanthrene	1300		ug/kg	130	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	130	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	170	--	1
Pyrene	800		ug/kg	130	--	1
2-Methylnaphthalene	270		ug/kg	260	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	54		30-130
2-Fluorobiphenyl	75		30-130
4-Terphenyl-d14	61		30-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 09/14/19 11:22
Analyst: KR

Extraction Method: EPA 3546
Extraction Date: 09/13/19 21:11

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG1284036-1					
Acenaphthene	ND		ug/kg	130	--
Fluoranthene	ND		ug/kg	97	--
Naphthalene	ND		ug/kg	160	--
Benzo(a)anthracene	ND		ug/kg	97	--
Benzo(a)pyrene	ND		ug/kg	130	--
Benzo(b)fluoranthene	ND		ug/kg	97	--
Benzo(k)fluoranthene	ND		ug/kg	97	--
Chrysene	ND		ug/kg	97	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	97	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	97	--
Dibenzo(a,h)anthracene	ND		ug/kg	97	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	97	--
2-Methylnaphthalene	ND		ug/kg	190	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	80		30-130
2-Fluorobiphenyl	75		30-130
4-Terphenyl-d14	79		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940180
Report Date: 09/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG1284036-2 WG1284036-3								
Acenaphthene	96		96		40-140	0		30
Fluoranthene	99		96		40-140	3		30
Naphthalene	90		91		40-140	1		30
Benzo(a)anthracene	101		98		40-140	3		30
Benzo(a)pyrene	97		90		40-140	7		30
Benzo(b)fluoranthene	100		98		40-140	2		30
Benzo(k)fluoranthene	102		94		40-140	8		30
Chrysene	102		98		40-140	4		30
Acenaphthylene	95		94		40-140	1		30
Anthracene	99		98		40-140	1		30
Benzo(ghi)perylene	96		94		40-140	2		30
Fluorene	100		97		40-140	3		30
Phenanthrene	98		98		40-140	0		30
Dibenzo(a,h)anthracene	100		97		40-140	3		30
Indeno(1,2,3-cd)pyrene	99		96		40-140	3		30
Pyrene	97		97		40-140	0		30
2-Methylnaphthalene	95		97		40-140	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST., S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1940180

Report Date: 09/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG1284036-2 WG1284036-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	75		74		30-130
2-Fluorobiphenyl	67		68		30-130
4-Terphenyl-d14	70		68		30-130

PETROLEUM HYDROCARBONS

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1940180

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID:	L1940180-01	Date Collected:	09/04/19 10:00
Client ID:	TT-4 (8-10')	Date Received:	09/04/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	09/12/19 21:29
Analyst:	MKS
Percent Solids:	89%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1:1.5

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	4.22	--	1
C9-C12 Aliphatics	ND		mg/kg	4.22	--	1
C9-C10 Aromatics	ND		mg/kg	4.22	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	4.22	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	4.22	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	**131**	Q	70-130
2,5-Dibromotoluene-FID	**131**	Q	70-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID:	L1940180-01	Date Collected:	09/04/19 10:00
Client ID:	TT-4 (8-10')	Date Received:	09/04/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/09/19 00:09
Analytical Date:	09/13/19 20:14	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/10/19
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	7.36	--	1
C19-C36 Aliphatics	11.0		mg/kg	7.36	--	1
C11-C22 Aromatics	20.6		mg/kg	7.36	--	1
C11-C22 Aromatics, Adjusted	19.6		mg/kg	7.36	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	59		40-140
o-Terphenyl	62		40-140
2-Fluorobiphenyl	75		40-140
2-Bromonaphthalene	74		40-140

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1940180

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID:	L1940180-02	Date Collected:	09/04/19 11:30
Client ID:	TT-5 (7-9')	Date Received:	09/04/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified

Sample Depth:	
Matrix:	Soil
Analytical Method:	131,VPH-18-2.1
Analytical Date:	09/12/19 21:59
Analyst:	MKS
Percent Solids:	74%

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Yes (Covering the Soil)
Methanol ratio:	1:1 +/- 25%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	9.72	--	1
C9-C12 Aliphatics	ND		mg/kg	9.72	--	1
C9-C10 Aromatics	ND		mg/kg	9.72	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	9.72	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	9.72	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	**136**	Q	70-130
2,5-Dibromotoluene-FID	**138**	Q	70-130

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID:	L1940180-02	Date Collected:	09/04/19 11:30
Client ID:	TT-5 (7-9')	Date Received:	09/04/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/09/19 00:09
Analytical Date:	09/13/19 19:36	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	09/10/19
Percent Solids:	74%		

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	9.98		mg/kg	8.94	--	1
C19-C36 Aliphatics	36.6		mg/kg	8.94	--	1
C11-C22 Aromatics	86.3		mg/kg	8.94	--	1
C11-C22 Aromatics, Adjusted	80.2		mg/kg	8.94	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	52		40-140
o-Terphenyl	56		40-140
2-Fluorobiphenyl	68		40-140
2-Bromonaphthalene	65		40-140

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1940180

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID:	L1940180-03	Date Collected:	09/04/19 12:30
Client ID:	TT-5/OW	Date Received:	09/04/19
Sample Location:	CYPHER ST., S. BOSTON	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	98,EPH-04-1.1	Extraction Date:	09/12/19 09:09
Analytical Date:	09/13/19 23:48	Cleanup Method1:	EPH-04-1
Analyst:	SC	Cleanup Date1:	09/13/19

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
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		ug/l	132	--	1
C19-C36 Aliphatics	ND		ug/l	132	--	1
C11-C22 Aromatics	ND		ug/l	132	--	1
C11-C22 Aromatics, Adjusted	ND		ug/l	132	--	1
Naphthalene	ND		ug/l	13.2	--	1
2-Methylnaphthalene	ND		ug/l	13.2	--	1
Acenaphthylene	ND		ug/l	13.2	--	1
Acenaphthene	ND		ug/l	13.2	--	1
Fluorene	ND		ug/l	13.2	--	1
Phenanthrene	ND		ug/l	13.2	--	1
Anthracene	ND		ug/l	13.2	--	1
Fluoranthene	ND		ug/l	13.2	--	1
Pyrene	ND		ug/l	13.2	--	1
Benzo(a)anthracene	ND		ug/l	13.2	--	1
Chrysene	ND		ug/l	13.2	--	1
Benzo(b)fluoranthene	ND		ug/l	13.2	--	1
Benzo(k)fluoranthene	ND		ug/l	13.2	--	1
Benzo(a)pyrene	ND		ug/l	13.2	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	13.2	--	1
Dibenzo(a,h)anthracene	ND		ug/l	13.2	--	1
Benzo(ghi)perylene	ND		ug/l	13.2	--	1

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1940180

Project Number: 143-278997-19001 **Report Date:** 09/16/19

SAMPLE RESULTS

Lab ID:	L1940180-03	Date Collected:	09/04/19 12:30
Client ID:	TT-5/OW	Date Received:	09/04/19
Sample Location:	CYPHER ST., S. BOSTON	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	73		40-140
2-Fluorobiphenyl	84		40-140
2-Bromonaphthalene	84		40-140

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940180
Report Date: 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 09/13/19 01:50
Analyst: MEO

Extraction Method: EPA 3546
Extraction Date: 09/09/19 00:09
Cleanup Method: EPH-04-1
Cleanup Date: 09/10/19

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-02 Batch: WG1281663-1					
C9-C18 Aliphatics	ND		mg/kg	6.44	--
C19-C36 Aliphatics	ND		mg/kg	6.44	--
C11-C22 Aromatics	ND		mg/kg	6.44	--
C11-C22 Aromatics, Adjusted	ND		mg/kg	6.44	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	54		40-140
o-Terphenyl	51		40-140
2-Fluorobiphenyl	68		40-140
2-Bromonaphthalene	68		40-140

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940180
Report Date: 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 09/13/19 23:16
Analyst: SC

Extraction Method: EPA 3510C
Extraction Date: 09/12/19 05:12
Cleanup Method: EPH-04-1
Cleanup Date: 09/13/19

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 03 Batch: WG1283120-1					
C9-C18 Aliphatics	ND		ug/l	100	--
C19-C36 Aliphatics	ND		ug/l	100	--
C11-C22 Aromatics	ND		ug/l	100	--
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--
Naphthalene	ND		ug/l	10.0	--
2-Methylnaphthalene	ND		ug/l	10.0	--
Acenaphthylene	ND		ug/l	10.0	--
Acenaphthene	ND		ug/l	10.0	--
Fluorene	ND		ug/l	10.0	--
Phenanthrene	ND		ug/l	10.0	--
Anthracene	ND		ug/l	10.0	--
Fluoranthene	ND		ug/l	10.0	--
Pyrene	ND		ug/l	10.0	--
Benzo(a)anthracene	ND		ug/l	10.0	--
Chrysene	ND		ug/l	10.0	--
Benzo(b)fluoranthene	ND		ug/l	10.0	--
Benzo(k)fluoranthene	ND		ug/l	10.0	--
Benzo(a)pyrene	ND		ug/l	10.0	--
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0	--
Dibenzo(a,h)anthracene	ND		ug/l	10.0	--
Benzo(ghi)perylene	ND		ug/l	10.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	73		40-140
o-Terphenyl	95		40-140
2-Fluorobiphenyl	99		40-140
2-Bromonaphthalene	98		40-140

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1940180

Project Number: 143-278997-19001 **Report Date:** 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 131,VPH-18-2.1
Analytical Date: 09/12/19 17:58
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-02 Batch: WG1283870-4					
C5-C8 Aliphatics	ND		mg/kg	5.00	--
C9-C12 Aliphatics	ND		mg/kg	5.00	--
C9-C10 Aromatics	ND		mg/kg	5.00	--
C5-C8 Aliphatics, Adjusted	ND		mg/kg	5.00	--
C9-C12 Aliphatics, Adjusted	ND		mg/kg	5.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	81		70-130
2,5-Dibromotoluene-FID	81		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-02 Batch: WG1281663-2 WG1281663-3								
C9-C18 Aliphatics	52		60		40-140	14		25
C19-C36 Aliphatics	61		74		40-140	19		25
C11-C22 Aromatics	53		66		40-140	22		25
Naphthalene	44		57		40-140	**26**	Q	25
2-Methylnaphthalene	44		56		40-140	24		25
Acenaphthylene	48		60		40-140	22		25
Acenaphthene	52		63		40-140	19		25
Fluorene	51		63		40-140	21		25
Phenanthrene	55		69		40-140	23		25
Anthracene	55		68		40-140	21		25
Fluoranthene	55		69		40-140	23		25
Pyrene	57		71		40-140	22		25
Benzo(a)anthracene	54		68		40-140	23		25
Chrysene	55		68		40-140	21		25
Benzo(b)fluoranthene	52		67		40-140	25		25
Benzo(k)fluoranthene	52		66		40-140	24		25
Benzo(a)pyrene	50		63		40-140	23		25
Indeno(1,2,3-cd)Pyrene	44		59		40-140	**29**	Q	25
Dibenzo(a,h)anthracene	43		55		40-140	24		25
Benzo(ghi)perylene	42		54		40-140	25		25
Nonane (C9)	40		48		30-140	18		25
Decane (C10)	45		53		40-140	16		25
Dodecane (C12)	46		54		40-140	16		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-02 Batch: WG1281663-2 WG1281663-3								
Tetradecane (C14)	47		55		40-140	16		25
Hexadecane (C16)	51		59		40-140	15		25
Octadecane (C18)	54		64		40-140	17		25
Nonadecane (C19)	55		65		40-140	17		25
Eicosane (C20)	56		67		40-140	18		25
Docosane (C22)	57		69		40-140	19		25
Tetracosane (C24)	58		70		40-140	19		25
Hexacosane (C26)	60		72		40-140	18		25
Octacosane (C28)	61		74		40-140	19		25
Triacontane (C30)	62		74		40-140	18		25
Hexatriacontane (C36)	57		73		40-140	25		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	56		62		40-140
o-Terphenyl	56		64		40-140
2-Fluorobiphenyl	74		81		40-140
2-Bromonaphthalene	73		81		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 03 Batch: WG1283120-2 WG1283120-3								
C9-C18 Aliphatics	61		62		40-140	2		25
C19-C36 Aliphatics	89		91		40-140	2		25
C11-C22 Aromatics	94		70		40-140	**29**	Q	25
Naphthalene	69		60		40-140	14		25
2-Methylnaphthalene	70		62		40-140	12		25
Acenaphthylene	78		70		40-140	11		25
Acenaphthene	80		72		40-140	11		25
Fluorene	84		76		40-140	10		25
Phenanthrene	91		83		40-140	9		25
Anthracene	93		85		40-140	9		25
Fluoranthene	98		90		40-140	9		25
Pyrene	101		93		40-140	8		25
Benzo(a)anthracene	98		90		40-140	9		25
Chrysene	96		88		40-140	9		25
Benzo(b)fluoranthene	103		93		40-140	10		25
Benzo(k)fluoranthene	99		90		40-140	10		25
Benzo(a)pyrene	97		88		40-140	10		25
Indeno(1,2,3-cd)Pyrene	99		90		40-140	10		25
Dibenzo(a,h)anthracene	96		86		40-140	11		25
Benzo(ghi)perylene	87		79		40-140	10		25
Nonane (C9)	35		36		30-140	3		25
Decane (C10)	44		45		40-140	2		25
Dodecane (C12)	54		55		40-140	2		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 03 Batch: WG1283120-2 WG1283120-3								
Tetradecane (C14)	62		62		40-140	0		25
Hexadecane (C16)	70		69		40-140	1		25
Octadecane (C18)	78		78		40-140	0		25
Nonadecane (C19)	79		79		40-140	0		25
Eicosane (C20)	81		82		40-140	1		25
Docosane (C22)	81		82		40-140	1		25
Tetracosane (C24)	82		83		40-140	1		25
Hexacosane (C26)	82		83		40-140	1		25
Octacosane (C28)	82		83		40-140	1		25
Triacontane (C30)	82		83		40-140	1		25
Hexatriacontane (C36)	86		88		40-140	2		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	83		84		40-140
o-Terphenyl	99		90		40-140
2-Fluorobiphenyl	94		86		40-140
2-Bromonaphthalene	93		86		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-02 Batch: WG1283870-2 WG1283870-3								
C5-C8 Aliphatics	97		99		70-130	2		25
C9-C12 Aliphatics	100		101		70-130	1		25
C9-C10 Aromatics	98		100		70-130	2		25
Benzene	99		102		70-130	3		25
Toluene	100		102		70-130	2		25
Ethylbenzene	101		104		70-130	3		25
p/m-Xylene	102		104		70-130	2		25
o-Xylene	97		100		70-130	3		25
Methyl tert butyl ether	100		103		70-130	3		25
Naphthalene	102		107		70-130	5		25
1,2,4-Trimethylbenzene	98		100		70-130	2		25
Pentane	92		95		70-130	3		25
2-Methylpentane	101		103		70-130	2		25
2,2,4-Trimethylpentane	97		100		70-130	3		25
n-Nonane	101		103		30-130	2		25
n-Decane	96		97		70-130	0		25
n-Butylcyclohexane	102		105		70-130	3		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	103		106		70-130
2,5-Dibromotoluene-FID	104		106		70-130

PCBS

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1940180-01
Client ID: TT-4 (8-10')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 09/04/19 10:00
Date Received: 09/04/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/11/19 23:13
Analyst: AWS
Percent Solids: 89%

Extraction Method: EPA 3546
Extraction Date: 09/09/19 06:40
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
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	35.4	--	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	ND		ug/kg	35.4	--	1	A
Aroclor 1260	ND		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	ND		ug/kg	35.4	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	61		30-150	B
Decachlorobiphenyl	46		30-150	B
2,4,5,6-Tetrachloro-m-xylene	61		30-150	A
Decachlorobiphenyl	45		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1940180-02
Client ID: TT-5 (7-9')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 09/04/19 11:30
Date Received: 09/04/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 09/11/19 23:00
Analyst: AWS
Percent Solids: 74%

Extraction Method: EPA 3546
Extraction Date: 09/09/19 06:40
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
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	43.6	--	1	A
Aroclor 1221	ND		ug/kg	43.6	--	1	A
Aroclor 1232	ND		ug/kg	43.6	--	1	A
Aroclor 1242	ND		ug/kg	43.6	--	1	A
Aroclor 1248	ND		ug/kg	43.6	--	1	A
Aroclor 1254	ND		ug/kg	43.6	--	1	A
Aroclor 1260	ND		ug/kg	43.6	--	1	A
Aroclor 1262	ND		ug/kg	43.6	--	1	A
Aroclor 1268	ND		ug/kg	43.6	--	1	A
PCBs, Total	ND		ug/kg	43.6	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	56		30-150	B
Decachlorobiphenyl	44		30-150	B
2,4,5,6-Tetrachloro-m-xylene	57		30-150	A
Decachlorobiphenyl	44		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1940180-03
Client ID: TT-5/OW
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 09/04/19 12:30
Date Received: 09/04/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 97,8082A
Analytical Date: 09/13/19 22:57
Analyst: WR

Extraction Method: EPA 3510C
Extraction Date: 09/12/19 09:14
Cleanup Method: EPA 3665A
Cleanup Date: 09/13/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/13/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/l	0.417	--	1	A
Aroclor 1221	ND		ug/l	0.417	--	1	A
Aroclor 1232	ND		ug/l	0.417	--	1	A
Aroclor 1242	ND		ug/l	0.417	--	1	A
Aroclor 1248	ND		ug/l	0.417	--	1	A
Aroclor 1254	ND		ug/l	0.417	--	1	A
Aroclor 1260	ND		ug/l	0.417	--	1	A
Aroclor 1262	ND		ug/l	0.417	--	1	A
Aroclor 1268	ND		ug/l	0.417	--	1	A
PCBs, Total	ND		ug/l	0.417	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	58		30-150	A
Decachlorobiphenyl	47		30-150	A
2,4,5,6-Tetrachloro-m-xylene	59		30-150	B
Decachlorobiphenyl	49		30-150	B

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940180
Report Date: 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 09/10/19 18:56
Analyst: KB

Extraction Method: EPA 3546
Extraction Date: 09/09/19 06:40
Cleanup Method: EPA 3665A
Cleanup Date: 09/09/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/10/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01-02 Batch: WG1281734-1						
Aroclor 1016	ND		ug/kg	32.6	--	A
Aroclor 1221	ND		ug/kg	32.6	--	A
Aroclor 1232	ND		ug/kg	32.6	--	A
Aroclor 1242	ND		ug/kg	32.6	--	A
Aroclor 1248	ND		ug/kg	32.6	--	A
Aroclor 1254	ND		ug/kg	32.6	--	A
Aroclor 1260	ND		ug/kg	32.6	--	A
Aroclor 1262	ND		ug/kg	32.6	--	A
Aroclor 1268	ND		ug/kg	32.6	--	A
PCBs, Total	ND		ug/kg	32.6	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	83		30-150	B
Decachlorobiphenyl	74		30-150	B
2,4,5,6-Tetrachloro-m-xylene	79		30-150	A
Decachlorobiphenyl	70		30-150	A

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940180
Report Date: 09/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 09/12/19 14:15
Analyst: AWS

Extraction Method: EPA 3510C
Extraction Date: 09/12/19 01:26
Cleanup Method: EPA 3665A
Cleanup Date: 09/12/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/12/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 03 Batch: WG1283077-1						
Aroclor 1016	ND		ug/l	0.250	--	A
Aroclor 1221	ND		ug/l	0.250	--	A
Aroclor 1232	ND		ug/l	0.250	--	A
Aroclor 1242	ND		ug/l	0.250	--	A
Aroclor 1248	ND		ug/l	0.250	--	A
Aroclor 1254	ND		ug/l	0.250	--	A
Aroclor 1260	ND		ug/l	0.250	--	A
Aroclor 1262	ND		ug/l	0.250	--	A
Aroclor 1268	ND		ug/l	0.250	--	A
PCBs, Total	ND		ug/l	0.250	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	70		30-150	A
Decachlorobiphenyl	78		30-150	A
2,4,5,6-Tetrachloro-m-xylene	71		30-150	B
Decachlorobiphenyl	87		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST., S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1940180

Report Date: 09/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01-02 Batch: WG1281734-2 WG1281734-3									
Aroclor 1016	74		82		40-140	10		30	A
Aroclor 1260	64		74		40-140	14		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	79		93		30-150	B
Decachlorobiphenyl	67		90		30-150	B
2,4,5,6-Tetrachloro-m-xylene	78		91		30-150	A
Decachlorobiphenyl	66		82		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: CYPHER ST., S. BOSTON

Project Number: 143-278997-19001

Lab Number: L1940180

Report Date: 09/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 03 Batch: WG1283077-2 WG1283077-3									
Aroclor 1016	75		74		40-140	1		20	A
Aroclor 1260	75		74		40-140	1		20	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	70		71		30-150	A
Decachlorobiphenyl	82		82		30-150	A
2,4,5,6-Tetrachloro-m-xylene	73		73		30-150	B
Decachlorobiphenyl	91		89		30-150	B

METALS

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1940180-01
Client ID: TT-4 (8-10')
Sample Location: CYPHER ST., S. BOSTON
Date Collected: 09/04/19 10:00
Date Received: 09/04/19
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											
Antimony, Total	ND		mg/kg	2.22	--	1	09/12/19 23:00	09/13/19 19:00	EPA 3050B	97,6010D	MC
Arsenic, Total	1.00		mg/kg	0.443	--	1	09/12/19 23:00	09/13/19 19:00	EPA 3050B	97,6010D	MC
Barium, Total	7.27		mg/kg	0.443	--	1	09/12/19 23:00	09/13/19 19:00	EPA 3050B	97,6010D	MC
Beryllium, Total	ND		mg/kg	0.222	--	1	09/12/19 23:00	09/13/19 19:00	EPA 3050B	97,6010D	MC
Cadmium, Total	ND		mg/kg	0.443	--	1	09/12/19 23:00	09/13/19 19:00	EPA 3050B	97,6010D	MC
Chromium, Total	5.72		mg/kg	0.443	--	1	09/12/19 23:00	09/13/19 19:00	EPA 3050B	97,6010D	MC
Lead, Total	7.68		mg/kg	2.22	--	1	09/12/19 23:00	09/13/19 19:00	EPA 3050B	97,6010D	MC
Mercury, Total	0.160		mg/kg	0.088	--	1	09/14/19 07:00	09/14/19 15:05	EPA 7471B	97,7471B	AL
Nickel, Total	2.82		mg/kg	1.11	--	1	09/12/19 23:00	09/13/19 19:00	EPA 3050B	97,6010D	MC
Selenium, Total	ND		mg/kg	2.22	--	1	09/12/19 23:00	09/13/19 19:00	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.443	--	1	09/12/19 23:00	09/13/19 19:00	EPA 3050B	97,6010D	MC
Thallium, Total	ND		mg/kg	2.22	--	1	09/12/19 23:00	09/13/19 19:00	EPA 3050B	97,6010D	MC
Vanadium, Total	5.26		mg/kg	0.443	--	1	09/12/19 23:00	09/13/19 19:00	EPA 3050B	97,6010D	MC
Zinc, Total	17.2		mg/kg	2.22	--	1	09/12/19 23:00	09/13/19 19:00	EPA 3050B	97,6010D	MC

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1940180-02
Client ID: TT-5 (7-9')
Sample Location: CYPHER ST., S. BOSTON
Date Collected: 09/04/19 11:30
Date Received: 09/04/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 74%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.56	--	1	09/12/19 23:00	09/13/19 19:04	EPA 3050B	97,6010D	MC
Arsenic, Total	5.66		mg/kg	0.511	--	1	09/12/19 23:00	09/13/19 19:04	EPA 3050B	97,6010D	MC
Barium, Total	55.7		mg/kg	0.511	--	1	09/12/19 23:00	09/13/19 19:04	EPA 3050B	97,6010D	MC
Beryllium, Total	ND		mg/kg	0.256	--	1	09/12/19 23:00	09/13/19 19:04	EPA 3050B	97,6010D	MC
Cadmium, Total	0.793		mg/kg	0.511	--	1	09/12/19 23:00	09/13/19 19:04	EPA 3050B	97,6010D	MC
Chromium, Total	8.88		mg/kg	0.511	--	1	09/12/19 23:00	09/13/19 19:04	EPA 3050B	97,6010D	MC
Lead, Total	129		mg/kg	2.56	--	1	09/12/19 23:00	09/13/19 19:04	EPA 3050B	97,6010D	MC
Mercury, Total	4.65		mg/kg	0.203	--	2	09/14/19 07:00	09/14/19 17:48	EPA 7471B	97,7471B	AL
Nickel, Total	8.72		mg/kg	1.28	--	1	09/12/19 23:00	09/13/19 19:04	EPA 3050B	97,6010D	MC
Selenium, Total	ND		mg/kg	2.56	--	1	09/12/19 23:00	09/13/19 19:04	EPA 3050B	97,6010D	MC
Silver, Total	ND		mg/kg	0.511	--	1	09/12/19 23:00	09/13/19 19:04	EPA 3050B	97,6010D	MC
Thallium, Total	ND		mg/kg	2.56	--	1	09/12/19 23:00	09/13/19 19:04	EPA 3050B	97,6010D	MC
Vanadium, Total	14.2		mg/kg	0.511	--	1	09/12/19 23:00	09/13/19 19:04	EPA 3050B	97,6010D	MC
Zinc, Total	73.9		mg/kg	2.56	--	1	09/12/19 23:00	09/13/19 19:04	EPA 3050B	97,6010D	MC

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1940180-03
Client ID: TT-5/OW
Sample Location: CYPHER ST., S. BOSTON
Date Collected: 09/04/19 12:30
Date Received: 09/04/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/l	0.050	--	1	09/12/19 16:20	09/13/19 22:38	EPA 3005A	97,6010D	MC
Arsenic, Total	0.218		mg/l	0.0050	--	1	09/12/19 16:20	09/13/19 22:38	EPA 3005A	97,6010D	MC
Barium, Total	1.03		mg/l	0.010	--	1	09/12/19 16:20	09/13/19 22:38	EPA 3005A	97,6010D	MC
Beryllium, Total	0.014		mg/l	0.005	--	1	09/12/19 16:20	09/13/19 22:38	EPA 3005A	97,6010D	MC
Cadmium, Total	0.014		mg/l	0.004	--	1	09/12/19 16:20	09/13/19 22:38	EPA 3005A	97,6010D	MC
Chromium, Total	0.413		mg/l	0.010	--	1	09/12/19 16:20	09/13/19 22:38	EPA 3005A	97,6010D	MC
Lead, Total	1.37		mg/l	0.010	--	1	09/12/19 16:20	09/13/19 22:38	EPA 3005A	97,6010D	MC
Mercury, Total	0.0035		mg/l	0.0002	--	1	09/12/19 15:43	09/13/19 19:41	EPA 7470A	97,7470A	GD
Nickel, Total	0.329		mg/l	0.025	--	1	09/12/19 16:20	09/13/19 22:38	EPA 3005A	97,6010D	MC
Selenium, Total	ND		mg/l	0.010	--	1	09/12/19 16:20	09/13/19 22:38	EPA 3005A	97,6010D	MC
Silver, Total	ND		mg/l	0.007	--	1	09/12/19 16:20	09/13/19 22:38	EPA 3005A	97,6010D	MC
Thallium, Total	ND		mg/l	0.020	--	1	09/12/19 16:20	09/13/19 22:38	EPA 3005A	97,6010D	MC
Vanadium, Total	0.509		mg/l	0.010	--	1	09/12/19 16:20	09/13/19 22:38	EPA 3005A	97,6010D	MC
Zinc, Total	1.88		mg/l	0.050	--	1	09/12/19 16:20	09/13/19 22:38	EPA 3005A	97,6010D	MC

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1940180

Project Number: 143-278997-19001 **Report Date:** 09/16/19

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): 03 Batch: WG1283396-1										
Antimony, Total	ND		mg/l	0.050	--	1	09/12/19 16:20	09/13/19 22:25	97,6010D	MC
Arsenic, Total	ND		mg/l	0.0050	--	1	09/12/19 16:20	09/13/19 22:25	97,6010D	MC
Barium, Total	ND		mg/l	0.010	--	1	09/12/19 16:20	09/13/19 22:25	97,6010D	MC
Beryllium, Total	ND		mg/l	0.005	--	1	09/12/19 16:20	09/13/19 22:25	97,6010D	MC
Cadmium, Total	ND		mg/l	0.004	--	1	09/12/19 16:20	09/13/19 22:25	97,6010D	MC
Chromium, Total	ND		mg/l	0.010	--	1	09/12/19 16:20	09/13/19 22:25	97,6010D	MC
Lead, Total	ND		mg/l	0.010	--	1	09/12/19 16:20	09/13/19 22:25	97,6010D	MC
Nickel, Total	ND		mg/l	0.025	--	1	09/12/19 16:20	09/13/19 22:25	97,6010D	MC
Selenium, Total	ND		mg/l	0.010	--	1	09/12/19 16:20	09/13/19 22:25	97,6010D	MC
Silver, Total	ND		mg/l	0.007	--	1	09/12/19 16:20	09/13/19 22:25	97,6010D	MC
Thallium, Total	ND		mg/l	0.020	--	1	09/12/19 16:20	09/13/19 22:25	97,6010D	MC
Vanadium, Total	ND		mg/l	0.010	--	1	09/12/19 16:20	09/13/19 22:25	97,6010D	MC
Zinc, Total	ND		mg/l	0.050	--	1	09/12/19 16:20	09/13/19 22:25	97,6010D	MC

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 03 Batch: WG1283413-1										
Mercury, Total	ND		mg/l	0.0002	--	1	09/12/19 15:43	09/13/19 19:31	97,7470A	GD

Prep Information

Digestion Method: EPA 7470A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01-02 Batch: WG1283507-1										
Antimony, Total	ND		mg/kg	2.00	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC
Arsenic, Total	ND		mg/kg	0.400	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC
Barium, Total	ND		mg/kg	0.400	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC

Project Name: CYPHER ST., S. BOSTON **Lab Number:** L1940180

Project Number: 143-278997-19001 **Report Date:** 09/16/19

Method Blank Analysis
Batch Quality Control

Beryllium, Total	ND	mg/kg	0.200	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC
Cadmium, Total	ND	mg/kg	0.400	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC
Chromium, Total	ND	mg/kg	0.400	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC
Lead, Total	ND	mg/kg	2.00	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC
Nickel, Total	ND	mg/kg	1.00	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC
Selenium, Total	ND	mg/kg	2.00	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC
Silver, Total	ND	mg/kg	0.400	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC
Thallium, Total	ND	mg/kg	2.00	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC
Vanadium, Total	ND	mg/kg	0.400	--	1	09/12/19 23:00	09/13/19 17:43	97,6010D	MC
Zinc, Total	ND	mg/kg	2.00	--	1	09/12/19 23:00	09/13/19 17:43	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): 01-02 Batch: WG1284107-1										
Mercury, Total	ND		mg/kg	0.083	--	1	09/14/19 07:00	09/14/19 14:59	97,7471B	AL

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 03 Batch: WG1283396-2 WG1283396-3								
Antimony, Total	91		96		80-120	5		20
Arsenic, Total	107		108		80-120	1		20
Barium, Total	97		98		80-120	1		20
Beryllium, Total	99		98		80-120	1		20
Cadmium, Total	102		104		80-120	2		20
Chromium, Total	96		98		80-120	2		20
Lead, Total	100		102		80-120	2		20
Nickel, Total	97		99		80-120	2		20
Selenium, Total	102		105		80-120	3		20
Silver, Total	95		97		80-120	2		20
Thallium, Total	101		102		80-120	1		20
Vanadium, Total	99		100		80-120	1		20
Zinc, Total	101		103		80-120	2		20
MCP Total Metals - Mansfield Lab Associated sample(s): 03 Batch: WG1283413-2 WG1283413-3								
Mercury, Total	106		104		80-120	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001
Lab Number: L1940180
Report Date: 09/16/19

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG1283507-2 WG1283507-3 SRM Lot Number: D105-540					
Antimony, Total	147	141	19-249	4	30
Arsenic, Total	95	94	70-130	1	30
Barium, Total	82	85	75-125	4	30
Beryllium, Total	89	88	75-125	1	30
Cadmium, Total	87	91	75-125	4	30
Chromium, Total	80	80	70-130	0	30
Lead, Total	88	88	71-128	0	30
Nickel, Total	88	86	70-131	2	30
Selenium, Total	95	93	63-137	2	30
Silver, Total	85	85	69-131	0	30
Thallium, Total	83	88	68-132	6	30
Vanadium, Total	80	79	65-135	1	30
Zinc, Total	87	85	70-130	2	30
MCP Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG1284107-2 WG1284107-3 SRM Lot Number: D105-540					
Mercury, Total	89	87	60-141	2	30

INORGANICS
&
MISCELLANEOUS

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940180
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1940180-01
Client ID: TT-4 (8-10')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 09/04/19 10:00
Date Received: 09/04/19
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	-	09/05/19 03:30	121,2540G	YA

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940180
Report Date: 09/16/19

SAMPLE RESULTS

Lab ID: L1940180-02
Client ID: TT-5 (7-9')
Sample Location: CYPHER ST., S. BOSTON

Date Collected: 09/04/19 11:30
Date Received: 09/04/19
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	74.3		%	0.100	NA	1	-	09/05/19 03:30	121,2540G	YA

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940180
Report Date: 09/16/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1940180-01A	Vial MeOH preserved	A	NA		4.7	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1940180-01A1	Vial MeOH preserved	A	NA		4.7	Y	Absent		VPH-18(28)
L1940180-01B	Vial water preserved	A	NA		4.7	Y	Absent	04-SEP-19 20:52	MCP-8260HLW-10(14)
L1940180-01C	Vial water preserved	A	NA		4.7	Y	Absent	04-SEP-19 20:52	MCP-8260HLW-10(14)
L1940180-01D	Plastic 2oz unpreserved for TS	A	NA		4.7	Y	Absent		TS(7)
L1940180-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.7	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1940180-01F	Glass 500ml/16oz unpreserved	A	NA		4.7	Y	Absent		EPH-10(14),MCP-8082-10(365),MCP-PAH-10(14)
L1940180-02A	Vial MeOH preserved	A	NA		4.7	Y	Absent		MCP-8260HLW-10(14),VPH-18(28)
L1940180-02A1	Vial MeOH preserved	A	NA		4.7	Y	Absent		VPH-18(28)
L1940180-02B	Vial water preserved	A	NA		4.7	Y	Absent	04-SEP-19 20:52	MCP-8260HLW-10(14)
L1940180-02C	Vial water preserved	A	NA		4.7	Y	Absent	04-SEP-19 20:52	MCP-8260HLW-10(14)
L1940180-02D	Plastic 2oz unpreserved for TS	A	NA		4.7	Y	Absent		TS(7)
L1940180-02E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.7	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1940180-02F	Glass 500ml/16oz unpreserved	A	NA		4.7	Y	Absent		EPH-10(14),MCP-8082-10(365),MCP-PAH-10(14)

*Values in parentheses indicate holding time in days

Project Name: CYPHER ST., S. BOSTON
Project Number: 143-278997-19001

Lab Number: L1940180
Report Date: 09/16/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1940180-03A	Plastic 250ml HNO3 preserved	A	7	<2	4.7	N	Absent		MCP-CR-6010T-10(180),MCP-7470T-10(28),MCP-AS-6010T-10(180),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1940180-03B	Amber 1000ml Na2S2O3	A	7	7	4.7	Y	Absent		MCP-8082-10(365)
L1940180-03C	Amber 1000ml HCl preserved	A	<2	<2	4.7	Y	Absent		EPH-DELUX-10(14)
L1940180-03D	Amber 950ml H2SO4 preserved	A	<2	<2	4.7	Y	Absent		ARCHIVE()

*Values in parentheses indicate holding time in days

Project Name:	CYPHER ST., S. BOSTON	**Lab Number:**	L1940180
Project Number:	143-278997-19001	**Report Date:**	09/16/19

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:	CYPHER ST., S. BOSTON	**Lab Number:**	L1940180
Project Number:	143-278997-19001	**Report Date:**	09/16/19

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:	CYPHER ST., S. BOSTON	**Lab Number:**	L1940180
Project Number:	143-278997-19001	**Report Date:**	09/16/19

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.

131 Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, February 2018, Revision 2.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, June 1, 2018.

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 1

Date Rec'd in Lab: 9/4/19

ALPHA Job #: L1940180

8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Project Information

Project Name: Cypher St. S. Boston

Project Location: Cypher St. S. Boston

Project #: 143-278997-19001

Project Manager: Mike Billa

ALPHA Quote #:

Report Information - Data Deliverables

☒ ADEx ☒ EMAIL

Billing Information

☒ Same as Client info PO #:

Client Information

Client: Tetra Tech

Address: 100 Nickerson Rd. Marlborough, MA

Phone: 413-272-9534

Email: jon.fiore@tetratech.com

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)

Date Due:

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:

ANALYSIS

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 ☒ MCP 14 ☐ RCP 15	METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13	EPH: ☐ Ranges & Targets ☒ Ranges Only	VPH: ☐ Ranges & Targets ☒ Ranges Only	☒ PCB ☐ PEST	TPH: ☐ Quant Only ☐ Fingerprint	TPH	Total Metals	PCBs				Sample Comments	TOTAL # BOTTLES
U0180-01	TT-4 (8-10')	9/4/19	1000	Soil	JWF	X	X	X		X	X	X									7
-02	TT-5 (7-9')	↓	1130	Soil	↓	X	X	X		X	X	X									7
-03	TT-5/GW	↓	1230	GW	↓								X	X	X						4

Container Type	HP									A	A	A			
Preservative	H/F									D	B				

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
[signature]	9/4/19 1425	[signature]	9/4/19 1425
	9/4/19 1725		9/4/19 1725

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

Method Blank Summary
Form 4
Volatiles

Client	: Tetra Tech Rizzo	**Lab Number**	: L1940180
Project Name	: CYPHER ST. S. BOSTON	**Project Number**	: 143-278997-19001
Lab Sample ID	: WG1283962-5	**Lab File ID**	: V23190913A04
Instrument ID	: VOA123		
Matrix	: SOIL	**Analysis Date**	: 09/13/19 07:39

Client Sample No.	Lab Sample ID	Analysis Date
WG1283962-3LCS	WG1283962-3	09/13/19 06:27
WG1283962-4LCSD	WG1283962-4	09/13/19 06:51
TT-4 (8-10')	L1940180-01	09/13/19 11:21
TT-5 (7-9')	L1940180-02	09/13/19 11:45

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1940180
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA123	Calibration Date	: 09/13/19 06:27
Lab File ID	: V23190913A01	Init. Calib. Date(s)	: 06/21/19 06/21/19
Sample No	: WG1283962-2	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	78	-.01
Dichlorodifluoromethane	0.268	0.302	-	-12.7	20	74	0
Chloromethane	0.275	0.351	-	-27.6*	20	87	0
Vinyl chloride	0.312	0.336	-	-7.7	20	71	0
Bromomethane	0.233	0.233	-	0	20	73	0
Chloroethane	0.235	0.228	-	3	20	68	0
Trichlorofluoromethane	0.429	0.459	-	-7	20	70	0
Ethyl ether	0.143	0.128	-	10.5	20	62	0
1,1-Dichloroethene	0.214	0.216	-	-0.9	20	68	0
Carbon disulfide	0.725	0.705	-	2.8	20	69	0
Freon-113	0.216	0.224	-	-3.7	20	69	0
Acrolein	0.05	0.052	-	-4	20	76	0
Methylene chloride	0.28	0.248	-	11.4	20	66	0
Acetone	20	24.145	-	-20.7*	20	83	-.01
trans-1,2-Dichloroethene	0.245	0.247	-	-0.8	20	68	0
Methyl acetate	0.187	0.214	-	-14.4	20	80	-.01
Methyl tert-butyl ether	0.725	0.643	-	11.3	20	61	-.01
tert-Butyl alcohol	0.038	0.032*	-	15.8	20	58	-.01
Diisopropyl ether	0.748	0.879	-	-17.5	20	81	-.01
1,1-Dichloroethane	0.436	0.456	-	-4.6	20	71	0
Halothane	0.182	0.178	-	2.2	20	65	-.01
Acrylonitrile	0.093	0.096	-	-3.2	20	71	-.01
Ethyl tert-butyl ether	0.763	0.738	-	3.3	20	67	-.02
Vinyl acetate	0.662	0.743	-	-12.2	20	78	-.01
cis-1,2-Dichloroethene	0.275	0.268	-	2.5	20	67	-.01
2,2-Dichloropropane	0.366	0.37	-	-1.1	20	68	-.01
Bromochloromethane	0.134	0.13	-	3	20	66	-.01
Cyclohexane	0.39	0.422	-	-8.2	20	73	0
Chloroform	0.43	0.434	-	-0.9	20	69	-.01
Ethyl acetate	0.3	0.316	-	-5.3	20	75	-.02
Carbon tetrachloride	0.331	0.344	-	-3.9	20	70	-.01
Tetrahydrofuran	0.106	0.114	-	-7.5	20	75	-.02
Dibromofluoromethane	0.262	0.251	-	4.2	20	74	-.01
1,1,1-Trichloroethane	0.365	0.39	-	-6.8	20	70	-.01
2-Butanone	0.139	0.146	-	-5	20	80	-.02
1,1-Dichloropropene	0.318	0.332	-	-4.4	20	68	0
Benzene	0.959	0.958	-	0.1	20	67	-.01
tert-Amyl methyl ether	0.734	0.628	-	14.4	20	59	-.02
1,2-Dichloroethane-d4	0.29	0.294	-	-1.4	20	82	-.01
1,2-Dichloroethane	0.342	0.345	-	-0.9	20	70	-.01
Methyl cyclohexane	0.415	0.38	-	8.4	20	62	-.01
Trichloroethene	0.249	0.256	-	-2.8	20	69	-.01
Dibromomethane	0.164	0.155	-	5.5	20	65	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1940180
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA123	Calibration Date	: 09/13/19 06:27
Lab File ID	: V23190913A01	Init. Calib. Date(s)	: 06/21/19 06/21/19
Sample No	: WG1283962-2	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	0.257	-	-1.2	20	69	-.01
2-Chloroethyl vinyl ether	0.185	0.173	-	6.5	20	64	-.01
Bromodichloromethane	0.327	0.334	-	-2.1	20	69	-.01
1,4-Dioxane	0.00343	0.00317*	-	7.6	20	67	-.01
cis-1,3-Dichloropropene	0.404	0.396	-	2	20	66	-.01
Chlorobenzene-d5	1	1	-	0	20	75	-.01
Toluene-d8	1.211	1.221	-	-0.8	20	75	-.02
Toluene	0.75	0.769	-	-2.5	20	68	-.02
4-Methyl-2-pentanone	0.137	0.131	-	4.4	20	65	-.02
Tetrachloroethene	0.306	0.319	-	-4.2	20	66	-.01
trans-1,3-Dichloropropene	0.447	0.45	-	-0.7	20	65	-.01
Ethyl methacrylate	0.415	0.352	-	15.2	20	56	-.02
1,1,2-Trichloroethane	0.237	0.223	-	5.9	20	62	-.01
Chlorodibromomethane	0.311	0.316	-	-1.6	20	66	-.02
1,3-Dichloropropane	0.475	0.459	-	3.4	20	64	-.01
1,2-Dibromoethane	0.286	0.278	-	2.8	20	63	-.01
2-Hexanone	0.245	0.258	-	-5.3	20	72	-.02
Chlorobenzene	0.845	0.873	-	-3.3	20	68	-.02
Ethylbenzene	1.401	1.47	-	-4.9	20	69	-.01
1,1,1,2-Tetrachloroethane	0.297	0.31	-	-4.4	20	67	-.02
p/m Xylene	0.545	0.576	-	-5.7	20	69	-.02
o Xylene	0.539	0.555	-	-3	20	67	-.02
Styrene	0.876	0.914	-	-4.3	20	67	-.02
1,4-Dichlorobenzene-d4	1	1	-	0	20	77	-.01
Bromoform	0.424	0.369	-	13	20	64	-.01
Isopropylbenzene	2.578	2.68	-	-4	20	68	-.02
4-Bromofluorobenzene	0.913	0.881	-	3.5	20	74	-.01
Bromobenzene	0.679	0.657	-	3.2	20	65	-.02
n-Propylbenzene	3.032	3.192	-	-5.3	20	68	-.01
1,4-Dichlorobutane	0.91	0.954	-	-4.8	20	72	-.01
1,1,2,2-Tetrachloroethane	0.726	0.702	-	3.3	20	63	-.01
4-Ethyltoluene	2.552	2.641	-	-3.5	20	67	-.01
2-Chlorotoluene	2.106	2.205	-	-4.7	20	70	-.01
1,3,5-Trimethylbenzene	2.162	2.264	-	-4.7	20	69	-.02
1,2,3-Trichloropropane	0.612	0.584	-	4.6	20	65	-.02
trans-1,4-Dichloro-2-buten	0.212	0.233	-	-9.9	20	74	-.01
4-Chlorotoluene	1.897	2.014	-	-6.2	20	71	-.01
tert-Butylbenzene	1.876	1.892	-	-0.9	20	66	-.01
1,2,4-Trimethylbenzene	2.172	2.28	-	-5	20	69	-.02
sec-Butylbenzene	2.799	2.887	-	-3.1	20	67	-.01
p-Isopropyltoluene	2.388	2.437	-	-2.1	20	66	-.02
1,3-Dichlorobenzene	1.306	1.339	-	-2.5	20	69	-.01
1,4-Dichlorobenzene	1.32	1.35	-	-2.3	20	69	-.01

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: Tetra Tech Rizzo	Lab Number	: L1940180
Project Name	: CYPHER ST. S. BOSTON	Project Number	: 143-278997-19001
Instrument ID	: VOA123	Calibration Date	: 09/13/19 06:27
Lab File ID	: V23190913A01	Init. Calib. Date(s)	: 06/21/19 06/21/19
Sample No	: WG1283962-2	Init. Calib. Times	: 03:09 06:33
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.466	1.459	-	0.5	20	66	-.01
n-Butylbenzene	2.231	2.39	-	-7.1	20	70	-.01
1,2-Dichlorobenzene	1.255	1.242	-	1	20	67	-.01
1,2,4,5-Tetramethylbenzene	2.325	2.249	-	3.3	20	64	-.01
1,2-Dibromo-3-chloropropan	0.136	0.115	-	15.4	20	60	-.01
1,3,5-Trichlorobenzene	0.913	0.892	-	2.3	20	65	-.01
Hexachlorobutadiene	0.428	0.381	-	11	20	60	-.01
1,2,4-Trichlorobenzene	0.862	0.838	-	2.8	20	65	-.01
Naphthalene	2.486	2.293	-	7.8	20	62	-.01
1,2,3-Trichlorobenzene	0.842	0.783	-	7	20	63	-.01

* Value outside of QC limits.

Class B-2 Response Action Outcome Statement
Boston Convention and Exhibition Center
East of C Street

Boston, Massachusetts
RTN 3-16215

Submitted to:
Massachusetts Department of Environmental Protection
Northeast Regional Office

February 16, 2011

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TETRA TECH

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Page: 1 of 18 02/07/2011 11:53 AM

Form 1075

NOTICE OF ACTIVITY AND USE LIMITATION
M.G.L. c. 21E, § 6 and 310 CMR 40.0000

Disposal Site Name: Boston Convention &Exhibition Center
DEP Release Tracking No.(s): 3-16215

This Notice of Activity and Use Limitation ("Notice") is made as of this 26 day of January, 2011, by the Massachusetts Convention Center Authority, 415 Summer Street, Boston, Massachusetts 02210, together with his/her/its/their successors and assigns (collectively "Owner").

WITNESSETH:

WHEREAS, Massachusetts Convention Center Authority is the owner(s) in fee simple of those certain parcel(s) of land located in South Boston, Suffolk County, Massachusetts with the improvements thereon, pursuant to a deed recorded with the Suffolk County Registry of Deeds in Book 34983, Page 027;

WHEREAS, said parcel(s) of land, which is more particularly bounded and described in Exhibit A, attached hereto and made a part hereof ("Property") is subject to this Notice of Activity and Use Limitation. The Property is shown on a plan recorded in the Suffolk County Registry of Deeds in Plan Book 34983, Plan 027;

WHEREAS, a portion of the Property ("Portion of the Property") is subject to this Notice of Activity and Use Limitation. The Portion of the Property is more particularly bounded and described in Exhibit A-1, attached hereto and made a part hereof. The portion of the Property is shown on a sketch plan attached hereto and filed herewith for registration.

WHEREAS, the Portion of the Property comprises all of a disposal site as the result of a release of oil and/or hazardous material. Exhibit B is a sketch plan showing the relationship of the Portion of the Property subject to this Notice of Activity and Use Limitation to the boundaries of said disposal site existing within the limits of the Property and to the extent such boundaries have been established. Exhibit B is attached and attached hereto and made a part hereof; and

WHEREAS, one or more response actions have been selected for the Disposal Site in accordance with M.G.L. c. 21E ("Chapter 21E") and the Massachusetts Contingency Plan, 310 CMR 40.0000 ("MCP"). Said response actions are based upon (a) the restriction of human access to and contact with oil and/or hazardous material in soil and/or (b) the restriction of certain activities occurring in, on, through, over or under the Property. The basis for such restrictions is set forth in an Activity and Use Limitation Opinion ("AUL Opinion"), dated November 1, 2010, (which is attached hereto as Exhibit C and made a part hereof);

NOW, THEREFORE, notice is hereby given that the activity and use limitations set forth in said AUL Opinion are as follows:

1. Activities and Uses Consistent with the AUL Opinion. The AUL Opinion provides that a condition of No Significant Risk to health, safety, public welfare or the environment exists for any foreseeable period of time (pursuant to 310 CMR 40.0000) so long as any of the following activities and uses occur on the Property:

(i) Activities and uses consistent with the Property's current or future use as a parking lot, convention center, hotel, and/or retail space, including, without limitation, maintenance activities, landscaping, vehicular parking and vehicular pedestrian traffic, which are necessary and incidental to such uses;

(ii) Commercial and industrial uses that are consistent with zoning of the Property;

(iii) Use of Landscaped Areas associated with the Property as outdoor events areas, which may include entertainment functions, sitting and walking across the area, and passive recreation use of the area;

(iv) Subsurface activities associated with non-emergency utility work or future construction of buildings and other improvements to support permitted uses of the Property, provided such uses comply with the Obligations and Conditions of this AUL Opinion;

(v) Emergency excavation activities associated with short term (less than three days) underground utility work and other subsurface construction/maintenance projects, provided such uses comply with the Obligations and Conditions of this AUL Opinion and do not result in the relocation of soils on or off the Property;

(vi) Any other activities or uses which, in the Opinion of an LSP, shall present no greater risk of harm to health, safety, public welfare or the environment than the activities and uses set forth in this Paragraph; and

(vii) Any other activities and uses not identified in Paragraph 2 as being Activities and Uses Inconsistent with the AUL.

2. Activities and Uses Inconsistent with the AUL Opinion. Activities and uses which are inconsistent with the objectives of this Notice of Activity and Use Limitation, and which, if implemented at the Property, may result in a significant risk of harm to health, safety, public welfare or the environment or in a substantial hazard, are as follows:

(i) Use of the Property for a single- or two-family residence, school, kindergarten, day care facility, outdoor active recreation area (e.g.; sports playing fields), or outdoor playground;

(ii) Use of the Property for cultivation of fruits and/or vegetables destined for human consumption;

(iii) Subsurface activities associated with non-emergency utility and construction work, unless such work is conducted under United States Occupational Safety and Health Administration, Hazardous Waste Operations and Emergency Response regulations at 29 CFR 1910.120; and

(iv) Any activity or use which, in the Opinion of an LSP, is reasonably likely to create a Significant Risk of harm to health, safety, public welfare, or the environment.

3. Obligations and Conditions Set Forth in the AUL Opinion. If applicable, obligations and/or conditions to be undertaken and/or maintained at the Property to maintain a condition of No Significant Risk as set forth in the AUL Opinion shall include the following:

(i) Prior to the performance of excavation associated with planned (non-emergency) utility installation, repair or maintenance activities, or future construction which may result in the excavation and/or relocation of soil on or off the Property, a written Soil Management Plan must be developed to maintain that good soil management practices are adhered to, pursuant to 310 CMR 40.0030. A written Soil Management Plan must be developed within three days of the start of emergency utility work which may result in the excavation and/or relocation of soils on or off the Property. The Soil Management Plan must be prepared by a qualified professional and must describe soil excavation, handling, storage, on-site reuse, transport, and disposal procedures. The Soil Management Plan must also include a description of the engineering controls and air monitoring procedures necessary to ensure that receptors in the vicinity of the Property are not impacted by VOCs, fugitive dust, particulates, ore exposures to contaminated soil via inhalation, dermal contact, and/or ingestion. Workers must be informed of the requirements of the Soil Management Plan, and the plan must be available on-site throughout the course of the project; and

(ii) Implementation of a Health and Safety Plan for excavation associated with planned (non-emergency) utility work or future construction which may result in the excavation and/or relocation of soils on or off the Property, in accordance with 310 CMR 40.0018 and applicable OSHA regulations (29 CFR 1910.120).

4. Proposed Changes in Activities and Uses. Any proposed changes in activities and uses at the Property which may result in higher levels of exposure to oil and/or hazardous material than currently exist shall be evaluated by an LSP who shall render an Opinion, in accordance with 310 CMR 40.1080 *et seq.*, as to whether the proposed changes will present a significant risk of harm to health, safety, public welfare or the environment. Any and all requirements set forth in the Opinion to meet the objective of this Notice shall be satisfied before any such activity or use is

commenced.

5. Violation of a Response Action Outcome. The activities, uses and/or exposures upon which this Notice is based shall not change at any time to cause a significant risk of harm to health, safety, public welfare, or the environment or to create substantial hazards due to exposure to oil and/or hazardous material without the prior evaluation by an LSP in accordance with 310 CMR 40.1080 *et seq.*, and without additional response actions, if necessary, to achieve or maintain a condition of No Significant Risk or to eliminate substantial hazards.

If the activities, uses, and/or exposures upon which this Notice is based change without the prior evaluation and additional response actions determined to be necessary by an LSP in accordance with 310 CMR 40.1080 *et seq.*, the owner or operator of the Property subject to this Notice at the time that the activities, uses and/or exposures change, shall comply with the requirements set forth in 310 CMR 40.0020.

6. Incorporation Into Deeds, Mortgages, Leases, and Instruments of Transfer. This Notice shall be incorporated either in full or by reference into all future deeds, easements, mortgages, leases, licenses, occupancy agreements or any other instrument of transfer, whereby an interest in and/or a right to use the Property or a portion thereof is conveyed.

Owner hereby authorizes and consents to the filing and recordation and/or registration of this Notice, said Notice to become effective when executed under seal by the undersigned LSP, and recorded and/or registered with the appropriate Registry of Deeds and/or Land Registration Office.

WITNESS the execution hereof under seal this 26th day of January, 2011.

MASSACHUSETTS CONVENTION CENTER AUTHORITY

By: _____
James E. Rooney, Executive Director

COMMONWEALTH OF MASSACHUSETTS

Suffolk County, ss January 26, 2011

On this 26th day of January, 2011, before me, the undersigned notary public, personally appeared James E. Rooney, proved to me through satisfactory evidence of identification, which were Massachusetts ID, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose.

as Executive Director for Massachusetts Convention Center Authority, a State Authority

(official signature and seal of notary)

The undersigned LSP hereby certifies that he executed the aforesaid Activity and Use Limitation Opinion attached hereto as Exhibit C and made a part hereof and that in his Opinion this Notice of Activity and Use Limitation is consistent with the terms set forth in said Activity and Use Limitation Opinion.

Date: 1/21/2011

Raymond C. Johnson, L.S.P # 6118

[LSP SEAL]

COMMONWEALTH OF MASSACHUSETTS

Middlesex County, ss

January 21, 2011

On this 21st day of January, 2011, before me, the undersigned notary public, personally appeared Raymond C Johnson, proved to me through satisfactory evidence of identification, which were personally known, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose.

as Licensed Site Professional for Massachusetts Convention Center Authority, a State Authority

(official signature and seal of notary)

PAMELA JOY SMITH
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
October 17, 2014

Upon recording, return to:

Elizabeth C. Ross
Krokidas & Bluestein, LLP
600 Atlantic Avenue
Boston, Massachusetts 02210

MASSACHUSETTS CONVENTION CENTER AUTHORITY

CLERK'S CERTIFICATE

I, William J. Smith, Assistant Clerk of the Massachusetts Convention Center Authority ("Authority"), do hereby certify that on DATE the members of the Board of the Authority, by vote at a duly called meeting at which a quorum was present and acting throughout, authorized the vote attached hereto as Schedule 1, and such vote has not been amended, modified or rescinded and remains in full force and effect on the date hereof.

Executed as of November 30, 2010

William J. Smith
Assistant Clerk

Schedule 1

Board Vote: Authorize the Executive Director to Execute Activity and Use Limitation

At the commencement of the construction of the Boston Convention & Exhibition Center (BCEC), the site upon which the BCEC is constructed was granted a Special Project Designation by the Department of Environmental Protection. The Massachusetts Convention Center Authority (Authority) is currently ready to file a Response Action Outcome (RAO) Statement for a portion of the site and with such RAO an Activity and Use Limitation (AUL), each prepared in concert with Tetra Tech Rizzo, which is consistent with the current and future uses of the site. In order to file and record such documents the Executive Director must receive authority to do so from the Authority Board.

A vote to authorize the Executive Director to make the required filings and recordation would take the following form:

VOTED: The Massachusetts Convention Center Authority in connection with Department of Environmental Protection Release Tracking Number 3-16215 hereby authorized the Executive Director to execute, file and record, where applicable, on behalf of the Authority, The Response Action Outcome Statement and the Activity and Use Limitation in connection therewith and any further, additional, supplemental, substituted or associated documentation required in connection with said Response Action.

Exhibit A

Meets and Bound of Parcel

A certain parcel of land situated on the northwesterly side of D Street in the City of Boston, in the County of Suffolk, Commonwealth of Massachusetts, shown on a plan entitled "Plan of Boston Convention and Exhibition Center, Phase 2, in South Boston, Mass. (Suffolk County), Prepared For: BCEC, Scale: 1" = 80', May 17, 2004" prepared by The BSC Group, Inc., recorded in Book 34983, Page 27 and described as follows:

Beginning at a point in the northeasterly corner of D Street and Cypher Street (Private-50 Ft. Wide); thence

N 49°-18'-56 W	Partly along the northeasterly line of Cypher Street and partly by land now or formerly of Energy International, Inc., a distance of one thousand one hundred eighty-five and ninety-three hundredths feet (1185.93') to a point at Parcel20B on the Phase 2 Plan; thence
N50°-36'-22 E	A distance of one hundred sixteen and eight hundredths feet (116.08') to a point of curvature; thence
Northeasterly	And curving to the right along the arc of a curve having a radius of eight hundred thirty-seven and thirty-five hundredths feet (837.35'), a length of two hundred fourteen and seventy-three hundredths feet (214.73') to a point of tangency; thence
N 65°-17'-56 E	A distance of one hundred thirty-two and thirty-nine hundredths feet (132.39') to a point of curvature; thence
Northeasterly	And curving to the left along the arc of a curve having a radius of four hundred eighty-seven and forty-two hundredths feet (487.42'), a length of sixty-eight and thirty-four hundredths feet (68.34') to a point of tangency; thence
N 57°-15'-57 E	A distance of one hundred ninety-five and no hundredths feet (195.00') to a point at Phase 1 on the Phase 2 Plan, the previous five (5) courses by Parcel 20B on the Phase 2 Plan; thence
S49°-18'-56E	By Phase 1 on the Phase 2 Plan, a distance of nine hundred sixty-seven and fifty-five hundredths feet (967.55') to a point in the northwesterly line of D Street; thence

S 40°-41'-04 W Along the northwesterly line of D Street, a distance of six hundred ninety and no hundredths feet (690.00') to the point of beginning.

The above described parcel of land contains an area of 748,864 square feet, more or less, or 17.1916 acres, more or less, and is shown as "Phase 2 Fee Parcel" on the Phase 2 Plan, recorded in Book 34983, Page 27.

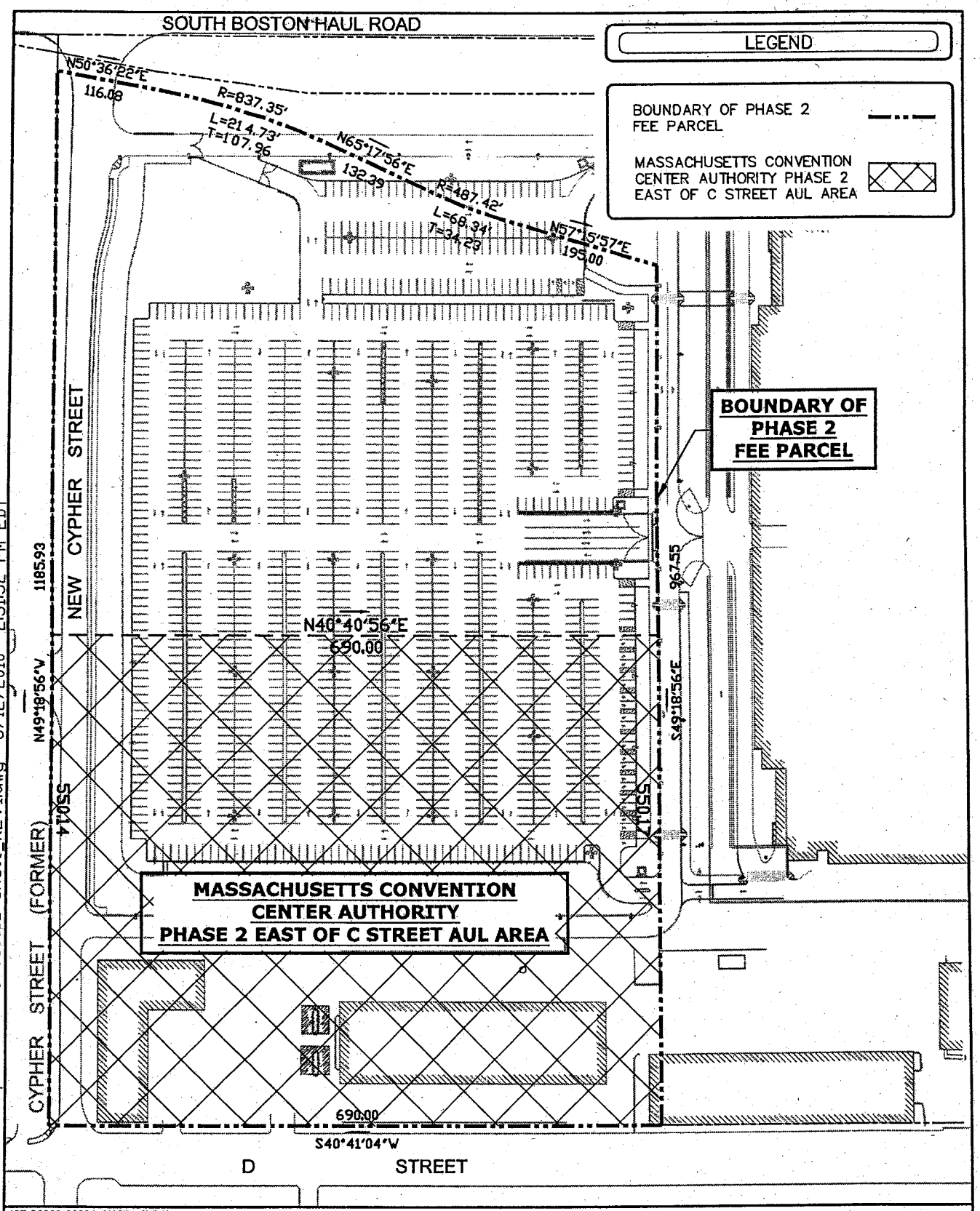
Exhibit A-1

Massachusetts Convention Center Authority Phase 2 East of C Street AUL Area

A certain parcel of land situated on the northwesterly side of D Street in the City of Boston, in the County of Suffolk, Commonwealth of Massachusetts, shown on a plan entitled "Plan of Boston Convention and Exhibition Center, Phase 2, in South Boston, Mass. (Suffolk County), Prepared For: BCEC, Scale: 1" = 80', May 17, 2004" prepared by The BSC Group, Inc., recorded in Book 34983, Page 27 and described as follows:

Beginning at a point in the northeasterly corner of D Street and Cypher Street (Private – 50 Ft. wide); thence

N49°-18'-56" W	Partly along the northeasterly line of Cypher Street and partly by land now or formerly of Energy International, Inc., a distance of five hundred fifty feet and fourteen hundredths (550.14) to a point at land now or formerly of Boston Redevelopment Authority; thence
N40° -40'-56" E	a distance of six hundred ninety and no hundredths (690.00) to a point at land now or formerly of Boston Redevelopment Authority; thence
S 49°–18'-56"	E by Phase I a distance of five hundred fifty feet and seventeen hundredths (550.17) to a point; thence
S 40°–41'-04"	W by the northwesterly line of D Street a distance of six hundred ninety and no hundredths (690.00) to the point of beginning.



127-26209-09001-SKC01_REV1

0 150 Feet

Massachusetts Convention Center Authority
Boston, MA

Sketch Plan of Disposal Site

TETRA TECH RIZZO

Exhibit B

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EXHIBIT C

LSP OPINION FOR ACTIVITY AND USE LIMITATION

Phase II East of C Street
Boston Convention & Exhibition Center
South Boston, Massachusetts
DEP Release Tracking Number (RTN) 3-16215
November 1, 2010

Introduction

In accordance with the requirements of 310 CMR 40.1074, this Activity and Use Limitation (AUL) Opinion has been prepared to support a Notice of Activity and Use Limitation for a the Boston Convention and Exhibition Center (BCEC) Phase 2 Parcel located within and east of the former C Street and northwest of the intersection of D Street and Cypher Street in Boston, Massachusetts, as defined in the Notice of AUL and presented in Exhibit B attached hereto.

Release Description and Summary of Response Actions

The Disposal Site, also known as the BCEC Phase 2 Parcel East of the former C Street, is comprised of approximately 8.7 acres of land located Northeast of Cypher Street including the former C Street and the area between the former C Street and D Street in Boston, Massachusetts. The disposal Site is located in an urban setting in South Boston, and the multiple former parcels that comprise the Site have been used for industrial and commercial purposes for more than 100 years. Current uses of the Disposal Site include a paved parking lot for the adjacent BCEC, a temporary building being utilized as office space and a Massachusetts Department of Transportation (Mass DOT) vehicle maintenance building.

The Disposal Site and surrounding area were created via filling primarily during the 1880's and 1890's. The area is expected to have been filled in various stages and the fill utilized may have consisted of granular fill, organic fill, cohesive fill and/or miscellaneous urban fill. Soils encountered during the subsurface investigation conducted in July and August 2009 were consistent with urban fill areas throughout the greater Boston area including the observed presence or coal, ash and cinders. The various commercial and industrial uses of the Disposal Site over the past 100 years may have contributed to the presence of OHM in the subsurface at the Site; however, it is expected that the majority of the environmental impacted soil encountered during the subsurface investigation is associated with the filling activities of the late 1800's.

Subsurface investigations at the Site performed in 1998 and in 2001/2002 identified PAHs and metals in soil that exceeded the MCP RCS-2 Reportable Concentrations. Environmental regulatory compliance activities for the BCEC site (Phases 1 and 2) have been conducted under Special Project Designation (SPD) Permit filed jointly by the Boston Redevelopment Authority (BRA) and the Massachusetts Convention Center Authority (MCCA) in November 1999.

During construction of the BCEC all areas of the Disposal Site not occupied by buildings were paved or otherwise improved such that soils at the Site are not accessible to current users of the BCEC property.

Existing Conditions in Area Subject to AUL

Soil containing VOCs, SVOCs, metals, PCBs and petroleum hydrocarbons, at reported concentrations greater than the laboratory detection limits, has been identified throughout the Site. Reported concentrations of naphthalene, dibenzo (a,h) anthracene, arsenic, chromium and lead were identified at concentrations that exceeded their respective MCP RCS-2 reportable concentrations and are considered compounds of concern (COCs) for the Site. None of the reported soil concentrations were detected at levels exceeding their respective Upper Concentration Limits (UCLs).

Metals: Arsenic, chromium and lead have been identified as COCs for this Site based upon reported concentrations of these metals exceeding the RCS-1 standards. Concentrations of arsenic ranged from 3 mg/kg to 37 mg/kg with a site-wide average of 10 mg/kg. Concentrations of chromium ranged from 8 mg/kg to 398 mg/kg with a site-wide average of 32 mg/kg. Concentrations of lead ranged from 12 mg/kg to 3,250 mg/kg with a site-wide average of 396 mg/kg. The elevated metals concentrations are believed to be related to the urban fill that is pervasive in this area and may also be associated with historic property uses and activities in this area.

Semi-volatile Organic Compounds: The SVOCs naphthalene and dibenzo (a,h) anthracene have been identified as COCs at the Site. Concentrations of naphthalene were reported to be above the laboratory detection limits in 26 of the 40 soil samples collected by Tetra Tech Rizzo, with concentrations ranging from 0.01 mg/kg to 55.6 mg/kg and a site-wide average of 3.3 mg/kg. Concentrations of dibenzo (a,h) anthracene were reported to be above the laboratory detection limits in 7 of the 40 soil samples collected by Tetra Tech Rizzo, with concentrations ranging from 0.4 mg/kg to 6.06 mg/kg and a site-wide average of 1.63 mg/kg. The identified SVOC concentrations at the Site are believed to be related to components of the urban fill at the Site and/or associated with petroleum products once stored and/or utilized on some of the parcels that comprise the Site.

Groundwater

Detectable concentrations of VOCs, SVOCs, heavy metals and petroleum hydrocarbons have been reported for groundwater samples collected from groundwater monitoring wells located at the Site; however, the reported concentrations indicated that groundwater at the Site has not been significantly impacted by the presence of urban fill at the Site or the industrial and commercial uses of the Site. The Method 3 Risk Characterization concluded that COC concentrations in groundwater pose no significant risk under the conditions evaluated. None of the reported groundwater concentrations were detected at levels exceeding their respective Upper Concentration Limits (UCLs).

Justification for Activity and Use Limitation

A Method 3 Human Health and Environmental Risk Characterization was conducted to evaluate the risk posed by the contaminants of concern at the Property. Soil and groundwater data from investigations performed in July and August 2009 were used to generate Exposure Point Concentrations (EPCs) and to determine if the contaminants of concern pose a risk for current and hypothetical future activities and uses. Analytical results for investigations performed between 1998 and 2002 were not used as the basis for the risk characterization, since the laboratory certificates of analysis for those samples could not be located. However, supplemental risk calculations performed using the tabulated results for the historic samples, along with the results of testing performed in 2009, demonstrated that the exclusion of the historic data from the risk calculations does not change the conclusions of the risk characterization.

The results of the risk characterization concluded that the Site poses "No Significant Risk" of harm to human health, the environment, public safety or public welfare for the current site conditions and uses. The Property poses No Significant Risk for pedestrians, employees who may work in a future building constructed on the Portion of the Property, emergency utility workers, or construction workers.

A condition of Significant Risk to human health exists for hypothetical future residents due to exposure through cumulative dermal contact and ingestion of contaminated soils. No significant risk was identified as a result of inhalation or ingestion of fugitive dust. The metals arsenic and lead, and the SVOC benzo(a)pyrene, are the main compounds of concern driving risk to human health for hypothetical future residents. Therefore, in order to limit such exposures and maintain a condition of "No Significant Risk", an AUL is required to restrict residential development. Other than following the guidelines and restrictions of the AUL as described below, it is our opinion that no further remedial activities are required to achieve and maintain this level of "No Significant Risk" at the Portion of the Property.

Description of AUL Area

The area subject to this AUL is defined as the Boston Convention and Exhibition Center Phase 2 Parcel located east of the western extent of the former C Street. The area subject to this AUL includes approximately 8.7 acres of land and is shown on Figure 3. The AUL area is currently improved by a paved parking lot for the adjacent Boston Convention and Exhibition Center, a temporary building being utilized as office space and a Massachusetts Department of Transportation (Mass DOT) vehicle maintenance building. Urban fill believed to have been placed at the Site in the late 1800's along with the cumulative impacts of over 100 years of commercial and industrial use of the Site have been identified as the sources of soil and groundwater impacts within the AUL area.

Permitted Activities for AUL Area

The AUL Opinion provides that a condition of No Significant Risk to health, safety, public welfare or the environment exists for any foreseeable period of time (pursuant to 310 CMR 40.0000) so long as any of the following activities and uses occur on the Property:

i. Activities and uses consistent with the Property's current or future use as a parking lot, convention center, hotel, and/or retail space, including, without limitation, maintenance activities, landscaping, vehicular parking and vehicular pedestrian traffic, which are necessary and incidental to such uses;

ii. Commercial and industrial uses that are consistent with zoning of the Property;

iii. Use of Landscaped Areas associated with the Property as outdoor events areas, which may include entertainment functions, sitting and walking across the area, and passive recreation use of the area;

iv. Subsurface activities associated with non-emergency utility work or future construction of buildings and other improvements to support permitted uses of the Property, provided such uses comply with the Obligations and Conditions of the AUL Opinion;

v. Emergency excavation activities associated with short term (less than three days) underground utility work and other subsurface construction/maintenance projects, provided such uses comply with the Obligations and Conditions of this AUL Opinion and do not result in the relocation of soils on or off the Property;

vi. Any other activities or uses which, in the Opinion of an LSP, shall present no greater risk of harm to health, safety, public welfare or the environment than the activities and uses set forth in this Paragraph; and

vii. Any other activities and uses not identified in Paragraph 2 as being Activities and Uses Inconsistent with the AUL.

Restricted Activities for AUL Area

Activities and uses which are inconsistent with the objectives of this Notice of Activity and Use Limitation, and which, if implemented at the Property, may result in a significant risk of harm to health, safety, public welfare or the environment or in a substantial hazard, are as follows:

i. Use of the Property for a single- or two-family residence, school, kindergarten, day care facility, outdoor active recreation area (e.g.; sports playing fields), or outdoor playground;

ii. Use of the Property for cultivation of fruits and/or vegetables destined for human consumption;

iii. Subsurface activities associated with non-emergency utility and construction work, unless such work is conducted under United States Occupational Safety and Health Administration, Hazardous Waste Operations and Emergency Response regulations at 29 CFR 1910.120; and

iv. Any activity or use which, in the Opinion of an LSP, is reasonably likely to create a Significant Risk of harm to health, safety, public welfare, or the environment.

Conclusions and LSP Opinion

This LSP Opinion for Activity and Use Limitation has been prepared for implementation of a Notice of Activity and Use Limitation for an approximately 8.7 acre area identified as the Boston Convention and Exhibition Center (BCEC) Phase 2 Parcel located at the intersection of D Street and Cypher Street, east of the western extent of the former C Street, in Boston, Massachusetts, as shown on Exhibit B. The results of the Method 3 Risk Characterization indicate that restrictions on activities and uses for the parcel are required to achieve and maintain a condition of No Significant Risk. Activities and uses for the parcel that result in extended direct contact to contaminated soil by adults and children in a residential setting are to be restricted. Other than the use restrictions described in the AUL documents it is our opinion that no further remedial activities are required to maintain a condition of No Significant Risk of harm to human health, the environment, public safety or public welfare for current or hypothetical future site conditions and uses.

Based on the results of the Method 3 Risk Characterization and the implementation of an AUL for a portion of the Disposal Site, it is our opinion that a condition of No Significant Risk will exist at the Disposal Site and that a Permanent Solution will have been achieved. This determination qualifies the Site for a Class A-3 Response Action Outcome Statement in accordance with 310 CMR 40.1036(3).

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC113A

ACTIVITY & USE LIMITATION (AUL) OPINION FORM

Pursuant to 310 CMR 40.1056 & 40.1070 - 40.1084 (Subpart J)

Release Tracking Number
3 - 16215

A. DISPOSAL SITE LOCATION:

1. Disposal Site Name: C ST PARCEL 5 BOSTON CONVENTION CTR
2. Street Address: 24 CYPHER AND 5 CLAFLIN
3. City/Town: SOUTH BOSTON
4. ZIP Code: 02127-0000

B. THIS FORM IS BEING USED TO: (check one)

- [x] 1. Provide the LSP Opinion for a **Notice of Activity and Use Limitation**, pursuant to 310 CMR 40.1074.
- [ ] 2. Provide the LSP Opinion for an **Evaluation of Changes in Land Uses/Activities and/or Site Conditions after a Response Action Outcome Statement,** pursuant to 310 CMR 40.1080. Include BWSC113A as an attachment to BWSC113. Section A and C do not need to be completed.
- [ ] 3. Provide the LSP Opinion for an **Amended Notice of Activity and Use Limitation**, pursuant to 310 CMR 40.1081(4).
- [ ] 4. Provide the LSP Opinion for a **Partial Termination of a Notice of Activity and Use Limitation**, pursuant to 310 CMR 40.1083(3).
- [ ] 5. Provide the LSP Opinion for a **Termination of a Notice of Activity and Use Limitation**, pursuant to 310 CMR 40.1083(1)(d).
- [ ] 6. Provide the LSP Opinion for a **Grant of Environmental Restriction**, pursuant to 310 CMR 40.1071.
- [ ] 7. Provide the LSP Opinion for an **Amendment of a Grant of Environmental Restriction**, pursuant to 310 CMR 40.1081(3).
- [ ] 8. Provide the LSP Opinion for a **Partial Release of a Grant of Environmental Restriction**, pursuant to 310 CMR 40.1083(2).
- [ ] 9. Provide the LSP Opinion for a **Release of a Grant of Environmental Restriction**, pursuant to 310 CMR 40.1083(1)(c).
- [ ] 10. Provide the LSP Opinion for a **Confirmatory Activity and Use Limitation**, pursuant to 310 CMR 40.1085(4).

(Unless otherwise noted above, all sections of this form (BWSC113A) must be completely filled out, printed, stamped, signed with black ink and attached as an exhibit to the AUL Document to be recorded and/or registered with the Registry of Deeds and/or Land Registration Office.)

C. AUL INFORMATION:

1. Is the address of the property subject to AUL different from the disposal site address listed above?

   [x] a. No [ ] b. Yes If yes, then fill out address section below.

2. Street Address:
3. City/Town:
4. ZIP Code:

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC113A

ACTIVITY & USE LIMITATION (AUL) OPINION FORM

Pursuant to 310 CMR 40.1056 & 40.1070 - 40.1084 (Subpart J)

Release Tracking Number
3 - 16215

D. 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 CMR4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief,

> *if Section B indicates that a **Notice of Activity and Use Limitation** is being registered and/or recorded*, the Activity and Use Limitation that is the subject of this submittal (i) is being provided in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (ii) complies with 310 CMR 40.1074;

> *if Section B indicates that an **Evaluation of Changes in Land Uses/Activities and/or Site Conditions after a Response Action Outcome Statement*** is being submitted, this evaluation was developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (ii) complies with 310 CMR 40.1080;

> *if Section B indicates that an **Amended Notice of Activity and Use Limitation or Amendment to a Grant of Environmental Restriction** is being registered and/or recorded*, the Activity and Use Limitation that is the subject of this submittal (i) is being provided in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (ii) complies with 40.1081;

> *if Section B indicates that a **Termination or a Partial Termination of a Notice of Activity and Use Limitation, or a Release or Partial Release of a Grant of Environmental Restriction** is being registered and/or recorded*, the Activity and Use Limitation that is the subject of this submittal (i) is being provided in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (ii) complies with 310 CMR 40.1083;

> *if Section B indicates that a **Grant of Environmental Restriction** is being registered and/or recorded*, the Activity and Use Limitation that is the subject of this submittal (i) is being provided in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (ii) complies with 310 CMR 40.1071;

> *if Section B indicates that a **Confirmatory Activity and Use Limitation** is being registered and/or recorded*, the Activity and Use Limitation that is the subject of this submittal (i) is being provided in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (ii) complies with 310 CMR 40.1085(4);

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 #: 6118
2. First Name: RAYMOND C
3. Last Name: JOHNSON
4. Telephone: (508) 903-2000
5. Ext.:
6. FAX:
7. Signature: Raymond C Johnson
8. Date: 01/21/2011 mm/dd/yyyy
9. LSP Stamp:

COMMONWEALTH OF MASSACHUSETTS
RAYMOND C. JOHNSON
No. 6118
REGISTERED
LICENSED SITE PROFESSIONAL

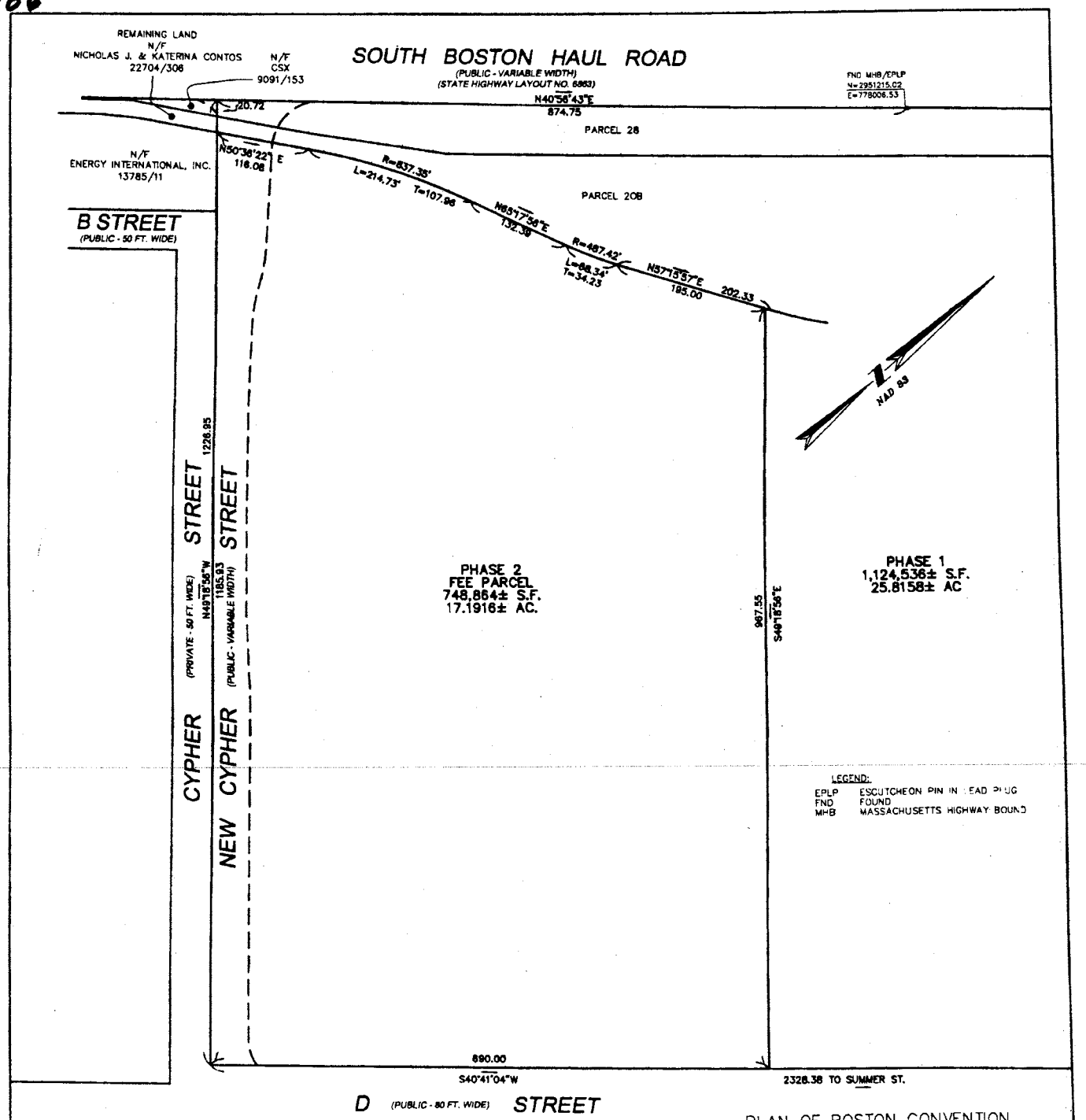
FEB 7 - 2011

THIS IS A TRUE COPY OF AN INSTRUMENT RECORDED IN THE SUFFOLK COUNTY REGISTRY OF DEEDS AT THE BOOK AND PAGE ON THE FIRST PAGE HEREOF.

ATTEST: Francis M. Roache

FRANCIS M. ROACHE
REGISTER OF DEEDS

1186



PLAN OF BOSTON CONVENTION AND EXHIBITION CENTER

PHASE 2

IN

SOUTH BOSTON, MASS.

(SUFFOLK COUNTY)

PREPARED FOR: BCEC

SCALE : 1" = 80' MAY 17, 2004

FEET 0 40 80 160 320

METERS 0 40 80

THE BSC GROUP, INC.

15 ELKINS STREET, BOSTON, MASS. 02127

I HEREBY CERTIFY TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION AND BELIEF THAT THIS PLAN HAS BEEN PREPARED IN CONFORMITY WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS AND THAT THE PROPERTY SHOWN LIES COMPLETELY WITHIN THE DEVELOPMENT AREA UNDER CHAPTER 152 OF THE MASSACHUSETTS ACTS OF 1997.

COMMONWEALTH OF MASSACHUSETTS DONALD J. FORAND No. 39660 REGISTERED PROFESSIONAL LAND SURVEYOR

5/18/04
DATE

Donald J. Forand
PROFESSIONAL LAND SURVEYOR

JOB NO. 1-2596.40 DWG. NO. 3264-44D FF-20

SUFFOLK REGISTRY OF DEEDS

JUL 8 2004

12 M 46 M 6 M

RECEIVED FOR RECORD

#241

34983-27

1186

PARCEL 28

PARCEL 20B

PARCEL 20A

PARCEL 21

PARCEL S-16

PARCEL S-15

N53°56'56"E 196.82'

N40°42'41"E 119.67'

MHB/TPLP FND

N75°37'14"E 128.53'

N49°18'56"W 123.56'

N57°15'57"E 202.33'

R=549.74 L=238.88' Δ=121°34'

N32°22'16"E 81.77'

N33°30'19"W 2.09'

7.33'

N40°39'33"E 998.55'

MAP 83

SUFFOLK REGISTRY OF DEEDS

JUL 9 2004

#241

PHASE 1 FEE PARCEL

(NOT INCLUDING HOTEL PARCEL)

1,124,536± S.F.
25.8158± AC.

SUMMER STREET

528.14'

(PUBLIC - 100 FT WIDE)

S54°17'46"E 1080.48'

482.25'

N29°18'56"W 967.55'

PHASE 2

S40°40'56"W 269.76'

S49°18'56"E 138.22'

S40°41'04"W 243.00'

S40°41'04"W 63.30'

47.09' S44°20'13"W

57.18' S44°57'09"W

S40°41'04"W 265.00'

RADIAL N21°17'34"W

R=19°28'30" L=161.73'

T=81.78'

RADIAL N41°55'34"E

S40°41'04"W 150.01'

S49°18'56"E 210.00'

N 2,950,609.54 E 779,092.76

BOSTON CONVENTION AND EXHIBITION CENTER HOTEL PARCEL

428.39'

1209.99'

1638.38' S40°41'04"W

MB/X-CUT FND

N 2,951,320.10 E 779,898.55

D

(PUBLIC - 80 FT. WIDE)

STREET

3

LEGEND:

SB	STONE BOUND
X-CUT	CROSS CUT
MHB	MASSACHUSETTS HIGHWAY BOUND
EPLP	ESCUTCHEON PIN IN LEAD PLUG
FND.	FOUND

I HEREBY CERTIFY TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION AND BELIEF THAT THIS PLAN HAS BEEN PREPARED IN CONFORMITY WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS AND THAT THE PROPERTY SHOWN LIES COMPLETELY WITHIN THE DEVELOPMENT AREA UNDER CHAPTER 152 OF THE MASSACHUSETTS ACTS OF 1997.

5/18/04
DATE

Ronald G. Fornaciari
PROFESSIONAL LAND SURVEYOR

PLAN OF BOSTON CONVENTION AND EXHIBITION CENTER
PHASE 1
IN
SOUTH BOSTON, MASS.
(SUFFOLK COUNTY)

PREPARED FOR: BCEC

SCALE: 1" = 60' MAY 17, 2004

FEET 0 30 60 120 240
METERS 0 30 60

THE BSC GROUP, INC.
15 ELKINS STREET, BOSTON, MASS. 02127

SHEET 1 OF 2
JOB NO. 1-2598.40 DWG. NO. 3264-448 FT-20

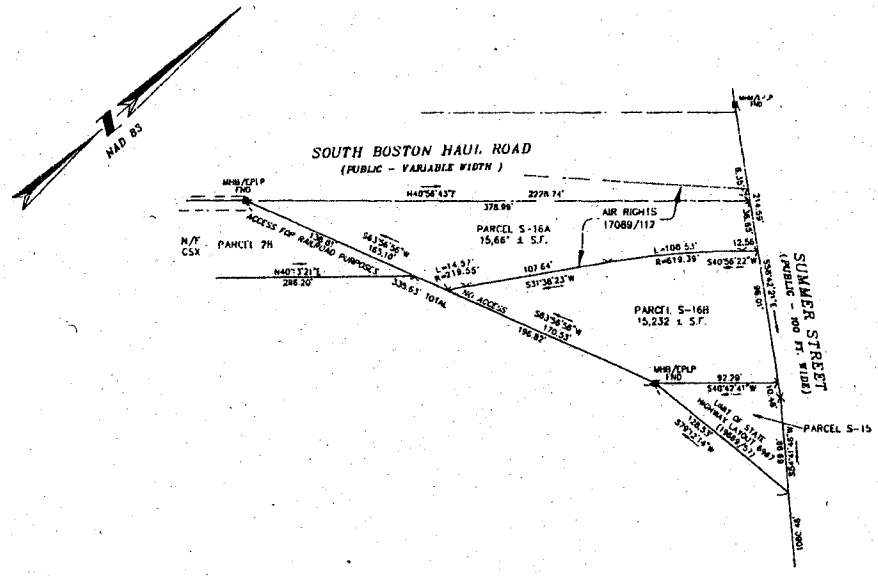
JAN - 4 2011

THIS IS A TRUE COPY OF AN INSTRUMENT RECORDED IN THE SUFFOLK COUNTY REGISTRY OF DEEDS AT THE BOOK AND PAGE ON THE FIRST PAGE HEREOF.

ATTEST: Francis M. Roache
FRANCIS M. ROACHE
REGISTER OF DEEDS

JAN 4 2011

9811



LEGEND

EPLP	EXCELSIOR PIN IN LEAD PLUG
FND	FOUND
MHB	MASSACHUSETTS HIGHWAY BOUND

3

PLAN OF BOSTON CONVENTION AND EXHIBITION CENTER

PHASE 1

IN

SOUTH BOSTON, MASS.

(SUFFOLK COUNTY)

PREPARED FOR: BCEC

SCALE : 1" = 40' MAY 17, 2004

FEET 0 20 40 80 160

METERS 0 20 40

THE BSC GROUP, INC.
15 ELKINS STREET, BOSTON, MASS. 02127

SHEET 2 OF 2

JOB NO. 1-2586.40 DWG. NO. 3264-44F FF-20

I HEREBY CERTIFY TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION AND BELIEF THAT THIS PLAN HAS BEEN PREPARED IN CONFORMITY WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS AND THAT THE PROPERTY SHOWN HES COMPLETELY WITHIN THE DEVELOPMENT AREA UNDER CHAPTER 152 OF THE MASSACHUSETTS ACTS OF 1997.

5/18/04
DATE

Donald G. Freeman
PROFESSIONAL LAND SURVEYOR

SUFFOLK REGISTRY OF DEEDS
JUL 8 2004

#341

34983-27

NOTICE OF ACTIVITY AND USE LIMITATION

C STREET PARCEL 5 BOSTON CONVENTION CENTER
24 CYPHER STREET AND 5 CLAFLIN STREET
SOUTH BOSTON, MASSACHUSETTS

RELEASE TRACKING NUMBER 3-16215

A release of oil and/or hazardous materials has occurred at this location, which is a disposal site as defined by M.G.L. c. 21E, § 2 and the Massachusetts Contingency Plan, 310 CMR 40.0000. On February 7, 2011 The Massachusetts Convention Center Authority recorded with the Suffolk County Registry of Deeds a Notice of Activity and Use Limitation on the disposal site, pursuant to 310 CMR 40.1070 through 40.1080.

The Notice of Activity and Use Limitation limits the following site activities and uses on the above property:

- Use of the Property for a single- or two-family residence, school, kindergarten, day care facility, outdoor active recreation area (e.g.; sports playing fields), or outdoor playground;
- Use of the Property for cultivation of fruits and/or vegetables destined for human consumption;
- Subsurface activities associated with non-emergency utility and construction work, unless such work is conducted under United States Occupational Safety and Health Administration, Hazardous Waste Operations and Emergency Response regulations at 29 CFR 1910.120; and
- Any activity or use which, in the Opinion of an LSP, is reasonably likely to create a Significant Risk of harm to health, safety, public welfare, or the environment.

Any person interested in obtaining additional information about the Notice of Activity and Use Limitation may contact Raymond C. Johnson, Tetra Tech Rizzo, 1 Grant Street, Framingham, Massachusetts 01701 (508-903-2000).

The Notice of Activity and Use Limitation and the disposal site file can be reviewed at MassDEP, Northeast Regional Office, 205B Lowell Street, Wilmington, Massachusetts 01887 (978-694-3200).

TETRA TECH

February 16, 2011

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

Re: Class B-2 Response Action Outcome Statement
Boston Convention and Exhibition Center
East of C Street
Boston, Massachusetts
RTN 3-16215

Dear Sir/Madam:

On behalf of the Massachusetts Convention Center Authority (MCCA), Tetra Tech, Inc. d/b/a Tetra Tech Rizzo is submitting this Class B-2 Response Action Outcome (RAO) Statement and Activity and Use Limitation (AUL) for the Disposal Site identified by Release Tracking Number (RTN) 3-16215 at the Site located at D and Cypher Street in South Boston, Massachusetts (the Site).

A Method 3 Human Health and Environmental Risk Characterization was conducted to evaluate the risk posed by the contaminants of concern at the Site. The results of the risk characterization concluded that the implementation of an AUL was necessary to achieve and maintain a condition of "No Significant Risk" for the Disposal Site. Therefore, a Notice of AUL was recorded for the Disposal Site at the Suffolk County Land Registration Office on February 7, 2011.

This report has been prepared in accordance with the Massachusetts Contingency Plan (MCP) 310 CMR 40.0000 and is subject to the Limitations and Conditions presented in Appendix A. The original DEP transmittal forms for this report (BWSC-104 and 113) were submitted by eDEP. Copies of the LSP Opinion for the AUL, Notice of AUL and DEP Transmittal forms are appended to this report.

Please contact us if you have any questions or comments.

One Grant Street
Framingham, MA 01701
Tel 508.903.2000 Fax 508.903.2001

TETRA TECH

Very truly yours,

Christopher K. Nitchie, P.E.
Sr. Project Engineer

Raymond C. Johnson, P.G., L.S.P.
Senior Vice President

P:\26209\127-26209-09001\Docs\Reports\RAO\Final RAO Statement\RAO Statement_February 2011.doc

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Appendix B Data Usability Assessment Documentation

Appendix C Method 3 Human Health and Environmental Risk Characterization

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Appendix G Laboratory Certificates of Analysis

Appendix H Standard Operating Protocols

Appendix I Copy of Uniform Hazardous Waste Manifest

Appendix J Copy of DEP Transmittal Forms (BWSC-104, 113 and 113A)

1.0 Introduction

On behalf of the Massachusetts Convention Center Authority (MCCA), Tetra Tech, Inc. d/b/a Tetra Tech Rizzo (TTR) has prepared this Class B-2 Response Action Outcome (RAO) Statement for the Disposal Site identified by the Massachusetts Department of Environmental Protection under Release Tracking Number (RTN) 3-16215 (the Site). Tetra Tech Rizzo has also prepared a Licensed Site Professional (LSP) Opinion for Activity and Use Limitation (AUL) and Notice of AUL for the Disposal Site. The Disposal Site is known as The Boston Convention and Exhibition Center East of C Street and is located Northeast of Cypher Street between the former C Street and D Street. The Site (East of C Street) is a portion of a larger development parcel over which the MCCA assumed ownership and/or control under the 1997 enabling legislation for the Boston Convention and Exhibition Center, with the larger development parcel including the portion generally west of C Street and northeasterly of old Cypher Street discussed in the Tier II Classification Submittal and Phase 2 Scope of Work submitted on behalf of MCCA by Haley and Aldrich in May, 2009 that will be the subject of separate response actions and associated DEP submittals.

A subsurface investigation to characterize current soil and groundwater conditions at the Site was conducted in July and August 2009. No remedial actions were conducted at the Site as a result of the findings of the recent subsurface investigation; however, soil excavation was performed throughout this area in preparation for construction of the existing Boston Convention and Exhibition Center (BCEC) and underground storage tanks were removed previously from a gasoline service station that was formerly located near the southeast corner of the Site. Following the completion of subsurface investigation, a Method 3 Human Health and Environmental Risk Characterization was conducted to evaluate the risk posed by the contaminants of concern at the Site. The results of the risk characterization concluded that the implementation of an AUL was necessary to achieve and maintain a condition of “No Significant Risk” for the Disposal Site, based on potential risk to hypothetical future Site residents occupying single family or two-family residences.

This report presents a description of the releases, a summary of historic and recent assessment of soil and groundwater conditions at the Site, a representativeness evaluation and data usability assessment, a summary of the risk characterization, an evaluation of the feasibility of achieving background, and a description of the AUL that has been implemented to maintain a condition of “No Significant Risk” at a portion of the Disposal Site in accordance with 310 CMR 40.1012.

This Class B-2 RAO Statement has been prepared in accordance with the Massachusetts Contingency Plan (MCP), 310 CMR 40.0000 and is subject to the LSP Statement of Limitations and Conditions included in Appendix A. A copy of the DEP transmittal forms (BWSC-104, 113 and 113A) is included in Appendix J. A copy of the Notice of AUL is included in Appendix D.

1.1 Abbreviations

Common abbreviations used in this report are as follows:

AST	aboveground storage tank
AUL	Activity and Use Limitation
BCEC	Boston Convention and Exhibition Center
bgs	below ground surface
BRA	Boston Redevelopment Authority
BWSC	Bureau of Waste Site Cleanup
CAM	Compendium of Analytical Methods
CMR	Code of Massachusetts Regulations
COC	compound of concern
DEP	Department of Environmental Protection
DO	dissolved oxygen
ELCR	Excess Lifetime Cancer Risk
EPA	Environmental Protection Agency
EPC	Exposure Point Concentration
EPH	extractable petroleum hydrocarbons
GIS	Geographic Information Systems
HI	Total Hazard Indices
IH	Imminent Hazard
IRA	Immediate Response Action
HASP	Health and Safety Plan
LSP	Licensed Site Professional
MCP	Massachusetts Contingency Plan
mg/kg	milligrams per kilogram
MCCA	Massachusetts Convention Center Authority
Mass DOT	Massachusetts Department of Transportation
MS	matrix spike
MSD	matrix spike duplicate
MWRA	Massachusetts Water Resources Authority
NOR	Notice of Responsibility
OHM	oil and/or hazardous materials
ORP	oxidation reduction potential
OSHA	Occupational Safety and Health Administration
PAHs	polycyclic aromatic hydrocarbons
PCBs	polychlorinated biphenyls
PEL	permissible exposure limit
PID	photoionization detector
ppb	parts per billion
PPE	personal protective equipment
ppm	parts per million
ppmv	parts per million by volume
PVC	polyvinyl chloride
QA	quality assurance
QC	quality control

RAO	Response Action Outcome
RCs	Reportable Concentrations
REDUA	Representativeness Evaluation and Data Usability Assessment
RNF	Release Notification Form
RPD	relative percent difference
RTN	Release Tracking Number
SPD	Special Project Designation
SVOC	semi-volatile organic compound
TTR	Tetra Tech Rizzo
UCL	upper concentration limit
ug/L	micrograms per liter
UST	underground storage tank
TCLP	Toxicity Characteristic Leaching Procedure
VOCs	volatile organic compounds
VPH	volatile petroleum hydrocarbons

2.0 Disposal Site Information

In accordance with the MCP (310 CMR 40.1056) the following sections provide the general Disposal Site information relevant to this Class B-2 RAO.

2.1 Disposal Site Description

The Disposal Site is the portion of the BCEC Phase 2 Parcel that is located East of C Street and comprised of approximately 8.0 acres of land located Northeast of Cypher Street between the former C Street and D Street in Boston, Massachusetts. The location of the Disposal Site is shown on Figure 1. The Disposal Site is located in an urban setting in South Boston and is comprised of multiple, formerly separate parcels that were used for industrial and commercial purposes for more than 100 years, until they were acquired by the Boston Redevelopment Authority (BRA) for construction of the BCEC. Current uses of the Disposal Site include a paved parking lot for the adjacent BCEC, a temporary building being utilized as office space on an intermittent basis, and a Massachusetts Department of Transportation (Mass DOT) vehicle maintenance building.

A Site Locus map is included as Figure 1, and the Disposal Site boundaries are depicted on Figure 2. The Massachusetts Land Court shows the Massachusetts Convention Center Authority (MCCA) as the owner of record of the entire Disposal Site.

The Reserved Channel is the closest surface water body to the Site. The Massachusetts Water Resources Authority (MWRA) supplies drinking water to the area; no private drinking water wells are known or anticipated to exist within 500 ft of the Site. There is no known Protected Open Space within 500 ft of the Site. There are no known institutions (facilities with overnight housing such as a hospital, health care facility, orphanage, nursing home, convalescent home, educational facility, or correctional institution) located within 500 ft of the Site. Human receptors within 500 feet of the Disposal Site include workers at abutting properties and residents of single family and multi-family homes located south of the Site.

2.2 Release Description and Regulatory History

The Disposal Site and surrounding area were created via filling, primarily during the 1880's and 1890's. The area is believed to have been filled in various stages and the fill utilized is likely to have consisted of granular fill, organic fill, cohesive fill and other miscellaneous urban fill. Soils encountered during the subsurface investigation conducted in July and August 2009 was consistent with urban fill areas throughout the greater Boston area including the observed presence or coal, ash and cinders. The various commercial and industrial uses of the Disposal Site over the past 100 years may have contributed to the presence of OHM in the subsurface at the Site; however, it is expected that the majority of the impacted soil encountered during the subsurface investigation is associated with the filling activities of the late 1800's.

3.0 Description of MCP Response Actions

During construction of the BCEC, the areas of the property not occupied by buildings were paved or otherwise improved with landscaping or other surface cover such that fill soils at the Site are not accessible to users of the BCEC. In addition, demolition of former structures and regrading of the area was performed to prepare the property for construction of the current parking area and access roadways to the BCEC. Also, underground storage tanks were removed during demolition of a former gasoline service station located near the southeast corner of the Site.

4.0 Subsurface Investigations

As discussed in the following sections, several phases of subsurface investigations have been performed at the Site. In July and August 2009 Tetra Tech Rizzo performed a subsurface investigation at the Site to obtain current information regarding soil and groundwater conditions for comparison with the results of previous Site investigation and for use in a Method 3 Human Health and Environmental Risk Characterization in accordance with current DEP guidance documents. Historic subsurface investigations were performed at the Site in 1998 and in 2001/2002 by Weston and Sampson (W&S). The previous investigations were performed prior to the construction of the Boston Convention and Exhibition Center, which is adjacent to the Site. The 2009 subsurface investigation performed by Tetra Tech Rizzo was designed to provide side wide soil and groundwater coverage to characterize current, post-construction conditions; investigate specific areas of the Site based on history property uses; and supplement the results of previous assessment which indicated elevated levels of various contaminants in soil. The following sections describe the historical and recent subsurface investigation activities at the Site.

4.1 Historic Subsurface Investigations

Based upon the MCP Phase I Initial Site Investigation Report, Tier II Classification Submittal and Phase II Scope of Work for the Boston Convention and Exhibition Center East of C Street Phase 2, prepared by Haley and Aldrich and dated May 2009, subsurface investigations were performed at the Site by W&S in August and September1998 and in November 2001 through

January 2002. These investigations identified polycyclic aromatic hydrocarbons (PAHs) and metals in soil that exceeded the MCP RCS-2 Reportable Concentrations. While tabulated analytical data for soil and groundwater samples collected from the Site were included in the Phase I Initial Site investigation, Tetra Tech Rizzo was able to obtain only limited laboratory analytical certificates and field sampling protocols for the analytical data for the 2001/2002 samples from these historical investigations, and we have been unable to obtain copies of the laboratory certificates of analysis for the samples collected in 1998. Efforts to locate the historic laboratory certificates of analysis have included a DEP file review at the Northeast Regional Office, review of reports on file at the BRA, and direct inquiries to representatives of W&S who were involved in the work implemented in 1998. Based on the inability to locate laboratory certificates of analysis from those sources, it appears that the laboratory certificates have been destroyed or misplaced, and are not available for use in the risk characterization which supports this RAO Statement.

4.2 2009 Subsurface Investigations

As noted previously, the scope of the subsurface investigations implemented in 2009 was intended to provide general soil and groundwater coverage of the Disposal Site to characterize current, post-construction conditions, and to evaluate conditions in areas of the Disposal Site where elevated levels of PAHs and metals were identified during previous investigations. The 2009 subsurface investigations included the advancement of twenty (20) soil borings, completion of ten (10) borings as groundwater monitoring wells, and the collection of forty (40) soil samples and ten (10) groundwater samples for laboratory analysis. The 2009 subsurface investigation activities are described in further detail in the following sections.

4.2.1 Soil Borings and Monitoring Well Installations

Tetra Tech Rizzo engaged Geologic/Earth Exploration Inc. of Norfolk, Massachusetts to advance twenty (20) soil borings (RIZ-1 through RIZ-20), ten (10) of which (RIZ-1 through RIZ-10) were completed as groundwater monitoring wells. The soil borings were advanced from July 23 to August 4, 2009 using truck-mounted hollow-stem auger drilling equipment. Soil samples were generally collected continuously during advancement at two foot intervals until native (non-fill) soils were observed. Boring logs and monitoring well construction diagrams are presented in Appendix F. Locations of Tetra Tech Rizzo borings and monitoring wells are shown on Figure 2.

Aliquots of the soil samples collected during boring advancement were field screened for headspace volatile organic compounds (VOCs) using a photoionization detector (PID) equipped with a 10.6-eV lamp and calibrated to an isobutylene standard. The samples were sealed in eight-ounce glass “driller jars” for field head space screening in accordance with the jar headspace standards and protocols listed in Appendix H. PID responses are noted on the boring logs included in Appendix F. PID responses ranged from 0.0 parts per million by volume (ppmv) at multiple boring locations to 182 ppmv at soil boring RIZ-5 (8’-10’).

Based on field observations made during the advancement of the soil borings, the soils generally consist of urban fill from directly below the engineered ground surface (pavement/landscaped

areas) to depths ranging from 3 to 20 feet below the ground surface (bgs). The urban fill materials are underlain by native uniform sands and/or clays. Auger refusal was encountered in one well, RIZ-15, at a depth of approximately 6 feet bgs, likely on a buried foundation, granite block, boulder or other non-native impediment related to former development and/or filling of the Site. Groundwater was encountered in borings at depths ranging from approximately 3 feet below ground surface (bgs) to 12 feet bgs.

Ten (10) soil borings were completed as groundwater monitoring wells, and designated as RIZ-1 to RIZ-10. The wells installed were constructed of 2-inch diameter PVC well screen and solid PVC riser, and were constructed so that the screened section of each well intercepts the observed water table. The annular space around each well screen was filled with graded filter sand that was extended to a point one foot above the top of the well screen, followed by a one to two-foot layer of bentonite to form a seal to minimize the potential for vertical migration of groundwater within the borehole. The remaining annular space was filled with native material from the borehole. Each well was completed using a flush-mounted road box set in concrete.

Soil generated during soil boring and monitoring well installation activities was containerized in 55-gallon drums at the end of each work day and each drum was labeled with the generator information, date and corresponding soil boring designations. Soil drums were stored within the waste storage area located at the southern end of Bullock Street until off-site disposal could be arranged. Off-site disposal of drummed soils is discussed further in Section 4.2.4.

4.2.2 Subsurface Soil Collection

Two soil samples from each of the twenty (20) soil borings were selected for submission for laboratory analysis. Soil sampling locations and depths were selected based on the known former activities at the Site, available laboratory analytical data from previous soil borings and PID responses observed during field headspace screening as described in Section 4.2.1. Soil samples were submitted to Spectrum Analytical, Inc. in Agawam, Massachusetts for the analysis of VOCs by Method 8260, semi-volatile organic compound (SVOCs) by Method 8270C, extractable petroleum hydrocarbons (EPH), volatile petroleum hydrocarbons (VPH), MCP 14 Metals and polychlorinated biphenyls (PCBs). Depths for each sample submitted and positive analytical results are shown on Table 1. The laboratory certificates of analysis are presented in Appendix G.

4.2.3 Groundwater Sample Collection

Following installation, each groundwater monitoring well was developed by pumping until visually free of sediment, to the extent feasible. Purge water was pumped into 5-gallon buckets and then transferred into 55-gallon drums stored within the waste storage area located at the southern end of Bullock Street until off-site disposal could be arranged. Off-site disposal of drummed liquids is discussed further in Section 4.2.4. A slight petroleum odor was noted in the purge water during development of well RIZ-5, a monitoring well located near the area of the former USTs at the gasoline service station formerly located in this portion of the Site. A minimum of 3-days after well development one groundwater sample was collected from each of the ten newly installed monitoring wells. Groundwater sampling was conducted on August 6

and 7, 2009. Prior to the collection of the samples, the depth to groundwater in each well was gauged using a Solinst water level meter. The depth to water was measured relative to the PVC riser in each well. The depth to groundwater measured in the monitoring wells ranged from 3.05 feet in RIZ-2 to 11.97 feet in RIZ-5.

Water was purged from the monitoring wells using the EPA low-flow groundwater sampling technique until the field measurements of pH, specific conductance, dissolved oxygen (DO), oxidation reduction potential (ORP) and temperature stabilized. Purged groundwater was pumped into 5-gallon buckets and then transferred into 55-gallon drums stored within the waste storage area located at the southern end of Bullock Street until off-site disposal could be arranged. Once the groundwater quality parameters stabilized, samples were collected in laboratory prepared containers and stored on ice until delivered, under Chain of Custody, to Spectrum Analytical, Inc. Groundwater samples were submitted for the analysis for VOCs by Method 8260, VPH, EPH, and MCP 14 metals. The positive groundwater analytical results are presented in Table 2 and the laboratory certificates of analysis are included in Appendix G.

4.2.4 Remediation Waste

The soil boring advancement, groundwater monitoring well installations and development and sampling of groundwater monitoring wells described above generated a total of eleven soil/solids 55-gallon drums and two liquids 55-gallon drums. The thirteen drums were labeled at the end of each day and were stored in the designated waste materials area at the southern end of Bullock Street until off-site disposal arrangements could be made. On December 2, 2009, 21st Century Environmental Management LLC transported the thirteen drums of solids and liquids to Northland Environmental, LLC in Providence, RI under a uniform hazardous waste manifest. A copy of the Uniform Hazardous Waste Manifest is presented in Appendix I.

5.0 Nature and Extent of Contamination

In general, the laboratory analytical results for the soil and groundwater samples collected from the Disposal Site have identified low concentrations of VOCs, SVOCs, heavy metals, PCBs and petroleum hydrocarbons, most of which are below the applicable MCP RCS-2 and RCGW-2 reportable concentrations. The impacts identified at the Site are believed to be the result of urban fill placed at the Site in the late 1800's, along with the cumulative impacts of over 100 years of industrial and commercial use, including the former presence of underground and above ground storage tanks. Fill at the Site was observed directly below the asphalt pavement (or landscaped areas) throughout the majority of the Site, was observed to have a thickness of between approximately 3 feet and 20 feet, and overlies native deposits consisting of fine sand and clay. The following sections summarize our understanding of the nature and extent of contamination at the Disposal Site.

5.1 Nature and Extent of Soil Contamination

VOCs, SVOCs, metals, PCBs and petroleum hydrocarbons were detected at concentrations greater that the laboratory detection limits throughout the Site. Some of the reported

concentrations of naphthalene, dibenzo (a,h) anthracene, arsenic, chromium and lead were identified at concentrations that exceeded their respective MCP RCS-2 reportable concentrations and these compounds are considered compounds of concern (COCs) for the Site. None of the reported soil concentrations were detected at levels exceeding their respective Upper Concentration Limits (UCLs). Soil analytical data supporting this Class B-2 RAO is presented in Table 1. Laboratory Certificates are presented in Appendix G.

Metals: Arsenic, chromium and lead have been identified as COCs for this Disposal Site based upon reported concentrations of these metals exceeding the RCS-2 standards. Concentrations of arsenic ranged from 3 mg/kg to 37 mg/kg with a site-wide average of 10 mg/kg. Concentrations of chromium ranged from 8 mg/kg to 398 mg/kg with a site-wide average of 32 mg/kg. Concentrations of lead ranged from 12 mg/kg to 3,250 mg/kg with a site-wide average of 396 mg/kg. The elevated metals concentrations are believed to be related to the urban fill that is pervasive in this area and may also be associated with historic property uses and activities in this area.

Semi-volatile Organic Compounds: The SVOCs naphthalene and dibenzo (a,h) anthracene have been identified as COCs at the Site. Concentrations of naphthalene were reported to be above the laboratory detection limits in 26 of the 40 soil samples collected by Tetra Tech Rizzo, with concentrations ranging from 0.01 mg/kg to 55.6 mg/kg and a site-wide average of 3.3 mg/kg. Concentrations of dibenzo (a,h) anthracene were reported to be above the laboratory detection limits in 7 of the 40 soil samples collected by Tetra Tech Rizzo, with concentrations ranging from 0.4 mg/kg to 6.06 mg/kg and a site-wide average of 1.63 mg/kg. The identified SVOC concentrations at the Disposal Site are believed to be related to components of the urban fill at the Site and/or associated with petroleum products once stored and/or utilized on some of the parcels that comprise the Site.

5.2 Nature and Extent of Groundwater Contamination

Detectable concentrations of VOCs, SVOCs, heavy metals and petroleum hydrocarbons have been reported for groundwater samples collected from groundwater monitoring wells located at the Site. None of the reported concentrations exceeded the applicable RCGW-2 reportable concentrations except for concentrations of SVOCs in well RIZ-3 in groundwater samples collected during the August 2009 sampling event. The three SVOC compounds reported in well RIZ-3 at concentrations exceeding the RCGW-2 standards were acenaphthylene at 56 ug/L , anthracene at 106 ug/L and fluorine 74 ug/L; their respective RCGW-1 standards are 40 ug/L, 30 ug/L and 40 ug/L. Despite the three SVOC exceedances, the Method 3 Risk Characterization concluded that COC concentrations in groundwater pose no significant risk under the conditions evaluated and the reported concentrations indicated that groundwater at the Disposal Site has not been significantly impacted by the presence of urban fill at the Site or the industrial and commercial uses of the Site.

None of the reported groundwater concentrations were detected at levels exceeding their respective Upper Concentration Limits (UCLs). Groundwater analytical data supporting this Class B-2 RAO is presented in Table 2. Laboratory Certificates are presented in Appendix G.

6.0 Representativeness Evaluation and Data Usability Assessment

A Representativeness Evaluation and Data Usability Assessment (REDUA) was conducted in support of this RAO Statement in accordance with 310 CMR 40.1056(2)(k) and DEP Policy "*MCP Representativeness Evaluations and Data Usability Assessments"* (#WSC-07-350) dated September 19, 2007. The Representativeness Evaluation documents the adequacy of the spatial and temporal data sets used to support the RAO. The Data Usability Assessment documents that the data relied upon are scientifically valid and defensible, and of sufficient accuracy, precision and completeness to support the RAO.

6.1 Representativeness Evaluation

The Representativeness Evaluation demonstrates the adequacy of the cumulative data set to sufficiently characterize conditions at the Disposal Site and supports the Conceptual Site Model. The evaluation includes a description of the Conceptual Site Model, use of field screening data; sampling rationale; number, spatial distribution and sampling procedures; temporal distribution of samples; data gaps; inconsistency and uncertainty and representativeness information. The components of the Representativeness Evaluation in support of this RAO are discussed in the sections below.

6.1.1 Conceptual Site Model

Uses of the Disposal Site currently include a paved parking lot for the BCEC, a temporary building being utilized as office space and a Massachusetts Department of Transportation (Mass DOT) vehicle maintenance building.

As described in Section 5.0, laboratory analytical analysis of soil and groundwater samples collected from the Disposal Site have identified low concentrations of VOCs, SVOCs, heavy metals, PCBs and petroleum hydrocarbons. The impacts identified at the Site are believed to be associated primarily with urban fill placed at the Site in the late 1800's and the cumulative impacts of over 100 years of industrial and commercial use including the former presence of underground and above ground storage tanks. Fill at the Disposal Site was observed directly below the asphalt pavement and landscaped areas throughout the majority of the Site, at thicknesses ranging from approximately 3 to 20 feet.

6.1.2 Use of Field/Screening Data

The selection of laboratory analytical methods for the samples collected during the 2009 investigations was based on contaminants previously identified at or near the Disposal Site, particularly those identified in the Phase I Initial Site Investigation Report, Tier II Classification Submittal and Conceptual Phase II Scope of Work for the Site, prepared by Haley & Aldrich and dated May 2009. The historic use of the property also influenced selection of laboratory analytical methods, including the knowledge that the Site and surrounding area was filled to raise the ground surface elevation in the late 1800's, urban fill is common in South Boston, and the long history of commercial and industrial use on the parcels that comprise the Site. Soil boring locations were selected to provide coverage of areas of the Site where available information

suggests OHM may have been used or stored, confirm results of previous subsurface investigations of the Site, and provide general Site coverage. Field screening techniques, including PID headspace screening and field observations of soil characteristics and odors, were used in conjunction with existing analytical data to assist with the selection of soil samples for laboratory analysis.

6.1.3 Sampling Locations and Depths

The boundaries of the area that was the subject of the recent subsurface investigations and this RAO have been based on property boundaries, the limits of specific RTNs issued under the Special Project Designation applicable to the BCEC property, previously designated Disposal Site boundaries on the property and boundaries of previous and anticipated future areas of environmental investigations. Environmental investigations have been conducted and completed on The Boston Convention and Exhibition Center Phase 1 Area located immediately northeast of the Site (RTN 3-16230, Class A-3 RAO submitted December 2008) and environmental investigations are anticipated to commence later this year within the BCEC Phase 2 West of C Street Area (RTN 3-16211) located immediately northwest of the Site. The Disposal Site Boundary was selected to cover all of the "Phase 2 Fee Parcel" located within and east of the former C Street.

Soil boring and groundwater monitoring well locations within the area described above were based upon available information regarding the location of former structures on the property, the results of previous subsurface investigation, and to provide general Site coverage. Soil sample depths were selected based upon field screening data, visual and olfactory observations and to provide a representative vertical profile of the encountered fill.

Our review indicates that the sampling locations and depths are sufficient to delineate Disposal Site boundaries, identify background COC concentrations, calculate EPCs, identify Hot Spots, identify exposure pathways and receptors, and assess human health and environmental risk at the Site.

6.1.4 Sampling Density, Spatial Distribution, Collection Methods and Handling

Soil samples used to support this RAO were collected based on parcel maps and figures showing locations of historic structures on the Disposal Site, preexisting analytical data as reported in historical environmental reports for the Site, field observations during drilling, and to provide general site-wide coverage. Soil samples included in the data set that supports this RAO were collected as discrete samples of subsurface fill materials and from locations suspected of being impacted by the former commercial and industrial uses of the Site, including areas where underground or above ground storage tanks are known or expected to have been present. Groundwater samples were collected from monitoring wells screened across the water table and were collected using modified US Environmental Protection Agency (EPA) low flow sampling protocol which provides a representative sample of the static aquifer conditions at the Site. Soil and groundwater samples collected to support this RAO were placed on ice and were transported to a Massachusetts certified laboratory under chains-of-custody.

Because laboratory certificates of analysis for most of the historic testing at the Site could not be located, despite an exhaustive search of those sources most likely to have the information, the historic soil and groundwater testing results are not included in the data set that supports this RAO. However, since data tables summarizing the results of the historic testing are available, an evaluation was made of the impact of the historic results on the risk characterization for the Site. Specifically, a MCP Method 3 risk characterization was performed using the laboratory analysis results for the testing performed in 2009. In addition, supplemental risk calculations were made using data from both the recent investigation performed by Tetra Tech Rizzo and the historic results of testing performed in 1998 and 2001/2002 and presented in historic reports prepared for the Site (Haley & Aldrich, Inc. MCP Phase I Initial Site Investigation Report, Tier II Classification Submittal and Conceptual Phase II Scope of Work;, Boston Convention Center East of C Street – Phase 2, May 2009; Weston and Sampson Boston Redevelopment Authority Immediate Response Action Report Former 4T's Gasoline Station 24 Cypher Street Boston, MA RTN 3-16227, July 2002). The results of that evaluation, discussed in detail in the full Risk Characterization report in Appendix C, indicated that the conclusions of the risk characterization and the approach to and category of the RAO submitted for the Disposal Site does not change if the historical data is used. Section 7.0 presents further discussion of the data set that supports this RAO.

The spatial distribution of the samples used for the calculation of EPCs used in the Risk Characterization is shown on Figure 2. A total of 40 soil samples, collected from 20 soil boring locations throughout the Site, were used to calculate the soil EPCs. Soil sample depths were selected based upon Field/Screening data, visual and olfactory observations and to provide general coverage of the fill materials encountered. A total of 10 groundwater samples were used to calculate groundwater EPCs, one from each of the 10 groundwater monitoring wells installed at the Disposal Site in 2009.

It is our opinion that the sampling density and spatial distribution of samples collected is consistent with the findings of the Conceptual Site Model and representative of current Disposal Site conditions. We conclude that the sample collection and handling methods, sampling density and spatial distribution of soil and groundwater samples site-wide are sufficient to support the RAO.

6.1.5 Temporal Distribution of Samples

Soil and groundwater samples collected to support this RAO were collected in July and August 2009. Historical assessment and sampling activities occurred at the Disposal Site between 1998 and 2002, and while the historical soil and groundwater data is not included in the data being used to support this RAO because the laboratory certificates of analysis are not available, the data reported in historical environmental reports (Haley & Aldrich, Inc. MCP Phase I Initial Site Investigation Report, Tier II Classification Submittal and Conceptual Phase II Scope of Work, Boston Convention Center East of C Street – Phase 2, May 2009; Weston and Sampson Boston Redevelopment Authority Immediate Response Action Report Former 4T's Gasoline Station 24 Cypher Street Boston, MA RTN 3-16227, July 2002) is consistent with the analytical data reported for the samples collected during the 2009 subsurface investigations. The similarity between the historic data and the 2009 data suggests that the concentrations of compounds

reported in soil and groundwater are not likely to be changing significantly over time, an observation that is consistent with the fate and transport characteristics of the primary COCs, SVOCs and metals. While the 1998 and 2002 data could not be used in the risk characterization, because the absence of laboratory certificates of analysis precludes performing the representativeness evaluation and data usability assessment required pursuant to the MCP, supplemental risk calculations performed using the historical data and the results of the testing performed in 2009 conclusively demonstrates that the laboratory analytical results used to support this RAO are consistent with the reported historical analytical data and that the conclusions of the risk characterization don't change by excluding the historic results from the data set.

Therefore, we conclude that the temporal distribution of soil and groundwater sample collection is sufficient to demonstrate that no ongoing or uncontrolled source of contamination remains, that concentrations are stable and/or diminishing over time, and that EPCs accurately reflect Disposal Site concentrations.

6.1.6 Completeness

An extensive data set of 50 analytical data points has been used in support of this RAO. No data gaps were identified.

Our review has concluded that the data set is sufficiently complete to support the RAO due to the extensive data set, sample density and distribution, and consistency with the Conceptual Site Model.

6.1.7 Inconsistency and Uncertainty

Based on the complexity of Disposal Site conditions, historic site use and number of data points collected, the following inconsistencies and uncertainties have been identified:

- Although analytical data were generally consistent with field and screening data, soil samples collected from fill areas were sometimes found to be highly heterogeneous and some high relative percent differences were reported in duplicate samples. This sample heterogeneity is not considered atypical for urban fill samples, but is indicative of the chaotic stratigraphy and distribution of fill at the Site.

- Typically all analytical results for a Disposal Site are incorporated into the risk characterization and used as the basis for the conclusions reached in a RAO Statement. However, in this case an exhaustive search has failed to locate the laboratory certificates of analysis for environmental investigations performed at the Site between 1998 and 2002, although data tables summarizing the results of that work are available. Since the absence of laboratory certificates of analysis precludes performing the representativeness evaluation and data usability assessment required by the MCP, the historic data are not used as the basis for the conclusions of the risk characterization and RAO Statement. Supplemental risk calculations, which included the tabulated historic results, reached conclusions that are similar to conclusions reached using only the data from the 2009

investigations, and demonstrate that exclusion of the historic data does not change the conclusions of the risk characterization or the details of the RAO Statement and AUL being submitted for the Site. Section 7.0 provides further discussion of the use of analytical data without the associated laboratory analytical certificates.

The inconsistencies and uncertainties discussed in this Section are not considered to be material to the conclusions of the risk characterization or this RAO Statement based on the size of the data set, consistency between the tabulate results of the historic testing and the recent testing results, and the similarity in the risk calculations for the current data compared to the combination of current and historic data.

6.1.8 Representativeness of the Data Set

Laboratory certificates of analysis for investigations conducted between 1998 and 2002 were generally not available in the files reviewed as a part of this investigation which included file reviews and or requests for files from the MCCA, Haley and Aldrich, Weston and Sampson, Tetra Tech Rizzo and the Massachusetts DEP. Due to the lack of laboratory quality assurance and quality control data that would typically be obtained from the laboratory certificates of analysis this data could not be reviewed relative to CAM compliance status and presumptive certainty of data However this data in considered representative based upon the consistency of the 1998-2002 data with the more recent and CAM compliant data and the lack of risk associated with the use of the data. As discussed in the Risk Assessment and throughout this report, two sets of EPCs were calculated as a part of the Risk Assessment. One set utilized all available data and one set using only any data for which laboratory certificates were available for review during our investigation. Inclusion of the non-CAM compliant data does not change the conclusion of the Risk Assessment or of this RAO and therefore based upon the guidance document *MCP Representativeness Evaluations and DATA Usability Assessments Policy # WSC-07-350* the Non-CAM data is considered representative.

6.2 Data Usability Assessment

The Data Usability Assessment consists of an analytical and field component. The field component evaluates the sampling collection procedure to ensure a sample is representative of the sampling point upon delivery to the laboratory. The analytical component evaluates whether analytical data points are scientifically valid and defensible, and that a sufficient level of precision, accuracy, and sensitivity has been achieved. According to DEP Policy, the rigorousness of the Data Usability Assessment should be “proportional to the complexity of the project and the ramifications of risk-related decisions associated with the interpretation of the data.”

As part of an effort to enhance the quality and consistency of analytical data supporting MCP submittals, the DEP has published the Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data (WSC-CAM-VII A). The version of this document referenced in this report was released on May 21, 2004. The purpose of the document is to provide quality assurance/quality control (QA/QC) guidance regarding the acquisition and reporting of analytical data, including regulatory performance standards and agency expectations

for MCP data submittal. To facilitate the application of the performance standards, the DEP has published a Compendium of Analytical Methods (CAM) which provides a series of recommended protocols for the acquisition, analyses, and reporting of analytical data in support of MCP decisions. Use of these procedures provides an LSP with "Presumptive Certainty" of data acceptance by the DEP.

Validation of the laboratory data included a review of field and laboratory quality control samples as applicable, including:

- CAM Compliance status and Presumptive Certainty of data;
- field sample custody, preservation, and analytical holding times;
- field duplicates to assess sampling precision, representativeness, and laboratory operations;
- field trip blanks/equipment blanks to assess whether there may be false positive contamination during sample acquisition and/or storage;
- collection and analysis of field matrix spikes/matrix spike duplicates (MS/MSD) and /or evaluation of surrogate recoveries to assess laboratory matrix effects and data accuracy;
- laboratory method blanks, surrogate spike recoveries (organics only), laboratory control sample (LCS) recoveries, MS/MSD recoveries, and laboratory sample duplicates and relative percent difference (RPD);
- laboratory quantitation (detection) limits; and
- miscellaneous observations.

A table summarizing the evaluation of analytical data points as part of the Data Usability Assessment is provided in Appendix B. The table lists the sample name, sample parameters, date sampled, sample matrix, CAM Compliance status and notes any qualifications or exceptions affecting data quality. The Data Usability Assessment provides justification as to why such analytical data are considered acceptable to support the RAO.

6.2.1 Analytical Data Usability Assessment

Soil and groundwater data points used in support of this RAO were reported for samples collected in July and August 2009 and are considered CAM Compliant, meaning that analytical results were (1) determined using an MCP Analytical Method detailed in CAM; (2) comply with method-specific QC requirements specified in CAM; (3) are reported with narration of method-specific performance standard deficiencies; and (4) are reported with required deliverables specified in CAM. CAM Compliant data have "Presumptive Certainty" and are of known accuracy, precision and sensitivity. Analytical quality control performance standards for CAM Compliant data used in support of this RAO are reviewed and described in Appendix B.

A discussion of analytical data issues as identified by the Laboratory Case Narrative is included in Appendix B. In general, CAM Compliant data were found to have adequate sensitivity in detection levels compared to project-specific objectives. Cases where detection limits were above applicable method standards were examined by assessing whether a particular COC was a driving risk factor; and whether one-half of the detection limit (used in the calculation of EPCs) was comparable to detected COC concentrations. It was concluded that lack of sensitivity in detection limits does not impact the conclusions of the Risk Characterization.

In some instances, surrogate recoveries, relative percent differences, matrix spike or method blank samples suggested that results may be biased low or detected outside of quality control limits. Most of these situations involved COCs that were consistently non-detect in samples collected throughout the Site or COCs that were materially contributing to the level of risk at the Site.

In some instances samples submitted for PCB analysis were analyzed outside of the EPA recommend holding time. Based upon the general consistency within the analytical results between samples that were analyzed outside of the holding recommended times verses those analyzed within the recommended holding times, these samples are considered representative.

Data points not used in support of this RAO include any data for which laboratory analytical certificates were not available for review during preparation of this RAO. These data points were reviewed for consistency with the usable data points and were included in alternative EPC calculations within the Method 3 Risk Assessment; however, because the absence of laboratory certificates of analysis precludes performing the representativeness evaluation and data usability assessment required pursuant to the MCP, the data set is not included in support of this RAO.

In conclusion, limitations, uncertainties and qualifications associated with analytical deficiencies are not anticipated to affect the overall accuracy, precision or sensitivity of the analytical data to the extent that the validity of the data would be jeopardized. No data collected during the 2009 Site investigation activities were rejected based on gross failure criteria. Analytical data excluded in support of the RAO is described in Section 6.1.8.

6.2.2 Field Data Usability Assessment

Appropriate sampling and handling methods were employed in the field during the collection of sample media. Suitable sampling containers were used, samples were properly preserved, stored within acceptable temperature ranges, and hold times were met for all samples other than those noted in otherwise in Appendix B. Field sampling and handling exceptions included eight PCB sample hold time exceedances and three high or low soil/methanol or soil/deionized water ratios. The PCB hold time exceedances and the low bias reported for VOCs in several soil samples are not anticipated to change the outcome of the Risk Characterization since PCB's and VOCs were identified at low concentrations or below detection limits in soils on a site-wide basis. VOC blanks and MS/MSD samples were not collected during the field program, but were provided by the laboratory for QA/QC purposes. The laboratory analysis of the relative percent difference (RPD) between samples and their corresponding duplicates indicated that the RPD was in some cases outside the acceptable ranges (<50 for soil and <30 for waters) specified in the published DEP guidance document "*Quality Assurance and Quality Control Guidelines for the Acquisition*

and Reporting of Analytical Data" (WSC-CAM-VII A). The high RPD between corresponding samples is largely attributed soil heterogeneity, particularly in urban fill material at the Disposal Site. Analytical data were generally found to be consistent with field observations and screening data.

The field component of the data usability assessment indicates that sample collection, handling and analytical procedures were followed in a manner that is generally consistent with QC protocols required by the MCP. Based on our overall evaluation of the data, field sampling and handling methods are not anticipated to impact the field accuracy and precision of the data to the extent that the validity of the data would be jeopardized. Field quality control issues for individual samples are identified and discussed in Appendix B.

6.3 Conclusions

A Representativeness Evaluation and Data Usability Assessment was conducted in accordance with 310 CMR 40.1056(2)(k). It is our opinion that the data set relied upon to support this RAO is representative with regard to the spatial and temporal distribution of sampling points; is scientifically valid and defensible; and is of sufficient accuracy, precision and completeness to support the RAO Statement.

7.0 Method 3 Human Health and Environmental Risk Characterization Summary

Tetra Tech Rizzo (TTR) has conducted a Method 3 Human Health and Environmental Risk Characterization for the Disposal Site identified by the Massachusetts Department of Environmental Protection (DEP) with Release Tracking Number (RTN) 3-16215 (the Site). The Disposal Site is located within the Boston Convention and Exhibition Center property located in South Boston, Massachusetts (the subject property). A Site Locus Map is included in this RAO Statement as Figure 1, and a Site Plan including relevant existing features, sampling locations and approximate limits of the Disposal Site is included as Figure 2. The Risk Characterization was conducted in conformance with the requirements of the Massachusetts Contingency Plan (MCP), 310 CMR 40.0000. The DEP Guidance document for risk characterization, *Guidance for Disposal Site Risk Characterization - In Support of the Massachusetts Contingency Plan* (the "Guidance"), and related guidance, such as *Characterizing Risks Posed by Petroleum Contaminated Sites: Implementation of VPH/EPH Approach*, have been followed in this analysis.

The Disposal Site is currently occupied by a paved parking lot utilized by the adjacent Boston Exhibition and Convention Center, a Massachusetts Turnpike Authority Maintenance Garage and a single story building utilized as a laborers union hall. The Site has historically been used for various industrial and commercial purposes including a gasoline service station that is documented to have existed near the intersection of C Street and Cypher Street.

The following potential receptors were selected for evaluation. These receptors were chosen based on our assessment of the current and foreseeable future use of the Site:

- hypothetical trespassers
- current/future Site employees
- hypothetical construction/utility workers and
- hypothetical future Site residents

As discussed in Section 4.0, assessment and sampling activities were performed at the Site by others in 1998, 2001 and 2002, and by TTR in 2009. Summaries of the soil and groundwater data collected from the Site are presented in Tables C-1 and C-2, respectively. As previously discussed, laboratory certificates of analysis for the historical soil and groundwater data from 1998-2002 were generally not available for review by TTR. As a result, we were unable to perform a MCP representativeness evaluation and data usability assessment for that data. However, a review of the historical and current Site soil and groundwater data indicates that the current data collected by TTR in 2009 is generally consistent with the historical Site data from 1998-2002. Assessment of the Site data indicated that soil and groundwater exposure point concentrations (EPCs) estimated using only the current Site data (2009) were generally slightly higher, and therefore more conservative, than the EPCs estimated using both current and historical data.

In this risk assessment we evaluated risks to Site receptors using soil and groundwater EPCs estimated utilizing the 2009 soil and groundwater data. To verify that these estimates were conservative we performed the same analysis using soil and groundwater EPCs generated using both recent and historical data. The formal conclusions of the risk characterization presented in this document are based on the 2009 data due to the fact that despite an exhaustive search laboratory certificates of analysis for the soil and groundwater data collected by others were not available for review by TTR. However, as demonstrated in this report, the overall conclusions of this risk characterization would not change if the historical soil and groundwater data were utilized in the Site EPC estimations.

In summary, the risk characterization is based on soil data collected from the Disposal Site by TTR in July and August 2009, and groundwater data collected from the Disposal Site by TTR in August 2009. Laboratory certificates of analyses for the soil and groundwater data collected by TTR are included in Appendix D. As noted above, laboratory certificates of analysis for the historical Site soil and groundwater data collected by others were not available for review by TTR.

Natural and anthropogenic soil and groundwater background concentrations that have been published for compounds detected in Site soil and groundwater are presented in Table C-4, where available. As shown in Table C-4, the maximum detected concentrations of cadmium and ethylbenzene in the soil samples collected from the Site in 2009, and the maximum concentrations of acenaphthylene and ethylbenzene detected in the soil samples collected from the Site in 1998-2009, are below the DEP background concentrations in soil containing coal/wood ash associated with fill material. Additionally, the maximum reported concentration of mercury in Site groundwater was below the lowest concentration commonly found in groundwater. A total of 51 soil samples from the Site were analyzed for PCB's and none of the

reported PCB sample results exceeded the applicable RCS-1 standards, however concentrations of PCB's were reported at concentrations greater than the laboratory detection limits in 13 of the samples collected. In order to be conservative, all analytes identified in the soil and groundwater samples at concentrations greater than the laboratory detection limits were included in the risk characterization as Compounds of Concern (COCs) for the Site.

Once the COCs were identified, we calculated EPCs to which each receptor could potentially be exposed. Two separate sets of soil EPCs (Soil EPC-1 and Soil EPC-2) were estimated for the Site. Soil EPC-1 is based on data collected at the Site by TTR in 2009 and Soil EPC-2 is estimated using data collected at the Site by others in 1998-2002 and by TTR in 2009.

Soil EPC-1: We estimated Soil EPC-1 as the average concentration of each COC reported in soil samples collected from the Site in 2009, with the exception of two COCs (benzo(a)pyrene and arsenic), for which the 90th percentile concentrations were used as the EPCs. (See Section 5.5.2 for details).

Soil EPC-2: We estimated Soil EPC-2 as the average concentration of each COC reported in soil samples collected from the Site in 1998-2002 and 2009, with the exception of two COCs (benzo(a)pyrene and arsenic), for which the 90th percentile concentrations were used as the EPCs. (See Section 5.5.2 for details).

Similar to the Site soil EPCs, two separate sets of groundwater EPCs (Groundwater EPC-1 and Groundwater EPC-2) were estimated for the Site, as described below.

Groundwater EPC-1: Groundwater EPC-1 is estimated as the average concentration of each COC reported in groundwater samples collected from the Site in 2009.

Groundwater EPC-2: Groundwater EPC-2 is estimated as the average concentration of each COC detected in groundwater samples collected from the Site 1998, 2002 and 2009.

The soil and groundwater EPCs estimated for the Site are presented in Tables C-1 and C-2, respectively. We used these EPCs to estimate risks to the selected Site receptors.

We estimated potential adverse human health risks for carcinogenic and noncarcinogenic effects using Method 3 as outlined in the MCP. We assessed risks to hypothetical trespassers, current and future Site employees, hypothetical construction/utility workers, and hypothetical future residents at the Site. We compared estimated Total Hazard Indices (HIs) for each receptor for noncarcinogenic effects to the DEP acceptable noncancer risk limit of 1.0. We compared Excess Lifetime Cancer Risks (ELCR) for each receptor to the DEP-acceptable cancer risk limit of 1.0E-05 (or 1 in 100,000).

The HIs and ELCRs estimated for hypothetical trespassers, Site employees, and hypothetical construction/utility workers using both sets of soil and groundwater EPCs (Soil EPC-1/Groundwater EPC-1 and Soil EPC-2/Groundwater EPC-2) are below the DEP limits for conditions evaluated at the Site. However, the HI and ELCR estimated for hypothetical future residents using both sets of soil and groundwater EPCs estimated for the Site are above the DEP risk limits. Lead in soil was found to be the main contributor of non-cancer risk to the hypothetical resident receptor mainly due to incidental ingestion of impacted soils. The cancer

risk drivers were identified to be arsenic and benzo(a)pyrene via the incidental ingestion and dermal contact routes of exposures. As shown in Table C-9, the HIs and ELCRs estimated using Soil EPC-1/Groundwater EPC-1 are generally slightly greater than the HIs and ELCRs estimated using Soil EPC-2/Groundwater EPC-2; however, the overall results are not materially different. This evaluation demonstrates that the inability to use the data from the historic investigations does not change the conclusions of the risk characterization, the category of RAO filed for the Site, or the provisions of the AUL.

Based on the results of the health risks estimated for the Site, we determined that a condition of "Significant Risk" to human health would exist at the Site for the hypothetical future residential conditions evaluated.

We also conducted a Stage I Screening environmental risk characterization in accordance with the MCP to evaluate potential risks to the environment from compounds detected in Site media. We determined that "No Significant Risk" of harm to the environment exists at the Site for conditions observed.

There are no open pits, lagoons, drums, dangerous structures, or other apparent threats to public safety, and no danger of fire or explosion from the conditions evaluated in this report. In addition, concentrations of those compounds detected in Site soil and groundwater were below DEP Upper Concentration Limits (UCLs). Thus, we find that "No Significant Risk" of harm to public safety or welfare exists for the conditions observed at the Site.

In conclusion, a condition of "No Significant Risk" of harm to public safety, public welfare and the environment has been found to exist from the identified release on the Site for the conditions evaluated. However, a condition of "Significant Risk" of harm to human health would exist at the Site for the hypothetical future residential use conditions evaluated where exposure to Site soils is unrestricted. A condition of "No Significant Risk" does not exist without restriction of Site uses or activities. Therefore, an Activity and Use Limitation (AUL) which prohibits use of the area for single- or two-family residences, schools, kindergarten, day care facilities, outdoor active recreation or an outdoor playground has been implemented to attain a condition of "No Significant Risk". With the implementation of an AUL a condition of "No Significant Risk" has been achieved at the Site and the conditions for a Class A3 RAO have been achieved for RTN 3-16215.

We have prepared these risk assessment estimates using conservative (i.e., health-protective) assumptions. Thus, the hazard indices and cancer risks presented herein provide an upper-bound estimate of health risks from quantified Site compounds to the groups of potentially exposed individuals considered in the assessment. Health risks resulting from differing durations or frequencies from those described in this report could increase or decrease proportionately in accordance with particular changes in exposure patterns.

8.0 Feasibility of Achieving Background

As part of this Response Action Outcome Statement, the feasibility of reducing concentrations of OHM to achieve or approach background was evaluated in accordance with 310 CMR 40.0860 and the DEP Guidance Document "*Conducting Feasibility Evaluations Under the MCP*" (Policy

#WSC-04-160) dated July 16, 2004. The evaluation criteria applicable to background feasibility include whether the benefits justify the costs or risks associated with the actions taken to achieve background; whether the technology needed to achieve or approach background exists; whether there are individuals with the necessary expertise to conduct the necessary remedial actions; or, if the selected alternative is off-site disposal, whether permitted facilities exist to accept the contaminated media. In accordance with DEP guidance, a finding of infeasibility based on any one of the criteria above is sufficient to conclude that achieving or approaching background is infeasible.

The Method 3 Human Health and Environmental Risk Characterization performed for the Disposal Site concluded that a condition of "No Significant Risk" of harm to public welfare and the environment has been found to exist from the identified release on the Site for the current Site conditions, but that an AUL is necessary to restrict future uses of the Site in order to maintain the condition of "No Significant Risk". The only remedial alternative likely to achieve or approach background conditions in a timely manner is the excavation and off-site disposal of an estimated 112,000 cubic yards of soil from across the Disposal Site at an estimated cost of over $1,900,000. Based on the cost required to achieve background conditions, and the considerable disruption to BCEC operations that would result, it is our opinion that the cost of conducting the remedial actions to background is substantial and disproportionate to the incremental benefit of risk reduction, environmental restoration, and non-pecuniary values.

9.0 Relationship of RAO to Other Disposal Site RAO(s)

310 CMR 40.1056(1)(d) requires a discussion of the relationship between this RAO and any other RAOs that have been filed for the Disposal Site. No other RAOs have been filed for the Disposal Site. This RAO along with the Risk Characterization and AUL, documents that a Permanent Solution has been achieved for the Disposal Site. No further response actions are needed to achieve a Permanent Solution.

10.0 Activity and Use Limitation Summary

A Method 3 Human Health and Environmental Risk Characterization concluded that a condition of Significant Risk to human health exists for hypothetical future residents on the Site due to exposure through cumulative dermal contact and incidental ingestion of contaminated soils. No significant risk was identified as a result of inhalation or ingestion of fugitive dust. Arsenic, lead and benzo(a)pyrene are the main compounds of concern driving risk to human health for hypothetical future residents. Therefore, in order to limit such exposures and maintain a condition of "No Significant Risk", an AUL has been implemented to restrict residential development. Other than following the guidelines and restrictions of the AUL as described below, it is our opinion that no further remedial activities, operation, maintenance, and/or monitoring are required to achieve and maintain this level of "No Significant Risk" within the AUL Area.

Based on the implementation of an AUL for the Disposal Site, it is our opinion that a condition of "No Significant Risk" will exist at the Disposal Site and that a Permanent Solution has been

achieved. The permitted uses, restrictions, obligations and conditions for the AUL are described below, and in the LSP Opinion for AUL included in Appendix D.

10.1 Description of Area Subject to AUL

The area subject to this AUL is defined as the portion the Boston Convention and Exhibition Center Phase 2 Parcel located within and east of where the former C street crossed the parcel. The area subject to this AUL includes approximately 8.0 acres of land and is shown on Figure 3. The AUL area is currently improved by a paved parking lot for the BCEC, a temporary building being utilized as office space and a Massachusetts Department of Transportation (Mass DOT) vehicle maintenance building. Urban fill believed to have been placed at the Site in the late 1800's along with the cumulative impacts of over 100 years of commercial and industrial use of the Site have been identified as the sources of soil and groundwater impacts within the AUL area.

10.2 Permitted Activities for AUL Area

The AUL Opinion provides that a condition of No Significant Risk to health, safety, public welfare or the environment exists for any foreseeable period of time (pursuant to 310 CMR 40.0000) so long as any of the following activities and uses occur on the Portion of the Property:

i. Activities and uses consistent with the Portion of the Property's use as a convention center, hotel, and retail space, including, without limitation, maintenance activities, landscaping, vehicular parking and vehicular pedestrian traffic, which are necessary and incidental to such uses;

ii. Commercial and industrial uses that are consistent with zoning of the Portion of the Property;

iii. Use of Landscaped Areas associated with the Portion of the Property as outdoor events areas, which may include entertainment functions, sitting and walking across the area, and passive recreation use of the area;

iv. Subsurface activities associated with non-emergency utility work or future construction of buildings and other improvements to support permitted uses of the Portion of the Property, provided such uses comply with the Obligations and Conditions of this AUL Opinion;

v. Emergency excavation activities associated with short term (less than three days) underground utility work and other subsurface construction/maintenance projects, provided such uses comply with the Obligations and Conditions of this AUL Opinion and do not result in the relocation of soils on or off the Portion of the Property;

vi. Any other activities or uses which, in the Opinion of an LSP, shall present no greater risk of harm to health, safety, public welfare or the environment than the activities and uses set forth in this Paragraph; and

vii. Any other activities and uses not identified in Paragraph 2 of the AUL as being Activities and Uses Inconsistent with the AUL.

10.3 Restricted Activities for AUL Area

Activities and uses which are inconsistent with the objectives of the Notice of Activity and Use Limitation, and which, if implemented at the Portion of the Property, may result in a significant risk of harm to health, safety, public welfare or the environment or in a substantial hazard, are as follows:

i. Use of the Portion of the Property for a single- or two-family residence, school, kindergarten, day care facility, outdoor active recreation area (e.g.; sports playing fields), or outdoor playground;

ii. Use of the Portion of the Property for cultivation of fruits and/or vegetables destined for human consumption;

iii. Subsurface activities associated with non-emergency utility and construction work, unless such work is conducted under United States Occupational Safety and Health Administration, Hazardous Waste Operations and Emergency Response regulations at 29 CFR 1910.120; and

iv. Any activity or use which, in the Opinion of an LSP, is reasonably likely to create a Significant Risk of harm to health, safety, public welfare, or the environment.

10.4 Obligations and Conditions for AUL Area

If applicable, obligations and/or conditions to be undertaken and/or maintained at the Portion of the Property to maintain a condition of No Significant Risk as set forth in the AUL Opinion shall include the following:

i. Prior to the performance of excavation associated with planned (non-emergency) utility installation, repair or maintenance activities, or future construction which may result in the excavation and/or relocation of soil on or off the Portion of the Property, a written Soil Management Plan must be developed to maintain that good soil management practices are adhered to, pursuant to 310 CMR 40.0030. A written Soil Management Plan must be developed within three days of the start of emergency utility work which may result in the excavation and/or relocation of soils on or off the Portion of the Property. The Soil Management Plan must be prepared by a qualified professional and must describe soil excavation, handling, storage, on-site reuse, transport, and disposal procedures. The Soil Management Plan must also include a description of the engineering controls and air monitoring procedures necessary to ensure that receptors in the vicinity of the Portion of the Property are not impacted by VOCs, fugitive dust, particulates, ore exposures to contaminated soil via inhalation, dermal contact, and/or ingestion. Workers must be informed of the requirements of the Soil Management Plan, and the plan must be available on-site throughout the course of the project; and

ii. Implementation of a Health and Safety Plan for excavation associated with planned (non-emergency) utility work or future construction which may result in the excavation and/or relocation of soils on or off the Portion of the Property, in accordance with 310 CMR 40.0018 and applicable OSHA regulations (29 CFR 1910.120).

11.0 Public Notifications

As stipulated by 310 CMR 40.1403(3)(f), and 40.1403(7), the following public involvement activities have been completed for the Site:

- Letters notifying the Chief Municipal Officer and Boston Public Health Commission of the completion and availability of this RAO Statement and AUL have been sent.

- The MCP requires that at least 30 days prior to the recording of the Notice of AUL, current holders of any record interests in the AUL Area be notified by certified mail, return receipt requested, of the existence and location of OHM within the AUL Area and of the terms of the proposed Notice of AUL. However, for the subject parcel it was determined by the MCCA that there are no current holders of record interests for this parcel who required advanced notification.

- Copies of the recorded AUL documents will be provided to the City of Boston Chief Municipal Officer, Boston Public Health Commission, Boston Redevelopment Authority (Zoning Official) and Inspectional Services Department (Building Code Enforcement) within 30 days of recording of the AUL.

- The Notice of AUL was recorded on February 7, 2011. Within 30 days of recording, a legal notice shall be published in the Boston Herald and a copy of the legal notice submitted to DEP.

Copies of these public involvement filings are included in Appendix E.

12.0 L.S.P. Opinion and Response Action Outcome Statement

A subsurface investigation to characterize current soil and groundwater conditions at the Site was conducted in July and August 2009. No remedial actions were conducted at the Site as a result of the findings of the recent subsurface investigation; however, soil excavation was performed throughout this area in preparation for construction of the BCEC and underground storage tanks were removed from a gasoline service station that was formerly located near the southeast corner of the Site. The results of the risk characterization concluded that a condition of "No Significant Risk" of harm to human health, the environment, public safety or public welfare exists for the current and anticipated future Site conditions and uses evaluated; however, the Method 3 Human Health and Environmental Risk Characterization concluded that a condition of Significant Risk to human health exists for hypothetical future residents on the Site due to exposure through cumulative dermal contact and incidental ingestion of contaminated soils. No significant risk was identified as a result of inhalation or ingestion of fugitive dust. Arsenic, lead and benzo(a)pyrene are the main compounds of concern driving risk to human health for

hypothetical future residents. Therefore, in order to limit such exposures and maintain a condition of "No Significant Risk", an AUL has been implemented to restrict residential development.

In accordance with the MCP, the category of an RAO achieved for a Disposal Site is established based upon the following factors: whether the site poses "No Significant Risk"; whether all Substantial Hazards posed by the Disposal Site have been eliminated; whether remedial actions were undertaken to achieve a level of "No Significant Risk"; whether one or more AULs are required to maintain a level of "No Significant Risk"; whether concentrations of oil or hazardous materials (OHM) at the site exceed the Upper Concentration Limits (UCLs) in soil and/or groundwater; and whether remedial actions have achieved background in accordance with the MCP. A comparison of these criteria to the conditions evaluated for the Disposal Site indicates that the requirements for a Class B-2 RAO have been met, since a Permanent Solution has been achieved; OHM concentrations have not been reduced to background; an AUL has been implemented on the Disposal Site to maintain a level of "No Significant Risk" and OHM do not exceed applicable UCLs [310 CMR 40.1036(3)].

A Class B-2 RAO Statement with the implementation of an AUL at the Disposal Site identified by RTN 3-16215, as shown on Figure 3, is being submitted. The AUL Area contains concentrations of COCs that have not been reduced to background concentrations; however, a Permanent Solution under the MCP has been achieved based on the implementation of an AUL at the property. A feasibility analysis has concluded that reduction of contaminant levels at the Site to concentrations which are consistent with background levels is infeasible.

An LSP Opinion for AUL was prepared that details the activities and uses which are consistent and inconsistent with maintaining a level of "No Significant Risk" for the AUL area, as well as the obligations for the AUL area. The LSP Opinion for AUL is included within the Notice of AUL documents presented in Appendix D. A Notice of AUL was filed with the Suffolk County Land Registration Office on February 7, 2011 and a copy of the Notice of AUL is included in Appendix E. Other than following the permitted uses, restrictions and obligations of the AUL, no additional MCP Response Actions are required to achieve and maintain a level of "No Significant Risk" at the Disposal Site.

The L.S.P. Statement of Limitations and Conditions, and a copy of the DEP Transmittal Form for this Class B-2 RAO Statement, are included in Appendix A and Appendix J, respectively.

Table 1 Soil Analytical Data (mg/kg) - Boston Convention and Exhibition Center,
East of C Street, Boston, Massachusetts, RTN 3-16215

Location:												Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA
Sample Name:												RIZ-1A (0.5-2')	RIZ-1B (6'-8')	RIZ-2A (2'-3.5')	RIZ-2B (4'-6')	RIZ-3A (1'-2')	RIZ-3B (4'-6')	RIZ-4A (0.5'-2')	RIZ-4B (18'-20')	RIZ-5A (0.5'-2')	RIZ-5B (8'-10')	RIZ-6A (1'-2')	RIZ-6B (6'-8')	RIZ-7A (1'-2')	RIZ-7B (3'-4')	RIZ-8A (0'-2')	RIZ-8B (6'-8')	RIZ-9A (0'-2')	RIZ-9B (0'-8')
Sample Depth:	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	0.5-2'	6-8'	2-3.5'	4-6'	1-2'	4-6'	0.5-2'	18-20'	0.5-2'	8-10'	1-2'	6-8'	1-2'	3-4'	0-2'	6-8'	0-2'	0-8'
Laboratory:	Method 1	Method 1	Method 1	Method 1	Method 1	Method 1	Method 1	Method 1	Method 1	RCS-1	RCS-2	Spectrum	Spectrum	Spectrum	Spectrum	Spectrum	Spectrum	Spectrum	Spectrum	Spectrum	Spectrum	Spectrum	Spectrum	Spectrum	Spectrum	Spectrum	Spectrum	Spectrum	Spectrum
Laboratory I.D.:	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	SA98388-01	SA98388-02	SA98388-03	SA98388-04	SA98410-01	SA98410-02	SA98500-01	SA98500-02	SA98500-03	SA98500-04	SA98578-01	SA98578-02	SA98579-01	SA98579-02	SA98699-01	SA98699-02	SA98859-01	SA98859-02
Sample Date:	S-1/GW-1	S-1/GW-2	S-1/GW-3	S-2/GW-1	S-2/GW-2	S-2/GW-3	S-3/GW-1	S-3/GW-2	S-3/GW-3	mg/kg	mg/kg	24-Jul-09	24-Jul-09	24-Jul-09	24-Jul-09	27-Jul-09	27-Jul-09	28-Jul-09	28-Jul-09	28-Jul-09	28-Jul-09	29-Jul-09	29-Jul-09	30-Jul-09	30-Jul-09	31-Jul-09	31-Jul-09	3-Aug-09	3-Aug-09
Consultant:												TTR	TTR	TTR	TTR	TTR	TTR	TTR	TTR	TTR	TTR	TTR	TTR	TTR	TTR	TTR	TTR	TTR	TTR
Acetone	6	50	400	6	50	400	6	50	400	6	50	<0.775	0.231	0.108	<0.0911	<0.585	<0.706	<0.0452	<0.0532	0.0799	<1.74	<0.531	<0.0508	0.145	<0.835	<0.0937	0.216	<0.0558	<1.19
Benzene	2	30	30	2	200	200	2	700	900	2	200	<0.0775	<0.0079	<0.0076	<0.0091	<0.0585	<0.0706	<0.0045	<0.0053	<0.0066	0.436	<0.0531	<0.0051	<0.0071	<0.0835	<0.0094	<0.0095	<0.0056	<0.119
Butanone, 2- (MEK)	4.0	50	400	4	50	400	4	50	400	4	50	<0.775	<0.0787	<0.0761	<0.0911	<0.585	<0.706	<0.0452	<0.0532	<0.0657	<1.74	<0.531	<0.0508	<0.0713	<0.835	<0.0937	<0.095	<0.0558	<1.19
Butylbenzene, n-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0775	<0.0079	<0.0076	<0.0091	<0.0585	<0.0706	<0.0045	<0.0053	<0.0066	0.962	<0.0531	<0.0051	<0.0071	<0.0835	<0.0094	<0.0095	<0.0056	<0.119
Butylbenzene, sec-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0775	<0.0079	<0.0076	<0.0091	<0.0585	<0.0706	<0.0045	<0.0053	<0.0066	0.319	<0.0531	<0.0051	<0.0071	<0.0835	<0.0094	<0.0095	<0.0050	<0.119
Ethylbenzene	40	500	500	40	1000	1000	40	1000	3000	40	1000	<0.0775	<0.0079	<0.0076	<0.0091	<0.0585	<0.0706	<0.0487	<0.0866	<0.0999	1.43	<0.0531	<0.0051	<0.0071	<0.0835	<0.0094	<0.0095	<0.0056	<0.119
Isopropylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000	10,000	<0.0775	<0.0079	<0.0076	<0.0091	<0.0585	<0.0706	<0.0045	<0.0053	<0.0066	0.27	<0.0531	<0.0051	<0.0071	<0.0835	<0.0094	<0.0095	<0.0056	<0.119
Isopropyltoluene, p-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0775	<0.0079	<0.0076	<0.0091	<0.0585	<0.0706	<0.0045	<0.0053	<0.0066	0.272	<0.0531	<0.0051	<0.0071	<0.0835	<0.0094	<0.0095	<0.0056	<0.119
Methyl tert-butyl ether	0.1	100	100	0.1	100	500	0.1	100	500	0.1	100	<0.0775	<0.0079																
Methylene chloride	0.1	20	200	0.1	20	900	0.1	20	900	0.1	20																		
Naphthalene	4	40	500	4	40	1000	4	40	3000	4	40	0.496	<0.215	<0.259	<0.212	0.67	0.246	0.517	<0.219	<0.242	5.49	0.593	2.43	0.411	<0.0835	0.148	1.82	<0.0919	<0.119
Propylbenzene, n-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0775	<0.0079	<0.0076	<0.0091	<0.0585	<0.0706	<0.0045	<0.0053	<0.0066	0.994	<0.0531	<0.0051	<0.0071	<0.0835	<0.0094	<0.0095	<0.0056	<0.119
Styrene	3	4	30	3	4	200	3	4	1000	3	4																		
Tetrachloroethene	1	10	30	1	10	200	1	10	1000	1	10																		
Toluene	30	500	500	30	1000	1000	30	2000	3000	30	1000	<0.0775	<0.0079	<0.0076	<0.0091	<0.0585	<0.0706	0.0502	<0.0866	<0.0999	0.732	<0.0531	<0.0051	<0.0071	<0.0835	<0.0094	<0.0095	<0.0056	<0.119
Trichloroethene	0.3	2	90	0.3	2	700	0.3	2	2000	0.3	2	<0.0775	<0.0079	<0.0076	<0.0091	<0.0585	<0.0706	<0.0045	<0.0053	<0.0066	<0.174	<0.0531	<0.0051	<0.0071	<0.0835	<0.0094	<0.0095	<0.0058	0.644
Trimethylbenzene, 1,2,4-	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000	10,000	<0.0775	<0.0079	<0.0076	<0.0091	<0.0585	<0.0706	<0.0045	<0.0053	<0.0066	4.8	<0.0531	<0.0051	<0.0071	<0.0835	<0.0094	<0.0095	<0.0056	<0.119
Trimethylbenzene, 1,3,5-	NA	NA	NA	NA	NA	NA	NA	NA	NA	10	100	<0.0775	<0.0079	<0.0076	<0.0091	<0.0585	<0.0706	<0.0045	<0.0053	<0.0066	1.5	<0.0531	<0.0051	<0.0071	<0.0835	<0.0094	<0.0095	<0.0056	<0.119
Xylene (total)	400	300	500	400	300	1000	400	300	3000	300	300	<0.155	<0.0157	<0.0152	<0.188	<0.117	<0.141	<0.0974	<0.173	<0.2	2.87	<0.106	<0.164	<0.0143	<0.167	<0.0187	<0.019	<0.0112	<0.238
Acenaphthene	4	1,000	1,000	4	3,000	3,000	4	5,000	5,000	4	3,000	0.931	<0.215	<0.259	<0.212	<0.896	<0.979	0.419	<0.219	<0.242	0.454	<0.473	1.71	<0.447	<0.544	0.475	4.34	0.296	<0.215
Anthracene	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	2.38	<0.217	0.509	<0.214	0.825	0.52	1.1	<0.219	0.331	0.577	0.395	3.23	<0.447	0.671	1.58	8.42	1.41	<0.215
Benzo(a)anthracene	7	7	7	40	40	40	300	300	300	7	40	3.35	<0.217	0.666	<0.214	1.38	3.03	1.91	<0.219	0.633	1.7	0.892	7.94	0.368	1.54	3.8	14.6	4.79	<0.215
Benzo(a)pyrene	2	2	2	4	4	4	30	30	30	2	4	2.88	<0.217	0.523	<0.214	1.17	3.91	1.63	<0.219	0.522	1.48	0.783	6.3	0.301	1.31	3.39	12.9	4.1	<0.215
Benzo(b)fluoranthene	7	7	7	40	40	40	300	300	300	7	40	3.23	<0.217	0.458	<0.214	0.857	2.96	1.72	<0.219	0.53	1.69	0.683	6.01	0.285	1.25	4.07	15	4.84	<0.215
Benzo(g,h,i)perylene	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	1.3	<0.217	<0.261	<0.214	0.831	3.03	0.956	<0.219	0.295	0.605	<0.473	2.89	<0.447	0.566	2.06	7.1	2.59	<0.215
Benzo(k)fluoranthene	70	70	70	400	400	400	3000	3000	3000	70	400	2.07	<0.217	0.354	<0.214	1.22	3.12	1.34	<0.219	0.4	1.03	0.577	4.46	0.218	0.878	2.45	8.03	2.44	<0.215
Chrysene	70	70	70	400	400	400	3000	3000	3000	70	400	3.43	<0.217	0.658	<0.214	1.4	2.98	1.74	<0.219	0.579	1.41	0.722	6.34	0.296	1.47	3.34	12.5	3.53	<0.215
Dibenzo(a,h)anthracene	0.7	0.7	0.7	4	4	4	30	30	30	0.7	4	0.579	<0.215	<0.259	<0.212	<0.896	<0.979	<0.370	<0.217	<0.24	<0.373	<0.473	0.768	<0.447	<0.544	<0.468	1.54	0.395	<0.215
Fluoranthene	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	6.5	<0.217	1.3	<0.214	3.27	4.79	4.32	<0.219	1.38	3.45	1.7	16	0.667	2.99	7.58	31.7	8.62	0.305
Fluorene	1000	1000	1000	3000	3000	3000	5000	5000	5000	1000	3000	1.16	<0.215	<0.259	<0.212	<0.896	<0.979	0.453	<0.219	<0.242	0.591	<0.473	1.5	<0.447	<0.544	<0.473	3.75	0.35	<0.215
Indeno(1,2,3-cd)pyrene	7	7	7	40	40	40	300	300	300	7	40	1.33	<0.217	<0.261	<0.214	0.727	2.39	1.14	<0.219	0.349	0.933	<0.473	3.65	<0.447	0.705	2.07	8.12	2.21	<0.215
Methylnaphthalene, 1-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.37	<0.215	<0.259	<0.212	<0.896	<0.979	<0.37	<0.217	<0.24	1.94	<0.473	<0.614	<0.156	<0.224	<0.468	<1.38	<0.886	<0.213
Methylnaphthalene, 2-	0.7	80	300	0.7	80	500	0.7	80	500	0.7	80	0.419	<0.215	<0.259	<0.212	<0.896	<0.979	<0.374	<0.219	<0.242	2.33	<0.473	<0.614	<0.447	<0.544	<0.473	<1.38	<0.886	<0.213
Naphthalene	4	40	500	4	40	1,000	4	40	3,000	4	40	0.496	<0.215	<0.259	<0.212	0.67	0.246	0.517	<0.219	<0.242	5.49	0.593	2.43	0.441	<0.544	0.148	1.82	<0.886	<0.213
Phenanthrene	10	500	500	10	1000	1000	10	3000	3000	10	1000	7.77	<0.217	1.78	<0.214	2.32	1.25	3.44	<0.219	1.18	2.84	1.18	13.5	0.546	2.35	4.7	29.5	5.7	0.3
Pyrene	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	5.97	<0.217	1.4	<0.214	2.81	5.03	3.43	<0.219	1.13	3.22	1.42	13.1	<0.447	2.47	6.46	26.2	7.31	0.285
Carbazole												<0.74	<0.431	<0.518	<0.423	<1.79	<1.96	<0.741	<0.435	<0.48	<0.746	<0.945	1.49	<0.312	<0.448	<0.937	3.14	<1.77	<0.425
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA	NA	100	1,000	0.93	<0.431	<0.518	<0.423	<1.79	<1.96	<0.741	<0.435	<0.48	<0.746	<0.945	<1.23	<0.312	<0.448	<0.937	<2.77	<1.77	<0.425
Arochlor 1248	2	2	2	3	3	3	3	3	3	2	3	<0.0209	<0.0259	<0.0275	<0.025	<0.021	<0.024	0.184	<0.0267	<0.028	<0.0217	0.0629	<0.0237	<0.0284	<0.023	<0.0266	<0.0315	<0.0209	<0.0261
Arochlor 1254	2	2	2	3	3	3	3	3	3	2	3	0.063	<0.0259	<0.0275	<0.025	<0.021	<0.024	<0.0224	<0.0267	<0.028	<0.0217	<0.0232	<0.0237	<0.0264	<0.023	<0.0266	<0.0315	<0.0209	<0.0261
Arochlor 1260	2	2	2	3	3	3	3	3	3	2	3	<0.0209	<0.0259	<0.0275	<0.025	0.0874	<0.024	0.0722	<0.0267	<0.028	0.0288	0.031	<0.0237	<0.0264	<0.023	<0.0266	<0.0315	<0.0209	<0.0261
Arochlor 1262	2	2	2	3	3	3	3	3	3	2	3					0.0874	<0.024						<0.0237	<0.0264	<0.023				
Arochlor 1268	2	2	2	3	3	3	3	3	3	2	3					0.0874	<0.024						<0.0237	<0.0264	<0.023				
Arsenic, Total	20	20	20	20	20	20	20	20	20	20	20	6.66	7.04	7.32	10.5	6.01	17.1	6.45	13.8	19.2	6.81	8.54	11.3	17.3	7.89	3.1	37	8.6	10.6
Barium, Total	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	144	65.5	115	114	71.7	51.9	58.7	113	787	126	58	98.2	177	157	95.7	189	74.6	187
Beryllium, Total	100	100	100	200	200	200	200	200	200	100	200	0.607	<0.659	<0.643	<0.622	<0.505	<0.576	<0.502	0.953	<0.639	<0.545	<0.557	<0.558	<0.655	<0.547	<0.663	<0.774	<0.486	<0.651
Cadmium, Total	2	2	2	30	30	30	30	30	30	2	30	2.45	<0.859	0.829	1.49	1	<0.576	<0.502	<0.564	<0.639	<0.545	<0.557	0.709	<0.655	<0.547	<0.663	2.71	0.559	<0.651
Chromium, Total	30	30	30	200	200	200	200	200	200	30	200	14.1	37.6	13	51.3	19.7	8.09	16.4	55.9	26.7	17.9	31.3	20.7	31.8	13.1	14.5	16.8	18.1	9.18
Lead, Total	300	300	300	300	300	300	300	300	300	300	300	229	12.3	268	14.7	113	336	263	12.1	3,250	201	38	284	718	148	162	1,770	2,240	726
Mercury, Total	20	20	20	30	30	30	30	30	30	20	30	0.843	0.432	1.72	<0.0365	0.901	1.5	0.813	<0.0397	9.22	2.37	0.0942	1.86	2.62	0.934	0.354	1.23	0.407	5.98
Nickel, Total	20	20	20	700	700	700	700	700	700	20	700	<24.6	<29.6	<28.9	30.5	12.2	3.58	12.7	38.1	17.2	11.9	21.8	17.6	20.4	15.8	11.2	55.2	15.9	10.6
Selenium, Total	400	400	400	800	800	800	800	800	800	400	800	<1.64	<1.98	<1.93	<1.86	<1.51	<1.73	<1.51	<1.69	2.62	<1.63	<1.67	<1.67	<1.96	<1.64	<1.99	9.14	<1.46	<1.95
Silver, Total	100	100	100	200	200	200	200	200	200	100	200																		
Vanadium, Total	600	600	600	1000	1000	1000	1000	1000	1000	600	1,000	19.9	50.2	27.8	65.1	26.2	6.82	27.2	74.2	25.3	23.9	43.1	27.5	44.4	22.7	20.3	27.3	30.4	23.9
Zinc, Total	2,500	2,500	2,500	3,000	3,000	3,000	5,000	5,000	5,000	2,500	3,000	192	56.4	210	82.7	132	95.9	120	83.9	793	168	64.9	272	230	221	113	894	279	189
C9-C18 Aliphatics	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	31.4	<6.53	<7.85	<6.41	<5.43	<5.93	<5.61	<8.59	<7.27	499	<11.6	<12.0	<13.4	<16.3	42.1	<8.39	<5.37	<6.44
C19-C36 Aliphatics	3,000	3,000	3,000	5,000	5,000	5,000	5,000	5,000	5,000	3,000	5,000	339	<6.53	<7.85	<6.41	<5.43	39	24.3	<6.59	25.2	183	38.3	31.3	<13.4	43.6	<7.10	21.6	33.6	<6.44
C11-C22 Aromatics	1,000	1,000	1,000	1,000	3,000	3,000	1,000	5,000	5,000	1,000	3,000	329	<6.53	42.6	<6.41	68.8	95.9	97.2	<6.59	47.2	289	83.3	74.9	<13.4	94.1	101	328	82.4	41
C5-C8 Aliphatics	100	100	100	500	500	500	500	500	500	100	500	<1.16	<1.50	<1.64	<1.41	<0.877	<1.06	1.27	<1.30	<1.50	26.1	<0.797	<1.23	<1.23	<1.25	<1.5	<3.66	<1.38	<1.78
C9-C12 Aliphatics	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	<0.387	<0.501	1.82	2.53	0.933	<0.353	0.687	<0.433	0.547	78.6	0.978	0.968	<0.411	<0.417	<0.499	2.18	<0.46	<0.594
C9-C10 Aromatics	100	100	100	300	500	500	300	500	500	100	500	<0.387	<0.501	1.0	1.05	0.532	<0.353	0.367	<0.433	0.559	43.7	0.615	0.667	<0.411	<0.417	<0.499	2.19	<0.46	<0.594

Notes: For compounds detected at least once above the detection limit, samples reported as not detected (ND) by the laboratory are assumed to have a concentration of one-half of the method detection limit for that sample.
Concentrations entered as < indicate that they were below the detection limit.
PRGs are not avaiable for EPH and VPH fractions. Therefore, applicable Method 1 Standards (S-2/GW-2) were used as substitutes.
NA = Not Available; ND = Not Detected

Table 1 Soil Analytical Data (mg/kg) - Boston Convention and Exhibition Center, East of C Street, Boston, Massachusetts, RTN 3-16215

Location:												Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA
Sample Name:												RIZ-10A (0.5'-2')	RIZ-10B (4'-6')	RIZ-11A (4'-6')	RIZ-11B (9'-11.5')	RIZ-12A (0.5'-2')	RIZ-12B (4'-6')	RIZ-13A (1'-2')	RIZ-13B (4'-6')	RIZ-14A (0.5'-2')	RIZ-14B (4'-6')	RIZ-15A (0.5'-2')	RIZ-15B (2'-4')	RIZ-16A (0.5'-2')	RIZ-16B (10'-12')	RIZ-17A (0'-2')	RIZ-17B (20'-22')
Sample Depth:	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	0.5-2'	4-6'	4-6'	9-11.5'	0.5-2'	4-6'	1-2'	4-6'	0.5-2'	4-6'	0.5-2'	2-4'	0.5-2'	10-12'	0-2'	20-22'
Laboratory:	Method 1	Method 1	Method 1	Method 1	Method 1	Method 1	Method 1	Method 1	Method 1	RCS-1	RCS-2	Spectrum	Spectrum	Spectrum	Spectrum	Spectrum	Spectrum	Spectrum	Spectrum	Spectrum	Spectrum	Spectrum	Spectrum	Spectrum	Spectrum	Spectrum	Spectrum
Laboratory I.D.:	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	SA98859-03	SA98859-04	SA98381-01	SA98381-02	SA98381-03	SA98381-04	SA98388-05	SA98388-06	SA98410-03	SA98410-04	SA98410-05	SA98410-06	SA98500-05	SA98500-06	SA98578-03	SA98578-04
Sample Date:	S-1/GW-1	S-1/GW-2	S-1/GW-3	S-2/GW-1	S-2/GW-2	S-2/GW-3	S-3/GW-1	S-3/GW-2	S-3/GW-3	mg/kg	mg/kg	4-Aug-09	4-Aug-09	23-Jul-09	23-Jul-09	23-Jul-09	23-Jul-09	24-Jul-09	24-Jul-09	27-Jul-09	27-Jul-09	27-Jul-09	27-Jul-09	28-Jul-09	28-Jul-09	29-Jul-09	29-Jul-09
Consultant:												TTR	TTR	TTR	TTR	TTR	TTR	TTR	TTR	TTR	TTR	TTR	TTR	TTR	TTR	TTR	TTR
Acetone	6	50	400	6	50	400	6	50	400	6	50	<0.81	<0.115	0.273	0.406	0.0705	<0.795	<0.0454	<1.24	<0.718	<0.499	<0.581	<0.625	0.116	0.116	<0.0554	<3.18
Benzene	2	30	30	2	200	200	2	700	900	2	200	<0.081	<0.0115	<0.0084	<0.0089	<0.0042	<0.0795	<0.0045	<0.124	0.149	<0.0499	<0.0581	<0.0625	<0.0074	<0.0065	<0.0055	<0.318
Butanone, 2- (MEK)	4.0	50	400	4	50	400	4	50	400	4	50	<0.81	<0.115	<0.0836	0.104	<0.0421	<0.795	<0.0454	<1.24	<0.718	<0.499	<0.581	<0.625	<0.0739	<0.0651	<0.0554	<3.18
Butylbenzene, n-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.081	<0.0115	<0.0084	<0.0089	<0.0042	<0.0795	<0.0045	<0.124	<0.0718	<0.0499	<0.0581	<0.0625	<0.0074	<0.0065	<0.0055	<0.318
Butylbenzene, sec-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.081	<0.0115	<0.0084	<0.0089	<0.0042	<0.0795	<0.0045	<0.124	<0.0718	<0.0499	<0.0581	<0.0625	<0.0074	<0.0065	<0.0055	<0.318
Ethylbenzene	40	500	500	40	1000	1000	40	1000	3000	40	1000	<0.081	<0.0115	<0.0084	<0.0089	<0.0042	<0.0795	<0.0045	<0.124	<0.0718	<0.0499	<0.0581	<0.0625	<0.0578	<0.0922	<0.0055	<0.318
Isopropylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000	10,000	<0.081	<0.0115	<0.0084	<0.0089	<0.0042	<0.0795	<0.0045	<0.124	<0.0718	<0.0499	<0.0581	<0.0625	<0.0074	<0.0065	<0.0055	<0.318
Isopropyltoluene, p-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.081	<0.0115	<0.0084	<0.0089	<0.0042	<0.0795	<0.0045	<0.124	<0.0718	<0.0499	<0.0581	<0.0625	<0.0074	<0.0065	<0.0055	<0.318
Methyl tert-butyl ether	0.1	100	100	0.1	100	500	0.1	100	500	0.1	100			<0.0084	<0.0089	<0.0042	<0.0795										
Methylene chloride	0.1	20	200	0.1	20	900	0.1	20	900	0.1	20																
Naphthalene	4	40	500	4	40	1000	4	40	3000	4	40	0.104	<0.228	<0.273	0.748	1.14	0.235	0.606	0.184	1.04	5.01	6.07	0.844	0.782	<0.237	0.36	55.6
Propylbenzene, n-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.081	<0.0115	<0.0084	<0.0089	<0.0042	<0.0795	<0.0045	<0.124	<0.0718	<0.0499	<0.0581	<0.0625	<0.0074	<0.0065	<0.0055	<0.318
Styrene	3	4	30	3	4	200	3	4	1000	3	4																
Tetrachloroethene	1	10	30	1	10	200	1	10	1000	1	10																
Toluene	30	500	500	30	1000	1000	30	2000	3000	30	1000	<0.081	<0.0115	<0.0084	<0.0089	<0.0042	<0.0795	<0.0045	<0.124	0.549	<0.0499	0.079	<0.0625	0.0615	<0.0922	<0.0055	<0.318
Trichloroethene	0.3	2	90	0.3	2	700	0.3	2	2000	0.3	2	<0.081	<0.0115	<0.0084	<0.0089	<0.0042	<0.0795	<0.0045	<0.124	<0.0718	<0.0499	<0.0581	<0.0625	<0.0074	<0.0065	<0.0055	<0.318
Trimethylbenzene, 1,2,4-	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000	10,000	<0.081	<0.0115	<0.0084	<0.0089	<0.0042	<0.0795	<0.0045	<0.124	0.118	<0.0499	0.0784	<0.0625	<0.0074	<0.0065	<0.0055	0.904
Trimethylbenzene, 1,3,5-	NA	NA	NA	NA	NA	NA	NA	NA	NA	10	100	<0.081	<0.0115	<0.0084	<0.0089	<0.0042	<0.0795	<0.0045	<0.124	<0.0718	<0.0499	<0.0581	<0.0625	<0.0074	<0.0065	<0.0055	0.548
Xylene (total)	400	300	500	400	300	1000	400	300	3000	300	300	<0.162	<0.0229	<0.0167	<0.0177	<0.0084	<0.159	<0.130	<0.248	0.585	<0.0998	<0.116	<0.125	<0.116	<0.184	<0.150	0.656
Acenaphthene	4	1,000	1,000	4	3,000	3,000	4	5,000	5,000	4	3,000	<0.283	<0.230	<0.271	0.318	2.55	<0.201	<0.358	<0.29	0.392	7.97	8.24	0.434	0.416	<0.237	<0.405	5.05
Anthracene	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	0.655	0.441	<0.273	0.313	4.32	<0.203	0.297	<0.293	1.22	18.7	20.7	1.34	0.748	<0.237	0.29	12.1
Benzo(a)anthracene	7	7	7	40	40	40	300	300	300	7	40	2.52	0.479	<0.273	<0.273	7.66	0.508	0.846	0.54	2.26	32.5	16.5	1.95	1.93	<0.237	0.712	9.78
Benzo(a)pyrene	2	2	2	4	4	4	30	30	30	2	4	2.08	0.309	<0.273	<0.273	6.18	0.457	0.809	0.488	1.6	28.2	13	1.69	1.68	<0.237	0.594	8.99
Benzo(b)fluoranthene	7	7	7	40	40	40	300	300	300	7	40	3.27	0.311	<0.273	<0.273	7.8	0.487	0.987	0.612	1.36	32.9	11.3	1.44	1.85	<0.237	0.619	8.57
Benzo(g,h,i)perylene	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	1.52	<0.230	<0.273	<0.273	2.57	<0.203	0.438	<0.293	1.14	13.7	5.07	1.14	0.796	<0.237	0.284	4.81
Benzo(k)fluoranthene	70	70	70	400	400	400	3000	3000	3000	70	400	1.47	<0.23	<0.273	<0.273	3.26	0.247	0.514	0.346	1.63	19.7	12.5	1.46	1.02	<0.237	0.408	5.05
Chrysene	70	70	70	400	400	400	3000	3000	3000	70	400	1.91	0.341	<0.273	<0.273	7.19	0.532	0.895	0.567	1.92	31.7	17.4	1.94	1.78	<0.237	0.627	9.11
Dibenzo(a,h)anthracene	0.7	0.7	0.7	4	4	4	30	30	30	0.7	4	<0.283	<0.230	<0.271	<0.271	1.22	<0.201	<0.358	<0.29	<0.935	6.06	<3.5	<0.907	<0.37	<0.235	<0.405	0.858
Fluoranthene	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	4.96	0.977	<0.273	0.515	15.1	1.06	1.62	1.04	4.82	88.9	47.9	4.89	3.9	<0.237	1.39	23.3
Fluorene	1000	1000	1000	3000	3000	3000	5000	5000	5000	1000	3000	<0.283	<0.230	<0.271	<0.271	2.56	<0.201	<0.358	<0.29	0.552	7.58	11	0.569	0.414	<0.237	<0.405	6.29
Indeno(1,2,3-cd)pyrene	7	7	7	40	40	40	300	300	300	7	40	1.34	<0.230	<0.273	<0.273	2.72	<0.203	0.344	<0.293	1.02	13.9	5.55	1.0	1.0	<0.237	0.343	4.49
Methylnaphthalene, 1-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.580	<0.228	<0.271	0.672	<0.909	<0.201	<0.358	<0.29	<0.935	<3.81	3.69	<0.907	<0.37	<0.235	<0.265	2.83
Methylnaphthalene, 2-	0.7	80	300	0.7	80	500	0.7	80	500	0.7	80	<0.560	<0.228	<0.273	0.595	<1.83	<0.203	<0.358	<0.29	<0.935	<3.61	3.89	<0.907	<0.37	<0.237	<0.405	3.37
Naphthalene	4	40	500	4	40	1,000	4	40	3,000	4	40	0.104	<0.228	<0.273	0.748	1.14	0.235	0.606	0.184	1.04	5.01	6.07	0.844	0.782	<0.237	0.36	55.6
Phenanthrene	10	500	500	10	1000	1000	10	3000	3000	10	1000	2.64	1.18	<0.273	1.51	15.5	0.917	1.28	0.934	4.03	55.5	65.8	4.4	3.01	<0.237	1.08	31.1
Pyrene	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	5.06	0.916	<0.273	0.488	13.4	0.9	1.69	1.15	3.92	55.4	39.2	4.36	3.54	<0.237	1.2	19.7
Carbazole												<1.12	<0.455	<0.541	<0.542	<1.82	<0.403	<0.716	<0.58	<1.87	<7.21	<7.01	<1.81	<0.74	<0.47	<0.530	<1.8
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA	NA	100	1,000	<1.12	<0.455	<0.541	<0.542	<1.82	<0.403	<0.716	<0.58	<1.87	<7.21	9.27	<1.81	<0.74	<0.47	<0.530	3.46
Arochlor 1248	2	2	2	3	3	3	3	3	3	2	3	<0.0233	<0.0268	<0.0262	<0.027	<0.022	<0.0237	<0.0211	<0.0304	<0.0221	<0.0213	<0.0209	<0.0204	0.128	<0.0266	0.125	<0.0305
Arochlor 1254	2	2	2	3	3	3	3	3	3	2	3	<0.0233	<0.0268	<0.0262	<0.027	0.348	<0.0237	0.537	<0.0304	<0.0221	0.52	<0.0209	<0.0204	<0.022	<0.0266	<0.0248	<0.0305
Arochlor 1260	2	2	2	3	3	3	3	3	3	2	3	<0.0233	<0.0268	<0.0262	<0.027	0.0465	<0.0237	0.0725	<0.0304	0.099	0.0977	0.0527	0.0548	0.0565	<0.0266	0.0816	<0.0305
Arochlor 1282	2	2	2	3	3	3	3	3	3	2	3			<0.0262	<0.027		<0.0237			0.099		0.0527	0.0546				
Arochlor 1268	2	2	2	3	3	3	3	3	3	2	3			<0.0262	<0.027		<0.0237			0.099		0.0527	0.0548				
Arsenic, Total	20	20	20	20	20	20	20	20	20	20	20	9.55	9.91	2.9	8.51	4.88	4.37	7.52	19.5	6.87	3.79	7.89	7.17	9.18	4.81	8.65	14.2
Barium, Total	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	85.7	300	35	91.8	78.2	93.2	62.3	310	88.1	168	121	93	220	215	78.1	178
Beryllium, Total	100	100	100	200	200	200	200	200	200	100	200	<0.524	<0.646	<0.64	<0.627	<0.479	<0.574	<0.536	<0.742	<0.529	<0.492	<0.538	<0.489	<0.504	<0.691	<0.612	<0.773
Cadmium, Total	2	2	2	30	30	30	30	30	30	2	30	<0.524	<0.646	1.29	1.32	0.901	0.586	1.39	1.46	1.39	0.837	1.24	1.34	<0.504	<0.691	<0.612	<0.773
Chromium, Total	30	30	30	200	200	200	200	200	200	30	200	11.9	22.1	398	33.2	15.9	12.3	24.3	24.8	21	12.6	19.9	20.5	24.8	13.5	24.8	50.9
Lead, Total	300	300	300	300	300	300	300	300	300	300	300	382	312	23.4	223	77.6	470	118	785	139	93.6	191	117	182	132	135	210
Mercury, Total	20	20	20	30	30	30	30	30	30	20	30	0.701	1.9	0.155	0.489	0.464	1.99	0.564	1.78	0.9	0.311	0.804	1.38	1.71	1.37	0.479	0.984
Nickel, Total	20	20	20	700	700	700	700	700	700	20	700	14.9	16.5	74.2	<28.2	<21.6	34.1	<24.1	<33.4	13.4	9.66	14.7	12.7	19.7	13.8	16.2	27.6
Selenium, Total	400	400	400	800	800	800	800	800	800	400	800	<1.57	<1.94	<1.92	<1.88	<1.44	<1.72	<1.61	<2.23	<1.59	<1.48	<1.61	<1.47	<1.51	<2.07	<1.84	<2.32
Silver, Total	100	100	100	200	200	200	200	200	200	100	200																
Vanadium, Total	600	600	600	1000	1000	1000	1000	1000	1000	600	1,000	20.8	40.4	48.3	44	24.8	17.7	32.5	22	29.3	22.4	30.5	29.3	38.9	18.1	35.6	57.9
Zinc, Total	2,500	2,500	2,500	3,000	3,000	3,000	5,000	5,000	5,000	2,500	3,000	109	867	85.8	137	116	102	155	250	190	169	145	163	172	83.2	119	202
C9-C18 Aliphatics	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	<8.49	<6.90	<8.20	<8.21	<5.51	<6.10	<5.42	<8.79	<5.67	<5.47	17.5	<5.50	11.8	<7.12	<12.2	65.7
C19-C36 Aliphatics	3,000	3,000	3,000	5,000	5,000	5,000	5,000	5,000	5,000	3,000	5,000	35.8	<6.90	<8.20	23.4	52.8	<6.10	16.3	<8.79	40	461	47.9	32.7	23.6	<7.12	<12.2	92.3
C11-C22 Aromatics	1,000	1,000	1,000	1,000	3,000	3,000	1,000	5,000	5,000	1,000	3,000	88	46.4	<8.20	94.5	140	17.3	36.3	39.7	67.5	1450	1180	85.9	71.5	<7.12	34.5	343
C5-C8 Aliphatics	100	100	100	500	500	500	500	500	500	100	500	<1.22	<1.47	<1.22	1.91	<0.789	<1.19	1.16	<1.86	2.96	<0.749	<0.872	<0.938	1.54	<1.38	<1.13	<4.78
C9-C12 Aliphatics	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	<0.405	<0.491	<0.405	1.65	<0.263	<0.397	0.884	<0.619	0.692	0.253	0.438	<0.313	0.341	<0.461	<0.375	8.06
C9-C10 Aromatics	100	100	100	300	500	500	300	500	500	100	500	<0.405	<0.491	<0.405	1.4	<0.263	<0.397	0.622	<0.619	0.49	0.427	0.671	0.393	0.465	<0.461	<0.375	7.59

Notes: For compounds detected at least once above the detection limit, samples reported as not detected (ND) by the laboratory are assumed to have a concentration of one-half of the method detection limit for that sample.
Concentrations entered as < indicate that they were below the detection limit.
PRGs are not avaiable for EPH and VPH fractions. Therefore, applicable Method 1 Standards (S-2/GW-2) were used as substitutes.
NA = Not Available; ND = Not Detected

Table 1 Soil Analytical Data (mg/kg) - Boston Convention and Exhibition Center, East of C Street, Boston, Massachusetts, RTN 3-16215

Location:												Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA
Sample Name:												RIZ-18A (2'-4')	RIZ-18B (4'-6')	RIZ-19A (1.5'-2')	RIZ-19B (5'-6')	RIZ-20A (2'-4')	RIZ-20B (4'-6')	051-B06	CS01	CS02	CS03	CS04	CS06	CS07	041-B01	041-B01	041-B02
Sample Depth:	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2-4'	4-6'	1.5-2'	5-6'	2-4'	4-6'	--	--	--	--	--	--	--	1'	17'	1'
Laboratory:	Method 1	Method 1	Method 1	Method 1	Method 1	Method 1	Method 1	Method 1	Method 1	RCS-1	RCS-2	Spectrum	Spectrum	Spectrum	Spectrum	Spectrum	Spectrum	--	--	--	--	--	--	--	--	--	--
Laboratory I.D.:	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	SA98578-05	SA98578-06	SA98698-01	SA98698-02	SA98699-03	SA98699-04	--	--	--	--	--	--	--	--	--	--
Sample Date:	S-1/GW-1	S-1/GW-2	S-1/GW-3	S-2/GW-1	S-2/GW-2	S-2/GW-3	S-3/GW-1	S-3/GW-2	S-3/GW-3	mg/kg	mg/kg	29-Jul-09	29-Jul-09	3-Aug-09	3-Aug-09	31-Jul-09	31-Jul-09	24-Jan-02	29-Nov-01	29-Nov-01	29-Nov-01	29-Nov-01	30-Nov-01	11-Dec-01	4-Sep-98	4-Sep-98	31-Aug-98
Consultant:												TTR	TTR	TTR	TTR	TTR	TTR	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A
Acetone	6	50	400	6	50	400	6	50	400	6	50	0.26	0.147	<0.781	<0.0796	<0.0661	<0.0877								<0.075		<0.075
Benzene	2	30	30	2	200	200	2	700	900	2	200	<0.0138	<0.0075	<0.0781	<0.008	<0.0066	<0.0088	0.33	<0.125	<0.125	<0.125	0.76	<0.125		<0.03	<0.085	<0.0295
Butanone, 2- (MEK)	4.0	50	400	4	50	400	4	50	400	4	50	<0.138	<0.0751	<0.781	<0.0796	<0.0661	<0.0877								<0.075		<0.075
Butylbenzene, n-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0138	<0.0075	<0.0781	<0.008	<0.0066	<0.0088										
Butylbenzene, sec-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0138	<0.0075	<0.0781	<0.008	<0.0066	<0.0088										
Ethylbenzene	40	500	500	40	1000	1000	40	1000	3000	40	1000	<0.0138	<0.0075	<0.0781	<0.008	<0.0066	<0.0088	0.21	<0.125	<0.125	<0.125	<0.125	<0.125		<0.03	<0.085	<0.0295
Isopropylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000	10,000	<0.0138	<0.0075	<0.0781	<0.008	<0.0066	<0.0088										
Isopropyltoluene, p-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0138	<0.0075	<0.0781	<0.008	<0.0066	<0.0088										
Methyl tert-butyl ether	0.1	100	100	0.1	100	500	0.1	100	500	0.1	100							0.99	<0.125	<0.125	<0.125	3.2	<0.125		<0.03	<0.085	<0.0295
Methylene chloride	0.1	20	200	0.1	20	900	0.1	20	900	0.1	20														<0.075		<0.0295
Naphthalene	4	40	500	4	40	1000	4	40	3000	4	40	0.149	0.0129	0.0859	<0.008	<0.251	<0.277	0.3	<0.165	<0.207	<0.165	1.9	0.9		0.76	<0.105	<0.095
Propylbenzene, n-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0138	<0.0075	<0.0781	<0.008	<0.0066	<0.0088										
Styrene	3	4	30	3	4	200	3	4	1000	3	4														<0.075		0.18
Tetrachloroethene	1	10	30	1	10	200	1	10	1000	1	10														<0.03		<0.0295
Toluene	30	500	500	30	1000	1000	30	2000	3000	30	1000	<0.0138	<0.0075	0.151	<0.008	<0.0066	<0.0088	<0.038	<0.125	<0.125	<0.125	<0.125	<0.125		<0.03	<0.085	<0.0295
Trichloroethene	0.3	2	90	0.3	2	700	0.3	2	2000	0.3	2	<0.0138	<0.0075	0.25	<0.008	<0.0066	<0.0088								<0.03		<0.0295
Trimethylbenzene, 1,2,4-	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000	10,000	<0.0138	<0.0075	<0.0781	<0.008	<0.0066	<0.0088										
Trimethylbenzene, 1,3,5-	NA	NA	NA	NA	NA	NA	NA	NA	NA	10	100	<0.0138	<0.0075	<0.0781	<0.008	<0.0066	<0.0088										
Xylene (total)	400	300	500	400	300	1000	400	300	3000	300	300	<0.280	<0.186	<0.156	<0.0159	<0.0132	<0.0175	1.91	<0.375	<0.375	<0.375	0.965	<0.375		<0.03	<0.17	<0.0295
Acenaphthene	4	1,000	1,000	4	3,000	3,000	4	5,000	5,000	4	3,000	<0.527	<0.396	<1.02	<0.244	<0.253	<0.279	<0.195	<0.165	<0.207	<0.165	<0.165	0.48		0.47	<0.105	<0.095
Anthracene	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	<0.527	<0.396	2.29	<0.246	<0.253	<0.279	0.72	<0.165	<0.207	<0.165	0.6	0.64		1.3	<0.105	0.27
Benzo(a)anthracene	7	7	7	40	40	40	300	300	300	7	40	0.331	<0.396	3.13	<0.246	<0.253	<0.279	1.7	<0.165	<0.207	<0.165	1.7	0.81		4	<0.105	0.89
Benzo(a)pyrene	2	2	2	4	4	4	30	30	30	2	4	0.276	<0.396	2.63	<0.246	<0.253	<0.279	1.3	<0.165	<0.207	<0.165	4.0	0.76		4.8	<0.105	0.91
Benzo(b)fluoranthene	7	7	7	40	40	40	300	300	300	7	40	0.256	<0.396	2.99	<0.246	<0.253	0.294	1.6	<0.165	<0.207	<0.165	1.9	0.51		5.1	<0.105	1.1
Benzo(g,h,i)perylene	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	<0.527	<0.396	1.91	<0.246	<0.253	<0.279	0.65	<0.165	<0.207	<0.165	3.2	<0.165		1.3	<0.105	<0.095
Benzo(k)fluoranthene	70	70	70	400	400	400	3000	3000	3000	70	400	0.194	<0.396	2.46	<0.246	<0.253	<0.279	0.54	<0.165	<0.207	<0.165	2.7	0.55		4.2	<0.105	0.92
Chrysene	70	70	70	400	400	400	3000	3000	3000	70	400	0.298	<0.396	2.87	<0.246	<0.253	<0.279	1.4	<0.165	0.44	<0.165	1.7	0.64		5.4	<0.105	1.1
Dibenzo(a,h)anthracene	0.7	0.7	0.7	4	4	4	30	30	30	0.7	4	<0.527	<0.396	<1.01	<0.244	<0.251	<0.277	<0.195	<0.165	<0.207	<0.165	<0.165	<0.165		<0.185	<0.105	<0.095
Fluoranthene	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	0.705	0.129	7.06	<0.246	<0.253	0.463	3.7	<0.165	0.85	<0.165	2.4	2.0		11	<0.105	2
Fluorene	1000	1000	1000	3000	3000	3000	5000	5000	5000	1000	3000	<0.527	<0.398	<1.01	<0.244	<0.253	<0.279	0.42	<0.165	<0.207	<0.165	0.4	0.64		0.81	<0.105	<0.095
Indeno(1,2,3-cd)pyrene	7	7	7	40	40	40	300	300	300	7	40	<0.527	<0.396	1.57	<0.246	<0.253	<0.279	0.73	<0.165	<0.207	<0.165	3.0	<0.165		1.5	<0.105	0.22
Methylnaphthalene, 1-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.166	<0.103	<1.01	<0.244	<0.251	<0.277										
Methylnaphthalene, 2-	0.7	80	300	0.7	80	500	0.7	80	500	0.7	80	<0.527	<0.396	<1.01	<0.244	<0.251	<0.277	<0.195	<0.165	<0.207	<0.165	3.2	3		<0.185	<0.105	<0.095
Naphthalene	4	40	500	4	40	1,000	4	40	3,000	4	40	0.149	0.0129	0.0859	<0.008	<0.251	<0.277	0.3	<0.165	<0.207	<0.165	1.9	0.9		0.76	<0.105	<0.095
Phenanthrene	10	500	500	10	1000	1000	10	3000	3000	10	1000	0.563	0.118	5.36	<0.248	<0.253	0.277	2.8	<0.165	0.59	<0.165	1.7	2.5		8.2	<0.105	1.4
Pyrene	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	0.606	0.112	6.06	<0.246	<0.253	0.419	2.6	<0.165	0.77	<0.165	2.3	1.9		9.7	<0.105	1.4
Carbazole												<0.332	<0.205	<2.02	<0.487	<0.502	<0.554										
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA	NA	100	1,000	<0.332	<0.205	<2.02	<0.487	<0.502	<0.554										
Arochlor 1248	2	2	2	3	3	3	3	3	3	2	3	<0.0303	<0.0245	<0.0230	<0.0289	<0.030	<0.0321										
Arochlor 1254	2	2	2	3	3	3	3	3	3	2	3	<0.0303	<0.0245	<0.0236	<0.0289	<0.030	<0.0321										
Arochlor 1260	2	2	2	3	3	3	3	3	3	2	3	<0.0303	<0.0245	<0.0236	<0.0289	<0.030	<0.0321		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2			
Arochlor 1262	2	2	2	3	3	3	3	3	3	2	3			<0.0236	<0.0289												
Arochlor 1268	2	2	2	3	3	3	3	3	3	2	3			<0.0236	<0.0289												
Arsenic, Total	20	20	20	20	20	20	20	20	20	20	20	12.3	25.8	10	12	8.76	9.11		1	12.6	5.92	8.99	4.71	1.34	6.4	13	15.3
Barium, Total	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	253	133	71.3	11.8	96.9	220								54.2	128	99.2
Beryllium, Total	100	100	100	200	200	200	200	200	200	100	200	<0.702	0.869	0.567	<0.659	<0.674	<0.719										
Cadmium, Total	2	2	2	30	30	30	30	30	30	2	30	<0.702	<0.583	1.27	0.659	1.58	1.16								0.74	0.57	0.86
Chromium, Total	30	30	30	200	200	200	200	200	200	30	200	16	53.9	16.3	10.3	12.6	30.7								6.5	59.6	35.8
Lead, Total	300	300	300	300	300	300	300	300	300	300	300	815	19.2	256	12.2	301	272		5.7	205	20.1	191	145	5	185	200	888
Mercury, Total	20	20	20	30	30	30	30	30	30	20	30	5.22	0.379	1.95	<0.0401	1.53	3.57								0.51	0.61	0.79
Nickel, Total	20	20	20	700	700	700	700	700	700	20	700	20.5	38.3	14.4	4.08	11	17.1										
Selenium, Total	400	400	400	800	800	800	800	800	800	400	800	<2.10	<1.75	1.76	<1.98	<2.02	<2.16								<0.8	<1.35	3.1
Silver, Total	100	100	100	200	200	200	200	200	200	100	200														<0.07465	<0.06775	<0.065
Vanadium, Total	600	600	600	1000	1000	1000	1000	1000	1000	600	1,000	39.6	75	32.8	43.8	32.3	28.3										
Zinc, Total	2,500	2,500	2,500	3,000	3,000	3,000	5,000	5,000	5,000	2,500	3,000	1000	87	176	18.8	76.6	114										
C9-C18 Aliphatics	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	<15.8	<11.9	<8.13	<7.39	<7.61	<8.39	<38.5	42.0	<2.5	250.0	290.0	2,900.0		<3.35	<3.4	<3.3
C19-C36 Aliphatics	3,000	3,000	3,000	5,000	5,000	5,000	5,000	5,000	5,000	3,000	5,000	<15.8	<11.9	55.3	<7.39	<7.61	<8.39	<38.5	31.0	8.2	160.0	390.0	1,800.0		72.0	46.0	15.0
C11-C22 Aromatics	1,000	1,000	1,000	1,000	3,000	3,000	1,000	5,000	5,000	1,000	3,000	58.5	<11.9	177	<7.39	36.1	30.7	96.0	<2.5	35.0	81.0	370.0	1,400.0		57.0	<9.5	230.0
C5-C8 Aliphatics	100	100	100	500	500	500	500	500	500	100	500	<2.1	<1.4	1.29	<1.84	<1.7	<1.84	61	<0.625	<0.625	<0.625	3.3	2		<2.05	<1.75	<1.4
C9-C12 Aliphatics	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	<0.699	<0.465	<0.390	<0.613	<0.567	<0.613	19	<0.625	<0.625	20	58	150		<2.05	<1.75	<1.4
C9-C10 Aromatics	100	100	100	300	500	500	300	500	500	100	500	<0.699	<0.465	0.49	<0.613	<0.567	<0.613	62	<0.125	<0.125	<0.125	21	37		<2.05	<1.75	<1.4

Notes: For compounds detected at least once above the detection limit, samples reported as not detected (ND) by the laboratory are assumed to have a concentration of one-half of the method detection limit for that sample.
Concentrations entered as < indicate that they were below the detection limit.
PRGs are not avaiable for EPH and VPH fractions. Therefore, applicable Method 1 Standards (S-2/GW-2) were used as substitutes.
NA = Not Available; ND = Not Detected

Table 1 Soil Analytical Data (mg/kg) - Boston Convention and Exhibition Center,
East of C Street, Boston, Massachusetts, RTN 3-16215

Location:												Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA
Sample Name:												041-B02	041-B03	041-B04	041-B04	041-T01	041-T01	041-T02	041-T02	042-B05	042-B05	042-B06	042-B06	042-B07	042-B07	042-B08	042-B08	051-B01
Sample Depth:	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	12'	1'	3'	11'	1.5'	9.5'	1.5'	9..5'	1'	9'	5'	15'	1'	9'	5'	15'	1'
Laboratory:	Method 1	Method 1	Method 1	Method 1	Method 1	Method 1	Method 1	Method 1	Method 1	RCS-1	RCS-2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Laboratory I.D.:	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sample Date:	S-1/GW-1	S-1/GW-2	S-1/GW-3	S-2/GW-1	S-2/GW-2	S-2/GW-3	S-3/GW-1	S-3/GW-2	S-3/GW-3	mg/kg	mg/kg	31-Aug-98	4-Sep-98	10-Sep-98	10-Sep-98	10-Sep-98	10-Sep-98	10-Sep-98	10-Sep-98	3-Sep-98	3-Sep-98	10-Sep-98	10-Sep-98	4-Sep-98	4-Sep-98	3-Sep-98	3-Sep-98	10-Sep-98
Consultant:												H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A
Acetone	6	50	400	6	50	400	6	50	400	6	50	<0.125	<0.0405		<0.085	<0.09			<0.14	<0.05			<0.135	<0.05		<0.06		0.22
Benzene	2	30	30	2	200	200	2	700	900	2	200	<0.05	<0.016	<0.07	<0.085	<0.09	<0.115	<0.105	<0.14	<0.0205	<0.11	<0.095	0.057	<0.02	<0.095	<0.023	<0.09	0.41
Butanone, 2- (MEK)	4.0	50	400	4	50	400	4	50	400	4	50	<0.125	<0.0405		<0.085	<0.09			<0.14	<0.05			<0.135	<0.05		<0.06		<0.07
Butylbenzene, n-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																	
Butylbenzene, sec-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																	
Ethylbenzene	40	500	500	40	1000	1000	40	1000	3000	40	1000	<0.05	<0.016	<0.07	<0.085	<0.09	<0.115	<0.105	<0.14	<0.0205	<0.11	<0.095	<0.135	<0.02	<0.095	<0.023	<0.09	<0.07
Isopropylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000	10,000																	
Isopropyltoluene, p-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																	
Methyl tert-butyl ether	0.1	100	100	0.1	100	500	0.1	100	500	0.1	100	<0.05	<0.016	<0.205	0.057	<0.09	<0.345	<0.32	<0.14	<0.0205	<0.11	<0.285	<0.135	<0.02	<0.095	<0.023	<0.09	<0.07
Methylene chloride	0.1	20	200	0.1	20	900	0.1	20	900	0.1	20	<0.125	<0.0405		<0.085	<0.09			<0.14	<0.05			<0.135	<0.05		<0.06		<0.125
Naphthalene	4	40	500	4	40	1000	4	40	3000	4	40	<0.135	0.23	<0.225	<0.25	0.47	<0.31	<0.315	<0.3	<0.09	<0.11	0.076	0.42	0.22	<0.11	<0.11	<0.115	<0.305
Propylbenzene, n-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																	
Styrene	3	4	30	3	4	200	3	4	1000	3	4	<0.125	<0.0405		<0.085	<0.09			<0.14	<0.05			<0.135	<0.05		<0.06		<0.07
Tetrachloroethene	1	10	30	1	10	200	1	10	1000	1	10	<0.05	<0.016		<0.085	<0.09			<0.14	<0.0205			<0.135	<0.02		<0.023		<0.07
Toluene	30	500	500	30	1000	1000	30	2000	3000	30	1000	<0.05	<0.016	0.89	<0.085	<0.09	<0.345	<0.32	<0.14	<0.0205	<0.11	<0.285	0.52	<0.02	<0.095	<0.023	<0.09	<0.07
Trichloroethene	0.3	2	90	0.3	2	700	0.3	2	2000	0.3	2	<0.05	<0.016		<0.085	<0.09			<0.14	<0.0205			<0.135	<0.02		<0.023		<0.07
Trimethylbenzene, 1,2,4-	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000	10,000																	
Trimethylbenzene, 1,3,5-	NA	NA	NA	NA	NA	NA	NA	NA	NA	10	100																	
Xylene (total)	400	300	500	400	300	1000	400	300	3000	300	300	<0.05	<0.016	<0.0275	<0.185	<0.09	<0.46	<0.425	<0.14	<0.0205	<0.22	<0.38	<0.135	<0.02	<0.19	<0.023	<0.18	0.56
Acenaphthene	4	1,000	1,000	4	3,000	3,000	4	5,000	5,000	4	3,000	<0.135	<0.085	<0.225	<0.25	2.40	<0.31	<0.315	<0.3	<0.09	<0.11	<0.235	<0.39	<0.09	<0.11	<0.11	<0.115	0.38
Anthracene	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	<0.135	<0.085	0.27	<0.25	12	<0.31	<0.315	1.5	0.2	<0.11	0.3	0.31	0.24	<0.11	<0.11	<0.115	0.73
Benzo(a)anthracene	7	7	7	40	40	40	300	300	300	7	40	<0.135	0.4	1.1	0.21	23	<0.31	<0.315	2.1	0.8	0.24	1.2	0.66	1.4	<0.11	<0.11	<0.115	2.7
Benzo(a)pyrene	2	2	2	4	4	4	30	30	30	2	4	<0.135	0.38	1.2	0.2	19	<0.31	<0.315	1.7	0.92	<0.11	1.5	0.6	1.1	<0.11	<0.11	<0.115	2.1
Benzo(b)fluoranthene	7	7	7	40	40	40	300	300	300	7	40	<0.135	0.58	1	0.16	16	<0.31	<0.315	1.3	1.3	0.32	1.1	0.5	0.9	<0.11	<0.11	<0.115	2.7
Benzo(g,h,i)perylene	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	<0.135	<0.085	1.2	0.14	12	<0.31	<0.315	0.83	0.44	<0.11	1.90	0.30	0.38	<0.11	<0.11	<0.115	1.10
Benzo(k)fluoranthene	70	70	70	400	400	400	3000	3000	3000	70	400	<0.135	0.37	1	0.18	15	<0.31	<0.315	1.6	0.4	<0.11	1.2	0.46	1.0	<0.11	<0.11	<0.115	0.97
Chrysene	70	70	70	400	400	400	3000	3000	3000	70	400	<0.135	0.54	1.2	0.22	22	<0.31	<0.315	2.1	0.72	<0.11	1.5	0.64	1.6	<0.11	<0.11	<0.115	2.7
Dibenzo(a,h)anthracene	0.7	0.7	0.7	4	4	4	30	30	30	0.7	4	<0.135	<0.085	<0.225	<0.25	4.9	<0.31	<0.315	<0.3	<0.09	<0.11	<0.235	<0.39	<0.09	<0.11	<0.11	<0.115	0.3
Fluoranthene	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	<0.135	1.1	2.1	0.32	49	<0.31	<0.315	5	1.7	0.4	1.8	1.4	2.5	<0.11	<0.11	<0.115	5.2
Fluorene	1000	1000	1000	3000	3000	3000	5000	5000	5000	1000	3000	<0.135	<0.085	<0.225	<0.25	5.2	<0.31	<0.315	0.74	<0.09	<0.11	<0.235	0.17	<0.09	<0.11	<0.11	<0.115	0.35
Indeno(1,2,3-cd)pyrene	7	7	7	40	40	40	300	300	300	7	40	<0.135	<0.085	0.98	0.12	12	<0.31	<0.315	0.85	0.43	<0.11	1.40	0.29	0.36	<0.11	<0.11	<0.115	1.00
Methylnaphthalene, 1-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																	
Methylnaphthalene, 2-	0.7	80	300	0.7	80	500	0.7	80	500	0.7	80	<0.135	0.18	<0.225	<0.25	0.43	<0.31	<0.315	<0.3	<0.09	<0.11	<0.235	<0.39	<0.09	<0.11	<0.11	<0.115	<0.305
Naphthalene	4	40	500	4	40	1,000	4	40	3,000	4	40	<0.135	0.23	<0.225	<0.25	0.47	<0.31	<0.315	<0.3	<0.09	<0.11	0.076	0.42	0.22	<0.11	<0.11	<0.115	<0.305
Phenanthrene	10	500	500	10	1000	1000	10	3000	3000	10	1000	<0.135	0.64	1	0.22	41	<0.31	<0.315	5.1	0.94	0.34	1.2	1.1	2.8	0.26	<0.11	<0.115	3.9
Pyrene	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	<0.135	0.85	1.9	0.34	43	<0.31	<0.315	4	1.4	0.38	2.6	1.1	4.2	<0.11	<0.11	<0.115	4.8
Carbazole																												
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA	NA	100	1,000																	
Arochlor 1248	2	2	2	3	3	3	3	3	3	2	3																	
Arochlor 1254	2	2	2	3	3	3	3	3	3	2	3																	
Arochlor 1260	2	2	2	3	3	3	3	3	3	2	3					<0.016												0.094
Arochlor 1262	2	2	2	3	3	3	3	3	3	2	3																	
Arochlor 1268	2	2	2	3	3	3	3	3	3	2	3																	
Arsenic, Total	20	20	20	20	20	20	20	20	20	20	20	16.5	10	10.8	9	31.2	16.6	41.5	20.7	5.7	12.1	11.4	15.1	9.8	10	11.3	9.3	13.3
Barium, Total	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	301	46.2	72.2	77.1	255	100	327	298	23.9	155	69	193	30.6	165	104	93.1	106
Beryllium, Total	100	100	100	200	200	200	200	200	200	100	200																	
Cadmium, Total	2	2	2	30	30	30	30	30	30	2	30	0.24	0.48	0.43	0.26	1.4	0.41	0.97	0.95	<0.0575	0.35	9.1	0.42	0.16	0.49	0.31	0.26	0.74
Chromium, Total	30	30	30	200	200	200	200	200	200	30	200	21.2	13.3	17.3	12.3	37.6	7	19.2	18.5	11.4	12.8	111	34.6	8.5	66.3	58.4	51.3	18.4
Lead, Total	300	300	300	300	300	300	300	300	300	300	300	724	108	327	339	2110	353	411	1120	44.7	206	911	318	35.4	15.4	14.6	12	374
Mercury, Total	20	20	20	30	30	30	30	30	30	20	30	1.3	0.31	0.93	1.5	1.8	1.3	0.68	7	0.5	0.82	0.88	4.5	0.29	0.092	0.085	<0.01095	0.91
Nickel, Total	20	20	20	700	700	700	700	700	700	20	700																	
Selenium, Total	400	400	400	800	800	800	800	800	800	400	800	3.1	<0.85	2.8	2.8	5.1	3.4	11.7	6	1.6	4.1	3.4	4.9	<0.7	<1.1	1.7	2.3	3.7
Silver, Total	100	100	100	200	200	200	200	200	200	100	200	<0.095	<0.06045	<0.06615	<0.0762	0.73	<0.0869	0.55	<0.0848	<0.0639	<0.08655	<0.07055	<0.0831	<0.0623	<0.08105	<0.08	<0.0771	<0.0698
Vanadium, Total	600	600	600	1000	1000	1000	1000	1000	1000	600	1,000																	
Zinc, Total	2,500	2,500	2,500	3,000	3,000	3,000	5,000	5,000	5,000	2,500	3,000																	
C9-C18 Aliphatics	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	<4.3	<3.05	<5.5	<6	<7	<7.5	<8	<7.5	<3.55	<3.5	<6	<10	<2.85	<3.5	<2.95	<3.8	<3.65
C19-C36 Aliphatics	3,000	3,000	3,000	5,000	5,000	5,000	5,000	5,000	5,000	3,000	5,000	88.0	27.0	<5.5	<6	<7	<7.5	<8	<7.5	61.0	52.0	<6	<10	41.0	12.0	<3.9	57.0	92.0
C11-C22 Aromatics	1,000	1,000	1,000	1,000	3,000	3,000	1,000	5,000	5,000	1,000	3,000	29.0	<8.5	78.0	<6	300.0	<7.5	<8	94.0	<10	<10	120.0	92.0	1.5	<10	<8.5	<11	130.0
C5-C8 Aliphatics	100	100	100	500	500	500	500	500	500	100	500	<2.6	<1.2	2.6	<0.5	<0.415	<0.46	<0.425	<0.5	<3.55	<2.25	<0.38	<0.65	<1.4	<1.9	<1.8	<1.85	18
C9-C12 Aliphatics	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	<2.6	<1.2	<0.275	<0.5	<0.415	<0.46	<0.425	<0.5	<3.55	<2.25	<0.38	<0.65	<1.4	<1.9	<1.8	<1.85	1
C9-C10 Aromatics	100	100	100	300	500	500	300	500	500	100	500	<2.6	<1.2	0.87	<0.5	<0.415	<0.46	<0.425	<0.5	<3.55	<2.25	1.6	2.6	<1.4	<1.9	<1.8	<1.85	1.5

Notes: For compounds detected at least once above the detection limit, samples reported as not detected (ND) by the laboratory are assumed to have a concentration of one-half of the method detection limit for that sample.
Concentrations entered as < indicate that they were below the detection limit.
PRGs are not avaiable for EPH and VPH fractions. Therefore, applicable Method 1 Standards (S-2/GW-2) were used as substitutes.
NA = Not Available; ND = Not Detected

Table 1 Soil Analytical Data (mg/kg) - Boston Convention and Exhibition Center, East of C Street, Boston, Massachusetts, RTN 3-16215

Location:												Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA
Sample Name:												051-B01	051-B02	051-B02	051-B03	051-B03	051-B04	051-B04	052-B01	052-B01	052-T01	052-T01	052-T02	052-T02	052-T03	052-T03	053-B01	053-B01
Sample Depth:	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	13'	5'	11'	5'	9'	1'	9'	5'	15'	1.5'	7.5'	1.5'	6.5'	1.5'	5.5'	5'	15'
Laboratory:	Method 1	Method 1	Method 1	Method 1	Method 1	Method 1	Method 1	Method 1	Method 1	RCS-1	RCS-2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Laboratory I.D.:	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sample Date:	S-1/GW-1	S-1/GW-2	S-1/GW-3	S-2/GW-1	S-2/GW-2	S-2/GW-3	S-3/GW-1	S-3/GW-2	S-3/GW-3	mg/kg	mg/kg	10-Sep-98	2-Sep-98	2-Sep-98	2-Sep-98	2-Sep-98	2-Sep-98	2-Sep-98	9-Sep-98	9-Sep-98	10-Sep-98	10-Sep-98	10-Sep-98	10-Sep-98	10-Sep-98	10-Sep-98	1-Sep-98	1-Sep-98
Consultant:												H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A
Acetone	6	50	400	6	50	400	6	50	400	6	50		<0.36			<0.14		<0.08		<0.08	<0.095		<0.08			<0.095		<0.1
Benzene	2	30	30	2	200	200	2	700	900	2	200		<0.105	<0.105	<0.07	<0.14	<0.0435	<0.08	<0.11	<0.08	<0.095	<0.1	<0.08	<0.085	<0.095	<0.095	<0.075	<0.1
Butanone, 2- (MEK)	4.0	50	400	4	50	400	4	50	400	4	50		<0.105			<0.14		<0.08		<0.08	<0.095		0.24			<0.095		<0.1
Butylbenzene, n-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																	
Butylbenzene, sec-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																	
Ethylbenzene	40	500	500	40	1000	1000	40	1000	3000	40	1000		<0.105	<0.105	<0.07	<0.14	<0.0435	<0.08	<0.11	<0.08	<0.095	<0.1	<0.08	<0.085	<0.095	<0.095	<0.075	<0.1
Isopropylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000	10,000																	
Isopropyltoluene, p-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																	
Methyl tert-butyl ether	0.1	100	100	0.1	100	500	0.1	100	500	0.1	100		<0.31	<0.31	<0.21	<0.14	<0.13	<0.08	<0.335	<0.08	<0.095	<0.305	<0.08	<0.255	<0.285	<0.095	<0.225	<0.1
Methylene chloride	0.1	20	200	0.1	20	900	0.1	20	900	0.1	20		<0.105			<0.14		<0.08		<0.08	<0.095		<0.08			<0.095		<0.1
Naphthalene	4	40	500	4	40	1000	4	40	3000	4	40	<0.345	<0.25	<0.25	<0.29	0.48	0.39	0.3	<0.345	0.48	5.4	<0.34	0.87	<0.33	0.38	<0.33	<0.415	<0.39
Propylbenzene, n-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																	
Styrene	3	4	30	3	4	200	3	4	1000	3	4		<0.105			<0.14		<0.08		<0.08	<0.095		<0.08			<0.095		<0.1
Tetrachloroethene	1	10	30	1	10	200	1	10	1000	1	10		<0.105			0.43		<0.08		<0.08	<0.095		<0.08			<0.095		<0.1
Toluene	30	500	500	30	1000	1000	30	2000	3000	30	1000		<0.31	<0.31	<0.21	<0.14	<0.13	<0.08	<0.335	<0.08	0.25	<0.305	0.18	<0.255	<0.285	<0.095	<0.225	<0.1
Trichloroethene	0.3	2	90	0.3	2	700	0.3	2	2000	0.3	2		<0.105			<0.14		<0.08		<0.08	<0.095		<0.08			<0.095		<0.1
Trimethylbenzene, 1,2,4-	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000	10,000																	
Trimethylbenzene, 1,3,5-	NA	NA	NA	NA	NA	NA	NA	NA	NA	10	100																	
Xylene (total)	400	300	500	400	300	1000	400	300	3000	300	300		<0.105	<0.41	<0.28		<0.175		<0.445			<0.405		<0.515	<0.57	<0.095	<0.45	<0.1
Acenaphthene	4	1,000	1,000	4	3,000	3,000	4	5,000	5,000	4	3,000	<0.345	<0.25	<0.25	0.70	1.30	<0.29	0.66	<0.345	<0.335	0.58	<0.34	<0.295	<0.33	<0.265	<0.33	<0.415	<0.39
Anthracene	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	<0.345	<0.25	<0.25	2	2.8	0.61	1.5	<0.345	<0.335	0.94	1.3	<0.295	<0.33	<0.265	<0.33	<0.415	<0.39
Benzo(a)anthracene	7	7	7	40	40	40	300	300	300	7	40	<0.345	0.87	0.6	5.7	5.2	3.5	2	<0.345	0.42	3.2	5.9	0.66	<0.33	1	0.36	<0.415	0.67
Benzo(a)pyrene	2	2	2	4	4	4	30	30	30	2	4	<0.345	1.5	1.4	4.5	4.1	3.1	2.2	<0.345	0.35	1.9	3.9	0.47	<0.33	0.78	<0.33	1.6	1.5
Benzo(b)fluoranthene	7	7	7	40	40	40	300	300	300	7	40	<0.345	1	0.76	6.9	5.6	4.3	2.3	<0.345	0.35	2.8	4.3	0.99	<0.33	1.3	<0.33	<0.415	<0.39
Benzo(g,h,i)perylene	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	<0.345	0.36	0.31	2.10	1.70	2.00	0.67	<0.345	<0.335	0.93	1.50	0.28	<0.33	0.36	<0.33	<0.415	<0.39
Benzo(k)fluoranthene	70	70	70	400	400	400	3000	3000	3000	70	400	<0.345	<0.25	<0.25	0.7	1.4	1.8	<0.325	<0.345	<0.335	1.4	1.8	0.3	<0.33	0.4	<0.33	<0.415	<0.39
Chrysene	70	70	70	400	400	400	3000	3000	3000	70	400	<0.345	0.79	0.6	5.3	4.4	3.8	1.9	<0.345	0.4	4.6	5.5	1.2	<0.33	1.6	0.36	<0.415	<0.39
Dibenzo(a,h)anthracene	0.7	0.7	0.7	4	4	4	30	30	30	0.7	4	<0.345	<0.25	<0.25	0.55	0.47	0.48	<0.325	<0.345	<0.335	0.33	0.54	<0.295	<0.33	<0.265	<0.33	<0.415	<0.39
Fluoranthene	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	<0.345	1.6	1.1	10	10	6.2	4.4	<0.345	0.8	8.5	7.8	1.2	0.28	1.8	0.45	1	1.2
Fluorene	1000	1000	1000	3000	3000	3000	5000	5000	5000	1000	3000	<0.345	<0.25	<0.25	0.54	1.2	<0.29	0.85	<0.345	<0.335	0.58	<0.34	<0.295	<0.33	<0.265	<0.33	<0.415	<0.39
Indeno(1,2,3-cd)pyrene	7	7	7	40	40	40	300	300	300	7	40	<0.345	0.29	<0.25	1.80	1.40	1.80	0.60	<0.345	<0.335	0.82	1.40	0.26	<0.33	0.31	<0.33	<0.415	<0.39
Methylnaphthalene, 1-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																	
Methylnaphthalene, 2-	0.7	80	300	0.7	80	500	0.7	80	500	0.7	80	<0.345	<0.25	<0.25	<0.29	0.36	0.66	0.27	<0.345	<0.335	10	<0.34	1.9	<0.33	0.55	<0.33	<0.415	<0.39
Naphthalene	4	40	500	4	40	1,000	4	40	3,000	4	40	<0.345	<0.25	<0.25	<0.29	0.48	0.39	0.3	<0.345	0.48	5.4	<0.34	0.87	<0.33	0.38	<0.33	<0.415	<0.39
Phenanthrene	10	500	500	10	1000	1000	10	3000	3000	10	1000	<0.345	1.1	0.7	6.8	8.7	3.3	4.6	<0.345	0.34	12	1.3	2.5	0.32	1.7	0.31	1	0.76
Pyrene	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	<0.345	1.8	1.2	13	12	5.9	4.5	<0.345	0.56	6.9	7.4	1.1	0.26	2.1	0.53	0.87	1.1
Carbazole																												
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA	NA	100	1,000																	
Arochlor 1248	2	2	2	3	3	3	3	3	3	2	3																	
Arochlor 1254	2	2	2	3	3	3	3	3	3	2	3																	
Arochlor 1260	2	2	2	3	3	3	3	3	3	2	3												<0.015					
Arochlor 1262	2	2	2	3	3	3	3	3	3	2	3																	
Arochlor 1268	2	2	2	3	3	3	3	3	3	2	3																	
Arsenic, Total	20	20	20	20	20	20	20	20	20	20	20	11.5	17.5	21.4	7.4	21.2	6.4	11.4	10	9.4	10	11.8	10	9.6	10	10.9	10.8	10
Barium, Total	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	136	396	135	52.8	268	118	158	118	91.2	128	103	118	54.2	104	88.5	236	151
Beryllium, Total	100	100	100	200	200	200	200	200	200	100	200																	
Cadmium, Total	2	2	2	30	30	30	30	30	30	2	30	0.5	0.44	1	2.7	1.2	0.85	0.59	0.36	0.29	0.31	0.29	0.48	<0.06665	0.72	0.16	0.17	0.32
Chromium, Total	30	30	30	200	200	200	200	200	200	30	200	67	15.8	23.8	10	22.8	29.1	17.2	61.6	51.3	8.3	44.6	10	31.4	14.6	46.8	16.1	30.2
Lead, Total	300	300	300	300	300	300	300	300	300	300	300	17.5	795	564	116	2,950	206	432	33.2	10.9	146	72.3	70.2	37.5	104	25.7	378	451
Mercury, Total	20	20	20	30	30	30	30	30	30	20	30	0.45	3.6	0.68	3.9	1.9	0.36	0.88	0.22	0.024	0.24	0.82	0.06	0.11	0.35	0.24	11	0.75
Nickel, Total	20	20	20	700	700	700	700	700	700	20	700																	
Selenium, Total	400	400	400	800	800	800	800	800	800	400	800	3.8	3.7	2.9	1.5	2.3	1.2	2.1	3.1	1.9	2.2	1.4	1.8	1.4	1.1	<0.54805	1.6	1.8
Silver, Total	100	100	100	200	200	200	200	200	200	100	200	<0.08575	<0.042875	0.9	<0.08665	<0.033325	<0.0166625	<0.0685	<0.08325	<0.07365	<0.06455	<0.08055	<0.0887	<0.0741	<0.0711	<0.07945	0.67	<0.087
Vanadium, Total	600	600	800	1000	1000	1000	1000	1000	1000	600	1,000																	
Zinc, Total	2,500	2,500	2,500	3,000	3,000	3,000	5,000	5,000	5,000	2,500	3,000																	
C9-C18 Aliphatics	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	<4.15	<3.95	<3.9	<3.5	<4.55	<3.5	<3.9	<4.15	<4	59.0	19.0	16.0	<4.05	13.0	<3.95	<5	<4.7
C19-C36 Aliphatics	3,000	3,000	3,000	5,000	5,000	5,000	5,000	5,000	5,000	3,000	5,000	<5.5	<5	<5	<4.65	<6	160.0	<5	<5.5	<5.5	120.0	25.0	40.0	<5.5	26.0	<5	<6.5	<6
C11-C22 Aromatics	1,000	1,000	1,000	1,000	3,000	3,000	1,000	5,000	5,000	1,000	3,000	<12	<11	<11	99.6	79.0	72.0	55.0	<12	<11.5	320.0	140.0	88.0	<11.5	86.0	<11.5	34.0	78.0
C5-C8 Aliphatics	100	100	100	500	500	500	500	500	500	100	500		<2.05	<2.05	<1.4	<2.7	<0.85	<1.5	<2.25	<2.5	<1.85	<2.05	<1.8	<1.7	<1.9	<2.5	<1.5	<1.95
C9-C12 Aliphatics	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000		<0.41	<0.41	<0.28	<0.55	<0.175	<0.295	<0.445	<0.5	1.1	<0.405	<3.25	<0.345	<0.38	<0.5	<0.3	<3.75
C9-C10 Aromatics	100	100	100	300	500	500	300	500	500	100	500		<0.6	<0.6	<0.42	<0.8	<0.26	<0.445	<0.65	<0.75	<0.55	<0.6	<0.485	<0.5	<0.55	<0.75	<0.455	<0.6

Notes: For compounds detected at least once above the detection limit, samples reported as not detected (ND) by the laboratory are assumed to have a concentration of one-half of the method detection limit for that sample.
Concentrations entered as < indicate that they were below the detection limit.
PRGs are not avaiable for EPH and VPH fractions. Therefore, applicable Method 1 Standards (S-2/GW-2) were used as substitutes.
NA = Not Available; ND = Not Detected

Table 1 Soil Analytical Data (mg/kg) - Boston Convention and Exhibition Center,
East of C Street, Boston, Massachusetts, RTN 3-16215

Location:												Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA
Sample Name:												053-B02	053-B02	053-B03	053-B03	053-B04	053-B04	053-B05	053-B05	053-B05	CST-B01	CST-B01	CST-B02	CST-B02	CST-B03	CST-B03	CST-B09	CST-B09
Sample Depth:	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	1'	9'	5'	15'	1'	9'	5'	9'	19'	3'	9'	5'	15'	5'	9'	5'	15'
Laboratory:	Method 1	Method 1	Method 1	Method 1	Method 1	Method 1	Method 1	Method 1	Method 1	RCS-1	RCS-2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Laboratory I.D.:	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sample Date:	S-1/GW-1	S-1/GW-2	S-1/GW-3	S-2/GW-1	S-2/GW-2	S-2/GW-3	S-3/GW-1	S-3/GW-2	S-3/GW-3	mg/kg	mg/kg	1-Sep-98	1-Sep-98	1-Sep-98	1-Sep-98	1-Sep-98	1-Sep-98	1-Sep-98	1-Sep-98	1-Sep-98	25-Aug-98	25-Aug-98	25-Aug-98	25-Aug-98	25-Aug-98	26-Aug-98	28-Aug-98	31-Aug-98
Consultant:												H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A
Acetone	6	50	400	6	50	400	6	50	400	6	50		<0.09		<0.095	<0.065			<0.065			0.42	0.39			0.21	<0.12	
Benzene	2	30	30	2	200	200	2	700	900	2	200	<0.07	<0.09	<0.08	<0.095	<0.065	<0.055	<0.125	<0.065	<0.06	0.46	<0.09	<0.07	<0.095	<0.08	<0.07	<0.09	<0.08
Butanone, 2- (MEK)	4.0	50	400	4	50	400	4	50	400	4	50		<0.09		<0.095	<0.065			<0.065			<0.09	<0.07			<0.07	<0.09	
Butylbenzene, n-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																	
Butylbenzene, sec-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																	
Ethylbenzene	40	500	500	40	1000	1000	40	1000	3000	40	1000	<0.07	<0.09	<0.08	<0.095	<0.065	<0.055	<0.125	<0.065	<0.06	<0.065	<0.09	<0.07	<0.095	<0.08	<0.07	<0.09	<0.08
Isopropylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000	10,000																	
Isopropyltoluene, p-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																	
Methyl tert-butyl ether	0.1	100	100	0.1	100	500	0.1	100	500	0.1	100	<0.21	0.22	<0.24	<0.095	<0.065	<0.17	<0.375	<0.065	<0.175	<0.195	<0.09	<0.07	<0.285	<0.24	<0.07	<0.09	<0.245
Methylene chloride	0.1	20	200	0.1	20	900	0.1	20	900	0.1	20		<0.09		<0.095	<0.065			<0.065			0.36	0.22			<0.07	<0.09	
Naphthalene	4	40	500	4	40	1000	4	40	3000	4	40	<0.285	2	1.2	0.73	2.1	<0.38											
Propylbenzene, n-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																	
Styrene	3	4	30	3	4	200	3	4	1000	3	4		<0.09		<0.095	<0.065			<0.065			<0.09	<0.07			<0.07	<0.09	
Tetrachloroethene	1	10	30	1	10	200	1	10	1000	1	10		<0.09		<0.095	<0.065			<0.065			<0.09	<0.07			<0.07	<0.09	
Toluene	30	500	500	30	1000	1000	30	2000	3000	30	1000	<0.21	<0.09	<0.24	<0.095	<0.065	<0.17	<0.375	<0.065	<0.175	<0.195	<0.09	<0.07	<0.285	<0.24	<0.07	<0.09	<0.245
Trichloroethene	0.3	2	90	0.3	2	700	0.3	2	2000	0.3	2		<0.09		<0.095	<0.065			<0.065			<0.09	<0.07			<0.07	<0.09	
Trimethylbenzene, 1,2,4-	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000	10,000																	
Trimethylbenzene, 1,3,5-	NA	NA	NA	NA	NA	NA	NA	NA	NA	10	100																	
Xylene (total)	400	300	500	400	300	1000	400	300	3000	300	300	<0.42	<0.09	<0.485	<0.095	<0.065	<0.345	<0.75	<0.065	<0.35	<0.395	<0.09	<0.07	<0.565	<0.465	<0.07	<0.27	<0.485
Acenaphthene	4	1,000	1,000	4	3,000	3,000	4	5,000	5,000	4	3,000	<0.285	<0.8	0.95	<0.425	0.50	<0.38	<0.315		<0.335	<0.275	<0.325	<0.32	<0.335	<0.34	<0.34	<0.345	0.55
Anthracene	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	1.1	<0.8	0.6	0.9	1.4	0.97	<0.315		<0.335	<0.275	<0.325	<0.32	<0.335	<0.34	<0.34	<0.345	2.2
Benzo(a)anthracene	7	7	7	40	40	40	300	300	300	7	40	4.7	1.5	0.82	1.2	6.4	1.5	<0.315		<0.335	1.2	<0.325	0.62	<0.335	0.58	<0.34	0.48	2.0
Benzo(a)pyrene	2	2	2	4	4	4	30	30	30	2	4	3.7	3.2	1.5	1.9	4.5	1.9	1.2		<0.335	1.6	1.2	1.5	1.2	1.4	<0.34	1.2	2.0
Benzo(b)fluoranthene	7	7	7	40	40	40	300	300	300	7	40	5.2	<0.8	<0.345	0.85	6.4	1.1	<0.315		<0.335	1.4	0.36	1.0	<0.335	<0.34	<0.34	0.32	1.4
Benzo(g,h,i)perylene	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	2.70	0.74	<0.345	<0.425	2.50	<0.38	<0.315		<0.335	0.60	<0.325	<0.32	<0.335	<0.34	<0.34	<0.345	<0.33
Benzo(k)fluoranthene	70	70	70	400	400	400	3000	3000	3000	70	400	2.3	<0.8	<0.345	<0.425	2.9	<0.38	<0.315		<0.335	0.56	<0.325	<0.32	<0.335	<0.34	<0.34	<0.345	0.63
Chrysene	70	70	70	400	400	400	3000	3000	3000	70	400	4	<0.8	0.8	0.98	5.6	1.3	<0.315		<0.335	1.1	<0.325	0.52	<0.335	0.46	<0.34	0.42	1.4
Dibenzo(a,h)anthracene	0.7	0.7	0.7	4	4	4	30	30	30	0.7	4	0.82	<0.8	<0.345	<0.425	0.98	<0.38	<0.315		<0.335	<0.275	<0.325	<0.32	<0.335	<0.34	<0.34	<0.345	<0.33
Fluoranthene	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	7.9	2.7	1.5	2.4	11	3.2	0.85		<0.335	2.0	0.72	<0.32	0.9	1.1	<0.34	0.98	3.8
Fluorene	1000	1000	1000	3000	3000	3000	5000	5000	5000	1000	3000	<0.285	<0.8	0.7	<0.425	0.67	<0.38	<0.315		<0.335	<0.275	<0.325	<0.32	<0.335	<0.34	<0.34	<0.345	1.0
Indeno(1,2,3-cd)pyrene	7	7	7	40	40	40	300	300	300	7	40	2.50	<0.8	<0.345	<0.425	2.70	<0.38	<0.315		<0.335	0.50	<0.325	<0.32	<0.335	<0.34	<0.34	<0.345	<0.33
Methylnaphthalene, 1-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																	
Methylnaphthalene, 2-	0.7	80	300	0.7	80	500	0.7	80	500	0.7	80	<0.285	<0.8	<0.345	<0.425	2.1	<0.38	<0.315		<0.335	<0.275	<0.325	<0.32	<0.335	<0.34	<0.34	<0.345	<0.33
Naphthalene	4	40	500	4	40	1,000	4	40	3,000	4	40	<0.285	2	1.2	0.73	2.1	<0.38	<0.315		<0.335	<0.275	<0.325	<0.32	<0.335	<0.34	<0.34	<0.345	<0.33
Phenanthrene	10	500	500	10	1000	1000	10	3000	3000	10	1000	4.3	2.6	2.2	1.8	6.8	1.7	0.93		<0.335	0.76	<0.325	<0.32	1.2	<0.34	<0.34	0.49	4.8
Pyrene	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	6.4	2.3	1.3	1.8	8.1	2.6	0.61		<0.335	1.7	0.7	<0.32	0.68	0.92	<0.34	0.9	3.7
Carbazole																												
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA	NA	100	1,000																	
Arochlor 1248	2	2	2	3	3	3	3	3	3	2	3																	
Arochlor 1254	2	2	2	3	3	3	3	3	3	2	3																	
Arochlor 1260	2	2	2	3	3	3	3	3	3	2	3										<0.018							
Arochlor 1262	2	2	2	3	3	3	3	3	3	2	3																	
Arochlor 1268	2	2	2	3	3	3	3	3	3	2	3																	
Arsenic, Total	20	20	20	20	20	20	20	20	20	20	20	20.9	19.8	10.9	20.6	16.5	13.1	12.5		20	5.7	7.4	7.5	8.3	8.3	8.9	6.1	6
Barium, Total	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	185	215	75.2	214	164	82.4	61		105	44	35.7	47.5	69.8	46.6	55	30.3	36.2
Beryllium, Total	100	100	100	200	200	200	200	200	200	100	200																	
Cadmium, Total	2	2	2	30	30	30	30	30	30	2	30	0.58	0.45	0.29	0.37	0.89	0.33	0.26		0.17	0.2	0.3	0.3	0.3	0.3	0.6	0.12	0.2
Chromium, Total	30	30	30	200	200	200	200	200	200	30	200	38.3	21.9	30.8	43	21.3	31.5	31.5		49.2	11.6	22.4	23.9	23.5	26.3	32	14.6	19.2
Lead, Total	300	300	300	300	300	300	300	300	300	300	300	903	811	105	1190	544	118	46.8		17	64	40.6	150	57.8	99.8	19.5	85.2	27.1
Mercury, Total	20	20	20	30	30	30	30	30	30	20	30	4.2	1.4	0.27	1	2.4	0.69	0.25		0.12	0.29	0.49	0.16	0.69	0.56	<0.035	<0.025	0.15
Nickel, Total	20	20	20	700	700	700	700	700	700	20	700																	
Selenium, Total	400	400	400	800	800	800	800	800	800	400	800	1.8	2.5	<0.4895	1.6	1.3	1.2	<0.55		<0.4605	1.5	1.3	1.4	1.9	1.3	1.2	1	0.9
Silver, Total	100	100	100	200	200	200	200	200	200	100	200	0.31	0.47	<0.0705	<0.0805	9.8	<0.078	<0.0795		<0.0665	<0.75	<0.85	<0.45	<0.45	<0.45	<0.65	<0.065	<0.35
Vanadium, Total	600	600	600	1000	1000	1000	1000	1000	1000	600	1,000																	
Zinc, Total	2,500	2,500	2,500	3,000	3,000	3,000	5,000	5,000	5,000	2,500	3,000																	
C9-C18 Aliphatics	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	<3.45	58.0	26.0	<5	7.6	21.0	<3.75		<4	<3.25	<3.9	<3.85	<4	<4.1	<4.05	<4.15	<3.95
C19-C36 Aliphatics	3,000	3,000	3,000	5,000	5,000	5,000	5,000	5,000	5,000	3,000	5,000	53.0	350.0	190.0	<7	130.0	74.0	<5		<5.5	<4.4	<5	<5	<5.5	<5.5	<5.5	<5.5	73.0
C11-C22 Aromatics	1,000	1,000	1,000	1,000	3,000	3,000	1,000	5,000	5,000	1,000	3,000	130.0	220.0	150.0	84.0	210.0	180.0	26.0		<11.5	18.0	<11	<10.5	<11.5	22.0	<11.5	<23	86.0
C5-C8 Aliphatics	100	100	100	500	500	500	500	500	500	100	500	<1.4	<1.8	<1.6	<1.9	<1.25	<1.15	<2.5		<1.15	<1.3	<1.8	<2.35	<1.9	<1.6	<1.35	<1.8	<1.6
C9-C12 Aliphatics	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	0.59	<0.355	<0.325	<0.38	<0.25	<0.23	<0.5		<0.235	<0.285	<0.36	<0.275	<0.375	<0.325	<0.27	<0.36	<0.325
C9-C10 Aromatics	100	100	100	300	500	500	300	500	500	100	500	<0.42	<0.55	<0.485	<0.55	<0.38	<0.345	<0.75		<0.35	<0.395	<0.55	<0.41	<0.55	<0.465	<0.41	<0.55	<0.485

Notes: For compounds detected at least once above the detection limit, samples reported as not detected (ND) by the laboratory are assumed to have a concentration of one-half of the method detection limit for that sample.
Concentrations entered as < indicate that they were below the detection limit.
PRGs are not avaiable for EPH and VPH fractions. Therefore, applicable Method 1 Standards (S-2/GW-2) were used as substitutes.
NA = Not Available; ND = Not Detected

Table 1 **Soil Analytical Data (mg/kg) - Boston Convention and Exhibition Center, East of C Street, Boston, Massachusetts, RTN 3-16215**

Location:												Boston, MA	Boston, MA	Boston, MA	Boston, MA
Sample Name:												CST-B10	CSR-B10	CST-B11	CST-B11
Sample Depth:	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2'	10'	5'	15'
Laboratory:	Method 1	Method 1	Method 1	Method 1	Method 1	Method 1	Method 1	Method 1	Method 1	RCS-1	RCS-2	–	–	–	–
Laboratory I.D.:	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	–	–	–	–
Sample Date:	S-1/GW-1	S-1/GW-2	S-1/GW-3	S-2/GW-1	S-2/GW-2	S-2/GW-3	S-3/GW-1	S-3/GW-2	S-3/GW-3	mg/kg	mg/kg	28-Aug-98	31-Aug-98	28-Aug-98	31-Aug-98
Consultant:												H&A	H&A	H&A	H&A
Acetone	6	50	400	6	50	400	6	50	400	6	50	<0.05		<0.07	
Benzene	2	30	30	2	200	200	2	700	900	2	200	<0.05	<0.08	0.33	<0.08
Butanone, 2- (MEK)	4.0	50	400	4	50	400	4	50	400	4	50	0.17		0.21	
Butylbenzene, n-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
Butylbenzene, sec-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
Ethylbenzene	40	500	500	40	1000	1000	40	1000	3000	40	1000	<0.05	<0.08	0.048	<0.08
Isopropylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000	10,000				
Isopropyltoluene, p-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
Methyl tert-butyl ether	0.1	100	100	0.1	100	500	0.1	100	500	0.1	100	<0.05	2.5	<0.0135	<0.24
Methylene chloride	0.1	20	200	0.1	20	900	0.1	20	900	0.1	20	<0.05		<0.07	
Naphthalene	4	40	500	4	40	1000	4	40	3000	4	40				
Propylbenzene, n-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
Styrene	3	4	30	3	4	200	3	4	1000	3	4	<0.05		<0.07	
Tetrachloroethene	1	10	30	1	10	200	1	10	1000	1	10	<0.05		<0.07	
Toluene	30	500	500	30	1000	1000	30	2000	3000	30	1000	<0.05	<0.24	0.38	<0.24
Trichloroethene	0.3	2	90	0.3	2	700	0.3	2	2000	0.3	2	0.04		<0.07	
Trimethylbenzene, 1,2,4-	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000	10,000				
Trimethylbenzene, 1,3,5-	NA	NA	NA	NA	NA	NA	NA	NA	NA	10	100				
Xylene (total)	400	300	500	400	300	1000	400	300	3000	300	300	<0.16	<0.48	0.36	<0.475
Acenaphthene	4	1,000	1,000	4	3,000	3,000	4	5,000	5,000	4	3,000	<0.265	<0.335	<0.29	<0.345
Anthracene	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	<0.265	0.37	<0.29	<0.345
Benzo(a)anthracene	7	7	7	40	40	40	300	300	300	7	40	<0.265	0.58	0.69	<0.345
Benzo(a)pyrene	2	2	2	4	4	4	30	30	30	2	4	<0.265	1.3	1.4	1.1
Benzo(b)fluoranthene	7	7	7	40	40	40	300	300	300	7	40	<0.265	<0.335	0.72	<0.345
Benzo(g,h,i)perylene	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	<0.265	<0.335	0.41	<0.345
Benzo(k)fluoranthene	70	70	70	400	400	400	3000	3000	3000	70	400	<0.265	<0.335	0.35	<0.345
Chrysene	70	70	70	400	400	400	3000	3000	3000	70	400	<0.265	0.52	0.72	<0.345
Dibenzo(a,h)anthracene	0.7	0.7	0.7	4	4	4	30	30	30	0.7	4	<0.265	<0.335	<0.29	<0.345
Fluoranthene	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	<0.265	0.96	0.67	<0.345
Fluorene	1000	1000	1000	3000	3000	3000	5000	5000	5000	1000	3000	<0.265	<0.335	<0.29	<0.345
Indeno(1,2,3-cd)pyrene	7	7	7	40	40	40	300	300	300	7	40	<0.265	<0.335	0.33	<0.345
Methylnaphthalene, 1-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
Methylnaphthalene, 2-	0.7	80	300	0.7	80	500	0.7	80	500	0.7	80	<0.265	<0.335	<0.29	<0.345
Naphthalene	4	40	500	4	40	1,000	4	40	3,000	4	40	<0.265	<0.335	<0.29	<0.345
Phenanthrene	10	500	500	10	1000	1000	10	3000	3000	10	1000	<0.265	0.56	<0.29	<0.345
Pyrene	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	<0.265	0.88	0.78	<0.345
Carbazole															
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA	NA	100	1,000				
Arochlor 1248	2	2	2	3	3	3	3	3	3	2	3				
Arochlor 1254	2	2	2	3	3	3	3	3	3	2	3				
Arochlor 1260	2	2	2	3	3	3	3	3	3	2	3	<0.0175			
Arochlor 1262	2	2	2	3	3	3	3	3	3	2	3				
Arochlor 1268	2	2	2	3	3	3	3	3	3	2	3				
Arsenic, Total	20	20	20	20	20	20	20	20	20	20	20	2.6	7.2	9.5	6
Barium, Total	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	23.2	43.7	114	28.8
Beryllium, Total	100	100	100	200	200	200	200	200	200	100	200				
Cadmium, Total	2	2	2	30	30	30	30	30	30	2	30	<0.02	0.2	0.16	0.2
Chromium, Total	30	30	30	200	200	200	200	200	200	30	200	6.3	20.2	27.8	17.5
Lead, Total	300	300	300	300	300	300	300	300	300	300	300	6.5	19.1	241	42.5
Mercury, Total	20	20	20	30	30	30	30	30	30	20	30	<0.02	0.21	0.26	0.42
Nickel, Total	20	20	20	700	700	700	700	700	700	20	700				
Selenium, Total	400	400	400	800	800	800	800	800	800	400	800	0.27	0.8	1.9	1
Silver, Total	100	100	100	200	200	200	200	200	200	100	200	<0.04	<0.1	<0.055	<0.05
Vanadium, Total	600	600	600	1000	1000	1000	1000	1000	1000	600	1,000				
Zinc, Total	2,500	2,500	2,500	3,000	3,000	3,000	5,000	5,000	5,000	2,500	3,000				
C9-C18 Aliphatics	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	<3.2	<4	<3.5	<4.15
C19-C36 Aliphatics	3,000	3,000	3,000	5,000	5,000	5,000	5,000	5,000	5,000	3,000	5,000	<4.25	<5.5	<4.65	<5.5
C11-C22 Aromatics	1,000	1,000	1,000	1,000	3,000	3,000	1,000	5,000	5,000	1,000	3,000	<9.5	27.0	<15.5	<12
C5-C8 Aliphatics	100	100	100	500	500	500	500	500	500	100	500	<1.05	<1.8	<1.35	<1.6
C9-C12 Aliphatics	1,000	1,000	1,000	3,000	3,000	3,000	5,000	5,000	5,000	1,000	3,000	<0.21	<0.32	0.69	<0.315
C9-C10 Aromatics	100	100	100	300	500	500	300	500	500	100	500	<0.31	<0.48	<0.41	<0.475

Notes: For compounds detected at least once above the detection limit, samples reported as not detected (ND) by the laboratory are assumed to have a concentration of one-half of the method detection limit for that sample.
Concentrations entered as < indicate that they were below the detection limit.
PRGs are not available for EPH and VPH fractions. Therefore, applicable Method 1 Standards (S-2/GW-2) were used as substitutes.
NA = Not Available; ND = Not Detected

Table 2 **Groundwater Analytical Data (µg/L) - Boston Convention and Exhibition Center, East of C Street, Boston, Massachusetts, RTN 3-1621**

Location:		Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA
Sample Name:		**RIZ-1**	**RIZ-2**	**RIZ-3**	**RIZ-4**	**RIZ-5**	**RIZ-6**	**RIZ-7**	**RIZ-8**	**RIZ-9**	**RIZ-10**	**051-B01/W05**	**051-B06/W06**	**051-B07/W07**	**051-B08/W08**	**041-EXIST1**	**041-W01**
Laboratory:	**RCGW-2**	**Spectrum**	**Spectrum**	**Spectrum**	**Spectrum**	**Spectrum**	**Spectrum**	**Spectrum**	**Spectrum**	**Spectrum**	**Spectrum**	--	--	--	--	--	--
Laboratory I.D.:	**Standard**	**SA99018-01**	**SA99018-03**	**SA99018-04**	**SA99018-05**	**SA99018-06**	**SA99018-07**	**SA99018-08**	**SA99018-09**	**SA99018-010**	**SA99018-02**	--	--	--	--	--	--
Sample Date:	**µg/L**	**6-Aug-09**	**6-Aug-09**	**6-Aug-09**	**6-Aug-09**	**6-Aug-09**	**6-Aug-09**	**6-Aug-09**	**6-Aug-09**	**7-Aug-09**	**7-Aug-09**	**1-Feb-02**	**1-Feb-02**	**1-Feb-02**	**1-Feb-02**	**24-Sep-98**	**24-Sep-98**
Consultant:		**TTR**	**TTR**	**TTR**	**TTR**	**TTR**	**TTR**	**TTR**	**TTR**	**TTR**	**TTR**	**H&A**	**H&A**	**H&A**	**H&A**	**H&A**	**H&A**
Acetone	50,000	<10	<10	<10	<10	<100	<10	<10	<10	<10	<10					<2.5	<2.5
Benzene	2,000	<1.0	<1.0	<1.0	<1.0	220	<1.0	<1.0	<1.0	<1.0	<1.0	<1	9	<1	<1	<2.5	<2.5
Butylbenzene, n-	NA	<1.0	<1.0	<1.0	<1.0	14.8	<1.0	<1.0	<1.0	<1.0	<1.0						
Ethylbenzene	5,000	<1.0	<1.0	1.2	<1.0	34.5	<1.0	<1.0	<1.0	<1.0	<1.0						
Methyl tert-butyl ethe	5,000	<1.0	<1.0	<1.0	2.9	1,320	<1.0	<1.0	2.1	13.8	15.5	8.4	1,200.0	6.8	2.2	46.0	8.4
Naphthalene	1,000	<1.0	<1.0	83.4	<1.0	96.9	<1.0	<1.0	<1.0	<1.0	<1.0	12.0	2.4	41.0	9.6	<2	<2
Propylbenzene, n-	NA	<1.0	<1.0	1.1	<1.0	21.4	<1.0	<1.0	<1.0	<1.0	<1.0						
Tertiary-amyl methyl ether																	
(TAME)		<1.0	<1.0	<1.0	<1.0	561	<1.0	<1.0	<1.0	<1.0	<1.0						
Toluene	40,000	<1.0	<1.0	<1.0	<1.0	29.9	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1	<7.5	<7.5
Trimethylbenzene, 1,2,4	100,000	<1.0	<1.0	2.8	<1.0	38.5	<1.0	<1.0	<1.0	<1.0	<1.0						
Trimethylbenzene, 1,3,5	1,000	<1.0	<1.0	<1.0	<1.0	15.4	<1.0	<1.0	<1.0	<1.0	<1.0						
Xylene (total	5,000	<2.0	<2.0	2.2	<2.0	56.4	<2.0	<2.0	<2.0	<2.0	<2.0						
Acenaphthene	6,000	<1.0	1.1	102	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.9	1.3	18	1.1	<2	<2
Acenaphthylene	40	<1.0	<1.0	55.7	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.18	0.24	1.1	0.6	<2	<2
Anthracene	30	<1.0	<1.0	106	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.86	0.18	5.6	1.5	<2	<2
Benzo(a)anthracene	1,000	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.70	<0.05	0.38	4.1	<2	<2
Benzo(a)pyrene	500	<0.2	<0.2	<5.0	<0.2	<5.0	<0.2	<0.2	<0.2	<0.2	<0.2	0.65	<0.05	0.19	4.1	<2	<2
Benzo(b)fluoranthene	400	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.86	<0.05	0.22	5.3	<2	<2
Benzo(g,h,i)perylene	20	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.38	<0.05	<0.05	2.8	<2	<2
Benzo(k)fluoranthene	100	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.29	<0.05	<0.05	1.7	<2	<2
Chrysene	70	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.70	<0.05	0.42	4.8	<2	<2
Dibenzo(a,h)anthracene	40	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5	0.12	<0.05	<0.05	0.76	<2	<2
Fluoranthene	200	<1.0	<1.0	6.4	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.7	0.22	4.7	9.8	<2	<2
Fluorene	40	<1.0	<1.0	74	<1.0	5.4	<1.0	<1.0	<1.0	<1.0	<1.0	1.8	1.1	16	1.3	<2	<2
Indeno(1,2,3-cd)pyrene	100	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5	0.46	<0.05	0.12	3.1	<2	<2
Methylnaphthalene, 2	2,000	<1.0	<1.0	<5.0	<1.0	77.2	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	19	7.4	6	<2	<2
Naphthalene	1,000	<1.0	<1.0	24.8	<1.0	29.9	<1.0	<1.0	<1.0	<1.0	<1.0	12	2	41	10	<2	<2
Phenanthrene	10,000	<1.0	<1.0	114	<1.0	8.4	<1.0	<1.0	<1.0	<1.0	<1.0	3.7	1	31	6.1	<2	<2
Pyrene	20	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.3	0.26	2.9	8.7	<2	<2
Butyl alcoho	NA	<10.0	<10.0	<10.0	<10.0	213	<10.0	<10.0	<10.0	<10.0	<10.0						
Arsenic, Dissolved	900	<5	<5	<5	<5	19.8	<5	<5	<5	<5	<5					22	24
Barium, Dissolved	50,000	341	435	88.1	752	114	402	78.8	335	382	1,810					680	400
Chromium, Dissolved	300	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5					<2.15	<2.15
Mercury, Dissolved	20	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2					<0.027	<0.027
Nickel, Dissolved	200	<5	<5	<5	<5	80.4	<5	<5	<5	<5	<5						
Selenium, Dissolved	100	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15					7.9	<3.45
Silver, Dissolved	7	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5					<0.5	2.30
Thallium, Dissolved	3,000	8.4	<5	<5	<5	<5	<5	<5	<5	<5	<5						
Vanadium, Dissolved	4,000	<5	<5	<5	<5	14.8	<5	<5	<5	<5	<5						
Zinc, Dissolved	900	10.1	17.2	25.8	11.2	14.5	14.2	15.8	13.9	15.4	92.2						
C_9-C_{18} Aliphatics	5,000	<100	<100	<100	<100	3,200	<100	<100	<100	<100	<100	<50	230	<50	960	<50	<50
C_{19}-C_{36} Aliphatics	50,000	<100	<100	<100	<100	600	<100	<100	<100	<100	<100	<50	210	<50	570	<50	<50
C_{11}-C_{22} Aromatics	5,000	<100	<100	400	<100	1,900	<100	<100	<100	<100	<100	420	1,700	510	1,500	<50	<50
C_5-C_8 Aliphatics	3,000	<75	<75	<75	<75	453	<75	<75	<75	<75	<75						
C_9-C_{12} Aliphatics	5,000	<25	<25	803	<25	792	<25	<25	<25	<25	<25	<12.5	<12.5	<12.5	<12.5	<10	<10
C_9-C_{10} Aromatics	7,000	<25	<25	57.3	<25	555	<25	<25	<25	<25	<25	<12.5	550	<12.5	57	<10	<10

Notes: Concentrations entered as < indicate that they were below the detection limi

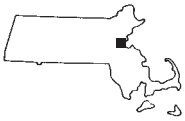
Table 2 — **Groundwater Analytical Data (µg/L) - Boston Convention and Exhibition Center, East of C Street, Boston, Massachusetts, RTN 3-1621**

Location:		Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA	Boston, MA
Sample Name:		041-W02	042-W03	042-W04	051-W01	051-W02	015-W03	051-W04	052-W01	053-W01	053-W02	CST-W01	CST-W02	CST-W07	CST-W08	CST-W09
Laboratory:	RCGW-2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Laboratory I.D.:	Standard	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sample Date:	µg/L	24-Sep-98	24-Sep-98	24-Sep-98	28-Sep-98	28-Sep-98	28-Sep-98	28-Sep-98	28-Sep-98	28-Sep-98	28-Sep-98	23-Sep-98	24-Sep-98	23-Sep-98	28-Sep-98	24-Sep-98
Consultant:		H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A	H&A
Acetone	50,000	<2.5	<2.5	<2.5	<2.5	<3.5	<4	<2.5	<8	<3	<10	<2.5	11	<2.5	<3	7
Benzene	2,000	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
Butylbenzene, n-	NA															
Ethylbenzene	5,000															
Methyl tert-butyl ethe	5,000	<7.5	<7.5	<7.5	<2.5	8.0	13.0	<2.5	<2.5	55.0	7.0	<7.5	<2.5	<7.5	<2.5	<2.5
Naphthalene	1,000	<2	<2	<2.05	<3	<3	<3	<2.5	<2.5	<2.5	<2.5	<2.5	<3	<2.5	2.0	<2.5
Propylbenzene, n-	NA															
Tertiary-amyl methyl ether (TAME)																
Toluene	40,000	<7.5	<7.5	<7.5	<2.5	<2.5	<2.5	8	<2.5	<2.5	<2.5	<7.5	<2.5	<7.5	<2.5	<2.5
Trimethylbenzene, 1,2,4	100,000															
Trimethylbenzene, 1,3,5	1,000															
Xylene (total	5,000															
Acenaphthene	6,000	<2	<2	<2.05	<3	<3	<3	<2.5	<2.5	<2.5	<2.5	<2.5	<3	<2.5	<2.5	<2.5
Acenaphthylene	40	<2	<2	<2.05	<3	<3	<3	<2.5	<2.5	<2.5	<2.5	<2.5	<3	<2.5	<2.5	<2.5
Anthracene	30	<2	<2	<2.05	<3	<3	<3	<2.5	<2.5	<2.5	<2.5	<2.5	<3	<2.5	<2.5	<2.5
Benzo(a)anthracene	1,000	<2	<2	<2.05	<3	3	<3	<2.5	<2.5	<2.5	<2.5	<2.5	<3	<2.5	<2.5	<2.5
Benzo(a)pyrene	500	<2	<2	<2.05	<3	4	<3	<2.5	<2.5	<2.5	<2.5	<2.5	<3	<2.5	<2.5	<2.5
Benzo(b)fluoranthene	400	<2	<2	<2.05	<3	<3	<3	<2.5	<2.5	<2.5	<2.5	<2.5	<3	<2.5	<2.5	<2.5
Benzo(g,h,i)perylene	20	<2	<2	<2.05	<3	<3	<3	<2.5	<2.5	<2.5	<2.5	<2.5	<3	<2.5	<2.5	<2.5
Benzo(k)fluoranthene	100	<2	<2	<2.05	<3	<3	<3	<2.5	<2.5	<2.5	<2.5	<2.5	<3	<2.5	<2.5	<2.5
Chrysene	70	<2	<2	<2.05	<3	4	<3	<2.5	<2.5	<2.5	<2.5	<2.5	<3	<2.5	<2.5	<2.5
Dibenzo(a,h)anthracene	40	<2	<2	<2.05	<3	<3	<3	<2.5	<2.5	<2.5	<2.5	<2.5	<3	<2.5	<2.5	<2.5
Fluoranthene	200	<2	<2	<2.05	<3	6	<3	<2.5	<2.5	<2.5	<2.5	<2.5	<3	<2.5	<2.5	<2.5
Fluorene	40	<2	<2	<2.05	<3	<3	<3	<2.5	<2.5	<2.5	<2.5	<2.5	<3	<2.5	<2.5	<2.5
Indeno(1,2,3-cd)pyrene	100	<2	<2	<2.05	<3	<3	<3	<2.5	<2.5	<2.5	<2.5	<2.5	<3	<2.5	<2.5	<2.5
Methylnaphthalene, 2	2,000	<2	<2	<2.05	<3	<3	<3	<2.5	<2.5	<2.5	<2.5	<2.5	<3	<2.5	1	<2.5
Naphthalene	1,000	<2	<2	<2.05	<3	<3	<3	<2.5	<2.5	<2.5	<2.5	<2.5	<3	<2.5	2	<2.5
Phenanthrene	10,000	<2	<2	<2.05	<3	6	<3	<2.5	<2.5	<2.5	<2.5	<2.5	<3	<2.5	<2.5	<2.5
Pyrene	20	<2	<2	<2.05	<3	6	<3	<2.5	<2.5	<2.5	<2.5	<2.5	<3	<2.5	<2.5	<2.5
Butyl alcoho	NA															
Arsenic, Dissolved	900	18	20	14	<11	<9.5	<11.5	<11.5	<11	<12	<14	<1.5	20	5	10	10
Barium, Dissolved	50,000	210	1,600	420	570	530	370	520	200	200	160	170	1,000	180	60	290
Chromium, Dissolved	300	<2.15	<2.15	<2.15	<2.15	<2.15	<2.15	<2.15	<2.15	<2.15	<2.15	<0.5	10	<0.5	1.0	3
Mercury, Dissolved	20	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	0.18	<0.027	<0.027	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel, Dissolved	200															
Selenium, Dissolved	100	<3.45	<3.45	<3.45	26.3	60.0	7.3	27.5	<3.45	8.3	60.6	17.0	<1.5	<1.5	<1.5	<1.5
Silver, Dissolved	7	<0.5	<0.5	<0.5	<0.95	<1.45	<1.6	<1.4	<1.75	<1.7	<1.45	<0.5	<1	<0.5	<0.5	<1
Thallium, Dissolved	3,000															
Vanadium, Dissolved	4,000															
Zinc, Dissolved	900															
C_9-C_{18} Aliphatics	5,000	<50	<50	<50	<37.5	<37.5	<37.5	<30	<30	<30	<30	<30	<34	<30	<15	<30
C_{19}-C_{36} Aliphatics	50,000	<50	<50	<50	<50	520	<50	<40	<40	<40	<40	<40	<45.5	<40	<40	<40
C_{11}-C_{22} Aromatics	5,000	<50	<50	<50	1,700	2,271	1,800	<85	<85	<85	<85	<85	<97	<85	117	<85
C_5-C_8 Aliphatics	3,000															
C_9-C_{12} Aliphatics	5,000	<10	<10	<10	18	<10	<10	<10	<10	<10	<10	<10	<10	<10	30	<10
C_9-C_{10} Aromatics	7,000	<10	<10	<10	32	<15	<15	<15	<15	<15	<15	<15	<15	<15	110	<15

Notes: Concentrations entered as < indicate that they were below the detection limi

TETRA TECH RIZZO

One Grant Street
Framingham, MA 01701-9005
508.903.2000
www.tetratechrizzo.com

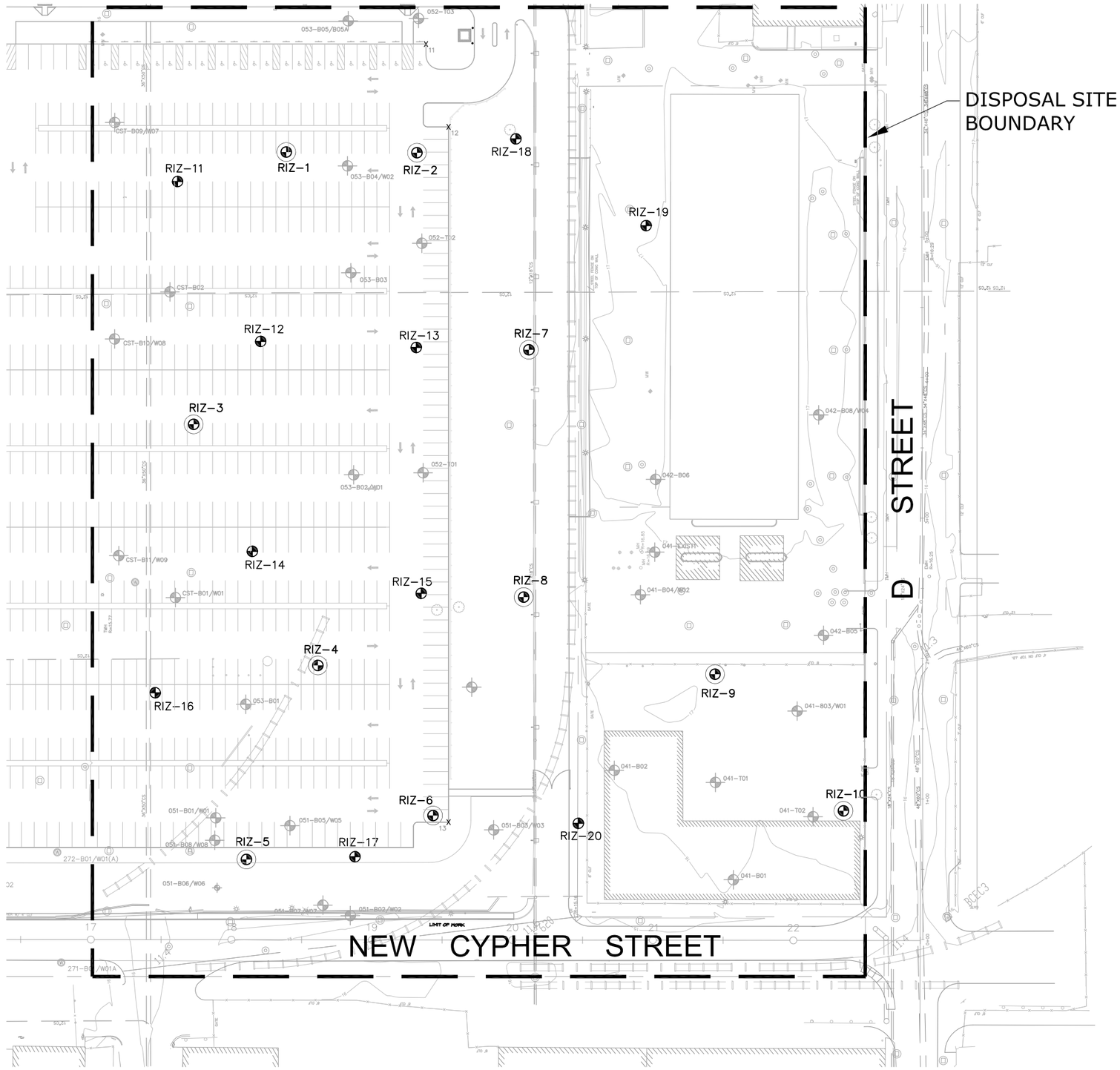


Base Map: MA USGS Topographic Maps from TerraServer 7/1/89

Boston Convention Center and Exhibition Center
Phase II - East of C Street

Site Locus Map

Figure 1



LEGEND

- SOIL BORING
- SOIL BORING/MONITORING WELL

TETRA TECH RIZZO

One Grant Street
Framingham, MA 01701-9005
508.903.2000
www.tetratechrizzo.com

Project Title

Boston Convention and Exhibition Center

Sheet Title

Site Plan

0 80

Scale in Feet

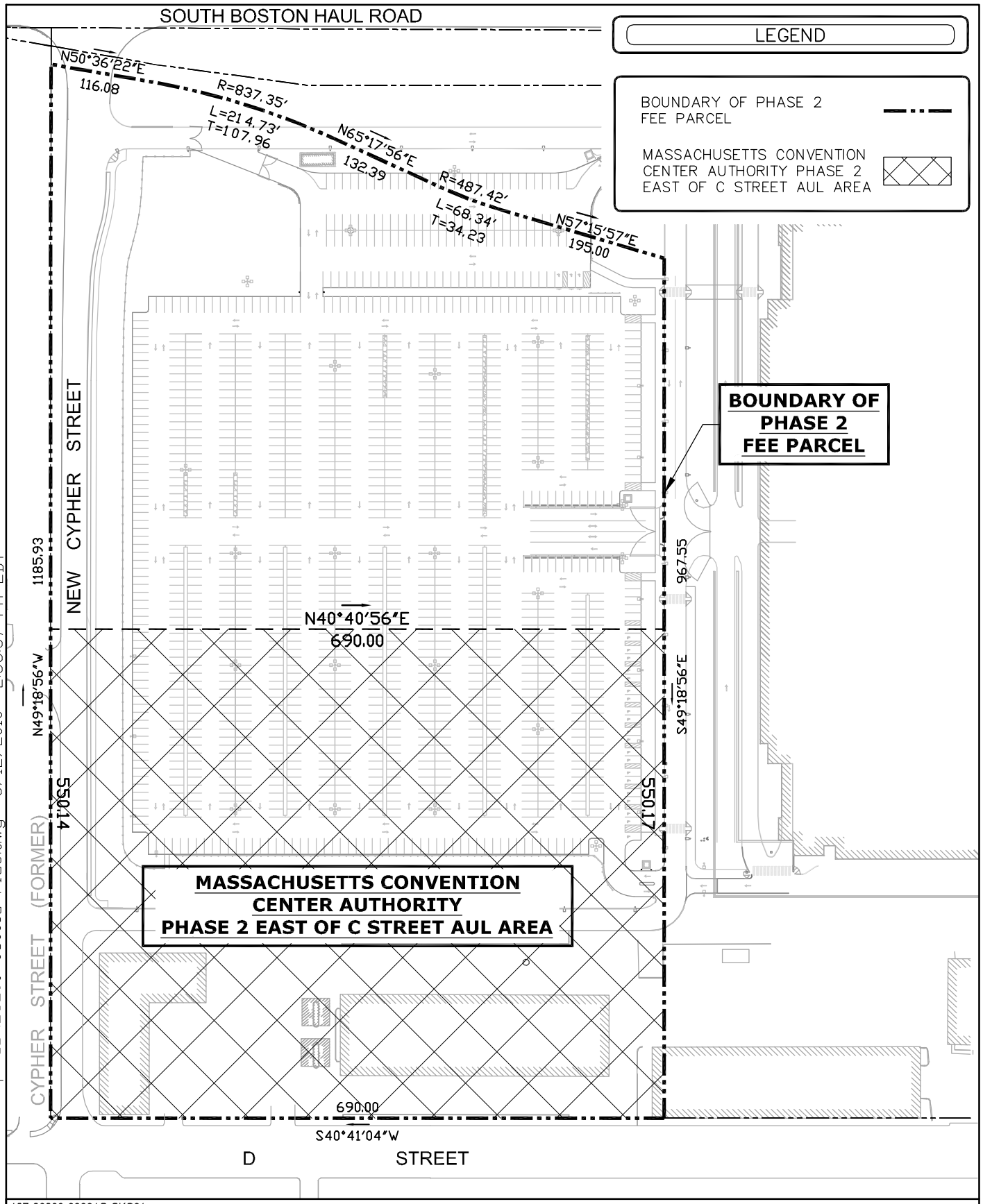
Job No.: 127-26209-09001

Figure 2

Date: 9-24-09

File Name: 26902-08001P-FIG02

J:\Project\127-26209-08001\Plot\26209-08001P-FIG02_old2.dwg 8/13/2010 3:44:23 PM EDT



127-26209-08001G-SKC01

0 150 Feet

Massachusetts Convention Center Authority
Boston, MA

Sketch Plan of Disposal Site

TETRA TECH RIZZO

Figure 3

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Appendix C

2023 Laboratory Certificates of Analysis

CERTIFICATE OF ANALYSIS

William Phelps
Tetra Tech, Inc.
100 Nickerson Road
Marlborough, MA 01752

RE: Massport - Cypher Street (143-278997-23002)
ESS Laboratory Work Order Number: 23E0369

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 1:39 pm, May 17, 2023

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: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0369

SAMPLE RECEIPT

The following samples were received on May 10, 2023 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.

Lab Number	Sample Name	Matrix	Analysis
23E0369-01	TT-117A 0-3ft	Soil	8100M
23E0369-02	TT-117A 3-6ft	Soil	8100M
23E0369-03	TT-117B 0-3ft	Soil	8100M
23E0369-04	TT-117B 3-6ft	Soil	8100M
23E0369-06	TT-117B 5ft	Soil	8260B Low
23E0369-07	TT-118C 0-3ft	Soil	8100M
23E0369-08	TT-118C 3-6ft	Soil	8100M
23E0369-10	TT-119C 3ft	Soil	8260B Low
23E0369-11	TT-119C 0-3ft	Soil	8100M
23E0369-12	TT-119C 3-6ft	Soil	8100M

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23E0369

PROJECT NARRATIVE

5035/8260B Volatile Organic Compounds / Low Level
D3E0225-CCV1 **Continuing Calibration %Diff/Drift is above control limit (CD+).**
Bromomethane (24% @ 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: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0369

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: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0369

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **23E0369-01 through 23E0369-12**

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	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	( ) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	(x) 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: May 17, 2023
Printed Name: Laurel Stoddard
Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117A 0-3ft
Date Sampled: 05/09/23 10:00
Percent Solids: 80
Initial Volume: 19.7g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0369
ESS Laboratory Sample ID: 23E0369-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 5/10/23 17:30

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**267** (12.7)		8100M		1	05/11/23 18:42		DE31042

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*72 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117A 3-6ft
Date Sampled: 05/09/23 10:35
Percent Solids: 93
Initial Volume: 20.2g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0369
ESS Laboratory Sample ID: 23E0369-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 5/10/23 17:30

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**93.5** (10.6)		8100M		1	05/11/23 19:19		DE31042

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*72 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117B 0-3ft
Date Sampled: 05/09/23 13:05
Percent Solids: 83
Initial Volume: 19.2g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0369
ESS Laboratory Sample ID: 23E0369-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 5/10/23 17:30

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**4770** (62.9)		8100M		5	05/13/23 5:13		DE31042

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*85 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117B 3-6ft
Date Sampled: 05/09/23 13:38
Percent Solids: 83
Initial Volume: 20.4g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0369
ESS Laboratory Sample ID: 23E0369-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 5/10/23 17:30

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**262** (23.7)		8100M		2	05/11/23 20:35		DE31042

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*75 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117B 5ft
Date Sampled: 05/09/23 13:17
Percent Solids: 88
Initial Volume: 2.8g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23E0369
ESS Laboratory Sample ID: 23E0369-06
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 (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
1,1,1-Trichloroethane	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
1,1,2,2-Tetrachloroethane	ND (0.0061)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
1,1,2-Trichloroethane	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
1,1-Dichloroethane	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
1,1-Dichloroethene	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
1,1-Dichloropropene	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
1,2,3-Trichlorobenzene	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
1,2,3-Trichloropropane	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
1,2,4-Trichlorobenzene	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
1,2,4-Trimethylbenzene	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
1,2-Dibromo-3-Chloropropane	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
1,2-Dibromoethane	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
1,2-Dichlorobenzene	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
1,2-Dichloroethane	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
1,2-Dichloropropane	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
1,3,5-Trimethylbenzene	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
1,3-Dichlorobenzene	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
1,3-Dichloropropane	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
1,4-Dichlorobenzene	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
1,4-Dioxane	ND (0.163)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
2,2-Dichloropropane	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
2-Butanone	ND (0.102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
2-Chlorotoluene	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
2-Hexanone	ND (0.102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
4-Chlorotoluene	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
4-Isopropyltoluene	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
4-Methyl-2-Pentanone	ND (0.102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Acetone	ND (0.102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Benzene	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Bromobenzene	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Bromochloromethane	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117B 5ft
Date Sampled: 05/09/23 13:17
Percent Solids: 88
Initial Volume: 2.8g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23E0369
ESS Laboratory Sample ID: 23E0369-06
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 (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Bromoform	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Bromomethane	ND (0.0204)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Carbon Disulfide	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Carbon Tetrachloride	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Chlorobenzene	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Chloroethane	ND (0.0204)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Chloroform	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Chloromethane	ND (0.0204)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
cis-1,2-Dichloroethene	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
cis-1,3-Dichloropropene	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Dibromochloromethane	ND (0.0061)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Dibromomethane	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Dichlorodifluoromethane	ND (0.0204)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Diethyl Ether	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Di-isopropyl ether	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Ethyl tertiary-butyl ether	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Ethylbenzene	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Hexachlorobutadiene	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Isopropylbenzene	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Methyl tert-Butyl Ether	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Methylene Chloride	ND (0.0510)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Naphthalene	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
n-Butylbenzene	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
n-Propylbenzene	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
sec-Butylbenzene	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Styrene	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
tert-Butylbenzene	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Tertiary-amyl methyl ether	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Tetrachloroethene	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Tetrahydrofuran	ND (0.0408)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Toluene	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117B 5ft
Date Sampled: 05/09/23 13:17
Percent Solids: 88
Initial Volume: 2.8g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23E0369
ESS Laboratory Sample ID: 23E0369-06
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 (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
trans-1,3-Dichloropropene	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Trichloroethene	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Trichlorofluoromethane	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Vinyl Chloride	ND (0.0204)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Xylene O	ND (0.0102)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Xylene P,M	ND (0.0204)		8260B Low		1	05/11/23 17:10	D3E0225	DE31130
Xylenes (Total)	ND (0.0204)		8260B Low		1	05/11/23 17:10		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichloroethane-d4	*123 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*114 %*		*70-130*
Surrogate: Dibromofluoromethane	*116 %*		*70-130*
Surrogate: Toluene-d8	*99 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118C 0-3ft
Date Sampled: 05/10/23 08:20
Percent Solids: 90
Initial Volume: 19.6g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0369
ESS Laboratory Sample ID: 23E0369-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 5/10/23 17:30

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**75.3** (11.4)		8100M		1	05/11/23 21:51		DE31042

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*77 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118C 3-6ft
Date Sampled: 05/10/23 08:51
Percent Solids: 80
Initial Volume: 19.2g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0369
ESS Laboratory Sample ID: 23E0369-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 5/10/23 17:30

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**65.5** (12.9)		8100M		1	05/11/23 22:28		DE31042

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*75 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119C 3ft
Date Sampled: 05/10/23 10:35
Percent Solids: 98
Initial Volume: 4.5g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23E0369
ESS Laboratory Sample ID: 23E0369-10
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 (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
1,1,1-Trichloroethane	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
1,1,2,2-Tetrachloroethane	ND (0.0034)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
1,1,2-Trichloroethane	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
1,1-Dichloroethane	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
1,1-Dichloroethene	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
1,1-Dichloropropene	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
1,2,3-Trichlorobenzene	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
1,2,3-Trichloropropane	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
1,2,4-Trichlorobenzene	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
1,2,4-Trimethylbenzene	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
1,2-Dibromo-3-Chloropropane	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
1,2-Dibromoethane	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
1,2-Dichlorobenzene	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
1,2-Dichloroethane	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
1,2-Dichloropropane	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
1,3,5-Trimethylbenzene	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
1,3-Dichlorobenzene	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
1,3-Dichloropropane	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
1,4-Dichlorobenzene	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
1,4-Dioxane	ND (0.0909)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
2,2-Dichloropropane	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
2-Butanone	ND (0.0568)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
2-Chlorotoluene	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
2-Hexanone	ND (0.0568)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
4-Chlorotoluene	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
4-Isopropyltoluene	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
4-Methyl-2-Pentanone	ND (0.0568)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Acetone	ND (0.0568)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Benzene	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Bromobenzene	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Bromochloromethane	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119C 3ft
Date Sampled: 05/10/23 10:35
Percent Solids: 98
Initial Volume: 4.5g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23E0369
ESS Laboratory Sample ID: 23E0369-10
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 (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Bromoform	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Bromomethane	ND (0.0114)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Carbon Disulfide	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Carbon Tetrachloride	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Chlorobenzene	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Chloroethane	ND (0.0114)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Chloroform	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Chloromethane	ND (0.0114)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
cis-1,2-Dichloroethene	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
cis-1,3-Dichloropropene	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Dibromochloromethane	ND (0.0034)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Dibromomethane	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Dichlorodifluoromethane	ND (0.0114)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Diethyl Ether	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Di-isopropyl ether	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Ethyl tertiary-butyl ether	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Ethylbenzene	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Hexachlorobutadiene	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Isopropylbenzene	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Methyl tert-Butyl Ether	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Methylene Chloride	ND (0.0284)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Naphthalene	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
n-Butylbenzene	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
n-Propylbenzene	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
sec-Butylbenzene	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Styrene	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
tert-Butylbenzene	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Tertiary-amyl methyl ether	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Tetrachloroethene	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Tetrahydrofuran	ND (0.0227)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Toluene	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119C 3ft
Date Sampled: 05/10/23 10:35
Percent Solids: 98
Initial Volume: 4.5g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23E0369
ESS Laboratory Sample ID: 23E0369-10
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 (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
trans-1,3-Dichloropropene	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Trichloroethene	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Trichlorofluoromethane	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Vinyl Chloride	ND (0.0114)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Xylene O	ND (0.0057)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Xylene P,M	ND (0.0114)		8260B Low		1	05/11/23 17:35	D3E0225	DE31130
Xylenes (Total)	ND (0.0114)		8260B Low		1	05/11/23 17:35		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichloroethane-d4	*118 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*97 %*		*70-130*
Surrogate: Dibromofluoromethane	*108 %*		*70-130*
Surrogate: Toluene-d8	*99 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119C 0-3ft
Date Sampled: 05/10/23 10:39
Percent Solids: 88
Initial Volume: 19.6g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0369
ESS Laboratory Sample ID: 23E0369-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 5/10/23 17:30

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**451** (23.3)		8100M		2	05/11/23 23:41		DE31042

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*77 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119C 3-6ft
Date Sampled: 05/10/23 13:04
Percent Solids: 79
Initial Volume: 19.1g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0369
ESS Laboratory Sample ID: 23E0369-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 5/10/23 17:30

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**151** (13.3)		8100M		1	05/12/23 0:18		DE31042

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*81 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23E0369

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 DE31130 - 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	0.0050	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	0.0800	mg/kg wet							
2,2-Dichloropropane	ND	0.0050	mg/kg wet							
2-Butanone	ND	0.0500	mg/kg wet							
2-Chlorotoluene	ND	0.0050	mg/kg wet							
2-Hexanone	ND	0.0500	mg/kg wet							
4-Chlorotoluene	ND	0.0050	mg/kg wet							
4-Isopropyltoluene	ND	0.0050	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.0500	mg/kg wet							
Acetone	ND	0.0500	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	0.0050	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23E0369

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 DE31130 - 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	0.0250	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	0.0200	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	*0.0602*		mg/kg wet	*0.05000*		*120*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0472*		mg/kg wet	*0.05000*		*94*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0541*		mg/kg wet	*0.05000*		*108*	*70-130*			
Surrogate: Toluene-d8	*0.0484*		mg/kg wet	*0.05000*		*97*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	0.0521	0.0050	mg/kg wet	0.05000		104	70-130			
1,1,1-Trichloroethane	0.0534	0.0050	mg/kg wet	0.05000		107	70-130			
1,1,2,2-Tetrachloroethane	0.0543	0.0050	mg/kg wet	0.05000		109	70-130			
1,1,2-Trichloroethane	0.0515	0.0050	mg/kg wet	0.05000		103	70-130			
1,1-Dichloroethane	0.0538	0.0050	mg/kg wet	0.05000		108	70-130			
1,1-Dichloroethene	0.0556	0.0050	mg/kg wet	0.05000		111	70-130			
1,1-Dichloropropene	0.0562	0.0050	mg/kg wet	0.05000		112	70-130			
1,2,3-Trichlorobenzene	0.0536	0.0050	mg/kg wet	0.05000		107	70-130			
1,2,3-Trichloropropane	0.0536	0.0050	mg/kg wet	0.05000		107	70-130			
1,2,4-Trichlorobenzene	0.0536	0.0050	mg/kg wet	0.05000		107	70-130			
1,2,4-Trimethylbenzene	0.0522	0.0050	mg/kg wet	0.05000		104	70-130			
1,2-Dibromo-3-Chloropropane	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			
1,2-Dibromoethane	0.0517	0.0050	mg/kg wet	0.05000		103	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0369

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 DE31130 - 5035										
1,2-Dichlorobenzene	0.0518	0.0050	mg/kg wet	0.05000		104	70-130			
1,2-Dichloroethane	0.0558	0.0050	mg/kg wet	0.05000		112	70-130			
1,2-Dichloropropane	0.0542	0.0050	mg/kg wet	0.05000		108	70-130			
1,3,5-Trimethylbenzene	0.0539	0.0050	mg/kg wet	0.05000		108	70-130			
1,3-Dichlorobenzene	0.0526	0.0050	mg/kg wet	0.05000		105	70-130			
1,3-Dichloropropane	0.0545	0.0050	mg/kg wet	0.05000		109	70-130			
1,4-Dichlorobenzene	0.0550	0.0050	mg/kg wet	0.05000		110	70-130			
1,4-Dioxane	1.01	0.0800	mg/kg wet	1.000		101	70-130			
2,2-Dichloropropane	0.0530	0.0050	mg/kg wet	0.05000		106	70-130			
2-Butanone	0.276	0.0500	mg/kg wet	0.2500		110	70-130			
2-Chlorotoluene	0.0540	0.0050	mg/kg wet	0.05000		108	70-130			
2-Hexanone	0.250	0.0500	mg/kg wet	0.2500		100	70-130			
4-Chlorotoluene	0.0543	0.0050	mg/kg wet	0.05000		109	70-130			
4-Isopropyltoluene	0.0533	0.0050	mg/kg wet	0.05000		107	70-130			
4-Methyl-2-Pentanone	0.259	0.0500	mg/kg wet	0.2500		104	70-130			
Acetone	0.281	0.0500	mg/kg wet	0.2500		112	70-130			
Benzene	0.0546	0.0050	mg/kg wet	0.05000		109	70-130			
Bromobenzene	0.0540	0.0050	mg/kg wet	0.05000		108	70-130			
Bromochloromethane	0.0552	0.0050	mg/kg wet	0.05000		110	70-130			
Bromodichloromethane	0.0540	0.0050	mg/kg wet	0.05000		108	70-130			
Bromoform	0.0400	0.0050	mg/kg wet	0.05000		80	70-130			
Bromomethane	0.0612	0.0100	mg/kg wet	0.05000		122	70-130			
Carbon Disulfide	0.0606	0.0050	mg/kg wet	0.05000		121	70-130			
Carbon Tetrachloride	0.0534	0.0050	mg/kg wet	0.05000		107	70-130			
Chlorobenzene	0.0514	0.0050	mg/kg wet	0.05000		103	70-130			
Chloroethane	0.0581	0.0100	mg/kg wet	0.05000		116	70-130			
Chloroform	0.0535	0.0050	mg/kg wet	0.05000		107	70-130			
Chloromethane	0.0508	0.0100	mg/kg wet	0.05000		102	70-130			
cis-1,2-Dichloroethene	0.0552	0.0050	mg/kg wet	0.05000		110	70-130			
cis-1,3-Dichloropropene	0.0513	0.0050	mg/kg wet	0.05000		103	70-130			
Dibromochloromethane	0.0450	0.0050	mg/kg wet	0.05000		90	70-130			
Dibromomethane	0.0539	0.0050	mg/kg wet	0.05000		108	70-130			
Dichlorodifluoromethane	0.0479	0.0100	mg/kg wet	0.05000		96	70-130			
Diethyl Ether	0.0624	0.0050	mg/kg wet	0.05000		125	70-130			
Di-isopropyl ether	0.0569	0.0050	mg/kg wet	0.05000		114	70-130			
Ethyl tertiary-butyl ether	0.0540	0.0050	mg/kg wet	0.05000		108	70-130			
Ethylbenzene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130			
Hexachlorobutadiene	0.0540	0.0050	mg/kg wet	0.05000		108	70-130			
Isopropylbenzene	0.0542	0.0050	mg/kg wet	0.05000		108	70-130			
Methyl tert-Butyl Ether	0.0537	0.0050	mg/kg wet	0.05000		107	70-130			
Methylene Chloride	0.0537	0.0250	mg/kg wet	0.05000		107	70-130			
Naphthalene	0.0490	0.0050	mg/kg wet	0.05000		98	70-130			
n-Butylbenzene	0.0535	0.0050	mg/kg wet	0.05000		107	70-130			
n-Propylbenzene	0.0544	0.0050	mg/kg wet	0.05000		109	70-130			
sec-Butylbenzene	0.0516	0.0050	mg/kg wet	0.05000		103	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23E0369

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 DE31130 - 5035										
Styrene	0.0509	0.0050	mg/kg wet	0.05000		102	70-130			
tert-Butylbenzene	0.0540	0.0050	mg/kg wet	0.05000		108	70-130			
Tertiary-amyl methyl ether	0.0521	0.0050	mg/kg wet	0.05000		104	70-130			
Tetrachloroethene	0.0520	0.0050	mg/kg wet	0.05000		104	70-130			
Tetrahydrofuran	0.0524	0.0200	mg/kg wet	0.05000		105	70-130			
Toluene	0.0535	0.0050	mg/kg wet	0.05000		107	70-130			
trans-1,2-Dichloroethene	0.0551	0.0050	mg/kg wet	0.05000		110	70-130			
trans-1,3-Dichloropropene	0.0468	0.0050	mg/kg wet	0.05000		94	70-130			
Trichloroethene	0.0547	0.0050	mg/kg wet	0.05000		109	70-130			
Trichlorofluoromethane	0.0539	0.0050	mg/kg wet	0.05000		108	70-130			
Vinyl Chloride	0.0566	0.0100	mg/kg wet	0.05000		113	70-130			
Xylene O	0.0530	0.0050	mg/kg wet	0.05000		106	70-130			
Xylene P,M	0.107	0.0100	mg/kg wet	0.1000		107	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0545*		mg/kg wet	*0.05000*		*109*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0476*		mg/kg wet	*0.05000*		*95*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0535*		mg/kg wet	*0.05000*		*107*	*70-130*			
Surrogate: Toluene-d8	*0.0497*		mg/kg wet	*0.05000*		*99*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	2	20	
1,1,1-Trichloroethane	0.0523	0.0050	mg/kg wet	0.05000		105	70-130	2	20	
1,1,2,2-Tetrachloroethane	0.0541	0.0050	mg/kg wet	0.05000		108	70-130	0.5	20	
1,1,2-Trichloroethane	0.0519	0.0050	mg/kg wet	0.05000		104	70-130	0.7	20	
1,1-Dichloroethane	0.0529	0.0050	mg/kg wet	0.05000		106	70-130	2	20	
1,1-Dichloroethene	0.0546	0.0050	mg/kg wet	0.05000		109	70-130	2	20	
1,1-Dichloropropene	0.0548	0.0050	mg/kg wet	0.05000		110	70-130	3	20	
1,2,3-Trichlorobenzene	0.0531	0.0050	mg/kg wet	0.05000		106	70-130	0.9	20	
1,2,3-Trichloropropane	0.0534	0.0050	mg/kg wet	0.05000		107	70-130	0.4	20	
1,2,4-Trichlorobenzene	0.0529	0.0050	mg/kg wet	0.05000		106	70-130	1	20	
1,2,4-Trimethylbenzene	0.0511	0.0050	mg/kg wet	0.05000		102	70-130	2	20	
1,2-Dibromo-3-Chloropropane	0.0490	0.0050	mg/kg wet	0.05000		98	70-130	1	20	
1,2-Dibromoethane	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	0.9	20	
1,2-Dichlorobenzene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130	2	20	
1,2-Dichloroethane	0.0551	0.0050	mg/kg wet	0.05000		110	70-130	1	20	
1,2-Dichloropropane	0.0534	0.0050	mg/kg wet	0.05000		107	70-130	1	20	
1,3,5-Trimethylbenzene	0.0530	0.0050	mg/kg wet	0.05000		106	70-130	2	20	
1,3-Dichlorobenzene	0.0515	0.0050	mg/kg wet	0.05000		103	70-130	2	20	
1,3-Dichloropropane	0.0538	0.0050	mg/kg wet	0.05000		108	70-130	1	20	
1,4-Dichlorobenzene	0.0547	0.0050	mg/kg wet	0.05000		109	70-130	0.7	20	
1,4-Dioxane	1.00	0.0800	mg/kg wet	1.000		100	70-130	1	20	
2,2-Dichloropropane	0.0517	0.0050	mg/kg wet	0.05000		103	70-130	3	20	
2-Butanone	0.275	0.0500	mg/kg wet	0.2500		110	70-130	0.07	20	
2-Chlorotoluene	0.0534	0.0050	mg/kg wet	0.05000		107	70-130	1	20	
2-Hexanone	0.255	0.0500	mg/kg wet	0.2500		102	70-130	2	20	
4-Chlorotoluene	0.0531	0.0050	mg/kg wet	0.05000		106	70-130	2	20	
4-Isopropyltoluene	0.0518	0.0050	mg/kg wet	0.05000		104	70-130	3	20	

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23E0369

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 DE31130 - 5035										
4-Methyl-2-Pentanone	0.265	0.0500	mg/kg wet	0.2500		106	70-130	2	20	
Acetone	0.278	0.0500	mg/kg wet	0.2500		111	70-130	1	20	
Benzene	0.0536	0.0050	mg/kg wet	0.05000		107	70-130	2	20	
Bromobenzene	0.0527	0.0050	mg/kg wet	0.05000		105	70-130	2	20	
Bromochloromethane	0.0541	0.0050	mg/kg wet	0.05000		108	70-130	2	20	
Bromodichloromethane	0.0532	0.0050	mg/kg wet	0.05000		106	70-130	1	20	
Bromoform	0.0402	0.0050	mg/kg wet	0.05000		80	70-130	0.5	20	
Bromomethane	0.0592	0.0100	mg/kg wet	0.05000		118	70-130	3	20	
Carbon Disulfide	0.0593	0.0050	mg/kg wet	0.05000		119	70-130	2	20	
Carbon Tetrachloride	0.0522	0.0050	mg/kg wet	0.05000		104	70-130	2	20	
Chlorobenzene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130	2	20	
Chloroethane	0.0568	0.0100	mg/kg wet	0.05000		114	70-130	2	20	
Chloroform	0.0531	0.0050	mg/kg wet	0.05000		106	70-130	0.7	20	
Chloromethane	0.0478	0.0100	mg/kg wet	0.05000		96	70-130	6	20	
cis-1,2-Dichloroethene	0.0541	0.0050	mg/kg wet	0.05000		108	70-130	2	20	
cis-1,3-Dichloropropene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130	1	20	
Dibromochloromethane	0.0444	0.0050	mg/kg wet	0.05000		89	70-130	1	20	
Dibromomethane	0.0537	0.0050	mg/kg wet	0.05000		107	70-130	0.3	20	
Dichlorodifluoromethane	0.0456	0.0100	mg/kg wet	0.05000		91	70-130	5	20	
Diethyl Ether	0.0624	0.0050	mg/kg wet	0.05000		125	70-130	0	20	
Di-isopropyl ether	0.0564	0.0050	mg/kg wet	0.05000		113	70-130	1	20	
Ethyl tertiary-butyl ether	0.0538	0.0050	mg/kg wet	0.05000		108	70-130	0.4	20	
Ethylbenzene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130	3	20	
Hexachlorobutadiene	0.0521	0.0050	mg/kg wet	0.05000		104	70-130	4	20	
Isopropylbenzene	0.0534	0.0050	mg/kg wet	0.05000		107	70-130	1	20	
Methyl tert-Butyl Ether	0.0538	0.0050	mg/kg wet	0.05000		108	70-130	0.1	20	
Methylene Chloride	0.0524	0.0250	mg/kg wet	0.05000		105	70-130	3	20	
Naphthalene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	0.2	20	
n-Butylbenzene	0.0519	0.0050	mg/kg wet	0.05000		104	70-130	3	20	
n-Propylbenzene	0.0532	0.0050	mg/kg wet	0.05000		106	70-130	2	20	
sec-Butylbenzene	0.0502	0.0050	mg/kg wet	0.05000		100	70-130	3	20	
Styrene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130	2	20	
tert-Butylbenzene	0.0527	0.0050	mg/kg wet	0.05000		105	70-130	2	20	
Tertiary-amyl methyl ether	0.0518	0.0050	mg/kg wet	0.05000		104	70-130	0.7	20	
Tetrachloroethene	0.0504	0.0050	mg/kg wet	0.05000		101	70-130	3	20	
Tetrahydrofuran	0.0530	0.0200	mg/kg wet	0.05000		106	70-130	1	20	
Toluene	0.0525	0.0050	mg/kg wet	0.05000		105	70-130	2	20	
trans-1,2-Dichloroethene	0.0539	0.0050	mg/kg wet	0.05000		108	70-130	2	20	
trans-1,3-Dichloropropene	0.0460	0.0050	mg/kg wet	0.05000		92	70-130	2	20	
Trichloroethene	0.0531	0.0050	mg/kg wet	0.05000		106	70-130	3	20	
Trichlorofluoromethane	0.0526	0.0050	mg/kg wet	0.05000		105	70-130	3	20	
Vinyl Chloride	0.0544	0.0100	mg/kg wet	0.05000		109	70-130	4	20	
Xylene O	0.0517	0.0050	mg/kg wet	0.05000		103	70-130	3	20	
Xylene P,M	0.104	0.0100	mg/kg wet	0.1000		104	70-130	3	20	
Surrogate: 1,2-Dichloroethane-d4	*0.0544*		mg/kg wet	*0.05000*		*109*	*70-130*			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0369

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 DE31130 - 5035										
Surrogate: 4-Bromofluorobenzene	*0.0470*		mg/kg wet	*0.05000*		*94*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0531*		mg/kg wet	*0.05000*		*106*	*70-130*			
Surrogate: Toluene-d8	*0.0492*		mg/kg wet	*0.05000*		*98*	*70-130*			
8100M Total Petroleum Hydrocarbons										
Batch DE31042 - 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 (C9-C36)	ND	10.0	mg/kg wet							
Triacontane (C30)	ND	0.2	mg/kg wet							
Surrogate: O-Terphenyl	*3.81*		mg/kg wet	*5.000*		*76*	*40-140*			
LCS										
Decane (C10)	1.7	0.2	mg/kg wet	2.500		69	40-140			
Docosane (C22)	1.9	0.2	mg/kg wet	2.500		75	40-140			
Dodecane (C12)	1.8	0.2	mg/kg wet	2.500		71	40-140			
Eicosane (C20)	1.8	0.2	mg/kg wet	2.500		74	40-140			
Hexacosane (C26)	1.9	0.2	mg/kg wet	2.500		76	40-140			
Hexadecane (C16)	1.8	0.2	mg/kg wet	2.500		74	40-140			
Hexatriacontane (C36)	1.9	0.2	mg/kg wet	2.500		76	40-140			
Nonadecane (C19)	1.9	0.2	mg/kg wet	2.500		74	40-140			
Nonane (C9)	1.6	0.2	mg/kg wet	2.500		64	30-140			
Octacosane (C28)	1.9	0.2	mg/kg wet	2.500		75	40-140			
Octadecane (C18)	1.8	0.2	mg/kg wet	2.500		73	40-140			
Tetracosane (C24)	1.7	0.2	mg/kg wet	2.500		68	40-140			
Tetradecane (C14)	1.8	0.2	mg/kg wet	2.500		72	40-140			
Total Petroleum Hydrocarbons (C9-C36)	25.0	10.0	mg/kg wet	35.00		71	40-140			
Triacontane (C30)	1.9	0.2	mg/kg wet	2.500		76	40-140			
Surrogate: O-Terphenyl	*3.97*		mg/kg wet	*5.000*		*79*	*40-140*			
LCS Dup										
Decane (C10)	1.8	0.2	mg/kg wet	2.500		72	40-140	4	25	

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0369

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8100M Total Petroleum Hydrocarbons										
Batch DE31042 - 3546										
Docosane (C22)	2.0	0.2	mg/kg wet	2.500		80	40-140	6	25	
Dodecane (C12)	1.9	0.2	mg/kg wet	2.500		75	40-140	4	25	
Eicosane (C20)	1.9	0.2	mg/kg wet	2.500		78	40-140	6	25	
Hexacosane (C26)	2.0	0.2	mg/kg wet	2.500		81	40-140	6	25	
Hexadecane (C16)	2.0	0.2	mg/kg wet	2.500		78	40-140	6	25	
Hexatriacontane (C36)	2.0	0.2	mg/kg wet	2.500		80	40-140	4	25	
Nonadecane (C19)	2.0	0.2	mg/kg wet	2.500		79	40-140	6	25	
Nonane (C9)	1.6	0.2	mg/kg wet	2.500		66	30-140	4	25	
Octacosane (C28)	2.0	0.2	mg/kg wet	2.500		79	40-140	6	25	
Octadecane (C18)	1.9	0.2	mg/kg wet	2.500		78	40-140	6	25	
Tetracosane (C24)	1.8	0.2	mg/kg wet	2.500		73	40-140	6	25	
Tetradecane (C14)	1.9	0.2	mg/kg wet	2.500		76	40-140	5	25	
Total Petroleum Hydrocarbons (C9-C36)	26.1	10.0	mg/kg wet	35.00		75	40-140	4	25	
Triacontane (C30)	2.0	0.2	mg/kg wet	2.500		80	40-140	5	25	
Surrogate: O-Terphenyl	*4.13*		mg/kg wet	*5.000*		*83*	*40-140*			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23E0369

Notes and Definitions

U	Analyte included in the analysis, but not detected
D	Diluted.
CD+	Continuing Calibration %Diff/Drift is above control limit (CD+).
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 Probable Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0369

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

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tetra Tech FW, Inc - ESS

Shipped/Delivered Via: ESS Courier

ESS Project ID: 23E0369
Date Received: 5/10/2023
Project Due Date: 5/17/2023
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: 0.4 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/Acid Lot#:
    b. Low Level VOA vials frozen: Date: 5/10/23 Time: 1705 By: JM

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:

Resolution:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
1	429060	Yes	N/A	Yes	8 oz jar	NP	
2	429061	Yes	N/A	Yes	8 oz jar	NP	
3	429062	Yes	N/A	Yes	8 oz jar	NP	
4	429063	Yes	N/A	Yes	8 oz jar	NP	
5	429064	Yes	N/A	Yes	8 oz jar	NP	
6	429065	Yes	N/A	Yes	4 oz. Jar	NP	
6	429066	Yes	N/A	Yes	VOA Vial	DI Water	
6	429067	Yes	N/A	Yes	VOA Vial	DI Water	
6	429068	Yes	N/A	Yes	VOA Vial	MeOH	
7	429069	Yes	N/A	Yes	8 oz jar	NP	
8	429070	Yes	N/A	Yes	8 oz jar	NP	
9	429071	Yes	N/A	Yes	8 oz jar	NP	
10	429072	Yes	N/A	Yes	4 oz. Jar	NP	
10	429073	Yes	N/A	Yes	VOA Vial	DI Water	
10	429074	Yes	N/A	Yes	VOA Vial	DI Water	
10	429075	Yes	N/A	Yes	VOA Vial	MeOH	
11	429076	Yes	N/A	Yes	8 oz jar	NP	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tetra Tech FW, Inc - ESS

ESS Project ID: 23E0369
Date Received: 5/10/2023

12	429077	Yes	N/A	Yes	8 oz jar	NP
13	429078	Yes	N/A	Yes	8 oz jar	NP

2nd Review

Were all containers scanned into storage/lab? Initials RB

Are barcode labels on correct containers? Yes / No

Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA

~~Are all Hex Chrome stickers attached?~~ ~~Yes / No / NA~~

Are all QC stickers attached? Yes / No / NA

Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: _____ Date & Time: 5/10/23 16:43

Reviewed By: _____ Date & Time: 5/10/23 1705

CHAIN OF CUSTODY

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02910
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

ESS Lab # 23E0369

Turn Time (Days) ☑ > 5 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: MA Criteria: RCS-1

Is this project for any of the following?:

☐ CT RCP ☑ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)

☐ Limit Checker ☐ State Forms ☐ EQuIS
☑ Excel ☐ State Upload ☐ Enviro Data
☐ CLP-Like Package ☑ Other (Specify) → Tetra Tech Excel format

CLIENT INFORMATION

Client: Tetra Tech
Address: 100 Nickerson Rd.
Marlborough, MA 01752
Phone: 508-782-4937 (Karl Seibert)
Email Distribution List: karl.seibert@tetratech.com, william.phelps@tetratech.com

PROJECT INFORMATION

Project Name: Massport - Cypher Street
Project Location: South Boston, Massachusetts
Project Number: 143-278997-23002
Project Manager: William Phelps, Karl Seibert
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	VOCs (8260) High	VOCs (8260) low	RCRA 8 metals, pH, SVOCs (8270), flashpoint	Reactivity, conductivity, TPH	PCBs by Soxhlet Extraction	Total Solids			TPH								Total Number of Bottles
1	5/9/23	1000	~~COMP~~ GRAB	SOIL	TT-117A 0-3'	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~KS~~		X								1
2	↓	1035	↓	SOIL	TT-117A 3-6' ML -5/11/23									X								1
3		1305		SOIL	TT-117B 0-3'									X								1
4		1338		SOIL	TT-117B 3-6'									X								1
5		1355		SOIL	TT-117B 6-9' HOLD									X								1
6		1317		SOIL	TT-117B 5'	X	X				X											4
7	5/10/23	820	GRAB	SOIL	TT-118C 0-3'									X								1
8	↓	8:51am	↓	SOIL	TT-118C 3-6'									X								1
9		9:02am		SOIL	TT-118C 6-9' HOLD									X								1
10		10:35am		SOIL	TT-119C 3'	X	X				X											4
Container Type:	AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial					V	V	AG	AG	AG	AG			AG								
Container Volume:	1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*					7	7	10	10	10	8			10								
Preservation Code:	1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*					6	10	1	1	1	1			1								

Chain needs to be filled out neatly and completely for on time delivery.

Sampled by :

Laboratory Use Only

Cooler Temperature (°C): -0.4

on ice

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration

☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	5/10/23	1:45pm	[signature] 5/10/23 1345	[signature]	5/10/23	1619	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

CHAIN OF CUSTODY

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02910
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

ESS Lab # 23E0369

Turn Time (Days) ☑ > 5 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: MA Criteria: RCS-1

Is this project for any of the following?:

☐ CT RCP ☑ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)

☐ Limit Checker ☐ State Forms ☐ EQuIS
☑ Excel ☐ State Upload ☐ Enviro Data
☐ CLP-Like Package ☑ Other (Specify) → Tetra Tech Excel format

CLIENT INFORMATION

Client: Tetra Tech
Address: 100 Nickerson Rd.
Marlborough, MA 01752
Phone: 508-782-4937 (Karl Seibert)
Email Distribution List: karl.seibert@tetratech.com, william.phelps@tetratech.com

PROJECT INFORMATION

Project Name: Massport - Cypher Street
Project Location: South Boston, Massachusetts
Project Number: 143-278997-23002
Project Manager: William Phelps, Karl Seibert
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	VOCs (8260) High	VOCs (8260) low	RCRA 8 metals, pH, SVOCs (8270), flashpoint	Reactivity, conductivity, TPH	PCBs by Soxhlet Extraction	Total Solids	TPH	Total Number of Bottles
11	5/10/23	10:39am	Comp	Soil	TT-119C 0-3'	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~1~~ 1
12	↓	1:04pm	↓	↓	TT-119C 3-6'							X	1
13		1:35pm			TT-119C 6-10' HOLD							X	1
					ML 5/11/23								
Container Type:						V	V	AG	AG	AG	AG		
Container Volume:						7	7	10	10	10	8		
Preservation Code:						6	10	1	1	1	1		

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Chain needs to be filled out neatly and completely for on time delivery.

Sampled by :

Laboratory Use Only

Cooler Temperature (°C): -0.4

on ice

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration

☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
Dan Atman	5/10/23	1:45pm	5/10/23 1445		5/10/23	1619	
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

CERTIFICATE OF ANALYSIS

William Phelps
Tetra Tech, Inc.
100 Nickerson Road
Marlborough, MA 01752

RE: Massport - Cypher Street (143-278997-23002)
ESS Laboratory Work Order Number: 23E0408

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, May 18, 2023

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: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0408

SAMPLE RECEIPT

The following samples were received on May 11, 2023 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.

Question I: All samples for EPH were analyzed for a subset of the required MCP list per the client's request.

Low Level VOA vials were frozen by ESS Laboratory on May 11, 2023 at 18:24.
Tetrahydrofuran is reported above the MA CAM reporting limit of 0.010 mg/kg.

Lab Number	Sample Name	Matrix	Analysis
23E0408-01	TT-119A 0-3ft	Soil	8100M
23E0408-02	TT-119A 3-6ft	Soil	8100M
23E0408-03	TT-119A 10ft	Soil	8260B Low
23E0408-04	TT-118B 2ft	Soil	8260B Low
23E0408-05	TT-118B 0-3ft	Soil	8100M
23E0408-06	TT-118B 3-6ft	Soil	8100M
23E0408-07	TT-118B 6ft	Soil	8260B Low

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23E0408

PROJECT NARRATIVE

5035/8260B Volatile Organic Compounds / Low Level

D3E0241-CCV1	**Continuing Calibration %Diff/Drift is above control limit (CD+).**
	Bromomethane (25% @ 20%)
DE31219-BS1	**Blank Spike recovery is above upper control limit (B+).**
	Diethyl Ether (134% @ 70-130%)
DE31219-BSD1	**Blank Spike recovery is above upper control limit (B+).**
	Diethyl Ether (131% @ 70-130%)

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: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23E0408

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: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0408

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **23E0408-01 through 23E0408-07**

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	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	( ) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	(x) 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: May 18, 2023
Printed Name: Laurel Stoddard
Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119A 0-3ft
Date Sampled: 05/11/23 09:02
Percent Solids: 88
Initial Volume: 20.1g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0408
ESS Laboratory Sample ID: 23E0408-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 5/11/23 18:39

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**90.5** (11.3)		8100M		1	05/16/23 5:45		DE31149

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*77 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119A 3-6ft
Date Sampled: 05/11/23 09:22
Percent Solids: 75
Initial Volume: 19.5g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0408
ESS Laboratory Sample ID: 23E0408-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 5/11/23 18:39

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**274** (27.4)		8100M		2	05/16/23 3:13		DE31149

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*75 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119A 10ft
Date Sampled: 05/11/23 09:45
Percent Solids: 40
Initial Volume: 4.5g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23E0408
ESS Laboratory Sample ID: 23E0408-03
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 (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
1,1,1-Trichloroethane	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
1,1,2,2-Tetrachloroethane	ND (0.0084)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
1,1,2-Trichloroethane	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
1,1-Dichloroethane	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
1,1-Dichloroethene	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
1,1-Dichloropropene	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
1,2,3-Trichlorobenzene	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
1,2,3-Trichloropropane	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
1,2,4-Trichlorobenzene	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
1,2,4-Trimethylbenzene	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
1,2-Dibromo-3-Chloropropane	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
1,2-Dibromoethane	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
1,2-Dichlorobenzene	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
1,2-Dichloroethane	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
1,2-Dichloropropane	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
1,3,5-Trimethylbenzene	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
1,3-Dichlorobenzene	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
1,3-Dichloropropane	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
1,4-Dichlorobenzene	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
1,4-Dioxane	ND (0.223)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
2,2-Dichloropropane	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
2-Butanone	ND (0.140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
2-Chlorotoluene	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
2-Hexanone	ND (0.140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
4-Chlorotoluene	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
4-Isopropyltoluene	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
4-Methyl-2-Pentanone	ND (0.140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Acetone	**0.158** (0.140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Benzene	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Bromobenzene	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Bromochloromethane	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119A 10ft
Date Sampled: 05/11/23 09:45
Percent Solids: 40
Initial Volume: 4.5g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23E0408
ESS Laboratory Sample ID: 23E0408-03
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 (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Bromoform	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Bromomethane	ND (0.0279)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Carbon Disulfide	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Carbon Tetrachloride	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Chlorobenzene	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Chloroethane	ND (0.0279)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Chloroform	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Chloromethane	ND (0.0279)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
cis-1,2-Dichloroethene	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
cis-1,3-Dichloropropene	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Dibromochloromethane	ND (0.0084)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Dibromomethane	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Dichlorodifluoromethane	ND (0.0279)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Diethyl Ether	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Di-isopropyl ether	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Ethyl tertiary-butyl ether	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Ethylbenzene	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Hexachlorobutadiene	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Isopropylbenzene	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Methyl tert-Butyl Ether	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Methylene Chloride	ND (0.0698)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Naphthalene	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
n-Butylbenzene	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
n-Propylbenzene	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
sec-Butylbenzene	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Styrene	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
tert-Butylbenzene	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Tertiary-amyl methyl ether	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Tetrachloroethene	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Tetrahydrofuran	ND (0.0559)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Toluene	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119A 10ft
Date Sampled: 05/11/23 09:45
Percent Solids: 40
Initial Volume: 4.5g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23E0408
ESS Laboratory Sample ID: 23E0408-03
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 (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
trans-1,3-Dichloropropene	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Trichloroethene	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Trichlorofluoromethane	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Vinyl Chloride	ND (0.0279)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Xylene O	ND (0.0140)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Xylene P,M	ND (0.0279)		8260B Low		1	05/12/23 15:58	D3E0241	DE31219
Xylenes (Total)	ND (0.0279)		8260B Low		1	05/12/23 15:58		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichloroethane-d4	*130 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*92 %*		*70-130*
Surrogate: Dibromofluoromethane	*113 %*		*70-130*
Surrogate: Toluene-d8	*101 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118B 2ft
Date Sampled: 05/11/23 11:04
Percent Solids: 97
Initial Volume: 5.6g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23E0408
ESS Laboratory Sample ID: 23E0408-04
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 (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
1,1,1-Trichloroethane	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
1,1,2,2-Tetrachloroethane	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
1,1,2-Trichloroethane	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
1,1-Dichloroethane	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
1,1-Dichloroethene	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
1,1-Dichloropropene	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
1,2,3-Trichlorobenzene	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
1,2,3-Trichloropropane	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
1,2,4-Trichlorobenzene	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
1,2,4-Trimethylbenzene	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
1,2-Dibromo-3-Chloropropane	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
1,2-Dibromoethane	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
1,2-Dichlorobenzene	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
1,2-Dichloroethane	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
1,2-Dichloropropane	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
1,3,5-Trimethylbenzene	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
1,3-Dichlorobenzene	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
1,3-Dichloropropane	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
1,4-Dichlorobenzene	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
1,4-Dioxane	ND (0.0740)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
2,2-Dichloropropane	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
2-Butanone	ND (0.0462)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
2-Chlorotoluene	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
2-Hexanone	ND (0.0462)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
4-Chlorotoluene	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
4-Isopropyltoluene	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
4-Methyl-2-Pentanone	ND (0.0462)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Acetone	ND (0.0462)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Benzene	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Bromobenzene	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Bromochloromethane	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118B 2ft
Date Sampled: 05/11/23 11:04
Percent Solids: 97
Initial Volume: 5.6g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23E0408
ESS Laboratory Sample ID: 23E0408-04
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 (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Bromoform	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Bromomethane	ND (0.0092)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Carbon Disulfide	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Carbon Tetrachloride	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Chlorobenzene	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Chloroethane	ND (0.0092)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Chloroform	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Chloromethane	ND (0.0092)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
cis-1,2-Dichloroethene	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
cis-1,3-Dichloropropene	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Dibromochloromethane	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Dibromomethane	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Dichlorodifluoromethane	ND (0.0092)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Diethyl Ether	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Di-isopropyl ether	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Ethyl tertiary-butyl ether	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Ethylbenzene	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Hexachlorobutadiene	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Isopropylbenzene	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Methyl tert-Butyl Ether	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Methylene Chloride	ND (0.0231)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Naphthalene	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
n-Butylbenzene	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
n-Propylbenzene	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
sec-Butylbenzene	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Styrene	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
tert-Butylbenzene	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Tertiary-amyl methyl ether	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Tetrachloroethene	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Tetrahydrofuran	ND (0.0185)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Toluene	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118B 2ft
Date Sampled: 05/11/23 11:04
Percent Solids: 97
Initial Volume: 5.6g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23E0408
ESS Laboratory Sample ID: 23E0408-04
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 (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
trans-1,3-Dichloropropene	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Trichloroethene	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Trichlorofluoromethane	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Vinyl Chloride	ND (0.0092)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Xylene O	ND (0.0046)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Xylene P,M	ND (0.0092)		8260B Low		1	05/12/23 16:49	D3E0241	DE31219
Xylenes (Total)	ND (0.00925)		8260B Low		1	05/12/23 16:49		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichloroethane-d4	*127 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*98 %*		*70-130*
Surrogate: Dibromofluoromethane	*112 %*		*70-130*
Surrogate: Toluene-d8	*97 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118B 0-3ft
Date Sampled: 05/11/23 11:15
Percent Solids: 93
Initial Volume: 19.4g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0408
ESS Laboratory Sample ID: 23E0408-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 5/11/23 18:39

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**11.4** (11.1)		8100M		1	05/16/23 6:22		DE31149

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*64 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118B 3-6ft
Date Sampled: 05/11/23 11:52
Percent Solids: 95
Initial Volume: 20.5g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0408
ESS Laboratory Sample ID: 23E0408-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 5/11/23 18:39

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	ND (10.2)		8100M		1	05/16/23 1:19		DE31149

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*69 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118B 6ft
Date Sampled: 05/11/23 11:58
Percent Solids: 94
Initial Volume: 6.7g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23E0408
ESS Laboratory Sample ID: 23E0408-07
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 (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
1,1,1-Trichloroethane	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
1,1,2,2-Tetrachloroethane	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
1,1,2-Trichloroethane	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
1,1-Dichloroethane	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
1,1-Dichloroethene	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
1,1-Dichloropropene	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
1,2,3-Trichlorobenzene	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
1,2,3-Trichloropropane	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
1,2,4-Trichlorobenzene	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
1,2,4-Trimethylbenzene	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
1,2-Dibromo-3-Chloropropane	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
1,2-Dibromoethane	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
1,2-Dichlorobenzene	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
1,2-Dichloroethane	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
1,2-Dichloropropane	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
1,3,5-Trimethylbenzene	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
1,3-Dichlorobenzene	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
1,3-Dichloropropane	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
1,4-Dichlorobenzene	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
1,4-Dioxane	ND (0.0633)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
2,2-Dichloropropane	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
2-Butanone	ND (0.0396)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
2-Chlorotoluene	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
2-Hexanone	ND (0.0396)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
4-Chlorotoluene	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
4-Isopropyltoluene	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
4-Methyl-2-Pentanone	ND (0.0396)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Acetone	ND (0.0396)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Benzene	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Bromobenzene	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Bromochloromethane	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118B 6ft
Date Sampled: 05/11/23 11:58
Percent Solids: 94
Initial Volume: 6.7g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23E0408
ESS Laboratory Sample ID: 23E0408-07
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 (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Bromoform	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Bromomethane	ND (0.0079)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Carbon Disulfide	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Carbon Tetrachloride	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Chlorobenzene	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Chloroethane	ND (0.0079)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Chloroform	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Chloromethane	ND (0.0079)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
cis-1,2-Dichloroethene	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
cis-1,3-Dichloropropene	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Dibromochloromethane	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Dibromomethane	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Dichlorodifluoromethane	ND (0.0079)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Diethyl Ether	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Di-isopropyl ether	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Ethyl tertiary-butyl ether	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Ethylbenzene	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Hexachlorobutadiene	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Isopropylbenzene	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Methyl tert-Butyl Ether	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Methylene Chloride	ND (0.0198)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Naphthalene	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
n-Butylbenzene	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
n-Propylbenzene	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
sec-Butylbenzene	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Styrene	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
tert-Butylbenzene	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Tertiary-amyl methyl ether	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Tetrachloroethene	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Tetrahydrofuran	ND (0.0158)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Toluene	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118B 6ft
Date Sampled: 05/11/23 11:58
Percent Solids: 94
Initial Volume: 6.7g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23E0408
ESS Laboratory Sample ID: 23E0408-07
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 (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
trans-1,3-Dichloropropene	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Trichloroethene	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Trichlorofluoromethane	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Vinyl Chloride	ND (0.0079)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Xylene O	ND (0.0040)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Xylene P,M	ND (0.0079)		8260B Low		1	05/12/23 17:15	D3E0241	DE31219
Xylenes (Total)	ND (0.00791)		8260B Low		1	05/12/23 17:15		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichloroethane-d4	*124 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*93 %*		*70-130*
Surrogate: Dibromofluoromethane	*112 %*		*70-130*
Surrogate: Toluene-d8	*96 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23E0408

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 DE31219 - 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	0.0050	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	0.0800	mg/kg wet							
2,2-Dichloropropane	ND	0.0050	mg/kg wet							
2-Butanone	ND	0.0500	mg/kg wet							
2-Chlorotoluene	ND	0.0050	mg/kg wet							
2-Hexanone	ND	0.0500	mg/kg wet							
4-Chlorotoluene	ND	0.0050	mg/kg wet							
4-Isopropyltoluene	ND	0.0050	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.0500	mg/kg wet							
Acetone	ND	0.0500	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	0.0050	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0408

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 DE31219 - 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	0.0250	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	0.0200	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	*0.0608*		mg/kg wet	*0.05000*		*122*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0469*		mg/kg wet	*0.05000*		*94*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0549*		mg/kg wet	*0.05000*		*110*	*70-130*			
Surrogate: Toluene-d8	*0.0485*		mg/kg wet	*0.05000*		*97*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	0.0537	0.0050	mg/kg wet	0.05000		107	70-130			
1,1,1-Trichloroethane	0.0567	0.0050	mg/kg wet	0.05000		113	70-130			
1,1,2,2-Tetrachloroethane	0.0559	0.0050	mg/kg wet	0.05000		112	70-130			
1,1,2-Trichloroethane	0.0563	0.0050	mg/kg wet	0.05000		113	70-130			
1,1-Dichloroethane	0.0573	0.0050	mg/kg wet	0.05000		115	70-130			
1,1-Dichloroethene	0.0593	0.0050	mg/kg wet	0.05000		119	70-130			
1,1-Dichloropropene	0.0598	0.0050	mg/kg wet	0.05000		120	70-130			
1,2,3-Trichlorobenzene	0.0556	0.0050	mg/kg wet	0.05000		111	70-130			
1,2,3-Trichloropropane	0.0542	0.0050	mg/kg wet	0.05000		108	70-130			
1,2,4-Trichlorobenzene	0.0554	0.0050	mg/kg wet	0.05000		111	70-130			
1,2,4-Trimethylbenzene	0.0538	0.0050	mg/kg wet	0.05000		108	70-130			
1,2-Dibromo-3-Chloropropane	0.0475	0.0050	mg/kg wet	0.05000		95	70-130			
1,2-Dibromoethane	0.0535	0.0050	mg/kg wet	0.05000		107	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23E0408

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 DE31219 - 5035										
1,2-Dichlorobenzene	0.0536	0.0050	mg/kg wet	0.05000		107	70-130			
1,2-Dichloroethane	0.0597	0.0050	mg/kg wet	0.05000		119	70-130			
1,2-Dichloropropane	0.0577	0.0050	mg/kg wet	0.05000		115	70-130			
1,3,5-Trimethylbenzene	0.0559	0.0050	mg/kg wet	0.05000		112	70-130			
1,3-Dichlorobenzene	0.0541	0.0050	mg/kg wet	0.05000		108	70-130			
1,3-Dichloropropane	0.0560	0.0050	mg/kg wet	0.05000		112	70-130			
1,4-Dichlorobenzene	0.0570	0.0050	mg/kg wet	0.05000		114	70-130			
1,4-Dioxane	1.04	0.0800	mg/kg wet	1.000		104	70-130			
2,2-Dichloropropane	0.0556	0.0050	mg/kg wet	0.05000		111	70-130			
2-Butanone	0.289	0.0500	mg/kg wet	0.2500		116	70-130			
2-Chlorotoluene	0.0557	0.0050	mg/kg wet	0.05000		111	70-130			
2-Hexanone	0.253	0.0500	mg/kg wet	0.2500		101	70-130			
4-Chlorotoluene	0.0558	0.0050	mg/kg wet	0.05000		112	70-130			
4-Isopropyltoluene	0.0551	0.0050	mg/kg wet	0.05000		110	70-130			
4-Methyl-2-Pentanone	0.276	0.0500	mg/kg wet	0.2500		110	70-130			
Acetone	0.281	0.0500	mg/kg wet	0.2500		112	70-130			
Benzene	0.0580	0.0050	mg/kg wet	0.05000		116	70-130			
Bromobenzene	0.0556	0.0050	mg/kg wet	0.05000		111	70-130			
Bromochloromethane	0.0591	0.0050	mg/kg wet	0.05000		118	70-130			
Bromodichloromethane	0.0575	0.0050	mg/kg wet	0.05000		115	70-130			
Bromoform	0.0411	0.0050	mg/kg wet	0.05000		82	70-130			
Bromomethane	0.0641	0.0100	mg/kg wet	0.05000		128	70-130			
Carbon Disulfide	0.0624	0.0050	mg/kg wet	0.05000		125	70-130			
Carbon Tetrachloride	0.0561	0.0050	mg/kg wet	0.05000		112	70-130			
Chlorobenzene	0.0530	0.0050	mg/kg wet	0.05000		106	70-130			
Chloroethane	0.0612	0.0100	mg/kg wet	0.05000		122	70-130			
Chloroform	0.0570	0.0050	mg/kg wet	0.05000		114	70-130			
Chloromethane	0.0547	0.0100	mg/kg wet	0.05000		109	70-130			
cis-1,2-Dichloroethene	0.0584	0.0050	mg/kg wet	0.05000		117	70-130			
cis-1,3-Dichloropropene	0.0549	0.0050	mg/kg wet	0.05000		110	70-130			
Dibromochloromethane	0.0456	0.0050	mg/kg wet	0.05000		91	70-130			
Dibromomethane	0.0576	0.0050	mg/kg wet	0.05000		115	70-130			
Dichlorodifluoromethane	0.0499	0.0100	mg/kg wet	0.05000		100	70-130			
Diethyl Ether	0.0671	0.0050	mg/kg wet	0.05000		134	70-130			B+
Di-isopropyl ether	0.0609	0.0050	mg/kg wet	0.05000		122	70-130			
Ethyl tertiary-butyl ether	0.0579	0.0050	mg/kg wet	0.05000		116	70-130			
Ethylbenzene	0.0521	0.0050	mg/kg wet	0.05000		104	70-130			
Hexachlorobutadiene	0.0554	0.0050	mg/kg wet	0.05000		111	70-130			
Isopropylbenzene	0.0561	0.0050	mg/kg wet	0.05000		112	70-130			
Methyl tert-Butyl Ether	0.0576	0.0050	mg/kg wet	0.05000		115	70-130			
Methylene Chloride	0.0566	0.0250	mg/kg wet	0.05000		113	70-130			
Naphthalene	0.0497	0.0050	mg/kg wet	0.05000		99	70-130			
n-Butylbenzene	0.0549	0.0050	mg/kg wet	0.05000		110	70-130			
n-Propylbenzene	0.0560	0.0050	mg/kg wet	0.05000		112	70-130			
sec-Butylbenzene	0.0527	0.0050	mg/kg wet	0.05000		105	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23E0408

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 DE31219 - 5035										
Styrene	0.0527	0.0050	mg/kg wet	0.05000		105	70-130			
tert-Butylbenzene	0.0555	0.0050	mg/kg wet	0.05000		111	70-130			
Tertiary-amyl methyl ether	0.0556	0.0050	mg/kg wet	0.05000		111	70-130			
Tetrachloroethene	0.0537	0.0050	mg/kg wet	0.05000		107	70-130			
Tetrahydrofuran	0.0543	0.0200	mg/kg wet	0.05000		109	70-130			
Toluene	0.0574	0.0050	mg/kg wet	0.05000		115	70-130			
trans-1,2-Dichloroethene	0.0580	0.0050	mg/kg wet	0.05000		116	70-130			
trans-1,3-Dichloropropene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130			
Trichloroethene	0.0584	0.0050	mg/kg wet	0.05000		117	70-130			
Trichlorofluoromethane	0.0569	0.0050	mg/kg wet	0.05000		114	70-130			
Vinyl Chloride	0.0611	0.0100	mg/kg wet	0.05000		122	70-130			
Xylene O	0.0544	0.0050	mg/kg wet	0.05000		109	70-130			
Xylene P,M	0.110	0.0100	mg/kg wet	0.1000		110	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0567*		mg/kg wet	*0.05000*		*113*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0474*		mg/kg wet	*0.05000*		*95*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0561*		mg/kg wet	*0.05000*		*112*	*70-130*			
Surrogate: Toluene-d8	*0.0490*		mg/kg wet	*0.05000*		*98*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	0.0537	0.0050	mg/kg wet	0.05000		107	70-130	0	20	
1,1,1-Trichloroethane	0.0548	0.0050	mg/kg wet	0.05000		110	70-130	3	20	
1,1,2,2-Tetrachloroethane	0.0532	0.0050	mg/kg wet	0.05000		106	70-130	5	20	
1,1,2-Trichloroethane	0.0549	0.0050	mg/kg wet	0.05000		110	70-130	3	20	
1,1-Dichloroethane	0.0561	0.0050	mg/kg wet	0.05000		112	70-130	2	20	
1,1-Dichloroethene	0.0573	0.0050	mg/kg wet	0.05000		115	70-130	3	20	
1,1-Dichloropropene	0.0576	0.0050	mg/kg wet	0.05000		115	70-130	4	20	
1,2,3-Trichlorobenzene	0.0540	0.0050	mg/kg wet	0.05000		108	70-130	3	20	
1,2,3-Trichloropropane	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	6	20	
1,2,4-Trichlorobenzene	0.0537	0.0050	mg/kg wet	0.05000		107	70-130	3	20	
1,2,4-Trimethylbenzene	0.0524	0.0050	mg/kg wet	0.05000		105	70-130	3	20	
1,2-Dibromo-3-Chloropropane	0.0445	0.0050	mg/kg wet	0.05000		89	70-130	7	20	
1,2-Dibromoethane	0.0521	0.0050	mg/kg wet	0.05000		104	70-130	3	20	
1,2-Dichlorobenzene	0.0528	0.0050	mg/kg wet	0.05000		106	70-130	1	20	
1,2-Dichloroethane	0.0591	0.0050	mg/kg wet	0.05000		118	70-130	0.9	20	
1,2-Dichloropropane	0.0565	0.0050	mg/kg wet	0.05000		113	70-130	2	20	
1,3,5-Trimethylbenzene	0.0546	0.0050	mg/kg wet	0.05000		109	70-130	2	20	
1,3-Dichlorobenzene	0.0528	0.0050	mg/kg wet	0.05000		106	70-130	3	20	
1,3-Dichloropropane	0.0554	0.0050	mg/kg wet	0.05000		111	70-130	1	20	
1,4-Dichlorobenzene	0.0561	0.0050	mg/kg wet	0.05000		112	70-130	1	20	
1,4-Dioxane	1.02	0.0800	mg/kg wet	1.000		102	70-130	2	20	
2,2-Dichloropropane	0.0535	0.0050	mg/kg wet	0.05000		107	70-130	4	20	
2-Butanone	0.278	0.0500	mg/kg wet	0.2500		111	70-130	4	20	
2-Chlorotoluene	0.0546	0.0050	mg/kg wet	0.05000		109	70-130	2	20	
2-Hexanone	0.238	0.0500	mg/kg wet	0.2500		95	70-130	6	20	
4-Chlorotoluene	0.0549	0.0050	mg/kg wet	0.05000		110	70-130	2	20	
4-Isopropyltoluene	0.0535	0.0050	mg/kg wet	0.05000		107	70-130	3	20	

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0408

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 DE31219 - 5035										
4-Methyl-2-Pentanone	0.258	0.0500	mg/kg wet	0.2500		103	70-130	7	20	
Acetone	0.265	0.0500	mg/kg wet	0.2500		106	70-130	6	20	
Benzene	0.0567	0.0050	mg/kg wet	0.05000		113	70-130	2	20	
Bromobenzene	0.0548	0.0050	mg/kg wet	0.05000		110	70-130	1	20	
Bromochloromethane	0.0578	0.0050	mg/kg wet	0.05000		116	70-130	2	20	
Bromodichloromethane	0.0567	0.0050	mg/kg wet	0.05000		113	70-130	1	20	
Bromoform	0.0396	0.0050	mg/kg wet	0.05000		79	70-130	4	20	
Bromomethane	0.0632	0.0100	mg/kg wet	0.05000		126	70-130	1	20	
Carbon Disulfide	0.0605	0.0050	mg/kg wet	0.05000		121	70-130	3	20	
Carbon Tetrachloride	0.0545	0.0050	mg/kg wet	0.05000		109	70-130	3	20	
Chlorobenzene	0.0526	0.0050	mg/kg wet	0.05000		105	70-130	0.8	20	
Chloroethane	0.0601	0.0100	mg/kg wet	0.05000		120	70-130	2	20	
Chloroform	0.0560	0.0050	mg/kg wet	0.05000		112	70-130	2	20	
Chloromethane	0.0529	0.0100	mg/kg wet	0.05000		106	70-130	3	20	
cis-1,2-Dichloroethene	0.0575	0.0050	mg/kg wet	0.05000		115	70-130	2	20	
cis-1,3-Dichloropropene	0.0541	0.0050	mg/kg wet	0.05000		108	70-130	2	20	
Dibromochloromethane	0.0453	0.0050	mg/kg wet	0.05000		91	70-130	0.7	20	
Dibromomethane	0.0556	0.0050	mg/kg wet	0.05000		111	70-130	3	20	
Dichlorodifluoromethane	0.0474	0.0100	mg/kg wet	0.05000		95	70-130	5	20	
Diethyl Ether	0.0656	0.0050	mg/kg wet	0.05000		131	70-130	2	20	B+
Di-isopropyl ether	0.0603	0.0050	mg/kg wet	0.05000		121	70-130	1	20	
Ethyl tertiary-butyl ether	0.0566	0.0050	mg/kg wet	0.05000		113	70-130	2	20	
Ethylbenzene	0.0513	0.0050	mg/kg wet	0.05000		103	70-130	2	20	
Hexachlorobutadiene	0.0538	0.0050	mg/kg wet	0.05000		108	70-130	3	20	
Isopropylbenzene	0.0542	0.0050	mg/kg wet	0.05000		108	70-130	3	20	
Methyl tert-Butyl Ether	0.0558	0.0050	mg/kg wet	0.05000		112	70-130	3	20	
Methylene Chloride	0.0561	0.0250	mg/kg wet	0.05000		112	70-130	0.9	20	
Naphthalene	0.0479	0.0050	mg/kg wet	0.05000		96	70-130	4	20	
n-Butylbenzene	0.0529	0.0050	mg/kg wet	0.05000		106	70-130	4	20	
n-Propylbenzene	0.0538	0.0050	mg/kg wet	0.05000		108	70-130	4	20	
sec-Butylbenzene	0.0513	0.0050	mg/kg wet	0.05000		103	70-130	3	20	
Styrene	0.0522	0.0050	mg/kg wet	0.05000		104	70-130	1	20	
tert-Butylbenzene	0.0542	0.0050	mg/kg wet	0.05000		108	70-130	2	20	
Tertiary-amyl methyl ether	0.0541	0.0050	mg/kg wet	0.05000		108	70-130	3	20	
Tetrachloroethene	0.0519	0.0050	mg/kg wet	0.05000		104	70-130	3	20	
Tetrahydrofuran	0.0507	0.0200	mg/kg wet	0.05000		101	70-130	7	20	
Toluene	0.0557	0.0050	mg/kg wet	0.05000		111	70-130	3	20	
trans-1,2-Dichloroethene	0.0573	0.0050	mg/kg wet	0.05000		115	70-130	1	20	
trans-1,3-Dichloropropene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130	3	20	
Trichloroethene	0.0564	0.0050	mg/kg wet	0.05000		113	70-130	3	20	
Trichlorofluoromethane	0.0553	0.0050	mg/kg wet	0.05000		111	70-130	3	20	
Vinyl Chloride	0.0591	0.0100	mg/kg wet	0.05000		118	70-130	3	20	
Xylene O	0.0539	0.0050	mg/kg wet	0.05000		108	70-130	0.9	20	
Xylene P,M	0.108	0.0100	mg/kg wet	0.1000		108	70-130	2	20	
Surrogate: 1,2-Dichloroethane-d4	*0.0562*		mg/kg wet	*0.05000*		*112*	*70-130*			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0408

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 DE31219 - 5035										
Surrogate: 4-Bromofluorobenzene	*0.0471*		mg/kg wet	*0.05000*		*94*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0560*		mg/kg wet	*0.05000*		*112*	*70-130*			
Surrogate: Toluene-d8	*0.0494*		mg/kg wet	*0.05000*		*99*	*70-130*			
8100M Total Petroleum Hydrocarbons										
Batch DE31149 - 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 (C9-C36)	ND	10.0	mg/kg wet							
Triacontane (C30)	ND	0.2	mg/kg wet							
Surrogate: O-Terphenyl	*3.77*		mg/kg wet	*5.000*		*75*	*40-140*			
LCS										
Decane (C10)	1.8	0.2	mg/kg wet	2.500		70	40-140			
Docosane (C22)	1.9	0.2	mg/kg wet	2.500		77	40-140			
Dodecane (C12)	1.8	0.2	mg/kg wet	2.500		73	40-140			
Eicosane (C20)	1.9	0.2	mg/kg wet	2.500		76	40-140			
Hexacosane (C26)	2.0	0.2	mg/kg wet	2.500		78	40-140			
Hexadecane (C16)	1.9	0.2	mg/kg wet	2.500		76	40-140			
Hexatriacontane (C36)	1.9	0.2	mg/kg wet	2.500		76	40-140			
Nonadecane (C19)	1.9	0.2	mg/kg wet	2.500		76	40-140			
Nonane (C9)	1.6	0.2	mg/kg wet	2.500		63	30-140			
Octacosane (C28)	1.9	0.2	mg/kg wet	2.500		77	40-140			
Octadecane (C18)	1.9	0.2	mg/kg wet	2.500		76	40-140			
Tetracosane (C24)	1.8	0.2	mg/kg wet	2.500		70	40-140			
Tetradecane (C14)	1.9	0.2	mg/kg wet	2.500		74	40-140			
Total Petroleum Hydrocarbons (C9-C36)	26.4	10.0	mg/kg wet	35.00		75	40-140			
Triacontane (C30)	1.9	0.2	mg/kg wet	2.500		77	40-140			
Surrogate: O-Terphenyl	*3.85*		mg/kg wet	*5.000*		*77*	*40-140*			
LCS Dup										
Decane (C10)	1.8	0.2	mg/kg wet	2.500		72	40-140	3	25	

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0408

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8100M Total Petroleum Hydrocarbons										
Batch DE31149 - 3546										
Docosane (C22)	2.0	0.2	mg/kg wet	2.500		79	40-140	3	25	
Dodecane (C12)	1.9	0.2	mg/kg wet	2.500		75	40-140	2	25	
Eicosane (C20)	2.0	0.2	mg/kg wet	2.500		78	40-140	3	25	
Hexacosane (C26)	2.0	0.2	mg/kg wet	2.500		81	40-140	3	25	
Hexadecane (C16)	1.9	0.2	mg/kg wet	2.500		78	40-140	2	25	
Hexatriacontane (C36)	2.1	0.2	mg/kg wet	2.500		84	40-140	10	25	
Nonadecane (C19)	1.9	0.2	mg/kg wet	2.500		78	40-140	2	25	
Nonane (C9)	1.6	0.2	mg/kg wet	2.500		65	30-140	4	25	
Octacosane (C28)	2.0	0.2	mg/kg wet	2.500		79	40-140	3	25	
Octadecane (C18)	1.9	0.2	mg/kg wet	2.500		77	40-140	2	25	
Tetracosane (C24)	1.8	0.2	mg/kg wet	2.500		72	40-140	3	25	
Tetradecane (C14)	1.9	0.2	mg/kg wet	2.500		75	40-140	1	25	
Total Petroleum Hydrocarbons (C9-C36)	27.1	10.0	mg/kg wet	35.00		77	40-140	2	25	
Triacontane (C30)	2.0	0.2	mg/kg wet	2.500		81	40-140	4	25	
Surrogate: O-Terphenyl	*3.87*		mg/kg wet	*5.000*		*77*	*40-140*			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23E0408

Notes and Definitions

U	Analyte included in the analysis, but not detected
D	Diluted.
CD+	Continuing Calibration %Diff/Drift is above control limit (CD+).
B+	Blank Spike recovery is above upper control limit (B+).
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 Probable Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0408

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

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tetra Tech, Inc - ML

Shipped/Delivered Via: ESS Courier

ESS Project ID: 23E0408
Date Received: 5/11/2023
Project Due Date: 5/18/2023
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: -0.5 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/Acid Lot#:
    b. Low Level VOA vials frozen: Date: 5/11/23 Time: 1824 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:

Resolution:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
1	429386	Yes	N/A	Yes	8 oz jar	NP	
2	429722	Yes	N/A	Yes	8 oz jar	NP	
3	429391	Yes	N/A	Yes	4 oz. Jar	NP	
3	429395	Yes	N/A	Yes	VOA Vial	DI Water	
3	429396	Yes	N/A	Yes	VOA Vial	DI Water	
3	429400	Yes	N/A	Yes	VOA Vial	MeOH	
4	429387	Yes	N/A	Yes	4 oz. Jar	NP	
4	429723	Yes	N/A	Yes	VOA Vial	MeOH	
4	429724	Yes	N/A	Yes	VOA Vial	DI Water	
4	429725	Yes	N/A	Yes	VOA Vial	DI Water	
5	429388	Yes	N/A	Yes	8 oz jar	NP	
6	429389	Yes	N/A	Yes	8 oz jar	NP	
7	429392	Yes	N/A	Yes	4 oz. Jar	NP	
7	429397	Yes	N/A	Yes	VOA Vial	DI Water	
7	429398	Yes	N/A	Yes	VOA Vial	DI Water	
7	429401	Yes	N/A	Yes	VOA Vial	MeOH	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tetra Tech, Inc - ML

ESS Project ID: 23E0408
Date Received: 5/11/2023

2nd Review

Were all containers scanned into storage/lab? Initials TB

Are barcode labels on correct containers?	Yes / No
Are all Flashpoint stickers attached/container ID # circled?	Yes / No / NA
Are all Hex Chrome stickers attached?	Yes / No / NA
Are all QC stickers attached?	Yes / No / NA
Are VOA stickers attached if bubbles noted?	Yes / No / NA

Completed By: Layton Davis Date & Time: 5/11/23 1715

Reviewed By: Date & Time: 5/11/23 (824)

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02910
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 2320408. Page of

Turn Time (Days) ☑ > 5 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: MA Criteria: RCS-1

Is this project for any of the following?:
☐ CT RCP ☑ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)
☐ Limit Checker ☐ State Forms ☐ EQuIS
☑ Excel ☐ State Upload ☐ Enviro Data
☐ CLP-Like Package ☑ Other (Specify) → Tetra Tech Excel format

CLIENT INFORMATION

Client: Tetra Tech
Address: 100 Nickerson Rd.
Marlborough, MA 01752
Phone: 508-782-4937 (Karl Seibert)
Email Distribution List: karl.seibert@tetratech.com
william.phelps@tetratech.com

PROJECT INFORMATION

Project Name: Massport - Cypher Street
Project Location: South Boston, Massachusetts
Project Number: 143-278997-23002
Project Manager: William Phelps, Karl Seibert
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	VOCs (8260) High	VOCs (8260) Low	RCRA 8 metals, SVOCs (8270), flashpoint	Reactivity, conductivity, pH	PCBs by Soxhlet Extraction	Total Solids	Pesticides/Herbicides	TPH	Total Number of Bottles
1	5/11/23	9:02am	comp	Soil	TT-119A (0-3')								X	1
2	↓	9:22am	↓	↓	TT-119A (3-6')								X	1
3	↓	9:45am	grab	↓	TT-119A (10')	X	X				X			4
4	↓	11:09am	grab	↓	TT-118B (2')	X	X				X			4
5	↓	11:15am	comp	↓	TT-118B (0-3')								X	1
6	↓	11:52am	comp	↓	TT-118B (3-6')								X	1
7	↓	11:58am	grab	↓	TT-118B (6')	X	X				X			4

Container Type:	AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial	V	V	AG	AG	AG	AG	AG	AG											
Container Volume:	1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*	7	7	10	10	10	8	10	10											
Preservation Code:	1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*	6	10	1	1	1	1	1	1											

Sampled by :

Chain needs to be filled out neatly and completely for on time delivery.

Laboratory Use Only
Cooler Temperature (°C): -0.5
on ice

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration
☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[illegible]	5/11/23	12:01	AO 5/11/23 12:01	AO	5/11/23	1602	[illegible]
Relinquished by (Signature)	**Date**	**Time**	**Received by (Signature)**	**Relinquished by (Signature)**	**Date**	**Time**	**Received by (Signature)**

CERTIFICATE OF ANALYSIS

William Phelps
Tetra Tech, Inc.
100 Nickerson Road
Marlborough, MA 01752

RE: Massport - Cypher Street (143-278997-23002)
ESS Laboratory Work Order Number: 23E0489

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 5:57 pm, Jun 02, 2023

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: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0489

SAMPLE RECEIPT

The following samples were received on May 12, 2023 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.

Question I: All samples for EPH and METALS were analyzed for a subset of the required MCP list per the client's request.

Low Level VOA vials were frozen by ESS Laboratory on May 12, 2023 at 17:51.
Tetrahydrofuran is reported above the MA CAM reporting limit of 0.010 mg/kg.

Lab Number	Sample Name	Matrix	Analysis
23E0489-01	TT-118A 0-3ft	Soil	8100M
23E0489-02	TT-118A 3-6ft	Soil	8100M
23E0489-03	TT-118A 9ft	Soil	8260B Low
23E0489-04	TT-118 0-3ft	Soil	1010A, 1311, 1311/6010C, 6010C, 7.3.3.2, 7.3.4.1, 7471B, 8081B, 8082A, 8100M, 8151A, 8270D, 9045, 9050A
23E0489-05	TT-118 3-6ft	Soil	1010A, 1311, 1311/6010C, 6010C, 7.3.3.2, 7.3.4.1, 7471B, 8081B, 8082A, 8100M, 8151A, 8270D, 9045, 9050A
23E0489-06	TT-118 6-9ft	Soil	1010A, 1311, 1311/6010C, 1311/7470A, 6010C, 7.3.3.2, 7.3.4.1, 7471B, 8081B, 8082A, 8100M, 8151A, 8270D, 9045, 9050A
23E0489-07	TT-119B 0-3ft	Soil	8100M
23E0489-08	TT-119B 3-6ft	Soil	8100M
23E0489-09	TT-119B 5ft	Soil	8260B Low
23E0489-10	TT-119 0-3ft	Soil	1010A, 1311, 1311/6010C, 6010C, 7.3.3.2, 7.3.4.1, 7471B, 8081B, 8082A, 8100M, 8151A, 8270D, 9045, 9050A

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23E0489

23E0489-11	TT-119 3-6ft	Soil	1010A, 1311, 1311/6010C, 6010C, 7.3.3.2, 7.3.4.1, 7471B, 8081B, 8082A, 8100M, 8151A, 8270D, 9045, 9050A
23E0489-12	TT-119 6-10ft	Soil	1010A, 1311, 1311/6010C, 1311/7470A, 6010C, 7.3.3.2, 7.3.4.1, 7471B, 8081B, 8082A, 8100M, 8151A, 8270D, 9045, 9050A

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23E0489

PROJECT NARRATIVE

5035/8260B Volatile Organic Compounds / Low Level

D3E0267-CCV1 **Continuing Calibration %Diff/Drift is below control limit (CD-).**
1,2-Dibromo-3-Chloropropane (21% @ 20%), 1,4-Dioxane (30% @ 20%), 2-Hexanone (23% @ 20%), Bromoform (30% @ 20%), Dibromochloromethane (23% @ 20%), Tetrahydrofuran (25% @ 20%)

DE31504-BS1 **Blank Spike recovery is below lower control limit (B-).**
Bromoform (65% @ 70-130%)

DE31504-BSD1 **Blank Spike recovery is below lower control limit (B-).**
Bromoform (66% @ 70-130%)

8081B Organochlorine Pesticides

23E0489-10 **Lower value is used due to matrix interferences (LC).**
4,4´-DDT

23E0489-10 **Percent difference between primary and confirmation results exceeds 40% (P).**
4,4´-DDT

DE31604-BS1 **Blank Spike recovery is above upper control limit (B+).**
delta-BHC (309% @ 40-140%)

DE31604-BS1 **Reported above the quantitation limit; Estimated value (E).**
delta-BHC

DE31604-BSD1 **Blank Spike recovery is above upper control limit (B+).**
delta-BHC (279% @ 40-140%)

DE31604-BSD1 **Reported above the quantitation limit; Estimated value (E).**
delta-BHC

8151A Chlorinated Herbicides

23E0489-06 **Lower value is used due to matrix interferences (LC).**
2,4,5-T , Dicamba [2C]

23E0489-06 **Modified result**
MCPP

23E0489-06 **Peaks found in the retention time window for MCPP did not confirm by GC/MS.**

23E0489-06 **Percent difference between primary and confirmation results exceeds 40% (P).**
2,4,5-T , Dicamba [2C]

23E0489-12 **Lower value is used due to matrix interferences (LC).**
2,4,5-T , Dichlorprop

23E0489-12 **Percent difference between primary and confirmation results exceeds 40% (P).**
2,4,5-T , Dichlorprop

8270D Semi-Volatile Organic Compounds

23E0489-04 **Elevated Method Reporting Limits due to sample matrix (EL).**

23E0489-10 **Elevated Method Reporting Limits due to sample matrix (EL).**

D3E0293-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (130% @ 80-120%), Pentachlorophenol (117% @ 80-120%)

D3E0293-CCV1 **Continuing Calibration %Diff/Drift is above control limit (CD+).**

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0489

2,4-Dinitrophenol (30% @ 20%), 2-Nitrophenol (22% @ 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: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23E0489

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: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0489

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **23E0489-01 through 23E0489-12**

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	(x) 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	(x) MassDEP EPH CAM IV B	(x) 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: June 02, 2023
Printed Name: Laurel Stoddard
Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118A 0-3ft
Date Sampled: 05/12/23 08:52
Percent Solids: 92
Initial Volume: 19.4g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 5/15/23 12:00

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**908** (55.9)		8100M		5	05/16/23 12:31		DE31517

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*79 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118A 3-6ft
Date Sampled: 05/12/23 09:43
Percent Solids: 74
Initial Volume: 19.3g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 5/15/23 12:00

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**89.9** (14.0)		8100M		1	05/16/23 0:40		DE31517

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*76 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118A 9ft
Date Sampled: 05/12/23 10:08
Percent Solids: 86
Initial Volume: 7.6g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-03
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 (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
1,1,1-Trichloroethane	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
1,1,2,2-Tetrachloroethane	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
1,1,2-Trichloroethane	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
1,1-Dichloroethane	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
1,1-Dichloroethene	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
1,1-Dichloropropene	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
1,2,3-Trichlorobenzene	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
1,2,3-Trichloropropane	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
1,2,4-Trichlorobenzene	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
1,2,4-Trimethylbenzene	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
1,2-Dibromo-3-Chloropropane	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
1,2-Dibromoethane	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
1,2-Dichlorobenzene	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
1,2-Dichloroethane	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
1,2-Dichloropropane	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
1,3,5-Trimethylbenzene	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
1,3-Dichlorobenzene	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
1,3-Dichloropropane	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
1,4-Dichlorobenzene	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
1,4-Dioxane	ND (0.0615)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
2,2-Dichloropropane	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
2-Butanone	ND (0.0384)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
2-Chlorotoluene	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
2-Hexanone	ND (0.0384)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
4-Chlorotoluene	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
4-Isopropyltoluene	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
4-Methyl-2-Pentanone	ND (0.0384)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Acetone	ND (0.0384)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Benzene	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Bromobenzene	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Bromochloromethane	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118A 9ft
Date Sampled: 05/12/23 10:08
Percent Solids: 86
Initial Volume: 7.6g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-03
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 (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Bromoform	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Bromomethane	ND (0.0077)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Carbon Disulfide	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Carbon Tetrachloride	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Chlorobenzene	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Chloroethane	ND (0.0077)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Chloroform	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Chloromethane	ND (0.0077)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
cis-1,2-Dichloroethene	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
cis-1,3-Dichloropropene	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Dibromochloromethane	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Dibromomethane	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Dichlorodifluoromethane	ND (0.0077)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Diethyl Ether	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Di-isopropyl ether	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Ethyl tertiary-butyl ether	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Ethylbenzene	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Hexachlorobutadiene	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Isopropylbenzene	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Methyl tert-Butyl Ether	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Methylene Chloride	ND (0.0192)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Naphthalene	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
n-Butylbenzene	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
n-Propylbenzene	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
sec-Butylbenzene	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Styrene	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
tert-Butylbenzene	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Tertiary-amyl methyl ether	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Tetrachloroethene	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Tetrahydrofuran	ND (0.0154)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Toluene	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118A 9ft
Date Sampled: 05/12/23 10:08
Percent Solids: 86
Initial Volume: 7.6g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-03
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 (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
trans-1,3-Dichloropropene	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Trichloroethene	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Trichlorofluoromethane	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Vinyl Chloride	ND (0.0077)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Xylene O	ND (0.0038)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Xylene P,M	ND (0.0077)		8260B Low		1	05/15/23 14:36	D3E0267	DE31504
Xylenes (Total)	ND (0.00769)		8260B Low		1	05/15/23 14:36		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*118 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*93 %*		*70-130*
Surrogate: Dibromofluoromethane	*105 %*		*70-130*
Surrogate: Toluene-d8	*98 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118 0-3ft
Date Sampled: 05/10/23 08:30
Percent Solids: 95

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-04
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	**4.91** (2.37)		6010C		1	CEV	05/17/23 17:20	2.21	100	DE31626
Barium	**42.0** (2.37)		6010C		1	CEV	05/17/23 17:20	2.21	100	DE31626
Cadmium	ND (0.47)		6010C		1	CEV	05/17/23 17:20	2.21	100	DE31626
Chromium	**8.27** (0.95)		6010C		1	CEV	05/17/23 17:20	2.21	100	DE31626
Lead	**166** (4.74)		6010C		1	CEV	05/17/23 17:20	2.21	100	DE31626
Mercury	**0.612** (0.035)		7471B		1	YIV	05/17/23 11:41	0.6	40	DE31640
Selenium	ND (4.74)		6010C		1	CEV	05/17/23 17:20	2.21	100	DE31626
Silver	ND (0.47)		6010C		1	CEV	05/17/23 17:20	2.21	100	DE31626

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118 0-3ft
Date Sampled: 05/10/23 08:30
Percent Solids: 95

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-04
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
Lead	**0.803** (0.050)		1311/6010C		1	CEV	05/24/23 11:54	50	50	DE32335

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118 0-3ft
Date Sampled: 05/10/23 08:30
Percent Solids: 95
Initial Volume: 20.8g
Final Volume: 5ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 5/16/23 12:35

8081B Organochlorine Pesticides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
4,4´-DDD	ND (0.0025)		8081B		1	05/17/23 19:38	D3E0321	DE31604
4,4´-DDE	ND (0.0025)		8081B		1	05/17/23 19:38	D3E0321	DE31604
4,4´-DDT [2C]	**0.0044** (0.0025)		8081B		1	05/17/23 19:38	D3E0321	DE31604
Aldrin	ND (0.0025)		8081B		1	05/17/23 19:38	D3E0321	DE31604
alpha-BHC	ND (0.0025)		8081B		1	05/17/23 19:38	D3E0321	DE31604
alpha-Chlordane	ND (0.0025)		8081B		1	05/17/23 19:38	D3E0321	DE31604
beta-BHC	ND (0.0025)		8081B		1	05/17/23 19:38	D3E0321	DE31604
Chlordane (Total)	ND (0.0302)		8081B		1	05/17/23 19:38	D3E0321	DE31604
delta-BHC [2C]	ND (0.0025)		8081B		1	05/17/23 19:38	D3E0321	DE31604
Dieldrin	ND (0.0025)		8081B		1	05/17/23 19:38	D3E0321	DE31604
Endosulfan I	ND (0.0025)		8081B		1	05/17/23 19:38	D3E0321	DE31604
Endosulfan II	ND (0.0025)		8081B		1	05/17/23 19:38	D3E0321	DE31604
Endosulfan Sulfate	ND (0.0025)		8081B		1	05/17/23 19:38	D3E0321	DE31604
Endrin	ND (0.0025)		8081B		1	05/17/23 19:38	D3E0321	DE31604
Endrin Aldehyde	ND (0.0025)		8081B		1	05/17/23 19:38	D3E0321	DE31604
Endrin Ketone	ND (0.0025)		8081B		1	05/17/23 19:38	D3E0321	DE31604
gamma-BHC (Lindane)	ND (0.0015)		8081B		1	05/17/23 19:38	D3E0321	DE31604
gamma-Chlordane [2C]	ND (0.0025)		8081B		1	05/17/23 19:38	D3E0321	DE31604
Heptachlor	ND (0.0025)		8081B		1	05/17/23 19:38	D3E0321	DE31604
Heptachlor Epoxide	ND (0.0025)		8081B		1	05/17/23 19:38	D3E0321	DE31604
Hexachlorobenzene	ND (0.0025)		8081B		1	05/17/23 19:38	D3E0321	DE31604
Methoxychlor	ND (0.0025)		8081B		1	05/17/23 19:38	D3E0321	DE31604
Toxaphene	ND (0.126)		8081B		1	05/17/23 19:38	D3E0321	DE31604

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*48 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*60 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*52 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*51 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118 0-3ft
Date Sampled: 05/10/23 08:30
Percent Solids: 95
Initial Volume: 19.9g
Final Volume: 10ml
Extraction Method: 3540C

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JLG
Prepared: 5/17/23 11:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	05/19/23 9:53		DE31704
Aroclor 1221	ND (0.05)		8082A		1	05/19/23 9:53		DE31704
Aroclor 1232	ND (0.05)		8082A		1	05/19/23 9:53		DE31704
Aroclor 1242	ND (0.05)		8082A		1	05/19/23 9:53		DE31704
Aroclor 1248	ND (0.05)		8082A		1	05/19/23 9:53		DE31704
Aroclor 1254	ND (0.05)		8082A		1	05/19/23 9:53		DE31704
Aroclor 1260	ND (0.05)		8082A		1	05/19/23 9:53		DE31704
Aroclor 1262	ND (0.05)		8082A		1	05/19/23 9:53		DE31704
Aroclor 1268	ND (0.05)		8082A		1	05/19/23 9:53		DE31704

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*57 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*61 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*54 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*56 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118 0-3ft
Date Sampled: 05/10/23 08:30
Percent Solids: 95
Initial Volume: 19.1g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 5/15/23 12:00

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**317** (110)		8100M		10	05/16/23 18:11		DE31517

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*78 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118 0-3ft
Date Sampled: 05/10/23 08:30
Percent Solids: 95
Initial Volume: 10.3g
Final Volume: 4ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 5/17/23 16:15

8151A Chlorinated Herbicides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2,4,5-T	ND (0.010)		8151A		1	05/19/23 14:36	D3E0380	DE31741
2,4,5-TP (Silvex)	ND (0.010)		8151A		1	05/19/23 14:36	D3E0380	DE31741
2,4-D	ND (0.048)		8151A		1	05/19/23 14:36	D3E0380	DE31741
2,4-DB	ND (0.048)		8151A		1	05/19/23 14:36	D3E0380	DE31741
Dalapon	ND (0.046)		8151A		1	05/19/23 14:36	D3E0380	DE31741
Dicamba	ND (0.010)		8151A		1	05/19/23 14:36	D3E0380	DE31741
Dichlorprop	ND (0.048)		8151A		1	05/19/23 14:36	D3E0380	DE31741
Dinoseb	ND (0.048)		8151A		1	05/19/23 14:36	D3E0380	DE31741
MCPA	ND (2.37)		8151A		1	05/19/23 14:36	D3E0380	DE31741
MCPP	ND (2.39)		8151A		1	05/19/23 14:36	D3E0380	DE31741

	%Recovery	Qualifier	Limits
Surrogate: DCAA	*84 %*		*30-150*
Surrogate: DCAA [2C]	*73 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118 0-3ft
Date Sampled: 05/10/23 08:30
Percent Solids: 95
Initial Volume: 20.1g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 5/15/23 11:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1-Biphenyl	ND (0.052)		8270D		2	05/15/23 19:39	D3E0293	DE31516
1,2,4-Trichlorobenzene	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
1,2-Dichlorobenzene	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
1,3-Dichlorobenzene	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
1,4-Dichlorobenzene	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
2,4,5-Trichlorophenol	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
2,4,6-Trichlorophenol	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
2,4-Dichlorophenol	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
2,4-Dimethylphenol	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
2,4-Dinitrophenol	ND (2.09)		8270D		2	05/15/23 19:39	D3E0293	DE31516
2,4-Dinitrotoluene	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
2,6-Dinitrotoluene	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
2-Chloronaphthalene	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
2-Chlorophenol	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
2-Methylnaphthalene	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
2-Methylphenol	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
2-Nitrophenol	ND (1.04)		8270D		2	05/15/23 19:39	D3E0293	DE31516
3,3´-Dichlorobenzidine	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
3+4-Methylphenol	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
4-Bromophenyl-phenylether	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
4-Chloroaniline	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
4-Nitrophenol	ND (2.09)		8270D		2	05/15/23 19:39	D3E0293	DE31516
Acenaphthene	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
Acenaphthylene	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
Acetophenone	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
Aniline	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
Anthracene	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
Azobenzene	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
Benzo(a)anthracene	**1.75** (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
Benzo(a)pyrene	**1.92** (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
Benzo(b)fluoranthene	**1.50** (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
Benzo(g,h,i)perylene	**1.07** (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118 0-3ft
Date Sampled: 05/10/23 08:30
Percent Solids: 95
Initial Volume: 20.1g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 5/15/23 11:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Benzo(k)fluoranthene	**1.35** (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
bis(2-Chloroethoxy)methane	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
bis(2-Chloroethyl)ether	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
bis(2-chloroisopropyl)Ether	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
bis(2-Ethylhexyl)phthalate	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
Butylbenzylphthalate	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
Chrysene	**1.65** (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
Dibenzo(a,h)Anthracene	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
Dibenzofuran	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
Diethylphthalate	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
Dimethylphthalate	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
Di-n-butylphthalate	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
Di-n-octylphthalate	ND (1.04)		8270D		2	05/15/23 19:39	D3E0293	DE31516
Fluoranthene	**3.23** (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
Fluorene	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
Hexachlorobenzene	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
Hexachlorobutadiene	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
Hexachloroethane	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
Indeno(1,2,3-cd)Pyrene	**1.17** (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
Isophorone	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
Naphthalene	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
Nitrobenzene	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
N-Nitrosodimethylamine	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
Pentachlorophenol	ND (2.09)		8270D		2	05/15/23 19:39	D3E0293	DE31516
Phenanthrene	**1.77** (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
Phenol	ND (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516
Pyrene	**3.65** (0.521)		8270D		2	05/15/23 19:39	D3E0293	DE31516

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichlorobenzene-d4	*78 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*87 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*81 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118 0-3ft
Date Sampled: 05/10/23 08:30
Percent Solids: 95
Initial Volume: 20.1g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 5/15/23 11:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Fluorobiphenyl		*81 %*		*30-130*				
Surrogate: 2-Fluorophenol		*73 %*		*30-130*				
Surrogate: Nitrobenzene-d5		*79 %*		*30-130*				
Surrogate: Phenol-d6		*79 %*		*30-130*				
Surrogate: p-Terphenyl-d14		*106 %*		*30-130*				

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118 0-3ft
Date Sampled: 05/10/23 08:30
Percent Solids: 95

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-04
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Conductivity	**WL 1760** (5)		9050A		1	EAM	05/15/23 20:20	umhos/cm	DE31563
Corrosivity (pH)	**8.82** (N/A)		9045		1	EAM	05/12/23 19:05	S.U.	DE31237
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 20.7 ºC.**								
Flashpoint	**> 200** (N/A)		1010A		1	LAB	05/16/23 14:34	°F	DE31624
Reactive Cyanide	ND (2.0)		7.3.3.2		1	JLK	05/16/23 16:06	mg/kg	DE31633
Reactive Sulfide	ND (2.0)		7.3.4.1		1	JLK	05/16/23 16:06	mg/kg	DE31633

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118 0-3ft
Date Sampled: 05/10/23 08:30
Percent Solids: 95
Initial Volume: 100g
Final Volume: 2000ml
Extraction Method: 1311

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-04
Sample Matrix: Soil
Units: °C
Analyst: YIV
Prepared: 5/19/23 17:30

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**23.1** (N/A)		1311		1	YIV	05/20/23 9:30	DE31952
Temperature (Max C)	**23.4** (N/A)		1311		1	YIV	05/20/23 9:30	DE31952
Temperature (Range)	**Temperature is within 23 +/-2 ºC.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118 3-6ft
Date Sampled: 05/10/23 08:45
Percent Solids: 85

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-05
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	**13.1** (2.62)		6010C		1	CEV	05/17/23 17:22	2.24	100	DE31626
Barium	**128** (2.62)		6010C		1	CEV	05/17/23 17:22	2.24	100	DE31626
Cadmium	ND (0.52)		6010C		1	CEV	05/17/23 17:22	2.24	100	DE31626
Chromium	**11.0** (1.05)		6010C		1	CEV	05/17/23 17:22	2.24	100	DE31626
Lead	**401** (5.24)		6010C		1	CEV	05/17/23 17:22	2.24	100	DE31626
Mercury	**2.08** (0.683)		7471B		20	YIV	05/17/23 15:31	0.68	40	DE31640
Selenium	ND (5.24)		6010C		1	CEV	05/17/23 17:22	2.24	100	DE31626
Silver	ND (0.52)		6010C		1	CEV	05/17/23 17:22	2.24	100	DE31626

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118 3-6ft
Date Sampled: 05/10/23 08:45
Percent Solids: 85

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-05
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	**1.06** (0.050)		1311/6010C		1	CEV	05/23/23 10:10	50	50	DE32206

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118 3-6ft
Date Sampled: 05/10/23 08:45
Percent Solids: 85
Initial Volume: 19.9g
Final Volume: 5ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 5/16/23 12:35

8081B Organochlorine Pesticides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
4,4´-DDD	ND (0.0029)		8081B		1	05/17/23 20:08	D3E0321	DE31604
4,4´-DDE	ND (0.0029)		8081B		1	05/17/23 20:08	D3E0321	DE31604
4,4´-DDT	ND (0.0029)		8081B		1	05/17/23 20:08	D3E0321	DE31604
Aldrin	ND (0.0029)		8081B		1	05/17/23 20:08	D3E0321	DE31604
alpha-BHC	ND (0.0029)		8081B		1	05/17/23 20:08	D3E0321	DE31604
alpha-Chlordane	ND (0.0029)		8081B		1	05/17/23 20:08	D3E0321	DE31604
beta-BHC	ND (0.0029)		8081B		1	05/17/23 20:08	D3E0321	DE31604
Chlordane (Total)	ND (0.0354)		8081B		1	05/17/23 20:08	D3E0321	DE31604
delta-BHC [2C]	ND (0.0029)		8081B		1	05/17/23 20:08	D3E0321	DE31604
Dieldrin	ND (0.0029)		8081B		1	05/17/23 20:08	D3E0321	DE31604
Endosulfan I	ND (0.0029)		8081B		1	05/17/23 20:08	D3E0321	DE31604
Endosulfan II	ND (0.0029)		8081B		1	05/17/23 20:08	D3E0321	DE31604
Endosulfan Sulfate [2C]	ND (0.0029)		8081B		1	05/17/23 20:08	D3E0321	DE31604
Endrin	ND (0.0029)		8081B		1	05/17/23 20:08	D3E0321	DE31604
Endrin Aldehyde	ND (0.0029)		8081B		1	05/17/23 20:08	D3E0321	DE31604
Endrin Ketone	ND (0.0029)		8081B		1	05/17/23 20:08	D3E0321	DE31604
gamma-BHC (Lindane)	ND (0.0018)		8081B		1	05/17/23 20:08	D3E0321	DE31604
gamma-Chlordane	ND (0.0029)		8081B		1	05/17/23 20:08	D3E0321	DE31604
Heptachlor	ND (0.0029)		8081B		1	05/17/23 20:08	D3E0321	DE31604
Heptachlor Epoxide	ND (0.0029)		8081B		1	05/17/23 20:08	D3E0321	DE31604
Hexachlorobenzene	ND (0.0029)		8081B		1	05/17/23 20:08	D3E0321	DE31604
Methoxychlor [2C]	ND (0.0029)		8081B		1	05/17/23 20:08	D3E0321	DE31604
Toxaphene	ND (0.147)		8081B		1	05/17/23 20:08	D3E0321	DE31604

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*45 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*55 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*37 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*41 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118 3-6ft
Date Sampled: 05/10/23 08:45
Percent Solids: 85
Initial Volume: 20.4g
Final Volume: 10ml
Extraction Method: 3540C

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JLG
Prepared: 5/17/23 11:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	05/19/23 10:13		DE31704
Aroclor 1221	ND (0.06)		8082A		1	05/19/23 10:13		DE31704
Aroclor 1232	ND (0.06)		8082A		1	05/19/23 10:13		DE31704
Aroclor 1242	ND (0.06)		8082A		1	05/19/23 10:13		DE31704
Aroclor 1248	ND (0.06)		8082A		1	05/19/23 10:13		DE31704
Aroclor 1254	ND (0.06)		8082A		1	05/19/23 10:13		DE31704
Aroclor 1260	ND (0.06)		8082A		1	05/19/23 10:13		DE31704
Aroclor 1262	ND (0.06)		8082A		1	05/19/23 10:13		DE31704
Aroclor 1268	ND (0.06)		8082A		1	05/19/23 10:13		DE31704

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*64 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*68 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*62 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*70 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118 3-6ft
Date Sampled: 05/10/23 08:45
Percent Solids: 85
Initial Volume: 19.8g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 5/15/23 12:00

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**68.7** (11.9)		8100M		1	05/16/23 1:57		DE31517

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*69 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118 3-6ft
Date Sampled: 05/10/23 08:45
Percent Solids: 85
Initial Volume: 10.1g
Final Volume: 4ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 5/17/23 16:15

8151A Chlorinated Herbicides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2,4,5-T	ND (0.011)		8151A		1	05/19/23 15:04	D3E0380	DE31741
2,4,5-TP (Silvex)	ND (0.011)		8151A		1	05/19/23 15:04	D3E0380	DE31741
2,4-D	ND (0.055)		8151A		1	05/19/23 15:04	D3E0380	DE31741
2,4-DB	ND (0.055)		8151A		1	05/19/23 15:04	D3E0380	DE31741
Dalapon	ND (0.053)		8151A		1	05/19/23 15:04	D3E0380	DE31741
Dicamba	ND (0.011)		8151A		1	05/19/23 15:04	D3E0380	DE31741
Dichlorprop	ND (0.055)		8151A		1	05/19/23 15:04	D3E0380	DE31741
Dinoseb	ND (0.055)		8151A		1	05/19/23 15:04	D3E0380	DE31741
MCPA	ND (2.70)		8151A		1	05/19/23 15:04	D3E0380	DE31741
MCPP [2C]	ND (2.73)		8151A		1	05/19/23 15:04	D3E0380	DE31741

	%Recovery	Qualifier	Limits
Surrogate: DCAA	*94 %*		*30-150*
Surrogate: DCAA [2C]	*83 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118 3-6ft
Date Sampled: 05/10/23 08:45
Percent Solids: 85
Initial Volume: 20.2g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 5/15/23 11:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1-Biphenyl	ND (0.029)		8270D		1	05/15/23 20:09	D3E0293	DE31516
1,2,4-Trichlorobenzene	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
1,2-Dichlorobenzene	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
1,3-Dichlorobenzene	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
1,4-Dichlorobenzene	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
2,4,5-Trichlorophenol	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
2,4,6-Trichlorophenol	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
2,4-Dichlorophenol	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
2,4-Dimethylphenol	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
2,4-Dinitrophenol	ND (1.16)		8270D		1	05/15/23 20:09	D3E0293	DE31516
2,4-Dinitrotoluene	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
2,6-Dinitrotoluene	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
2-Chloronaphthalene	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
2-Chlorophenol	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
2-Methylnaphthalene	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
2-Methylphenol	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
2-Nitrophenol	ND (0.581)		8270D		1	05/15/23 20:09	D3E0293	DE31516
3,3´-Dichlorobenzidine	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
3+4-Methylphenol	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
4-Bromophenyl-phenylether	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
4-Chloroaniline	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
4-Nitrophenol	ND (1.16)		8270D		1	05/15/23 20:09	D3E0293	DE31516
Acenaphthene	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
Acenaphthylene	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
Acetophenone	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
Aniline	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
Anthracene	**0.595** (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
Azobenzene	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
Benzo(a)anthracene	**1.39** (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
Benzo(a)pyrene	**1.47** (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
Benzo(b)fluoranthene	**1.15** (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
Benzo(g,h,i)perylene	**0.737** (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118 3-6ft
Date Sampled: 05/10/23 08:45
Percent Solids: 85
Initial Volume: 20.2g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 5/15/23 11:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Benzo(k)fluoranthene	**0.924** (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
bis(2-Chloroethoxy)methane	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
bis(2-Chloroethyl)ether	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
bis(2-chloroisopropyl)Ether	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
bis(2-Ethylhexyl)phthalate	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
Butylbenzylphthalate	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
Chrysene	**1.30** (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
Dibenzo(a,h)Anthracene	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
Dibenzofuran	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
Diethylphthalate	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
Dimethylphthalate	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
Di-n-butylphthalate	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
Di-n-octylphthalate	ND (0.581)		8270D		1	05/15/23 20:09	D3E0293	DE31516
Fluoranthene	**2.88** (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
Fluorene	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
Hexachlorobenzene	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
Hexachlorobutadiene	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
Hexachloroethane	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
Indeno(1,2,3-cd)Pyrene	**0.857** (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
Isophorone	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
Naphthalene	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
Nitrobenzene	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
N-Nitrosodimethylamine	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
Pentachlorophenol	ND (1.16)		8270D		1	05/15/23 20:09	D3E0293	DE31516
Phenanthrene	**2.25** (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
Phenol	ND (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516
Pyrene	**2.92** (0.290)		8270D		1	05/15/23 20:09	D3E0293	DE31516

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichlorobenzene-d4	*82 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*98 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*85 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118 3-6ft
Date Sampled: 05/10/23 08:45
Percent Solids: 85
Initial Volume: 20.2g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 5/15/23 11:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Fluorobiphenyl		*86 %*		*30-130*				
Surrogate: 2-Fluorophenol		*78 %*		*30-130*				
Surrogate: Nitrobenzene-d5		*83 %*		*30-130*				
Surrogate: Phenol-d6		*80 %*		*30-130*				
Surrogate: p-Terphenyl-d14		*116 %*		*30-130*				

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118 3-6ft
Date Sampled: 05/10/23 08:45
Percent Solids: 85

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-05
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Conductivity	**WL 3350** (5)		9050A		1	EAM	05/15/23 20:20	umhos/cm	DE31563
Corrosivity (pH)	**8.24** (N/A)		9045		1	EAM	05/12/23 19:05	S.U.	DE31237
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 20.7 ºC.**								
Flashpoint	**> 200** (N/A)		1010A		1	LAB	05/16/23 14:34	°F	DE31624
Reactive Cyanide	ND (2.0)		7.3.3.2		1	JLK	05/16/23 16:06	mg/kg	DE31633
Reactive Sulfide	ND (2.0)		7.3.4.1		1	JLK	05/16/23 16:06	mg/kg	DE31633

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118 3-6ft
Date Sampled: 05/10/23 08:45
Percent Solids: 85
Initial Volume: 100g
Final Volume: 2000ml
Extraction Method: 1311

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-05
Sample Matrix: Soil
Units: °C
Analyst: YIV
Prepared: 5/19/23 17:30

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**23.1** (N/A)		1311		1	YIV	05/20/23 9:30	DE31952
Temperature (Max C)	**23.4** (N/A)		1311		1	YIV	05/20/23 9:30	DE31952
Temperature (Range)	**Temperature is within 23 +/-2 ºC.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118 6-9ft
Date Sampled: 05/10/23 09:00
Percent Solids: 68

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-06
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	**27.4** (3.54)		6010C		1	CEV	05/17/23 17:24	2.08	100	DE31626
Barium	**406** (3.54)		6010C		1	CEV	05/17/23 17:24	2.08	100	DE31626
Cadmium	**1.00** (0.71)		6010C		1	CEV	05/17/23 17:24	2.08	100	DE31626
Chromium	**21.3** (1.42)		6010C		1	CEV	05/17/23 17:24	2.08	100	DE31626
Lead	**1830** (7.09)		6010C		1	CEV	05/17/23 17:24	2.08	100	DE31626
Mercury	**9.48** (0.768)		7471B		20	YIV	05/17/23 15:33	0.76	40	DE31640
Selenium	ND (7.09)		6010C		1	CEV	05/17/23 17:24	2.08	100	DE31626
Silver	ND (0.71)		6010C		1	CEV	05/17/23 17:24	2.08	100	DE31626

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118 6-9ft
Date Sampled: 05/10/23 09:00
Percent Solids: 68

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-06
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	**3.73** (0.050)		1311/6010C		1	CEV	05/23/23 10:12	50	50	DE32206
Mercury	ND (0.00050)		1311/7470A		1	CEV	05/31/23 17:24	20	40	DE33032

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118 6-9ft
Date Sampled: 05/10/23 09:00
Percent Solids: 68
Initial Volume: 19.1g
Final Volume: 5ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 5/16/23 12:35

8081B Organochlorine Pesticides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
4,4´-DDD	ND (0.0039)		8081B		1	05/17/23 20:38	D3E0321	DE31604
4,4´-DDE	ND (0.0039)		8081B		1	05/17/23 20:38	D3E0321	DE31604
4,4´-DDT	ND (0.0039)		8081B		1	05/17/23 20:38	D3E0321	DE31604
Aldrin	ND (0.0039)		8081B		1	05/17/23 20:38	D3E0321	DE31604
alpha-BHC	ND (0.0039)		8081B		1	05/17/23 20:38	D3E0321	DE31604
alpha-Chlordane	ND (0.0039)		8081B		1	05/17/23 20:38	D3E0321	DE31604
beta-BHC	ND (0.0039)		8081B		1	05/17/23 20:38	D3E0321	DE31604
Chlordane (Total)	ND (0.0463)		8081B		1	05/17/23 20:38	D3E0321	DE31604
delta-BHC	ND (0.0039)		8081B		1	05/17/23 20:38	D3E0321	DE31604
Dieldrin	ND (0.0039)		8081B		1	05/17/23 20:38	D3E0321	DE31604
Endosulfan I	ND (0.0039)		8081B		1	05/17/23 20:38	D3E0321	DE31604
Endosulfan II	ND (0.0039)		8081B		1	05/17/23 20:38	D3E0321	DE31604
Endosulfan Sulfate	ND (0.0039)		8081B		1	05/17/23 20:38	D3E0321	DE31604
Endrin	ND (0.0039)		8081B		1	05/17/23 20:38	D3E0321	DE31604
Endrin Aldehyde	ND (0.0039)		8081B		1	05/17/23 20:38	D3E0321	DE31604
Endrin Ketone	ND (0.0039)		8081B		1	05/17/23 20:38	D3E0321	DE31604
gamma-BHC (Lindane)	ND (0.0023)		8081B		1	05/17/23 20:38	D3E0321	DE31604
gamma-Chlordane	ND (0.0039)		8081B		1	05/17/23 20:38	D3E0321	DE31604
Heptachlor	ND (0.0039)		8081B		1	05/17/23 20:38	D3E0321	DE31604
Heptachlor Epoxide	ND (0.0039)		8081B		1	05/17/23 20:38	D3E0321	DE31604
Hexachlorobenzene	ND (0.0039)		8081B		1	05/17/23 20:38	D3E0321	DE31604
Methoxychlor	ND (0.0039)		8081B		1	05/17/23 20:38	D3E0321	DE31604
Toxaphene	ND (0.193)		8081B		1	05/17/23 20:38	D3E0321	DE31604

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*40 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*49 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*44 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*47 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118 6-9ft
Date Sampled: 05/10/23 09:00
Percent Solids: 68
Initial Volume: 20g
Final Volume: 10ml
Extraction Method: 3540C

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JLG
Prepared: 5/17/23 11:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	05/19/23 15:51		DE31938
Aroclor 1221	ND (0.07)		8082A		1	05/19/23 15:51		DE31938
Aroclor 1232	ND (0.07)		8082A		1	05/19/23 15:51		DE31938
Aroclor 1242	ND (0.07)		8082A		1	05/19/23 15:51		DE31938
Aroclor 1248	ND (0.07)		8082A		1	05/19/23 15:51		DE31938
Aroclor 1254	ND (0.07)		8082A		1	05/19/23 15:51		DE31938
Aroclor 1260	ND (0.07)		8082A		1	05/19/23 15:51		DE31938
Aroclor 1262	ND (0.07)		8082A		1	05/19/23 15:51		DE31938
Aroclor 1268	ND (0.07)		8082A		1	05/19/23 15:51		DE31938

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*74 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*64 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*72 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118 6-9ft
Date Sampled: 05/10/23 09:00
Percent Solids: 68
Initial Volume: 20g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 5/15/23 12:00

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**188** (14.7)		8100M		1	05/15/23 23:22		DE31517

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*67 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118 6-9ft
Date Sampled: 05/10/23 09:00
Percent Solids: 68
Initial Volume: 10.2g
Final Volume: 4ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 5/17/23 16:15

8151A Chlorinated Herbicides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2,4,5-T	**P, LC 0.104** (0.027)		8151A		10	05/19/23 20:21	D3E0380	DE31741
2,4,5-TP (Silvex)	ND (0.014)		8151A		1	05/19/23 15:33	D3E0380	DE31741
2,4-D	ND (0.068)		8151A		1	05/19/23 15:33	D3E0380	DE31741
2,4-DB	ND (0.069)		8151A		1	05/19/23 15:33	D3E0380	DE31741
Dalapon	ND (0.066)		8151A		1	05/19/23 15:33	D3E0380	DE31741
Dicamba [2C]	**P, LC 0.652** (0.136)		8151A		10	05/19/23 20:21	D3E0380	DE31741
Dichlorprop	ND (0.068)		8151A		1	05/19/23 15:33	D3E0380	DE31741
Dinoseb	ND (0.069)		8151A		1	05/19/23 15:33	D3E0380	DE31741
MCPA	ND (3.36)		8151A		1	05/19/23 15:33	D3E0380	DE31741
MCPP	# ND (34.0)		8151A		10	05/19/23 20:21	D3E0380	DE31741

	%Recovery	Qualifier	Limits
Surrogate: DCAA	*100 %*		*30-150*
Surrogate: DCAA [2C]	*53 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118 6-9ft
Date Sampled: 05/10/23 09:00
Percent Solids: 68
Initial Volume: 19.5g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 5/15/23 11:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1-Biphenyl	**0.084** (0.038)		8270D		1	05/15/23 20:40	D3E0293	DE31516
1,2,4-Trichlorobenzene	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
1,2-Dichlorobenzene	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
1,3-Dichlorobenzene	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
1,4-Dichlorobenzene	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
2,4,5-Trichlorophenol	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
2,4,6-Trichlorophenol	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
2,4-Dichlorophenol	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
2,4-Dimethylphenol	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
2,4-Dinitrophenol	ND (1.51)		8270D		1	05/15/23 20:40	D3E0293	DE31516
2,4-Dinitrotoluene	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
2,6-Dinitrotoluene	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
2-Chloronaphthalene	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
2-Chlorophenol	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
2-Methylnaphthalene	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
2-Methylphenol	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
2-Nitrophenol	ND (0.756)		8270D		1	05/15/23 20:40	D3E0293	DE31516
3,3´-Dichlorobenzidine	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
3+4-Methylphenol	**1.63** (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
4-Bromophenyl-phenylether	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
4-Chloroaniline	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
4-Nitrophenol	ND (1.51)		8270D		1	05/15/23 20:40	D3E0293	DE31516
Acenaphthene	**0.548** (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
Acenaphthylene	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
Acetophenone	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
Aniline	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
Anthracene	**1.07** (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
Azobenzene	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
Benzo(a)anthracene	**1.56** (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
Benzo(a)pyrene	**1.39** (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
Benzo(b)fluoranthene	**1.09** (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
Benzo(g,h,i)perylene	**0.646** (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118 6-9ft
Date Sampled: 05/10/23 09:00
Percent Solids: 68
Initial Volume: 19.5g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 5/15/23 11:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Benzo(k)fluoranthene	**0.994** (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
bis(2-Chloroethoxy)methane	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
bis(2-Chloroethyl)ether	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
bis(2-chloroisopropyl)Ether	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
bis(2-Ethylhexyl)phthalate	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
Butylbenzylphthalate	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
Chrysene	**1.52** (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
Dibenzo(a,h)Anthracene	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
Dibenzofuran	**0.449** (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
Diethylphthalate	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
Dimethylphthalate	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
Di-n-butylphthalate	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
Di-n-octylphthalate	ND (0.756)		8270D		1	05/15/23 20:40	D3E0293	DE31516
Fluoranthene	**3.59** (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
Fluorene	**0.607** (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
Hexachlorobenzene	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
Hexachlorobutadiene	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
Hexachloroethane	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
Indeno(1,2,3-cd)Pyrene	**0.765** (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
Isophorone	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
Naphthalene	**0.561** (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
Nitrobenzene	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
N-Nitrosodimethylamine	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
Pentachlorophenol	ND (1.51)		8270D		1	05/15/23 20:40	D3E0293	DE31516
Phenanthrene	**3.93** (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
Phenol	ND (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516
Pyrene	**3.67** (0.378)		8270D		1	05/15/23 20:40	D3E0293	DE31516

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichlorobenzene-d4	*83 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*91 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*81 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118 6-9ft
Date Sampled: 05/10/23 09:00
Percent Solids: 68
Initial Volume: 19.5g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 5/15/23 11:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Fluorobiphenyl		*79 %*		*30-130*				
Surrogate: 2-Fluorophenol		*75 %*		*30-130*				
Surrogate: Nitrobenzene-d5		*75 %*		*30-130*				
Surrogate: Phenol-d6		*75 %*		*30-130*				
Surrogate: p-Terphenyl-d14		*102 %*		*30-130*				

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118 6-9ft
Date Sampled: 05/10/23 09:00
Percent Solids: 68

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-06
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Conductivity	**WL 4600** (5)		9050A		1	EAM	05/15/23 20:20	umhos/cm	DE31563
Corrosivity (pH)	**7.47** (N/A)		9045		1	EAM	05/12/23 19:05	S.U.	DE31237
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 20.4 ºC.**								
Flashpoint	**> 200** (N/A)		1010A		1	LAB	05/16/23 14:34	°F	DE31624
Reactive Cyanide	ND (2.0)		7.3.3.2		1	JLK	05/16/23 16:06	mg/kg	DE31633
Reactive Sulfide	ND (2.0)		7.3.4.1		1	JLK	05/16/23 16:06	mg/kg	DE31633

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118 6-9ft
Date Sampled: 05/10/23 09:00
Percent Solids: 68
Initial Volume: 100g
Final Volume: 2000ml
Extraction Method: 1311

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-06
Sample Matrix: Soil
Units: °C
Analyst: YIV
Prepared: 5/19/23 17:30

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**23.1** (N/A)		1311		1	YIV	05/20/23 9:30	DE31952
Temperature (Max C)	**23.4** (N/A)		1311		1	YIV	05/20/23 9:30	DE31952
Temperature (Range)	**Temperature is within 23 +/-2 ºC.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119B 0-3ft
Date Sampled: 05/12/23 12:50
Percent Solids: 81
Initial Volume: 19g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 5/15/23 12:00

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**60.7** (12.9)		8100M		1	05/16/23 0:00		DE31517

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*72 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119B 3-6ft
Date Sampled: 05/12/23 13:03
Percent Solids: 52
Initial Volume: 20.3g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 5/15/23 12:00

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**42.3** (18.8)		8100M		1	05/15/23 22:05		DE31517

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*77 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119B 5ft
Date Sampled: 05/12/23 13:00
Percent Solids: 72
Initial Volume: 1.6g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-09
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 (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
1,1,1-Trichloroethane	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
1,1,2,2-Tetrachloroethane	ND (0.0131)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
1,1,2-Trichloroethane	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
1,1-Dichloroethane	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
1,1-Dichloroethene	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
1,1-Dichloropropene	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
1,2,3-Trichlorobenzene	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
1,2,3-Trichloropropane	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
1,2,4-Trichlorobenzene	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
1,2,4-Trimethylbenzene	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
1,2-Dibromo-3-Chloropropane	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
1,2-Dibromoethane	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
1,2-Dichlorobenzene	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
1,2-Dichloroethane	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
1,2-Dichloropropane	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
1,3,5-Trimethylbenzene	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
1,3-Dichlorobenzene	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
1,3-Dichloropropane	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
1,4-Dichlorobenzene	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
1,4-Dioxane	ND (0.349)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
2,2-Dichloropropane	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
2-Butanone	ND (0.218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
2-Chlorotoluene	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
2-Hexanone	ND (0.218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
4-Chlorotoluene	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
4-Isopropyltoluene	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
4-Methyl-2-Pentanone	ND (0.218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Acetone	ND (0.218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Benzene	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Bromobenzene	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Bromochloromethane	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119B 5ft
Date Sampled: 05/12/23 13:00
Percent Solids: 72
Initial Volume: 1.6g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-09
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 (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Bromoform	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Bromomethane	ND (0.0437)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Carbon Disulfide	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Carbon Tetrachloride	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Chlorobenzene	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Chloroethane	ND (0.0437)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Chloroform	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Chloromethane	ND (0.0437)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
cis-1,2-Dichloroethene	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
cis-1,3-Dichloropropene	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Dibromochloromethane	ND (0.0131)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Dibromomethane	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Dichlorodifluoromethane	ND (0.0437)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Diethyl Ether	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Di-isopropyl ether	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Ethyl tertiary-butyl ether	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Ethylbenzene	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Hexachlorobutadiene	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Isopropylbenzene	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Methyl tert-Butyl Ether	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Methylene Chloride	ND (0.109)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Naphthalene	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
n-Butylbenzene	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
n-Propylbenzene	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
sec-Butylbenzene	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Styrene	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
tert-Butylbenzene	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Tertiary-amyl methyl ether	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Tetrachloroethene	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Tetrahydrofuran	ND (0.0873)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Toluene	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119B 5ft
Date Sampled: 05/12/23 13:00
Percent Solids: 72
Initial Volume: 1.6g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-09
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 (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
trans-1,3-Dichloropropene	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Trichloroethene	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Trichlorofluoromethane	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Vinyl Chloride	ND (0.0437)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Xylene O	ND (0.0218)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Xylene P,M	ND (0.0437)		8260B Low		1	05/15/23 15:02	D3E0267	DE31504
Xylenes (Total)	ND (0.0437)		8260B Low		1	05/15/23 15:02		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichloroethane-d4	*117 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*93 %*		*70-130*
Surrogate: Dibromofluoromethane	*102 %*		*70-130*
Surrogate: Toluene-d8	*99 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119 0-3ft
Date Sampled: 05/10/23 10:30
Percent Solids: 83

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-10
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	**6.32** (2.78)		6010C		1	CEV	05/17/23 17:26	2.17	100	DE31626
Barium	**58.3** (2.78)		6010C		1	CEV	05/17/23 17:26	2.17	100	DE31626
Cadmium	ND (0.56)		6010C		1	CEV	05/17/23 17:26	2.17	100	DE31626
Chromium	**11.6** (1.11)		6010C		1	CEV	05/17/23 17:26	2.17	100	DE31626
Lead	**241** (5.57)		6010C		1	CEV	05/17/23 17:26	2.17	100	DE31626
Mercury	**0.619** (0.035)		7471B		1	YIV	05/17/23 11:48	0.68	40	DE31640
Selenium	ND (5.57)		6010C		1	CEV	05/17/23 17:26	2.17	100	DE31626
Silver	ND (0.56)		6010C		1	CEV	05/17/23 17:26	2.17	100	DE31626

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119 0-3ft
Date Sampled: 05/10/23 10:30
Percent Solids: 83

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-10
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	**0.119** (0.050)		1311/6010C		1	CEV	06/01/23 12:42	50	50	DE33123

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119 0-3ft
Date Sampled: 05/10/23 10:30
Percent Solids: 83
Initial Volume: 19g
Final Volume: 5ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 5/16/23 12:35

8081B Organochlorine Pesticides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
4,4´-DDD	ND (0.0032)		8081B		1	05/17/23 21:08	D3E0321	DE31604
4,4´-DDE	ND (0.0032)		8081B		1	05/17/23 21:08	D3E0321	DE31604
4,4´-DDT	**P, LC 0.0043** (0.0032)		8081B		1	05/17/23 21:08	D3E0321	DE31604
Aldrin	ND (0.0032)		8081B		1	05/17/23 21:08	D3E0321	DE31604
alpha-BHC	ND (0.0032)		8081B		1	05/17/23 21:08	D3E0321	DE31604
alpha-Chlordane [2C]	ND (0.0032)		8081B		1	05/17/23 21:08	D3E0321	DE31604
beta-BHC	ND (0.0032)		8081B		1	05/17/23 21:08	D3E0321	DE31604
Chlordane (Total) [2C]	ND (0.0382)		8081B		1	05/17/23 21:08	D3E0321	DE31604
delta-BHC	ND (0.0032)		8081B		1	05/17/23 21:08	D3E0321	DE31604
Dieldrin	ND (0.0032)		8081B		1	05/17/23 21:08	D3E0321	DE31604
Endosulfan I	ND (0.0032)		8081B		1	05/17/23 21:08	D3E0321	DE31604
Endosulfan II	ND (0.0032)		8081B		1	05/17/23 21:08	D3E0321	DE31604
Endosulfan Sulfate	ND (0.0032)		8081B		1	05/17/23 21:08	D3E0321	DE31604
Endrin	ND (0.0032)		8081B		1	05/17/23 21:08	D3E0321	DE31604
Endrin Aldehyde	ND (0.0032)		8081B		1	05/17/23 21:08	D3E0321	DE31604
Endrin Ketone	ND (0.0032)		8081B		1	05/17/23 21:08	D3E0321	DE31604
gamma-BHC (Lindane)	ND (0.0019)		8081B		1	05/17/23 21:08	D3E0321	DE31604
gamma-Chlordane	ND (0.0032)		8081B		1	05/17/23 21:08	D3E0321	DE31604
Heptachlor	ND (0.0032)		8081B		1	05/17/23 21:08	D3E0321	DE31604
Heptachlor Epoxide	ND (0.0032)		8081B		1	05/17/23 21:08	D3E0321	DE31604
Hexachlorobenzene	ND (0.0032)		8081B		1	05/17/23 21:08	D3E0321	DE31604
Methoxychlor	ND (0.0032)		8081B		1	05/17/23 21:08	D3E0321	DE31604
Toxaphene	ND (0.159)		8081B		1	05/17/23 21:08	D3E0321	DE31604

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*40 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*50 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*45 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*45 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119 0-3ft
Date Sampled: 05/10/23 10:30
Percent Solids: 83
Initial Volume: 20.5g
Final Volume: 10ml
Extraction Method: 3540C

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JLG
Prepared: 5/17/23 11:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	05/19/23 10:53		DE31704
Aroclor 1221	ND (0.06)		8082A		1	05/19/23 10:53		DE31704
Aroclor 1232	ND (0.06)		8082A		1	05/19/23 10:53		DE31704
Aroclor 1242	ND (0.06)		8082A		1	05/19/23 10:53		DE31704
Aroclor 1248	ND (0.06)		8082A		1	05/19/23 10:53		DE31704
Aroclor 1254	ND (0.06)		8082A		1	05/19/23 10:53		DE31704
Aroclor 1260	ND (0.06)		8082A		1	05/19/23 10:53		DE31704
Aroclor 1262 [2C]	ND (0.06)		8082A		1	05/19/23 10:53		DE31704
Aroclor 1268	ND (0.06)		8082A		1	05/19/23 10:53		DE31704

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*66 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*72 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*63 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*67 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119 0-3ft
Date Sampled: 05/10/23 10:30
Percent Solids: 83
Initial Volume: 20.9g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 5/15/23 12:00

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**304** (116)		8100M		10	05/17/23 5:15		DE31517

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*73 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119 0-3ft
Date Sampled: 05/10/23 10:30
Percent Solids: 83
Initial Volume: 10.1g
Final Volume: 4ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 5/17/23 16:15

8151A Chlorinated Herbicides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2,4,5-T	ND (0.011)		8151A		1	05/19/23 16:30	D3E0380	DE31741
2,4,5-TP (Silvex)	ND (0.011)		8151A		1	05/19/23 16:30	D3E0380	DE31741
2,4-D	ND (0.056)		8151A		1	05/19/23 16:30	D3E0380	DE31741
2,4-DB	ND (0.057)		8151A		1	05/19/23 16:30	D3E0380	DE31741
Dalapon	ND (0.054)		8151A		1	05/19/23 16:30	D3E0380	DE31741
Dicamba	ND (0.011)		8151A		1	05/19/23 16:30	D3E0380	DE31741
Dichlorprop	ND (0.056)		8151A		1	05/19/23 16:30	D3E0380	DE31741
Dinoseb	ND (0.057)		8151A		1	05/19/23 16:30	D3E0380	DE31741
MCPA	ND (2.78)		8151A		1	05/19/23 16:30	D3E0380	DE31741
MCPP [2C]	ND (2.81)		8151A		1	05/19/23 16:30	D3E0380	DE31741

	%Recovery	Qualifier	Limits
Surrogate: DCAA	*91 %*		*30-150*
Surrogate: DCAA [2C]	*80 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119 0-3ft
Date Sampled: 05/10/23 10:30
Percent Solids: 83
Initial Volume: 20.8g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 5/15/23 11:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1-Biphenyl	**0.064** (0.058)		8270D		2	05/15/23 21:10	D3E0293	DE31516
1,2,4-Trichlorobenzene	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
1,2-Dichlorobenzene	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
1,3-Dichlorobenzene	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
1,4-Dichlorobenzene	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
2,4,5-Trichlorophenol	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
2,4,6-Trichlorophenol	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
2,4-Dichlorophenol	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
2,4-Dimethylphenol	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
2,4-Dinitrophenol	ND (2.32)		8270D		2	05/15/23 21:10	D3E0293	DE31516
2,4-Dinitrotoluene	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
2,6-Dinitrotoluene	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
2-Chloronaphthalene	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
2-Chlorophenol	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
2-Methylnaphthalene	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
2-Methylphenol	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
2-Nitrophenol	ND (1.16)		8270D		2	05/15/23 21:10	D3E0293	DE31516
3,3´-Dichlorobenzidine	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
3+4-Methylphenol	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
4-Bromophenyl-phenylether	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
4-Chloroaniline	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
4-Nitrophenol	ND (2.32)		8270D		2	05/15/23 21:10	D3E0293	DE31516
Acenaphthene	**0.787** (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
Acenaphthylene	**1.60** (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
Acetophenone	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
Aniline	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
Anthracene	**2.47** (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
Azobenzene	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
Benzo(a)anthracene	**8.22** (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
Benzo(a)pyrene	**8.76** (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
Benzo(b)fluoranthene	**7.64** (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
Benzo(g,h,i)perylene	**4.44** (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119 0-3ft
Date Sampled: 05/10/23 10:30
Percent Solids: 83
Initial Volume: 20.8g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 5/15/23 11:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Benzo(k)fluoranthene	**6.37** (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
bis(2-Chloroethoxy)methane	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
bis(2-Chloroethyl)ether	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
bis(2-chloroisopropyl)Ether	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
bis(2-Ethylhexyl)phthalate	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
Butylbenzylphthalate	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
Chrysene	**7.86** (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
Dibenzo(a,h)Anthracene	**1.27** (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
Dibenzofuran	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
Diethylphthalate	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
Dimethylphthalate	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
Di-n-butylphthalate	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
Di-n-octylphthalate	ND (1.16)		8270D		2	05/15/23 21:10	D3E0293	DE31516
Fluoranthene	**14.2** (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
Fluorene	**0.877** (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
Hexachlorobenzene	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
Hexachlorobutadiene	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
Hexachloroethane	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
Indeno(1,2,3-cd)Pyrene	**5.23** (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
Isophorone	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
Naphthalene	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
Nitrobenzene	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
N-Nitrosodimethylamine	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
Pentachlorophenol	ND (2.32)		8270D		2	05/15/23 21:10	D3E0293	DE31516
Phenanthrene	**7.88** (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
Phenol	ND (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516
Pyrene	**14.8** (0.581)		8270D		2	05/15/23 21:10	D3E0293	DE31516

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichlorobenzene-d4	*82 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*98 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*85 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119 0-3ft
Date Sampled: 05/10/23 10:30
Percent Solids: 83
Initial Volume: 20.8g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 5/15/23 11:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Fluorobiphenyl		*82 %*		*30-130*				
Surrogate: 2-Fluorophenol		*76 %*		*30-130*				
Surrogate: Nitrobenzene-d5		*78 %*		*30-130*				
Surrogate: Phenol-d6		*82 %*		*30-130*				
Surrogate: p-Terphenyl-d14		*108 %*		*30-130*				

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119 0-3ft
Date Sampled: 05/10/23 10:30
Percent Solids: 83

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-10
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Conductivity	**WL 935** (5)		9050A		1	EAM	05/15/23 20:20	umhos/cm	DE31563
Corrosivity (pH)	**8.83** (N/A)		9045		1	EAM	05/12/23 19:05	S.U.	DE31237
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 20.6 ºC.**								
Flashpoint	**> 200** (N/A)		1010A		1	LAB	05/16/23 14:34	°F	DE31624
Reactive Cyanide	ND (2.0)		7.3.3.2		1	JLK	05/16/23 16:06	mg/kg	DE31633
Reactive Sulfide	ND (2.0)		7.3.4.1		1	JLK	05/16/23 16:06	mg/kg	DE31633

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119 0-3ft
Date Sampled: 05/10/23 10:30
Percent Solids: 83
Initial Volume: 100g
Final Volume: 2000ml
Extraction Method: 1311

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-10
Sample Matrix: Soil
Units: °C
Analyst: AFV
Prepared: 5/30/23 19:45

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**19.9** (N/A)		1311		1	AFV	05/31/23 12:50	DE33057
Temperature (Max C)	**22.8** (N/A)		1311		1	AFV	05/31/23 12:50	DE33057
Temperature (Range)	**Temperature is not within 23 +/-2 ºC.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119 3-6ft
Date Sampled: 05/10/23 10:45
Percent Solids: 80

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-11
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	**15.7** (2.64)		6010C		1	CEV	05/17/23 17:34	2.35	100	DE31626
Barium	**294** (2.64)		6010C		1	CEV	05/17/23 17:34	2.35	100	DE31626
Cadmium	ND (0.53)		6010C		1	CEV	05/17/23 17:34	2.35	100	DE31626
Chromium	**19.8** (1.06)		6010C		1	CEV	05/17/23 17:34	2.35	100	DE31626
Lead	**2410** (26.4)		6010C		5	CEV	05/18/23 10:57	2.35	100	DE31626
Mercury	**3.58** (0.593)		7471B		20	YIV	05/17/23 15:40	0.83	40	DE31640
Selenium	ND (5.29)		6010C		1	CEV	05/17/23 17:34	2.35	100	DE31626
Silver	ND (0.53)		6010C		1	CEV	05/17/23 17:34	2.35	100	DE31626

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119 3-6ft
Date Sampled: 05/10/23 10:45
Percent Solids: 80

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-11
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	**16.3** (0.050)		1311/6010C		1	CEV	05/23/23 9:36	50	50	DE32206

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119 3-6ft
Date Sampled: 05/10/23 10:45
Percent Solids: 80
Initial Volume: 20.7g
Final Volume: 5ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 5/16/23 12:35

8081B Organochlorine Pesticides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
4,4´-DDD	ND (0.0030)		8081B		1	05/17/23 21:38	D3E0321	DE31604
4,4´-DDE	ND (0.0030)		8081B		1	05/17/23 21:38	D3E0321	DE31604
4,4´-DDT	ND (0.0030)		8081B		1	05/17/23 21:38	D3E0321	DE31604
Aldrin	ND (0.0030)		8081B		1	05/17/23 21:38	D3E0321	DE31604
alpha-BHC	ND (0.0030)		8081B		1	05/17/23 21:38	D3E0321	DE31604
alpha-Chlordane	ND (0.0030)		8081B		1	05/17/23 21:38	D3E0321	DE31604
beta-BHC	ND (0.0030)		8081B		1	05/17/23 21:38	D3E0321	DE31604
Chlordane (Total)	ND (0.0360)		8081B		1	05/17/23 21:38	D3E0321	DE31604
delta-BHC	ND (0.0030)		8081B		1	05/17/23 21:38	D3E0321	DE31604
Dieldrin	ND (0.0030)		8081B		1	05/17/23 21:38	D3E0321	DE31604
Endosulfan I	ND (0.0030)		8081B		1	05/17/23 21:38	D3E0321	DE31604
Endosulfan II	ND (0.0030)		8081B		1	05/17/23 21:38	D3E0321	DE31604
Endosulfan Sulfate	ND (0.0030)		8081B		1	05/17/23 21:38	D3E0321	DE31604
Endrin	ND (0.0030)		8081B		1	05/17/23 21:38	D3E0321	DE31604
Endrin Aldehyde	ND (0.0030)		8081B		1	05/17/23 21:38	D3E0321	DE31604
Endrin Ketone	ND (0.0030)		8081B		1	05/17/23 21:38	D3E0321	DE31604
gamma-BHC (Lindane)	ND (0.0018)		8081B		1	05/17/23 21:38	D3E0321	DE31604
gamma-Chlordane	ND (0.0030)		8081B		1	05/17/23 21:38	D3E0321	DE31604
Heptachlor	ND (0.0030)		8081B		1	05/17/23 21:38	D3E0321	DE31604
Heptachlor Epoxide	ND (0.0030)		8081B		1	05/17/23 21:38	D3E0321	DE31604
Hexachlorobenzene	ND (0.0030)		8081B		1	05/17/23 21:38	D3E0321	DE31604
Methoxychlor	ND (0.0030)		8081B		1	05/17/23 21:38	D3E0321	DE31604
Toxaphene	ND (0.150)		8081B		1	05/17/23 21:38	D3E0321	DE31604

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*65 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*56 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*42 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*48 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119 3-6ft
Date Sampled: 05/10/23 10:45
Percent Solids: 80
Initial Volume: 20.5g
Final Volume: 10ml
Extraction Method: 3540C

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JLG
Prepared: 5/17/23 11:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	05/19/23 11:13		DE31704
Aroclor 1221	ND (0.06)		8082A		1	05/19/23 11:13		DE31704
Aroclor 1232	ND (0.06)		8082A		1	05/19/23 11:13		DE31704
Aroclor 1242	ND (0.06)		8082A		1	05/19/23 11:13		DE31704
Aroclor 1248	ND (0.06)		8082A		1	05/19/23 11:13		DE31704
Aroclor 1254	ND (0.06)		8082A		1	05/19/23 11:13		DE31704
Aroclor 1260	ND (0.06)		8082A		1	05/19/23 11:13		DE31704
Aroclor 1262	ND (0.06)		8082A		1	05/19/23 11:13		DE31704
Aroclor 1268	ND (0.06)		8082A		1	05/19/23 11:13		DE31704

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*59 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*62 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*48 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*57 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119 3-6ft
Date Sampled: 05/10/23 10:45
Percent Solids: 80
Initial Volume: 19.8g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 5/15/23 12:00

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**434** (62.8)		8100M		5	05/16/23 20:51		DE31517

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*86 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119 3-6ft
Date Sampled: 05/10/23 10:45
Percent Solids: 80
Initial Volume: 10.1g
Final Volume: 4ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 5/17/23 16:15

8151A Chlorinated Herbicides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2,4,5-T	ND (0.012)		8151A		1	05/19/23 16:59	D3E0380	DE31741
2,4,5-TP (Silvex)	ND (0.012)		8151A		1	05/19/23 16:59	D3E0380	DE31741
2,4-D	ND (0.058)		8151A		1	05/19/23 16:59	D3E0380	DE31741
2,4-DB	ND (0.058)		8151A		1	05/19/23 16:59	D3E0380	DE31741
Dalapon	ND (0.056)		8151A		1	05/19/23 16:59	D3E0380	DE31741
Dicamba [2C]	ND (0.012)		8151A		1	05/19/23 16:59	D3E0380	DE31741
Dichlorprop	ND (0.058)		8151A		1	05/19/23 16:59	D3E0380	DE31741
Dinoseb	ND (0.058)		8151A		1	05/19/23 16:59	D3E0380	DE31741
MCPA	ND (2.86)		8151A		1	05/19/23 16:59	D3E0380	DE31741
MCPP	ND (2.89)		8151A		1	05/19/23 16:59	D3E0380	DE31741

	%Recovery	Qualifier	Limits
Surrogate: DCAA	*93 %*		*30-150*
Surrogate: DCAA [2C]	*80 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119 3-6ft
Date Sampled: 05/10/23 10:45
Percent Solids: 80
Initial Volume: 19.9g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 5/15/23 11:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1-Biphenyl	**0.171** (0.031)		8270D		1	05/15/23 21:41	D3E0293	DE31516
1,2,4-Trichlorobenzene	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
1,2-Dichlorobenzene	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
1,3-Dichlorobenzene	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
1,4-Dichlorobenzene	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
2,4,5-Trichlorophenol	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
2,4,6-Trichlorophenol	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
2,4-Dichlorophenol	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
2,4-Dimethylphenol	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
2,4-Dinitrophenol	ND (1.25)		8270D		1	05/15/23 21:41	D3E0293	DE31516
2,4-Dinitrotoluene	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
2,6-Dinitrotoluene	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
2-Chloronaphthalene	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
2-Chlorophenol	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
2-Methylnaphthalene	**0.585** (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
2-Methylphenol	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
2-Nitrophenol	ND (0.625)		8270D		1	05/15/23 21:41	D3E0293	DE31516
3,3´-Dichlorobenzidine	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
3+4-Methylphenol	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
4-Bromophenyl-phenylether	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
4-Chloroaniline	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
4-Nitrophenol	ND (1.25)		8270D		1	05/15/23 21:41	D3E0293	DE31516
Acenaphthene	**1.87** (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
Acenaphthylene	**0.514** (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
Acetophenone	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
Aniline	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
Anthracene	**4.62** (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
Azobenzene	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
Benzo(a)anthracene	**10.1** (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
Benzo(a)pyrene	**9.52** (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
Benzo(b)fluoranthene	**7.61** (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
Benzo(g,h,i)perylene	**4.01** (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119 3-6ft
Date Sampled: 05/10/23 10:45
Percent Solids: 80
Initial Volume: 19.9g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 5/15/23 11:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Benzo(k)fluoranthene	**6.44** (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
bis(2-Chloroethoxy)methane	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
bis(2-Chloroethyl)ether	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
bis(2-chloroisopropyl)Ether	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
bis(2-Ethylhexyl)phthalate	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
Butylbenzylphthalate	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
Chrysene	**9.56** (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
Dibenzo(a,h)Anthracene	**1.31** (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
Dibenzofuran	**1.51** (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
Diethylphthalate	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
Dimethylphthalate	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
Di-n-butylphthalate	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
Di-n-octylphthalate	ND (0.625)		8270D		1	05/15/23 21:41	D3E0293	DE31516
Fluoranthene	**22.6** (3.12)		8270D		10	05/16/23 20:34	D3E0293	DE31516
Fluorene	**2.22** (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
Hexachlorobenzene	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
Hexachlorobutadiene	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
Hexachloroethane	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
Indeno(1,2,3-cd)Pyrene	**4.94** (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
Isophorone	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
Naphthalene	**0.967** (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
Nitrobenzene	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
N-Nitrosodimethylamine	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
Pentachlorophenol	ND (1.25)		8270D		1	05/15/23 21:41	D3E0293	DE31516
Phenanthrene	**19.4** (3.12)		8270D		10	05/16/23 20:34	D3E0293	DE31516
Phenol	ND (0.312)		8270D		1	05/15/23 21:41	D3E0293	DE31516
Pyrene	**20.0** (3.12)		8270D		10	05/16/23 20:34	D3E0293	DE31516

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichlorobenzene-d4	*93 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*107 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*93 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119 3-6ft
Date Sampled: 05/10/23 10:45
Percent Solids: 80
Initial Volume: 19.9g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 5/15/23 11:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Fluorobiphenyl		*95 %*		*30-130*				
Surrogate: 2-Fluorophenol		*85 %*		*30-130*				
Surrogate: Nitrobenzene-d5		*90 %*		*30-130*				
Surrogate: Phenol-d6		*87 %*		*30-130*				
Surrogate: p-Terphenyl-d14		*128 %*		*30-130*				

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119 3-6ft
Date Sampled: 05/10/23 10:45
Percent Solids: 80

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-11
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Conductivity	**WL 1180** (5)		9050A		1	EAM	05/15/23 20:20	umhos/cm	DE31563
Corrosivity (pH)	**7.91** (N/A)		9045		1	EAM	05/12/23 19:05	S.U.	DE31237
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 20.4 ºC.**								
Flashpoint	**> 200** (N/A)		1010A		1	LAB	05/16/23 14:34	°F	DE31624
Reactive Cyanide	ND (2.0)		7.3.3.2		1	JLK	05/16/23 16:06	mg/kg	DE31633
Reactive Sulfide	ND (2.0)		7.3.4.1		1	JLK	05/16/23 16:06	mg/kg	DE31633

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119 3-6ft
Date Sampled: 05/10/23 10:45
Percent Solids: 80
Initial Volume: 100g
Final Volume: 2000ml
Extraction Method: 1311

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-11
Sample Matrix: Soil
Units: °C
Analyst: YIV
Prepared: 5/19/23 17:30

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**23.1** (N/A)		1311		1	YIV	05/20/23 9:30	DE31952
Temperature (Max C)	**23.4** (N/A)		1311		1	YIV	05/20/23 9:30	DE31952
Temperature (Range)	**Temperature is within 23 +/-2 ºC.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119 6-10ft
Date Sampled: 05/10/23 11:00
Percent Solids: 74

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-12
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	**28.0** (3.16)		6010C		1	CEV	05/17/23 17:37	2.15	100	DE31626
Barium	**285** (3.16)		6010C		1	CEV	05/17/23 17:37	2.15	100	DE31626
Cadmium	ND (0.63)		6010C		1	CEV	05/17/23 17:37	2.15	100	DE31626
Chromium	**40.8** (1.26)		6010C		1	CEV	05/17/23 17:37	2.15	100	DE31626
Lead	**1510** (6.32)		6010C		1	CEV	05/17/23 17:37	2.15	100	DE31626
Mercury	**10.1** (3.36)		7471B		100	YIV	05/17/23 16:08	0.8	40	DE31640
Selenium	**6.98** (6.32)		6010C		1	CEV	05/17/23 17:37	2.15	100	DE31626
Silver	ND (0.63)		6010C		1	CEV	05/17/23 17:37	2.15	100	DE31626

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119 6-10ft
Date Sampled: 05/10/23 11:00
Percent Solids: 74

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-12
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	**8.89** (0.050)		1311/6010C		1	CEV	05/23/23 9:38	50	50	DE32206
Mercury	ND (0.00050)		1311/7470A		1	CEV	05/31/23 17:26	20	40	DE33032

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119 6-10ft
Date Sampled: 05/10/23 11:00
Percent Solids: 74
Initial Volume: 19.5g
Final Volume: 5ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 5/16/23 12:35

8081B Organochlorine Pesticides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
4,4´-DDD	ND (0.0035)		8081B		1	05/17/23 22:08	D3E0321	DE31604
4,4´-DDE	ND (0.0035)		8081B		1	05/17/23 22:08	D3E0321	DE31604
4,4´-DDT	ND (0.0035)		8081B		1	05/17/23 22:08	D3E0321	DE31604
Aldrin	ND (0.0035)		8081B		1	05/17/23 22:08	D3E0321	DE31604
alpha-BHC	ND (0.0035)		8081B		1	05/17/23 22:08	D3E0321	DE31604
alpha-Chlordane	ND (0.0035)		8081B		1	05/17/23 22:08	D3E0321	DE31604
beta-BHC	ND (0.0035)		8081B		1	05/17/23 22:08	D3E0321	DE31604
Chlordane (Total)	ND (0.0418)		8081B		1	05/17/23 22:08	D3E0321	DE31604
delta-BHC	ND (0.0035)		8081B		1	05/17/23 22:08	D3E0321	DE31604
Dieldrin	ND (0.0035)		8081B		1	05/17/23 22:08	D3E0321	DE31604
Endosulfan I	ND (0.0035)		8081B		1	05/17/23 22:08	D3E0321	DE31604
Endosulfan II	ND (0.0035)		8081B		1	05/17/23 22:08	D3E0321	DE31604
Endosulfan Sulfate	ND (0.0035)		8081B		1	05/17/23 22:08	D3E0321	DE31604
Endrin	ND (0.0035)		8081B		1	05/17/23 22:08	D3E0321	DE31604
Endrin Aldehyde	ND (0.0035)		8081B		1	05/17/23 22:08	D3E0321	DE31604
Endrin Ketone	ND (0.0035)		8081B		1	05/17/23 22:08	D3E0321	DE31604
gamma-BHC (Lindane)	ND (0.0021)		8081B		1	05/17/23 22:08	D3E0321	DE31604
gamma-Chlordane	ND (0.0035)		8081B		1	05/17/23 22:08	D3E0321	DE31604
Heptachlor	ND (0.0035)		8081B		1	05/17/23 22:08	D3E0321	DE31604
Heptachlor Epoxide	ND (0.0035)		8081B		1	05/17/23 22:08	D3E0321	DE31604
Hexachlorobenzene [2C]	ND (0.0035)		8081B		1	05/17/23 22:08	D3E0321	DE31604
Methoxychlor	ND (0.0035)		8081B		1	05/17/23 22:08	D3E0321	DE31604
Toxaphene	ND (0.174)		8081B		1	05/17/23 22:08	D3E0321	DE31604

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*45 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*59 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*42 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*43 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119 6-10ft
Date Sampled: 05/10/23 11:00
Percent Solids: 74
Initial Volume: 20.3g
Final Volume: 10ml
Extraction Method: 3540C

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JLG
Prepared: 5/17/23 11:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	05/19/23 15:31		DE31938
Aroclor 1221	ND (0.07)		8082A		1	05/19/23 15:31		DE31938
Aroclor 1232	ND (0.07)		8082A		1	05/19/23 15:31		DE31938
Aroclor 1242	ND (0.07)		8082A		1	05/19/23 15:31		DE31938
Aroclor 1248	ND (0.07)		8082A		1	05/19/23 15:31		DE31938
Aroclor 1254	ND (0.07)		8082A		1	05/19/23 15:31		DE31938
Aroclor 1260	ND (0.07)		8082A		1	05/19/23 15:31		DE31938
Aroclor 1262	ND (0.07)		8082A		1	05/19/23 15:31		DE31938
Aroclor 1268	ND (0.07)		8082A		1	05/19/23 15:31		DE31938

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*69 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*74 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*56 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*65 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119 6-10ft
Date Sampled: 05/10/23 11:00
Percent Solids: 74
Initial Volume: 19g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 5/15/23 12:00

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**303** (14.3)		8100M		1	05/16/23 2:35		DE31517

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*63 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119 6-10ft
Date Sampled: 05/10/23 11:00
Percent Solids: 74
Initial Volume: 10.3g
Final Volume: 4ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 5/17/23 16:15

8151A Chlorinated Herbicides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2,4,5-T	**P, LC 0.311** (0.125)		8151A		10	05/22/23 9:42	D3E0380	DE31741
2,4,5-TP (Silvex)	ND (0.013)		8151A		1	05/19/23 17:28	D3E0380	DE31741
2,4-D	ND (0.062)		8151A		1	05/19/23 17:28	D3E0380	DE31741
2,4-DB	ND (0.063)		8151A		1	05/19/23 17:28	D3E0380	DE31741
Dalapon	ND (0.060)		8151A		1	05/19/23 17:28	D3E0380	DE31741
Dicamba	ND (0.012)		8151A		1	05/19/23 17:28	D3E0380	DE31741
Dichlorprop	**P, LC 2.63** (0.620)		8151A		10	05/22/23 9:42	D3E0380	DE31741
Dinoseb	ND (0.063)		8151A		1	05/19/23 17:28	D3E0380	DE31741
MCPA	ND (3.07)		8151A		1	05/19/23 17:28	D3E0380	DE31741
MCPP	ND (3.10)		8151A		1	05/19/23 17:28	D3E0380	DE31741

	%Recovery	Qualifier	Limits
Surrogate: DCAA	*95 %*		*30-150*
Surrogate: DCAA [2C]	*76 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119 6-10ft
Date Sampled: 05/10/23 11:00
Percent Solids: 74
Initial Volume: 19.2g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 5/15/23 11:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1-Biphenyl	**0.397** (0.035)		8270D		1	05/15/23 22:12	D3E0293	DE31516
1,2,4-Trichlorobenzene	ND (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
1,2-Dichlorobenzene	ND (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
1,3-Dichlorobenzene	ND (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
1,4-Dichlorobenzene	ND (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
2,4,5-Trichlorophenol	ND (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
2,4,6-Trichlorophenol	ND (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
2,4-Dichlorophenol	ND (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
2,4-Dimethylphenol	ND (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
2,4-Dinitrophenol	ND (1.41)		8270D		1	05/15/23 22:12	D3E0293	DE31516
2,4-Dinitrotoluene	ND (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
2,6-Dinitrotoluene	ND (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
2-Chloronaphthalene	ND (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
2-Chlorophenol	ND (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
2-Methylnaphthalene	**1.62** (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
2-Methylphenol	ND (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
2-Nitrophenol	ND (0.707)		8270D		1	05/15/23 22:12	D3E0293	DE31516
3,3´-Dichlorobenzidine	ND (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
3+4-Methylphenol	**0.589** (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
4-Bromophenyl-phenylether	ND (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
4-Chloroaniline	ND (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
4-Nitrophenol	ND (1.41)		8270D		1	05/15/23 22:12	D3E0293	DE31516
Acenaphthene	**2.78** (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
Acenaphthylene	**0.544** (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
Acetophenone	ND (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
Aniline	ND (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
Anthracene	**6.01** (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
Azobenzene	ND (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
Benzo(a)anthracene	**7.71** (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
Benzo(a)pyrene	**7.09** (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
Benzo(b)fluoranthene	**5.20** (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
Benzo(g,h,i)perylene	**2.81** (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119 6-10ft
Date Sampled: 05/10/23 11:00
Percent Solids: 74
Initial Volume: 19.2g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 5/15/23 11:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Benzo(k)fluoranthene	**4.74** (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
bis(2-Chloroethoxy)methane	ND (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
bis(2-Chloroethyl)ether	ND (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
bis(2-chloroisopropyl)Ether	ND (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
bis(2-Ethylhexyl)phthalate	ND (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
Butylbenzylphthalate	ND (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
Chrysene	**7.23** (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
Dibenzo(a,h)Anthracene	**0.944** (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
Dibenzofuran	**2.37** (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
Diethylphthalate	ND (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
Dimethylphthalate	ND (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
Di-n-butylphthalate	ND (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
Di-n-octylphthalate	ND (0.707)		8270D		1	05/15/23 22:12	D3E0293	DE31516
Fluoranthene	**15.2** (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
Fluorene	**3.38** (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
Hexachlorobenzene	ND (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
Hexachlorobutadiene	ND (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
Hexachloroethane	ND (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
Indeno(1,2,3-cd)Pyrene	**3.56** (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
Isophorone	ND (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
Naphthalene	**3.35** (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
Nitrobenzene	ND (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
N-Nitrosodimethylamine	ND (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
Pentachlorophenol	ND (1.41)		8270D		1	05/15/23 22:12	D3E0293	DE31516
Phenanthrene	**21.6** (3.54)		8270D		10	05/16/23 21:05	D3E0293	DE31516
Phenol	ND (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516
Pyrene	**17.1** (0.354)		8270D		1	05/15/23 22:12	D3E0293	DE31516

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichlorobenzene-d4	*78 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*94 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*79 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119 6-10ft
Date Sampled: 05/10/23 11:00
Percent Solids: 74
Initial Volume: 19.2g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 5/15/23 11:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Fluorobiphenyl		*79 %*		*30-130*				
Surrogate: 2-Fluorophenol		*73 %*		*30-130*				
Surrogate: Nitrobenzene-d5		*75 %*		*30-130*				
Surrogate: Phenol-d6		*72 %*		*30-130*				
Surrogate: p-Terphenyl-d14		*112 %*		*30-130*				

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119 6-10ft
Date Sampled: 05/10/23 11:00
Percent Solids: 74

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-12
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Conductivity	**WL 1740** (5)		9050A		1	EAM	05/15/23 20:20	umhos/cm	DE31563
Corrosivity (pH)	**7.62** (N/A)		9045		1	EAM	05/12/23 19:05	S.U.	DE31237
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 20.3 ºC.**								
Flashpoint	**> 200** (N/A)		1010A		1	LAB	05/16/23 14:34	°F	DE31624
Reactive Cyanide	ND (2.0)		7.3.3.2		1	JLK	05/16/23 16:06	mg/kg	DE31633
Reactive Sulfide	ND (2.0)		7.3.4.1		1	JLK	05/16/23 16:06	mg/kg	DE31633

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119 6-10ft
Date Sampled: 05/10/23 11:00
Percent Solids: 74
Initial Volume: 100g
Final Volume: 2000ml
Extraction Method: 1311

ESS Laboratory Work Order: 23E0489
ESS Laboratory Sample ID: 23E0489-12
Sample Matrix: Soil
Units: °C
Analyst: YIV
Prepared: 5/19/23 17:30

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**23.1** (N/A)		1311		1	YIV	05/20/23 9:30	DE31952
Temperature (Max C)	**23.4** (N/A)		1311		1	YIV	05/20/23 9:30	DE31952
Temperature (Range)	**Temperature is within 23 +/-2 ºC.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0489

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch DE31626 - 3050B										
Blank										
Arsenic	ND	1.75	mg/kg wet							
Barium	ND	1.75	mg/kg wet							
Cadmium	ND	0.35	mg/kg wet							
Chromium	ND	0.70	mg/kg wet							
Lead	ND	3.51	mg/kg wet							
Selenium	ND	3.51	mg/kg wet							
Silver	ND	0.35	mg/kg wet							
LCS										
Arsenic	265	7.35	mg/kg wet	258.0		103	80-120			
Barium	762	7.35	mg/kg wet	809.0		94	80-120			
Cadmium	320	1.47	mg/kg wet	321.0		100	80-120			
Chromium	124	2.94	mg/kg wet	133.0		93	80-120			
Lead	105	14.7	mg/kg wet	102.0		103	80-120			
Selenium	52.1	14.7	mg/kg wet	49.40		105	80-120			
Silver	24.6	1.47	mg/kg wet	22.70		108	80-120			
LCS Dup										
Arsenic	262	7.81	mg/kg wet	258.0		102	80-120	0.9	30	
Barium	844	7.81	mg/kg wet	809.0		104	80-120	10	30	
Cadmium	318	1.56	mg/kg wet	321.0		99	80-120	0.8	30	
Chromium	122	3.12	mg/kg wet	133.0		91	80-120	2	30	
Lead	105	15.6	mg/kg wet	102.0		103	80-120	0.4	20	
Selenium	51.9	15.6	mg/kg wet	49.40		105	80-120	0.4	30	
Silver	24.6	1.56	mg/kg wet	22.70		108	80-120	0.1	30	
Batch DE31640 - 7471A										
Blank										
Mercury	ND	0.033	mg/kg wet							
LCS										
Mercury	18.4	3.19	mg/kg wet	18.20		101	80-120			
LCS Dup										
Mercury	18.5	2.96	mg/kg wet	18.20		102	80-120	0.5	30	
1311 TCLP Metals										
Batch DE32206 - 3005A_TCLP										
Blank										
Lead	ND	0.050	mg/L							
LCS										

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23E0489

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
1311 TCLP Metals										
Batch DE32206 - 3005A_TCLP										
Lead	0.468	0.050	mg/L	0.5000		94	80-120			
LCS Dup										
Lead	0.482	0.050	mg/L	0.5000		96	80-120	3	20	
Batch DE32335 - 3005A_TCLP										
Blank										
Lead	ND	0.050	mg/L							
LCS										
Lead	0.497	0.050	mg/L	0.5000		99	80-120			
LCS Dup										
Lead	0.499	0.050	mg/L	0.5000		100	80-120	0.5	20	
Batch DE33032 - 7470A_TCLP										
Blank										
Mercury	ND	0.00050	mg/L							
Blank										
Mercury	ND	0.00050	mg/L							
LCS										
Mercury	0.00618	0.00050	mg/L	0.006000		103	80-120			
LCS Dup										
Mercury	0.00592	0.00050	mg/L	0.006000		99	80-120	4	20	
Batch DE33123 - 3005A_TCLP										
Blank										
Lead	ND	0.050	mg/L							
LCS										
Lead	0.478	0.050	mg/L	0.5000		96	80-120			
LCS Dup										
Lead	0.491	0.050	mg/L	0.5000		98	80-120	3	20	
5035/8260B Volatile Organic Compounds / Low Level										
Batch DE31504 - 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	0.0050	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							

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0489

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 DE31504 - 5035										
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	0.0800	mg/kg wet							
2,2-Dichloropropane	ND	0.0050	mg/kg wet							
2-Butanone	ND	0.0500	mg/kg wet							
2-Chlorotoluene	ND	0.0050	mg/kg wet							
2-Hexanone	ND	0.0500	mg/kg wet							
4-Chlorotoluene	ND	0.0050	mg/kg wet							
4-Isopropyltoluene	ND	0.0050	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.0500	mg/kg wet							
Acetone	ND	0.0500	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	0.0050	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	0.0250	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23E0489

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 DE31504 - 5035										
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	0.0200	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	*0.0546*		mg/kg wet	*0.05000*		*109*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0464*		mg/kg wet	*0.05000*		*93*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0491*		mg/kg wet	*0.05000*		*98*	*70-130*			
Surrogate: Toluene-d8	*0.0486*		mg/kg wet	*0.05000*		*97*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	0.0424	0.0050	mg/kg wet	0.05000		85	70-130			
1,1,1-Trichloroethane	0.0432	0.0050	mg/kg wet	0.05000		86	70-130			
1,1,2,2-Tetrachloroethane	0.0444	0.0050	mg/kg wet	0.05000		89	70-130			
1,1,2-Trichloroethane	0.0424	0.0050	mg/kg wet	0.05000		85	70-130			
1,1-Dichloroethane	0.0429	0.0050	mg/kg wet	0.05000		86	70-130			
1,1-Dichloroethene	0.0452	0.0050	mg/kg wet	0.05000		90	70-130			
1,1-Dichloropropene	0.0453	0.0050	mg/kg wet	0.05000		91	70-130			
1,2,3-Trichlorobenzene	0.0451	0.0050	mg/kg wet	0.05000		90	70-130			
1,2,3-Trichloropropane	0.0434	0.0050	mg/kg wet	0.05000		87	70-130			
1,2,4-Trichlorobenzene	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			
1,2,4-Trimethylbenzene	0.0437	0.0050	mg/kg wet	0.05000		87	70-130			
1,2-Dibromo-3-Chloropropane	0.0380	0.0050	mg/kg wet	0.05000		76	70-130			
1,2-Dibromoethane	0.0422	0.0050	mg/kg wet	0.05000		84	70-130			
1,2-Dichlorobenzene	0.0433	0.0050	mg/kg wet	0.05000		87	70-130			
1,2-Dichloroethane	0.0449	0.0050	mg/kg wet	0.05000		90	70-130			
1,2-Dichloropropane	0.0436	0.0050	mg/kg wet	0.05000		87	70-130			
1,3,5-Trimethylbenzene	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			
1,3-Dichlorobenzene	0.0450	0.0050	mg/kg wet	0.05000		90	70-130			
1,3-Dichloropropane	0.0444	0.0050	mg/kg wet	0.05000		89	70-130			
1,4-Dichlorobenzene	0.0456	0.0050	mg/kg wet	0.05000		91	70-130			
1,4-Dioxane	0.827	0.0800	mg/kg wet	1.000		83	70-130			
2,2-Dichloropropane	0.0427	0.0050	mg/kg wet	0.05000		85	70-130			
2-Butanone	0.219	0.0500	mg/kg wet	0.2500		88	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0489

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 DE31504 - 5035										
2-Chlorotoluene	0.0448	0.0050	mg/kg wet	0.05000		90	70-130			
2-Hexanone	0.199	0.0500	mg/kg wet	0.2500		80	70-130			
4-Chlorotoluene	0.0451	0.0050	mg/kg wet	0.05000		90	70-130			
4-Isopropyltoluene	0.0444	0.0050	mg/kg wet	0.05000		89	70-130			
4-Methyl-2-Pentanone	0.208	0.0500	mg/kg wet	0.2500		83	70-130			
Acetone	0.212	0.0500	mg/kg wet	0.2500		85	70-130			
Benzene	0.0441	0.0050	mg/kg wet	0.05000		88	70-130			
Bromobenzene	0.0446	0.0050	mg/kg wet	0.05000		89	70-130			
Bromochloromethane	0.0448	0.0050	mg/kg wet	0.05000		90	70-130			
Bromodichloromethane	0.0435	0.0050	mg/kg wet	0.05000		87	70-130			
Bromoform	0.0327	0.0050	mg/kg wet	0.05000		65	70-130			B-
Bromomethane	0.0487	0.0100	mg/kg wet	0.05000		97	70-130			
Carbon Disulfide	0.0472	0.0050	mg/kg wet	0.05000		94	70-130			
Carbon Tetrachloride	0.0432	0.0050	mg/kg wet	0.05000		86	70-130			
Chlorobenzene	0.0425	0.0050	mg/kg wet	0.05000		85	70-130			
Chloroethane	0.0469	0.0100	mg/kg wet	0.05000		94	70-130			
Chloroform	0.0433	0.0050	mg/kg wet	0.05000		87	70-130			
Chloromethane	0.0406	0.0100	mg/kg wet	0.05000		81	70-130			
cis-1,2-Dichloroethene	0.0445	0.0050	mg/kg wet	0.05000		89	70-130			
cis-1,3-Dichloropropene	0.0417	0.0050	mg/kg wet	0.05000		83	70-130			
Dibromochloromethane	0.0365	0.0050	mg/kg wet	0.05000		73	70-130			
Dibromomethane	0.0437	0.0050	mg/kg wet	0.05000		87	70-130			
Dichlorodifluoromethane	0.0370	0.0100	mg/kg wet	0.05000		74	70-130			
Diethyl Ether	0.0506	0.0050	mg/kg wet	0.05000		101	70-130			
Di-isopropyl ether	0.0461	0.0050	mg/kg wet	0.05000		92	70-130			
Ethyl tertiary-butyl ether	0.0439	0.0050	mg/kg wet	0.05000		88	70-130			
Ethylbenzene	0.0415	0.0050	mg/kg wet	0.05000		83	70-130			
Hexachlorobutadiene	0.0446	0.0050	mg/kg wet	0.05000		89	70-130			
Isopropylbenzene	0.0450	0.0050	mg/kg wet	0.05000		90	70-130			
Methyl tert-Butyl Ether	0.0433	0.0050	mg/kg wet	0.05000		87	70-130			
Methylene Chloride	0.0430	0.0250	mg/kg wet	0.05000		86	70-130			
Naphthalene	0.0392	0.0050	mg/kg wet	0.05000		78	70-130			
n-Butylbenzene	0.0446	0.0050	mg/kg wet	0.05000		89	70-130			
n-Propylbenzene	0.0449	0.0050	mg/kg wet	0.05000		90	70-130			
sec-Butylbenzene	0.0425	0.0050	mg/kg wet	0.05000		85	70-130			
Styrene	0.0417	0.0050	mg/kg wet	0.05000		83	70-130			
tert-Butylbenzene	0.0448	0.0050	mg/kg wet	0.05000		90	70-130			
Tertiary-amyl methyl ether	0.0421	0.0050	mg/kg wet	0.05000		84	70-130			
Tetrachloroethene	0.0431	0.0050	mg/kg wet	0.05000		86	70-130			
Tetrahydrofuran	0.0407	0.0200	mg/kg wet	0.05000		81	70-130			
Toluene	0.0434	0.0050	mg/kg wet	0.05000		87	70-130			
trans-1,2-Dichloroethene	0.0440	0.0050	mg/kg wet	0.05000		88	70-130			
trans-1,3-Dichloropropene	0.0380	0.0050	mg/kg wet	0.05000		76	70-130			
Trichloroethene	0.0440	0.0050	mg/kg wet	0.05000		88	70-130			
Trichlorofluoromethane	0.0435	0.0050	mg/kg wet	0.05000		87	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
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ESS Laboratory Work Order: 23E0489

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 DE31504 - 5035										
Vinyl Chloride	0.0459	0.0100	mg/kg wet	0.05000		92	70-130			
Xylene O	0.0437	0.0050	mg/kg wet	0.05000		87	70-130			
Xylene P,M	0.0881	0.0100	mg/kg wet	0.1000		88	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0501*		mg/kg wet	*0.05000*		*100*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0471*		mg/kg wet	*0.05000*		*94*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0500*		mg/kg wet	*0.05000*		*100*	*70-130*			
Surrogate: Toluene-d8	*0.0497*		mg/kg wet	*0.05000*		*99*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	0.0443	0.0050	mg/kg wet	0.05000		89	70-130	4	20	
1,1,1-Trichloroethane	0.0453	0.0050	mg/kg wet	0.05000		91	70-130	5	20	
1,1,2,2-Tetrachloroethane	0.0448	0.0050	mg/kg wet	0.05000		90	70-130	0.9	20	
1,1,2-Trichloroethane	0.0441	0.0050	mg/kg wet	0.05000		88	70-130	4	20	
1,1-Dichloroethane	0.0456	0.0050	mg/kg wet	0.05000		91	70-130	6	20	
1,1-Dichloroethene	0.0472	0.0050	mg/kg wet	0.05000		94	70-130	4	20	
1,1-Dichloropropene	0.0476	0.0050	mg/kg wet	0.05000		95	70-130	5	20	
1,2,3-Trichlorobenzene	0.0461	0.0050	mg/kg wet	0.05000		92	70-130	2	20	
1,2,3-Trichloropropane	0.0433	0.0050	mg/kg wet	0.05000		87	70-130	0.2	20	
1,2,4-Trichlorobenzene	0.0458	0.0050	mg/kg wet	0.05000		92	70-130	0.9	20	
1,2,4-Trimethylbenzene	0.0452	0.0050	mg/kg wet	0.05000		90	70-130	4	20	
1,2-Dibromo-3-Chloropropane	0.0380	0.0050	mg/kg wet	0.05000		76	70-130	0.2	20	
1,2-Dibromoethane	0.0434	0.0050	mg/kg wet	0.05000		87	70-130	3	20	
1,2-Dichlorobenzene	0.0447	0.0050	mg/kg wet	0.05000		89	70-130	3	20	
1,2-Dichloroethane	0.0472	0.0050	mg/kg wet	0.05000		94	70-130	5	20	
1,2-Dichloropropane	0.0461	0.0050	mg/kg wet	0.05000		92	70-130	6	20	
1,3,5-Trimethylbenzene	0.0468	0.0050	mg/kg wet	0.05000		94	70-130	3	20	
1,3-Dichlorobenzene	0.0452	0.0050	mg/kg wet	0.05000		90	70-130	0.3	20	
1,3-Dichloropropane	0.0461	0.0050	mg/kg wet	0.05000		92	70-130	4	20	
1,4-Dichlorobenzene	0.0478	0.0050	mg/kg wet	0.05000		96	70-130	5	20	
1,4-Dioxane	0.821	0.0800	mg/kg wet	1.000		82	70-130	0.7	20	
2,2-Dichloropropane	0.0446	0.0050	mg/kg wet	0.05000		89	70-130	4	20	
2-Butanone	0.223	0.0500	mg/kg wet	0.2500		89	70-130	2	20	
2-Chlorotoluene	0.0462	0.0050	mg/kg wet	0.05000		92	70-130	3	20	
2-Hexanone	0.198	0.0500	mg/kg wet	0.2500		79	70-130	0.7	20	
4-Chlorotoluene	0.0467	0.0050	mg/kg wet	0.05000		93	70-130	4	20	
4-Isopropyltoluene	0.0460	0.0050	mg/kg wet	0.05000		92	70-130	4	20	
4-Methyl-2-Pentanone	0.208	0.0500	mg/kg wet	0.2500		83	70-130	0.2	20	
Acetone	0.212	0.0500	mg/kg wet	0.2500		85	70-130	0.2	20	
Benzene	0.0463	0.0050	mg/kg wet	0.05000		93	70-130	5	20	
Bromobenzene	0.0463	0.0050	mg/kg wet	0.05000		93	70-130	4	20	
Bromochloromethane	0.0466	0.0050	mg/kg wet	0.05000		93	70-130	4	20	
Bromodichloromethane	0.0458	0.0050	mg/kg wet	0.05000		92	70-130	5	20	
Bromoform	0.0332	0.0050	mg/kg wet	0.05000		66	70-130	2	20	B-
Bromomethane	0.0516	0.0100	mg/kg wet	0.05000		103	70-130	6	20	
Carbon Disulfide	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	5	20	
Carbon Tetrachloride	0.0453	0.0050	mg/kg wet	0.05000		91	70-130	5	20	

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Client Name: Tetra Tech, 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 DE31504 - 5035										
Chlorobenzene	0.0443	0.0050	mg/kg wet	0.05000		89	70-130	4	20	
Chloroethane	0.0493	0.0100	mg/kg wet	0.05000		99	70-130	5	20	
Chloroform	0.0457	0.0050	mg/kg wet	0.05000		91	70-130	5	20	
Chloromethane	0.0441	0.0100	mg/kg wet	0.05000		88	70-130	8	20	
cis-1,2-Dichloroethene	0.0469	0.0050	mg/kg wet	0.05000		94	70-130	5	20	
cis-1,3-Dichloropropene	0.0432	0.0050	mg/kg wet	0.05000		86	70-130	4	20	
Dibromochloromethane	0.0376	0.0050	mg/kg wet	0.05000		75	70-130	3	20	
Dibromomethane	0.0451	0.0050	mg/kg wet	0.05000		90	70-130	3	20	
Dichlorodifluoromethane	0.0390	0.0100	mg/kg wet	0.05000		78	70-130	5	20	
Diethyl Ether	0.0530	0.0050	mg/kg wet	0.05000		106	70-130	5	20	
Di-isopropyl ether	0.0484	0.0050	mg/kg wet	0.05000		97	70-130	5	20	
Ethyl tertiary-butyl ether	0.0457	0.0050	mg/kg wet	0.05000		91	70-130	4	20	
Ethylbenzene	0.0436	0.0050	mg/kg wet	0.05000		87	70-130	5	20	
Hexachlorobutadiene	0.0462	0.0050	mg/kg wet	0.05000		92	70-130	4	20	
Isopropylbenzene	0.0467	0.0050	mg/kg wet	0.05000		93	70-130	4	20	
Methyl tert-Butyl Ether	0.0451	0.0050	mg/kg wet	0.05000		90	70-130	4	20	
Methylene Chloride	0.0451	0.0250	mg/kg wet	0.05000		90	70-130	5	20	
Naphthalene	0.0395	0.0050	mg/kg wet	0.05000		79	70-130	0.7	20	
n-Butylbenzene	0.0458	0.0050	mg/kg wet	0.05000		92	70-130	3	20	
n-Propylbenzene	0.0463	0.0050	mg/kg wet	0.05000		93	70-130	3	20	
sec-Butylbenzene	0.0440	0.0050	mg/kg wet	0.05000		88	70-130	4	20	
Styrene	0.0435	0.0050	mg/kg wet	0.05000		87	70-130	4	20	
tert-Butylbenzene	0.0464	0.0050	mg/kg wet	0.05000		93	70-130	4	20	
Tertiary-amyl methyl ether	0.0438	0.0050	mg/kg wet	0.05000		88	70-130	4	20	
Tetrachloroethene	0.0452	0.0050	mg/kg wet	0.05000		90	70-130	5	20	
Tetrahydrofuran	0.0407	0.0200	mg/kg wet	0.05000		81	70-130	0.05	20	
Toluene	0.0454	0.0050	mg/kg wet	0.05000		91	70-130	5	20	
trans-1,2-Dichloroethene	0.0467	0.0050	mg/kg wet	0.05000		93	70-130	6	20	
trans-1,3-Dichloropropene	0.0393	0.0050	mg/kg wet	0.05000		79	70-130	3	20	
Trichloroethene	0.0464	0.0050	mg/kg wet	0.05000		93	70-130	5	20	
Trichlorofluoromethane	0.0457	0.0050	mg/kg wet	0.05000		91	70-130	5	20	
Vinyl Chloride	0.0487	0.0100	mg/kg wet	0.05000		97	70-130	6	20	
Xylene O	0.0452	0.0050	mg/kg wet	0.05000		90	70-130	3	20	
Xylene P,M	0.0916	0.0100	mg/kg wet	0.1000		92	70-130	4	20	
Surrogate: 1,2-Dichloroethane-d4	*0.0515*		mg/kg wet	*0.05000*		*103*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0476*		mg/kg wet	*0.05000*		*95*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0515*		mg/kg wet	*0.05000*		*103*	*70-130*			
Surrogate: Toluene-d8	*0.0500*		mg/kg wet	*0.05000*		*100*	*70-130*			
8081B Organochlorine Pesticides										
Batch DE31604 - 3546										
Blank										
4,4´-DDD	ND	0.0025	mg/kg wet							
4,4´-DDD [2C]	ND	0.0025	mg/kg wet							
4,4´-DDE	ND	0.0025	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0489

Quality Control Data

8081B Organochlorine Pesticides

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch DE31604 - 3546										
4,4´-DDE [2C]	ND	0.0025	mg/kg wet							
4,4´-DDT	ND	0.0025	mg/kg wet							
4,4´-DDT [2C]	ND	0.0025	mg/kg wet							
Aldrin	ND	0.0025	mg/kg wet							
Aldrin [2C]	ND	0.0025	mg/kg wet							
alpha-BHC	ND	0.0025	mg/kg wet							
alpha-BHC [2C]	ND	0.0025	mg/kg wet							
alpha-Chlordane	ND	0.0025	mg/kg wet							
alpha-Chlordane [2C]	ND	0.0025	mg/kg wet							
beta-BHC	ND	0.0025	mg/kg wet							
beta-BHC [2C]	ND	0.0025	mg/kg wet							
Chlordane (Total)	ND	0.0300	mg/kg wet							
Chlordane (Total) [2C]	ND	0.0300	mg/kg wet							
delta-BHC	ND	0.0025	mg/kg wet							
delta-BHC [2C]	ND	0.0025	mg/kg wet							
Dieldrin	ND	0.0025	mg/kg wet							
Dieldrin [2C]	ND	0.0025	mg/kg wet							
Endosulfan I	ND	0.0025	mg/kg wet							
Endosulfan I [2C]	ND	0.0025	mg/kg wet							
Endosulfan II	ND	0.0025	mg/kg wet							
Endosulfan II [2C]	ND	0.0025	mg/kg wet							
Endosulfan Sulfate	ND	0.0025	mg/kg wet							
Endosulfan Sulfate [2C]	ND	0.0025	mg/kg wet							
Endrin	ND	0.0025	mg/kg wet							
Endrin [2C]	ND	0.0025	mg/kg wet							
Endrin Aldehyde	ND	0.0025	mg/kg wet							
Endrin Aldehyde [2C]	ND	0.0025	mg/kg wet							
Endrin Ketone	ND	0.0025	mg/kg wet							
Endrin Ketone [2C]	ND	0.0025	mg/kg wet							
gamma-BHC (Lindane)	ND	0.0015	mg/kg wet							
gamma-BHC (Lindane) [2C]	ND	0.0015	mg/kg wet							
gamma-Chlordane	ND	0.0025	mg/kg wet							
gamma-Chlordane [2C]	ND	0.0025	mg/kg wet							
Heptachlor	ND	0.0025	mg/kg wet							
Heptachlor [2C]	ND	0.0025	mg/kg wet							
Heptachlor Epoxide	ND	0.0025	mg/kg wet							
Heptachlor Epoxide [2C]	ND	0.0025	mg/kg wet							
Hexachlorobenzene	ND	0.0025	mg/kg wet							
Hexachlorobenzene [2C]	ND	0.0025	mg/kg wet							
Methoxychlor	ND	0.0025	mg/kg wet							
Methoxychlor [2C]	ND	0.0025	mg/kg wet							
Toxaphene	ND	0.125	mg/kg wet							
Toxaphene [2C]	ND	0.125	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0126*		mg/kg wet	*0.01250*		*100*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0116*		mg/kg wet	*0.01250*		*93*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
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Quality Control Data

8081B Organochlorine Pesticides

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch DE31604 - 3546										
Surrogate: Tetrachloro-m-xylene	*0.0116*		mg/kg wet	*0.01250*		*93*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0106*		mg/kg wet	*0.01250*		*84*	*30-150*			
LCS										
4,4´-DDD	0.0114	0.0025	mg/kg wet	0.01250		91	40-140			
4,4´-DDD [2C]	0.0122	0.0025	mg/kg wet	0.01250		98	40-140			
4,4´-DDE	0.0129	0.0025	mg/kg wet	0.01250		103	40-140			
4,4´-DDE [2C]	0.0126	0.0025	mg/kg wet	0.01250		101	40-140			
4,4´-DDT	0.0149	0.0025	mg/kg wet	0.01250		119	40-140			
4,4´-DDT [2C]	0.0147	0.0025	mg/kg wet	0.01250		118	40-140			
Aldrin	0.0128	0.0025	mg/kg wet	0.01250		103	40-140			
Aldrin [2C]	0.0123	0.0025	mg/kg wet	0.01250		99	40-140			
alpha-BHC	0.0123	0.0025	mg/kg wet	0.01250		99	40-140			
alpha-BHC [2C]	0.0121	0.0025	mg/kg wet	0.01250		96	40-140			
alpha-Chlordane	0.0120	0.0025	mg/kg wet	0.01250		96	40-140			
alpha-Chlordane [2C]	0.0120	0.0025	mg/kg wet	0.01250		96	40-140			
beta-BHC	0.0123	0.0025	mg/kg wet	0.01250		99	40-140			
beta-BHC [2C]	0.0108	0.0025	mg/kg wet	0.01250		86	40-140			
delta-BHC	0.0387	0.0025	mg/kg wet	0.01250		309	40-140			B+, E
delta-BHC [2C]	0.0132	0.0025	mg/kg wet	0.01250		105	40-140			
Dieldrin	0.0128	0.0025	mg/kg wet	0.01250		102	40-140			
Dieldrin [2C]	0.0132	0.0025	mg/kg wet	0.01250		106	40-140			
Endosulfan I	0.0111	0.0025	mg/kg wet	0.01250		88	40-140			
Endosulfan I [2C]	0.0119	0.0025	mg/kg wet	0.01250		95	40-140			
Endosulfan II	0.0125	0.0025	mg/kg wet	0.01250		100	40-140			
Endosulfan II [2C]	0.0129	0.0025	mg/kg wet	0.01250		103	40-140			
Endosulfan Sulfate	0.0114	0.0025	mg/kg wet	0.01250		91	40-140			
Endosulfan Sulfate [2C]	0.0125	0.0025	mg/kg wet	0.01250		100	40-140			
Endrin	0.0123	0.0025	mg/kg wet	0.01250		98	40-140			
Endrin [2C]	0.0125	0.0025	mg/kg wet	0.01250		100	40-140			
Endrin Aldehyde	0.0128	0.0025	mg/kg wet	0.01250		102	40-140			
Endrin Aldehyde [2C]	0.0129	0.0025	mg/kg wet	0.01250		103	40-140			
Endrin Ketone	0.0130	0.0025	mg/kg wet	0.01250		104	40-140			
Endrin Ketone [2C]	0.0130	0.0025	mg/kg wet	0.01250		104	40-140			
gamma-BHC (Lindane)	0.0123	0.0015	mg/kg wet	0.01250		99	40-140			
gamma-BHC (Lindane) [2C]	0.0125	0.0015	mg/kg wet	0.01250		100	40-140			
gamma-Chlordane	0.0111	0.0025	mg/kg wet	0.01250		89	40-140			
gamma-Chlordane [2C]	0.0121	0.0025	mg/kg wet	0.01250		97	40-140			
Heptachlor	0.0125	0.0025	mg/kg wet	0.01250		100	40-140			
Heptachlor [2C]	0.0123	0.0025	mg/kg wet	0.01250		99	40-140			
Heptachlor Epoxide	0.0121	0.0025	mg/kg wet	0.01250		96	40-140			
Heptachlor Epoxide [2C]	0.0120	0.0025	mg/kg wet	0.01250		96	40-140			
Hexachlorobenzene	0.0122	0.0025	mg/kg wet	0.01250		97	40-140			
Hexachlorobenzene [2C]	0.0119	0.0025	mg/kg wet	0.01250		95	40-140			
Methoxychlor	0.0130	0.0025	mg/kg wet	0.01250		104	40-140			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
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Quality Control Data

8081B Organochlorine Pesticides

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch DE31604 - 3546										
Methoxychlor [2C]	0.0122	0.0025	mg/kg wet	0.01250		97	40-140			
Surrogate: Decachlorobiphenyl	*0.0131*		mg/kg wet	*0.01250*		*105*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0122*		mg/kg wet	*0.01250*		*97*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0131*		mg/kg wet	*0.01250*		*105*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0119*		mg/kg wet	*0.01250*		*95*	*30-150*			
LCS Dup										
4,4´-DDD	0.0108	0.0025	mg/kg wet	0.01250		86	40-140	6	30	
4,4´-DDD [2C]	0.0111	0.0025	mg/kg wet	0.01250		89	40-140	9	30	
4,4´-DDE	0.0118	0.0025	mg/kg wet	0.01250		94	40-140	9	30	
4,4´-DDE [2C]	0.0114	0.0025	mg/kg wet	0.01250		91	40-140	10	30	
4,4´-DDT	0.0134	0.0025	mg/kg wet	0.01250		107	40-140	11	30	
4,4´-DDT [2C]	0.0129	0.0025	mg/kg wet	0.01250		103	40-140	13	30	
Aldrin	0.0115	0.0025	mg/kg wet	0.01250		92	40-140	11	30	
Aldrin [2C]	0.0112	0.0025	mg/kg wet	0.01250		90	40-140	9	30	
alpha-BHC	0.0110	0.0025	mg/kg wet	0.01250		88	40-140	12	30	
alpha-BHC [2C]	0.0109	0.0025	mg/kg wet	0.01250		87	40-140	10	30	
alpha-Chlordane	0.0109	0.0025	mg/kg wet	0.01250		88	40-140	9	30	
alpha-Chlordane [2C]	0.0110	0.0025	mg/kg wet	0.01250		88	40-140	8	30	
beta-BHC	0.0106	0.0025	mg/kg wet	0.01250		85	40-140	15	30	
beta-BHC [2C]	0.0099	0.0025	mg/kg wet	0.01250		79	40-140	8	30	
delta-BHC	0.0349	0.0025	mg/kg wet	0.01250		279	40-140	10	30	E, B+
delta-BHC [2C]	0.0119	0.0025	mg/kg wet	0.01250		96	40-140	10	30	
Dieldrin	0.0118	0.0025	mg/kg wet	0.01250		94	40-140	8	30	
Dieldrin [2C]	0.0122	0.0025	mg/kg wet	0.01250		97	40-140	8	30	
Endosulfan I	0.0102	0.0025	mg/kg wet	0.01250		82	40-140	8	30	
Endosulfan I [2C]	0.0110	0.0025	mg/kg wet	0.01250		88	40-140	8	30	
Endosulfan II	0.0116	0.0025	mg/kg wet	0.01250		93	40-140	7	30	
Endosulfan II [2C]	0.0119	0.0025	mg/kg wet	0.01250		95	40-140	9	30	
Endosulfan Sulfate	0.0103	0.0025	mg/kg wet	0.01250		82	40-140	11	30	
Endosulfan Sulfate [2C]	0.0112	0.0025	mg/kg wet	0.01250		90	40-140	11	30	
Endrin	0.0113	0.0025	mg/kg wet	0.01250		90	40-140	9	30	
Endrin [2C]	0.0114	0.0025	mg/kg wet	0.01250		91	40-140	10	30	
Endrin Aldehyde	0.0120	0.0025	mg/kg wet	0.01250		96	40-140	6	30	
Endrin Aldehyde [2C]	0.0119	0.0025	mg/kg wet	0.01250		95	40-140	8	30	
Endrin Ketone	0.0119	0.0025	mg/kg wet	0.01250		95	40-140	9	30	
Endrin Ketone [2C]	0.0118	0.0025	mg/kg wet	0.01250		95	40-140	10	30	
gamma-BHC (Lindane)	0.0111	0.0015	mg/kg wet	0.01250		89	40-140	11	30	
gamma-BHC (Lindane) [2C]	0.0112	0.0015	mg/kg wet	0.01250		89	40-140	12	30	
gamma-Chlordane	0.0102	0.0025	mg/kg wet	0.01250		82	40-140	9	30	
gamma-Chlordane [2C]	0.0111	0.0025	mg/kg wet	0.01250		89	40-140	8	30	
Heptachlor	0.0113	0.0025	mg/kg wet	0.01250		91	40-140	10	30	
Heptachlor [2C]	0.0115	0.0025	mg/kg wet	0.01250		92	40-140	7	30	
Heptachlor Epoxide	0.0110	0.0025	mg/kg wet	0.01250		88	40-140	9	30	
Heptachlor Epoxide [2C]	0.0111	0.0025	mg/kg wet	0.01250		89	40-140	8	30	

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8081B Organochlorine Pesticides										
Batch DE31604 - 3546										
Hexachlorobenzene	0.0111	0.0025	mg/kg wet	0.01250		89	40-140	9	30	
Hexachlorobenzene [2C]	0.0108	0.0025	mg/kg wet	0.01250		86	40-140	10	30	
Methoxychlor	0.0114	0.0025	mg/kg wet	0.01250		91	40-140	13	30	
Methoxychlor [2C]	0.0109	0.0025	mg/kg wet	0.01250		87	40-140	11	30	
Surrogate: Decachlorobiphenyl	*0.0121*		mg/kg wet	*0.01250*		*97*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0113*		mg/kg wet	*0.01250*		*90*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0115*		mg/kg wet	*0.01250*		*92*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0105*		mg/kg wet	*0.01250*		*84*	*30-150*			
8082A Polychlorinated Biphenyls (PCB)										
Batch DE31704 - 3540C										
Blank										
Aroclor 1016	ND	0.02	mg/kg wet							
Aroclor 1016 [2C]	ND	0.02	mg/kg wet							
Aroclor 1221	ND	0.02	mg/kg wet							
Aroclor 1221 [2C]	ND	0.02	mg/kg wet							
Aroclor 1232	ND	0.02	mg/kg wet							
Aroclor 1232 [2C]	ND	0.02	mg/kg wet							
Aroclor 1242	ND	0.02	mg/kg wet							
Aroclor 1242 [2C]	ND	0.02	mg/kg wet							
Aroclor 1248	ND	0.02	mg/kg wet							
Aroclor 1248 [2C]	ND	0.02	mg/kg wet							
Aroclor 1254	ND	0.02	mg/kg wet							
Aroclor 1254 [2C]	ND	0.02	mg/kg wet							
Aroclor 1260	ND	0.02	mg/kg wet							
Aroclor 1260 [2C]	ND	0.02	mg/kg wet							
Aroclor 1262	ND	0.02	mg/kg wet							
Aroclor 1262 [2C]	ND	0.02	mg/kg wet							
Aroclor 1268	ND	0.02	mg/kg wet							
Aroclor 1268 [2C]	ND	0.02	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0198*		mg/kg wet	*0.02500*		*79*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0208*		mg/kg wet	*0.02500*		*83*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0193*		mg/kg wet	*0.02500*		*77*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0202*		mg/kg wet	*0.02500*		*81*	*30-150*			
LCS										
Aroclor 1016	0.4	0.02	mg/kg wet	0.5000		72	40-140			
Aroclor 1016 [2C]	0.3	0.02	mg/kg wet	0.5000		69	40-140			
Aroclor 1260	0.3	0.02	mg/kg wet	0.5000		62	40-140			
Aroclor 1260 [2C]	0.3	0.02	mg/kg wet	0.5000		65	40-140			
Surrogate: Decachlorobiphenyl	*0.0198*		mg/kg wet	*0.02500*		*79*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0192*		mg/kg wet	*0.02500*		*77*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0186*		mg/kg wet	*0.02500*		*75*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0188*		mg/kg wet	*0.02500*		*75*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0489

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DE31704 - 3540C										
LCS Dup										
Aroclor 1016	0.4	0.02	mg/kg wet	0.5000		78	40-140	7	30	
Aroclor 1016 [2C]	0.4	0.02	mg/kg wet	0.5000		78	40-140	13	30	
Aroclor 1260	0.4	0.02	mg/kg wet	0.5000		75	40-140	19	30	
Aroclor 1260 [2C]	0.4	0.02	mg/kg wet	0.5000		76	40-140	15	30	
Surrogate: Decachlorobiphenyl	*0.0188*		mg/kg wet	*0.02500*		*75*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0201*		mg/kg wet	*0.02500*		*80*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0204*		mg/kg wet	*0.02500*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0197*		mg/kg wet	*0.02500*		*79*	*30-150*			
Batch DE31938 - 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	*0.0243*		mg/kg wet	*0.02500*		*97*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0255*		mg/kg wet	*0.02500*		*102*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0224*		mg/kg wet	*0.02500*		*90*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0241*		mg/kg wet	*0.02500*		*96*	*30-150*			
LCS										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		101	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		102	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		103	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		105	40-140			
Surrogate: Decachlorobiphenyl	*0.0252*		mg/kg wet	*0.02500*		*101*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0261*		mg/kg wet	*0.02500*		*104*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0260*		mg/kg wet	*0.02500*		*104*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0263*		mg/kg wet	*0.02500*		*105*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0489

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DE31938 - 3540C										
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		82	40-140	21	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		83	40-140	20	30	
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		87	40-140	17	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		90	40-140	16	30	
Surrogate: Decachlorobiphenyl	*0.0207*		mg/kg wet	*0.02500*		*83*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0214*		mg/kg wet	*0.02500*		*86*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0200*		mg/kg wet	*0.02500*		*80*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0200*		mg/kg wet	*0.02500*		*80*	*30-150*			
8100M Total Petroleum Hydrocarbons										
Batch DE31517 - 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 (C9-C36)	ND	10.0	mg/kg wet							
Triacontane (C30)	ND	0.2	mg/kg wet							
Surrogate: O-Terphenyl	*4.25*		mg/kg wet	*5.000*		*85*	*40-140*			
LCS										
Decane (C10)	1.9	0.2	mg/kg wet	2.500		74	40-140			
Docosane (C22)	2.3	0.2	mg/kg wet	2.500		90	40-140			
Dodecane (C12)	1.9	0.2	mg/kg wet	2.500		76	40-140			
Eicosane (C20)	2.2	0.2	mg/kg wet	2.500		87	40-140			
Hexacosane (C26)	2.3	0.2	mg/kg wet	2.500		91	40-140			
Hexadecane (C16)	2.1	0.2	mg/kg wet	2.500		84	40-140			
Hexatriacontane (C36)	2.0	0.2	mg/kg wet	2.500		81	40-140			
Nonadecane (C19)	2.1	0.2	mg/kg wet	2.500		84	40-140			
Nonane (C9)	1.6	0.2	mg/kg wet	2.500		63	30-140			
Octacosane (C28)	2.1	0.2	mg/kg wet	2.500		85	40-140			
Octadecane (C18)	2.1	0.2	mg/kg wet	2.500		83	40-140			
Tetracosane (C24)	2.1	0.2	mg/kg wet	2.500		83	40-140			
Tetradecane (C14)	2.0	0.2	mg/kg wet	2.500		79	40-140			

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Client Name: Tetra Tech, Inc.
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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 DE31517 - 3546										
Total Petroleum Hydrocarbons (C9-C36)	29.3	10.0	mg/kg wet	35.00		84	40-140			
Triacontane (C30)	2.0	0.2	mg/kg wet	2.500		81	40-140			
Surrogate: O-Terphenyl	*4.27*		mg/kg wet	*5.000*		*85*	*40-140*			
LCS Dup										
Decane (C10)	1.8	0.2	mg/kg wet	2.500		73	40-140	1	25	
Docosane (C22)	2.2	0.2	mg/kg wet	2.500		88	40-140	3	25	
Dodecane (C12)	1.9	0.2	mg/kg wet	2.500		75	40-140	2	25	
Eicosane (C20)	2.1	0.2	mg/kg wet	2.500		84	40-140	3	25	
Hexacosane (C26)	2.2	0.2	mg/kg wet	2.500		89	40-140	3	25	
Hexadecane (C16)	2.0	0.2	mg/kg wet	2.500		81	40-140	3	25	
Hexatriacontane (C36)	2.0	0.2	mg/kg wet	2.500		79	40-140	2	25	
Nonadecane (C19)	2.0	0.2	mg/kg wet	2.500		81	40-140	4	25	
Nonane (C9)	1.5	0.2	mg/kg wet	2.500		62	30-140	1	25	
Octacosane (C28)	2.1	0.2	mg/kg wet	2.500		83	40-140	3	25	
Octadecane (C18)	2.0	0.2	mg/kg wet	2.500		80	40-140	4	25	
Tetracosane (C24)	2.0	0.2	mg/kg wet	2.500		81	40-140	2	25	
Tetradecane (C14)	1.9	0.2	mg/kg wet	2.500		77	40-140	3	25	
Total Petroleum Hydrocarbons (C9-C36)	28.7	10.0	mg/kg wet	35.00		82	40-140	2	25	
Triacontane (C30)	2.0	0.2	mg/kg wet	2.500		79	40-140	2	25	
Surrogate: O-Terphenyl	*4.10*		mg/kg wet	*5.000*		*82*	*40-140*			
8151A Chlorinated Herbicides										
Batch DE31741 - 3546										
Blank										
2,4,5-T	ND	0.002	mg/kg wet							
2,4,5-T [2C]	ND	0.002	mg/kg wet							
2,4,5-TP (Silvex)	ND	0.010	mg/kg wet							
2,4,5-TP (Silvex) [2C]	ND	0.010	mg/kg wet							
2,4-D	ND	0.047	mg/kg wet							
2,4-D [2C]	ND	0.047	mg/kg wet							
2,4-DB	ND	0.048	mg/kg wet							
2,4-DB [2C]	ND	0.048	mg/kg wet							
Dalapon	ND	0.046	mg/kg wet							
Dalapon [2C]	ND	0.046	mg/kg wet							
Dicamba	ND	0.009	mg/kg wet							
Dicamba [2C]	ND	0.009	mg/kg wet							
Dichlorprop	ND	0.047	mg/kg wet							
Dichlorprop [2C]	ND	0.047	mg/kg wet							
Dinoseb	ND	0.048	mg/kg wet							
Dinoseb [2C]	ND	0.048	mg/kg wet							
MCPA	ND	2.32	mg/kg wet							
MCPA [2C]	ND	2.32	mg/kg wet							
MCPP	ND	2.35	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
8151A Chlorinated Herbicides										
Batch DE31741 - 3546										
MCPP [2C]	ND	2.35	mg/kg wet							
Surrogate: DCAA	*0.180*		mg/kg wet	*0.2000*		*90*	*30-150*			
Surrogate: DCAA [2C]	*0.165*		mg/kg wet	*0.2000*		*83*	*30-150*			
LCS										
2,4,5-T	0.013	0.010	mg/kg wet	0.01900		66	40-140			
2,4,5-T [2C]	0.013	0.010	mg/kg wet	0.01900		66	40-140			
2,4,5-TP (Silvex)	0.013	0.010	mg/kg wet	0.01900		70	40-140			
2,4,5-TP (Silvex) [2C]	0.014	0.010	mg/kg wet	0.01900		74	40-140			
2,4-D	0.130	0.047	mg/kg wet	0.1880		69	40-140			
2,4-D [2C]	0.134	0.047	mg/kg wet	0.1880		71	40-140			
2,4-DB	0.153	0.048	mg/kg wet	0.1900		81	40-140			
2,4-DB [2C]	0.144	0.048	mg/kg wet	0.1900		76	40-140			
Dalapon	0.248	0.046	mg/kg wet	0.4550		54	40-140			
Dalapon [2C]	0.268	0.046	mg/kg wet	0.4550		59	40-140			
Dicamba	0.012	0.009	mg/kg wet	0.01880		64	40-140			
Dicamba [2C]	0.014	0.009	mg/kg wet	0.01880		72	40-140			
Dichlorprop	0.172	0.047	mg/kg wet	0.1880		92	40-140			
Dichlorprop [2C]	0.149	0.047	mg/kg wet	0.1880		79	40-140			
Dinoseb	0.019	0.048	mg/kg wet	0.09500		20	10-100			
Dinoseb [2C]	0.021	0.048	mg/kg wet	0.09500		22	10-100			
MCPA	17.0	2.32	mg/kg wet	18.60		92	40-140			
MCPA [2C]	16.9	2.32	mg/kg wet	18.60		91	40-140			
MCPP	15.4	2.35	mg/kg wet	18.80		82	40-140			
MCPP [2C]	15.9	2.35	mg/kg wet	18.80		84	40-140			
Surrogate: DCAA	*0.185*		mg/kg wet	*0.2000*		*93*	*30-150*			
Surrogate: DCAA [2C]	*0.160*		mg/kg wet	*0.2000*		*80*	*30-150*			
LCS Dup										
2,4,5-T	0.013	0.010	mg/kg wet	0.01900		66	40-140	0	30	
2,4,5-T [2C]	0.013	0.010	mg/kg wet	0.01900		68	40-140	3	30	
2,4,5-TP (Silvex)	0.014	0.010	mg/kg wet	0.01900		72	40-140	3	30	
2,4,5-TP (Silvex) [2C]	0.014	0.010	mg/kg wet	0.01900		74	40-140	0	30	
2,4-D	0.133	0.047	mg/kg wet	0.1880		71	40-140	2	30	
2,4-D [2C]	0.141	0.047	mg/kg wet	0.1880		75	40-140	5	30	
2,4-DB	0.146	0.048	mg/kg wet	0.1900		77	40-140	5	30	
2,4-DB [2C]	0.139	0.048	mg/kg wet	0.1900		73	40-140	3	30	
Dalapon	0.290	0.046	mg/kg wet	0.4550		64	40-140	16	30	
Dalapon [2C]	0.318	0.046	mg/kg wet	0.4550		70	40-140	17	30	
Dicamba	0.013	0.009	mg/kg wet	0.01880		68	40-140	6	30	
Dicamba [2C]	0.014	0.009	mg/kg wet	0.01880		76	40-140	5	30	
Dichlorprop	0.178	0.047	mg/kg wet	0.1880		95	40-140	3	30	
Dichlorprop [2C]	0.161	0.047	mg/kg wet	0.1880		86	40-140	8	30	
Dinoseb	0.017	0.048	mg/kg wet	0.09500		18	10-100	15	30	
Dinoseb [2C]	0.017	0.048	mg/kg wet	0.09500		18	10-100	16	30	
MCPA	17.9	2.32	mg/kg wet	18.60		96	40-140	5	30	

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8151A Chlorinated Herbicides										
Batch DE31741 - 3546										
MCPA [2C]	17.2	2.32	mg/kg wet	18.60		92	40-140	2	30	
MCPP	16.4	2.35	mg/kg wet	18.80		87	40-140	6	30	
MCPP [2C]	17.1	2.35	mg/kg wet	18.80		91	40-140	7	30	
Surrogate: DCAA	*0.180*		mg/kg wet	*0.2000*		*90*	*30-150*			
Surrogate: DCAA [2C]	*0.154*		mg/kg wet	*0.2000*		*77*	*30-150*			
8270D Semi-Volatile Organic Compounds										
Batch DE31516 - 3546										
Blank										
1,1-Biphenyl	ND	0.025	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.250	mg/kg wet							
1,2-Dichlorobenzene	ND	0.250	mg/kg wet							
1,3-Dichlorobenzene	ND	0.250	mg/kg wet							
1,4-Dichlorobenzene	ND	0.250	mg/kg wet							
2,4,5-Trichlorophenol	ND	0.250	mg/kg wet							
2,4,6-Trichlorophenol	ND	0.250	mg/kg wet							
2,4-Dichlorophenol	ND	0.250	mg/kg wet							
2,4-Dimethylphenol	ND	0.250	mg/kg wet							
2,4-Dinitrophenol	ND	1.00	mg/kg wet							
2,4-Dinitrotoluene	ND	0.250	mg/kg wet							
2,6-Dinitrotoluene	ND	0.250	mg/kg wet							
2-Chloronaphthalene	ND	0.250	mg/kg wet							
2-Chlorophenol	ND	0.250	mg/kg wet							
2-Methylnaphthalene	ND	0.250	mg/kg wet							
2-Methylphenol	ND	0.250	mg/kg wet							
2-Nitrophenol	ND	0.500	mg/kg wet							
3,3´-Dichlorobenzidine	ND	0.250	mg/kg wet							
3+4-Methylphenol	ND	0.250	mg/kg wet							
4-Bromophenyl-phenylether	ND	0.250	mg/kg wet							
4-Chloroaniline	ND	0.250	mg/kg wet							
4-Nitrophenol	ND	1.00	mg/kg wet							
Acenaphthene	ND	0.250	mg/kg wet							
Acenaphthylene	ND	0.250	mg/kg wet							
Acetophenone	ND	0.250	mg/kg wet							
Aniline	ND	0.250	mg/kg wet							
Anthracene	ND	0.250	mg/kg wet							
Azobenzene	ND	0.250	mg/kg wet							
Benzo(a)anthracene	ND	0.250	mg/kg wet							
Benzo(a)pyrene	ND	0.250	mg/kg wet							
Benzo(b)fluoranthene	ND	0.250	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.250	mg/kg wet							
Benzo(k)fluoranthene	ND	0.250	mg/kg wet							
bis(2-Chloroethoxy)methane	ND	0.250	mg/kg wet							
bis(2-Chloroethyl)ether	ND	0.250	mg/kg wet							

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Quality Control Data

8270D Semi-Volatile Organic Compounds

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch DE31516 - 3546										
bis(2-chloroisopropyl)Ether	ND	0.250	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.250	mg/kg wet							
Butylbenzylphthalate	ND	0.250	mg/kg wet							
Chrysene	ND	0.250	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.250	mg/kg wet							
Dibenzofuran	ND	0.250	mg/kg wet							
Diethylphthalate	ND	0.250	mg/kg wet							
Dimethylphthalate	ND	0.250	mg/kg wet							
Di-n-butylphthalate	ND	0.250	mg/kg wet							
Di-n-octylphthalate	ND	0.500	mg/kg wet							
Fluoranthene	ND	0.250	mg/kg wet							
Fluorene	ND	0.250	mg/kg wet							
Hexachlorobenzene	ND	0.250	mg/kg wet							
Hexachlorobutadiene	ND	0.250	mg/kg wet							
Hexachloroethane	ND	0.250	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.250	mg/kg wet							
Isophorone	ND	0.250	mg/kg wet							
Naphthalene	ND	0.250	mg/kg wet							
Nitrobenzene	ND	0.250	mg/kg wet							
N-Nitrosodimethylamine	ND	0.250	mg/kg wet							
Pentachlorophenol	ND	1.00	mg/kg wet							
Phenanthrene	ND	0.250	mg/kg wet							
Phenol	ND	0.250	mg/kg wet							
Pyrene	ND	0.250	mg/kg wet							
Pyridine	ND	0.250	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*2.33*		mg/kg wet	*2.500*		*93*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*3.68*		mg/kg wet	*3.750*		*98*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.53*		mg/kg wet	*3.750*		*94*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.36*		mg/kg wet	*2.500*		*94*	*30-130*			
Surrogate: 2-Fluorophenol	*3.49*		mg/kg wet	*3.750*		*93*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.32*		mg/kg wet	*2.500*		*93*	*30-130*			
Surrogate: Phenol-d6	*3.46*		mg/kg wet	*3.750*		*92*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.65*		mg/kg wet	*2.500*		*106*	*30-130*			
LCS										
1,1-Biphenyl	2.05	0.025	mg/kg wet	2.500		82	40-140			
1,2,4-Trichlorobenzene	1.89	0.250	mg/kg wet	2.500		76	40-140			
1,2-Dichlorobenzene	1.99	0.250	mg/kg wet	2.500		79	40-140			
1,3-Dichlorobenzene	1.96	0.250	mg/kg wet	2.500		78	40-140			
1,4-Dichlorobenzene	1.99	0.250	mg/kg wet	2.500		80	40-140			
2,4,5-Trichlorophenol	2.45	0.250	mg/kg wet	2.500		98	30-130			
2,4,6-Trichlorophenol	2.36	0.250	mg/kg wet	2.500		94	30-130			
2,4-Dichlorophenol	2.01	0.250	mg/kg wet	2.500		81	30-130			
2,4-Dimethylphenol	1.85	0.250	mg/kg wet	2.500		74	30-130			
2,4-Dinitrophenol	2.77	1.00	mg/kg wet	2.500		111	30-130			
2,4-Dinitrotoluene	2.63	0.250	mg/kg wet	2.500		105	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 DE31516 - 3546										
2,6-Dinitrotoluene	2.52	0.250	mg/kg wet	2.500		101	40-140			
2-Chloronaphthalene	2.20	0.250	mg/kg wet	2.500		88	40-140			
2-Chlorophenol	2.05	0.250	mg/kg wet	2.500		82	30-130			
2-Methylnaphthalene	1.86	0.250	mg/kg wet	2.500		75	40-140			
2-Methylphenol	1.98	0.250	mg/kg wet	2.500		79	30-130			
2-Nitrophenol	2.13	0.500	mg/kg wet	2.500		85	30-130			
3,3´-Dichlorobenzidine	2.33	0.250	mg/kg wet	2.500		93	40-140			
3+4-Methylphenol	4.07	0.250	mg/kg wet	5.000		81	30-130			
4-Bromophenyl-phenylether	2.30	0.250	mg/kg wet	2.500		92	40-140			
4-Chloroaniline	1.60	0.250	mg/kg wet	2.500		64	40-140			
4-Nitrophenol	2.09	1.00	mg/kg wet	2.500		84	30-130			
Acenaphthene	2.05	0.250	mg/kg wet	2.500		82	40-140			
Acenaphthylene	2.14	0.250	mg/kg wet	2.500		85	40-140			
Acetophenone	1.98	0.250	mg/kg wet	2.500		79	40-140			
Aniline	1.55	0.250	mg/kg wet	2.500		62	40-140			
Anthracene	2.31	0.250	mg/kg wet	2.500		92	40-140			
Azobenzene	1.93	0.250	mg/kg wet	2.500		77	40-140			
Benzo(a)anthracene	2.54	0.250	mg/kg wet	2.500		102	40-140			
Benzo(a)pyrene	2.81	0.250	mg/kg wet	2.500		112	40-140			
Benzo(b)fluoranthene	2.42	0.250	mg/kg wet	2.500		97	40-140			
Benzo(g,h,i)perylene	2.48	0.250	mg/kg wet	2.500		99	40-140			
Benzo(k)fluoranthene	2.31	0.250	mg/kg wet	2.500		92	40-140			
bis(2-Chloroethoxy)methane	1.64	0.250	mg/kg wet	2.500		66	40-140			
bis(2-Chloroethyl)ether	1.81	0.250	mg/kg wet	2.500		72	40-140			
bis(2-chloroisopropyl)Ether	1.70	0.250	mg/kg wet	2.500		68	40-140			
bis(2-Ethylhexyl)phthalate	2.17	0.250	mg/kg wet	2.500		87	40-140			
Butylbenzylphthalate	2.32	0.250	mg/kg wet	2.500		93	40-140			
Chrysene	2.52	0.250	mg/kg wet	2.500		101	40-140			
Dibenzo(a,h)Anthracene	2.71	0.250	mg/kg wet	2.500		108	40-140			
Dibenzofuran	2.17	0.250	mg/kg wet	2.500		87	40-140			
Diethylphthalate	2.39	0.250	mg/kg wet	2.500		96	40-140			
Dimethylphthalate	2.34	0.250	mg/kg wet	2.500		94	40-140			
Di-n-butylphthalate	2.46	0.250	mg/kg wet	2.500		99	40-140			
Di-n-octylphthalate	2.03	0.500	mg/kg wet	2.500		81	40-140			
Fluoranthene	2.54	0.250	mg/kg wet	2.500		102	40-140			
Fluorene	2.24	0.250	mg/kg wet	2.500		90	40-140			
Hexachlorobenzene	2.49	0.250	mg/kg wet	2.500		99	40-140			
Hexachlorobutadiene	1.99	0.250	mg/kg wet	2.500		80	40-140			
Hexachloroethane	1.97	0.250	mg/kg wet	2.500		79	40-140			
Indeno(1,2,3-cd)Pyrene	2.64	0.250	mg/kg wet	2.500		106	40-140			
Isophorone	1.67	0.250	mg/kg wet	2.500		67	40-140			
Naphthalene	1.74	0.250	mg/kg wet	2.500		70	40-140			
Nitrobenzene	1.79	0.250	mg/kg wet	2.500		71	40-140			
N-Nitrosodimethylamine	1.59	0.250	mg/kg wet	2.500		64	40-140			
Pentachlorophenol	2.74	1.00	mg/kg wet	2.500		109	30-130			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0489

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DE31516 - 3546										
Phenanthrene	2.24	0.250	mg/kg wet	2.500		89	40-140			
Phenol	2.00	0.250	mg/kg wet	2.500		80	30-130			
Pyrene	2.31	0.250	mg/kg wet	2.500		92	40-140			
Pyridine	1.79	0.250	mg/kg wet	2.500		71	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*2.23*		mg/kg wet	*2.500*		*89*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.26*		mg/kg wet	*3.750*		*114*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.50*		mg/kg wet	*3.750*		*93*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.33*		mg/kg wet	*2.500*		*93*	*30-130*			
Surrogate: 2-Fluorophenol	*3.42*		mg/kg wet	*3.750*		*91*	*30-130*			
Surrogate: Nitrobenzene-d5	*1.98*		mg/kg wet	*2.500*		*79*	*30-130*			
Surrogate: Phenol-d6	*3.41*		mg/kg wet	*3.750*		*91*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.63*		mg/kg wet	*2.500*		*105*	*30-130*			
LCS Dup										
1,1-Biphenyl	2.14	0.025	mg/kg wet	2.500		86	40-140	4	30	
1,2,4-Trichlorobenzene	2.01	0.250	mg/kg wet	2.500		80	40-140	6	30	
1,2-Dichlorobenzene	2.07	0.250	mg/kg wet	2.500		83	40-140	4	30	
1,3-Dichlorobenzene	2.05	0.250	mg/kg wet	2.500		82	40-140	4	30	
1,4-Dichlorobenzene	2.08	0.250	mg/kg wet	2.500		83	40-140	4	30	
2,4,5-Trichlorophenol	2.54	0.250	mg/kg wet	2.500		102	30-130	4	30	
2,4,6-Trichlorophenol	2.50	0.250	mg/kg wet	2.500		100	30-130	6	30	
2,4-Dichlorophenol	2.15	0.250	mg/kg wet	2.500		86	30-130	7	30	
2,4-Dimethylphenol	1.96	0.250	mg/kg wet	2.500		78	30-130	5	30	
2,4-Dinitrophenol	2.98	1.00	mg/kg wet	2.500		119	30-130	7	30	
2,4-Dinitrotoluene	2.62	0.250	mg/kg wet	2.500		105	40-140	0.2	30	
2,6-Dinitrotoluene	2.61	0.250	mg/kg wet	2.500		104	40-140	3	30	
2-Chloronaphthalene	2.27	0.250	mg/kg wet	2.500		91	40-140	3	30	
2-Chlorophenol	2.18	0.250	mg/kg wet	2.500		87	30-130	6	30	
2-Methylnaphthalene	1.97	0.250	mg/kg wet	2.500		79	40-140	6	30	
2-Methylphenol	2.07	0.250	mg/kg wet	2.500		83	30-130	4	30	
2-Nitrophenol	2.27	0.500	mg/kg wet	2.500		91	30-130	6	30	
3,3´-Dichlorobenzidine	2.34	0.250	mg/kg wet	2.500		93	40-140	0.4	30	
3+4-Methylphenol	4.27	0.250	mg/kg wet	5.000		85	30-130	5	30	
4-Bromophenyl-phenylether	2.37	0.250	mg/kg wet	2.500		95	40-140	3	30	
4-Chloroaniline	1.64	0.250	mg/kg wet	2.500		66	40-140	3	30	
4-Nitrophenol	2.08	1.00	mg/kg wet	2.500		83	30-130	0.4	30	
Acenaphthene	2.15	0.250	mg/kg wet	2.500		86	40-140	5	30	
Acenaphthylene	2.20	0.250	mg/kg wet	2.500		88	40-140	3	30	
Acetophenone	2.09	0.250	mg/kg wet	2.500		84	40-140	5	30	
Aniline	1.66	0.250	mg/kg wet	2.500		66	40-140	7	30	
Anthracene	2.36	0.250	mg/kg wet	2.500		94	40-140	2	30	
Azobenzene	1.99	0.250	mg/kg wet	2.500		79	40-140	3	30	
Benzo(a)anthracene	2.55	0.250	mg/kg wet	2.500		102	40-140	0.2	30	
Benzo(a)pyrene	2.85	0.250	mg/kg wet	2.500		114	40-140	1	30	
Benzo(b)fluoranthene	2.51	0.250	mg/kg wet	2.500		100	40-140	3	30	
Benzo(g,h,i)perylene	2.41	0.250	mg/kg wet	2.500		97	40-140	3	30	

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0489

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DE31516 - 3546										
Benzo(k)fluoranthene	2.40	0.250	mg/kg wet	2.500		96	40-140	4	30	
bis(2-Chloroethoxy)methane	1.75	0.250	mg/kg wet	2.500		70	40-140	6	30	
bis(2-Chloroethyl)ether	1.90	0.250	mg/kg wet	2.500		76	40-140	5	30	
bis(2-chloroisopropyl)Ether	1.82	0.250	mg/kg wet	2.500		73	40-140	7	30	
bis(2-Ethylhexyl)phthalate	2.21	0.250	mg/kg wet	2.500		89	40-140	2	30	
Butylbenzylphthalate	2.35	0.250	mg/kg wet	2.500		94	40-140	1	30	
Chrysene	2.57	0.250	mg/kg wet	2.500		103	40-140	2	30	
Dibenzo(a,h)Anthracene	2.69	0.250	mg/kg wet	2.500		108	40-140	0.8	30	
Dibenzofuran	2.26	0.250	mg/kg wet	2.500		90	40-140	4	30	
Diethylphthalate	2.42	0.250	mg/kg wet	2.500		97	40-140	0.9	30	
Dimethylphthalate	2.41	0.250	mg/kg wet	2.500		96	40-140	3	30	
Di-n-butylphthalate	2.48	0.250	mg/kg wet	2.500		99	40-140	0.8	30	
Di-n-octylphthalate	2.12	0.500	mg/kg wet	2.500		85	40-140	5	30	
Fluoranthene	2.52	0.250	mg/kg wet	2.500		101	40-140	1	30	
Fluorene	2.31	0.250	mg/kg wet	2.500		93	40-140	3	30	
Hexachlorobenzene	2.54	0.250	mg/kg wet	2.500		101	40-140	2	30	
Hexachlorobutadiene	2.14	0.250	mg/kg wet	2.500		86	40-140	7	30	
Hexachloroethane	2.05	0.250	mg/kg wet	2.500		82	40-140	4	30	
Indeno(1,2,3-cd)Pyrene	2.61	0.250	mg/kg wet	2.500		105	40-140	1	30	
Isophorone	1.75	0.250	mg/kg wet	2.500		70	40-140	5	30	
Naphthalene	1.85	0.250	mg/kg wet	2.500		74	40-140	6	30	
Nitrobenzene	1.88	0.250	mg/kg wet	2.500		75	40-140	5	30	
N-Nitrosodimethylamine	1.65	0.250	mg/kg wet	2.500		66	40-140	3	30	
Pentachlorophenol	2.76	1.00	mg/kg wet	2.500		111	30-130	1	30	
Phenanthrene	2.27	0.250	mg/kg wet	2.500		91	40-140	2	30	
Phenol	2.13	0.250	mg/kg wet	2.500		85	30-130	6	30	
Pyrene	2.40	0.250	mg/kg wet	2.500		96	40-140	4	30	
Pyridine	1.87	0.250	mg/kg wet	2.500		75	40-140	5	30	
Surrogate: 1,2-Dichlorobenzene-d4	*2.22*		mg/kg wet	*2.500*		*89*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.18*		mg/kg wet	*3.750*		*111*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.52*		mg/kg wet	*3.750*		*94*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.31*		mg/kg wet	*2.500*		*92*	*30-130*			
Surrogate: 2-Fluorophenol	*3.46*		mg/kg wet	*3.750*		*92*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.03*		mg/kg wet	*2.500*		*81*	*30-130*			
Surrogate: Phenol-d6	*3.47*		mg/kg wet	*3.750*		*92*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.62*		mg/kg wet	*2.500*		*105*	*30-130*			
Classical Chemistry										
Batch DE31563 - General Preparation										
Blank										
Conductivity	ND	5	umhos/cm							
LCS										
Conductivity	1290		umhos/cm	1411		92	90-110			
Batch DE31624 - General Preparation										

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23E0489

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Classical Chemistry										
Batch DE31624 - General Preparation										
Reference										
Flashpoint	81		°F	81.00		100	97.9-102.1			
Batch DE31633 - 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: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23E0489

Notes and Definitions

R-	Standard Reference Material is biased low (R-).
>	Greater than.
B-	Blank Spike recovery is below lower control limit (B-).
B+	Blank Spike recovery is above upper control limit (B+).
CD-	Continuing Calibration %Diff/Drift is below control limit (CD-).
CD+	Continuing Calibration %Diff/Drift is above control limit (CD+).
D	Diluted.
E	Reported above the quantitation limit; Estimated value (E).
EL	Elevated Method Reporting Limits due to sample matrix (EL).
LC	Lower value is used due to matrix interferences (LC).
#	Modified result
Q	Calibration required quadratic regression (Q).
Z18	Temperature is not within 23 +/-2 ºC.
U	Analyte included in the analysis, but not detected
WL	Results obtained from a deionized water leach of the sample.
XH	Peaks found in the retention time window for MCPP did not confirm by GC/MS.
Z-09	ND
Z-10	Soil pH measured in water at 20.3 ºC.
Z-10a	Soil pH measured in water at 20.4 ºC.
Z-10b	Soil pH measured in water at 20.6 ºC.
Z-10c	Soil pH measured in water at 20.7 ºC.
Z17	Temperature is within 23 +/-2 ºC.
P	Percent difference between primary and confirmation results exceeds 40% (P).
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

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0489

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

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tetra Tech, Inc - ML

Shipped/Delivered Via: ESS Courier

ESS Project ID: 23E0489
Date Received: 5/12/2023
Project Due Date: 5/19/2023
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: -1.7 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 5/12/23
    low level vials

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/Acid Lot#:
    b. Low Level VOA vials frozen: Date: 5/12/23 Time: 1751 By: ML

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? Karl Seibert Date: 5/19/23 Time: By: ML

Resolution:
Low level VOC were frozen on the dates sampled per client

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
1	430264	Yes	N/A	Yes	8 oz jar	NP	
~~1~~	~~430265~~	~~Yes~~	~~N/A~~	~~Yes~~	~~8 oz jar~~	~~NP~~	
2	430266	Yes	N/A	Yes	8 oz jar	NP	
~~2~~	~~430267~~	~~Yes~~	~~N/A~~	~~Yes~~	~~8 oz jar~~	~~NP~~	TD
3	430117	Yes	N/A	Yes	VOA Vial	DI Water	5/12/23
3	430118	Yes	N/A	Yes	VOA Vial	DI Water	
3	430121	Yes	N/A	Yes	VOA Vial	MeOH	
3	430260	Yes	N/A	Yes	4 oz. Jar	NP	
4	430268	Yes	N/A	Yes	8 oz jar	NP	
4	430269	Yes	N/A	Yes	8 oz jar	NP	
5	430270	Yes	N/A	Yes	8 oz jar	NP	
5	430271	Yes	N/A	Yes	8 oz jar	NP	
6	430272	Yes	N/A	Yes	8 oz jar	NP	
6	430273	Yes	N/A	Yes	8 oz jar	NP	
7	430262	Yes	N/A	Yes	8 oz jar	NP	
8	430263	Yes	N/A	Yes	8 oz jar	NP	
9	430119	Yes	N/A	Yes	VOA Vial	DI Water	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tetra Tech, Inc - ML

ESS Project ID: 23E0489
Date Received: 5/12/2023

9	430120	Yes	N/A	Yes	VOA Vial	DI Water
9	430122	Yes	N/A	Yes	VOA Vial	MeOH
9	430261	Yes	N/A	Yes	4 oz. Jar	NP
10	430274	Yes	N/A	Yes	8 oz jar	NP
10	430275	Yes	N/A	Yes	8 oz jar	NP
11	430276	Yes	N/A	Yes	8 oz jar	NP
11	430277	Yes	N/A	Yes	8 oz jar	NP
12	430278	Yes	N/A	Yes	8 oz jar	NP
12	430279	Yes	N/A	Yes	8 oz jar	NP

2nd Review

Were all containers scanned into storage/lab? Initials TD

Are barcode labels on correct containers? Yes / No

Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA

Are all Hex Chrome stickers attached? Yes / No / NA

Are all QC stickers attached? Yes / No / NA

Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: Taylor Davis Date & Time: 1746 5/12/23

Reviewed By: Date & Time: 5/12/23 1751

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02910
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 23E0489 | Page 1 of 2

Turn Time (Days) ☑ > 5 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: MA Criteria: RCS-1

Is this project for any of the following?: ☐ CT RCP ☑ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☐ Limit Checker ☐ State Forms ☐ EQuIS ☑ Excel ☐ State Upload ☐ Enviro Data ☐ CLP-Like Package ☑ Other (Specify) → Tetra Tech Excel format

CLIENT INFORMATION

Client: Tetra Tech
Address: 100 Nickerson Rd. Marlborough, MA 01752
Phone: 508-782-4937 (Karl Seibert)
Email Distribution List: karl.seibert@tetratech.com, william.phelps@tetratech.com

PROJECT INFORMATION

Project Name: Massport - Cypher Street
Project Location: South Boston, Massachusetts
Project Number: 143-278997-23002
Project Manager: William Phelps, Karl Seibert
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	VOCs (8260) High	VOCs (8260) Low	RCRA 8 metals, SVOCs (8270), flashpoint	Reactivity, conductivity, pH	PCBs by Soxhlet Extraction	Total Solids	Pesticides/Herbicides	TPH	Total Number of Bottles
1	5/12/23	8:52am	comp	soil	TT-118A (0-3')								X	1
2	1	9:43am	comp	1	TT-118A (3-6')								X	1
3	1	10:08	grab	1	TT-118A (9')	X	X				X			4
4	5/10/23	830	comp	soil	TT-118 (0-3')			X	X	X		X	X	2
5	5/10/23	845	comp	soil	TT-118 (3-6')			X	X	X		X	X	2
6	5/10/23	800	comp	soil	TT-118 (6-9')			X	X	X		X	X	2
7	5/12/23	1250	comp	soil	TT-119B (0-3)		~~VS~~	~~X~~	~~X~~	~~X~~		~~X~~	X	~~3~~ 4
8	5/12/23	1303	comp	soil	TT-119B (3-6)		~~VS~~	~~X~~	~~X~~	~~X~~		~~X~~	X	~~3~~ 4
9	5/12/23	1300	grab	soil	TT-119B (5')	X	X				X			4
10	5/10/23	1030	comp	soil	TT-119 (0-3')			X	X	X		X	X	2
Container Type:	AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial					V	V	AG	AG	AG	AG	AG	AG	
Container Volume:	1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*					7	7	10	10	10	8	10	10	
Preservation Code:	1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*					6	10	1	1	1	1	1	1	

Sampled by : David Homan Karl Seibert

Chain needs to be filled out neatly and completely for on time delivery.

Laboratory Use Only
Cooler Temperature (°C): 1.7
ON ICE

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	5/12/23	1446	[signature] 5/12/23 1446	[signature]	5/12/23	1713	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02910
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 23S0489

Turn Time (Days) ☑ > 5 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: MA Criteria: RCS-1

Is this project for any of the following?: ☐ CT RCP ☑ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)

☐ Limit Checker ☐ State Forms ☐ EQuIS
☑ Excel ☐ State Upload ☐ Enviro Data
☐ CLP-Like Package ☑ Other (Specify) → Tetra Tech Excel format

CLIENT INFORMATION

Client: Tetra Tech
Address: 100 Nickerson Rd.
Marlborough, MA 01752
Phone: 508-782-4937 (Karl Seibert)
Email Distribution List: karl.seibert@tetratech.com, william.phelps@tetratech.com

PROJECT INFORMATION

Project Name: Massport - Cypher Street
Project Location: South Boston, Massachusetts
Project Number: 143-278997-23002
Project Manager: William Phelps, Karl Seibert
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	VOCs (8260) High	VOCs (8260) Low	RCRA 8 metals, SVOCs (8270), flashpoint	Reactivity, conductivity, pH	PCBs by Soxhlet Extraction	Total Solids	Pesticides/Herbicides	TPH	Total Number of Bottles
11	5/10/23	1045	COMP	Soil	TT-119 (3-6)			X	X	X		X	X	2
12	5/10/23	1100	COMP	Soil	TT-119 (6-10)			X	X	X		X	X	2
Container Type:			AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial			V	V	AG	AG	AG	AG	AG	AG	
Container Volume:			1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*			7	7	10	10	10	8	10	10	24
Preservation Code:			1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*			6	10	1	1	1	1	1	1	

Sampled by: David Homan Karl Seibert

Chain needs to be filled out neatly and completely for on time delivery.

Laboratory Use Only
Cooler Temperature (°C): -1.7
on ice

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration
☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	5/12/23	1446	[signature] 5/12/23 1446	[signature]	5/12/23	1713	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

CERTIFICATE OF ANALYSIS

William Phelps
Tetra Tech, Inc.
100 Nickerson Road
Marlborough, MA 01752

RE: Massport - Cypher Street (143-278997-23002)
ESS Laboratory Work Order Number: 23E0520

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 5:37 pm, May 30, 2023

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: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0520

SAMPLE RECEIPT

The following samples were received on May 15, 2023 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 May 15, 2023 at 16:45.
Tetrahydrofuran is reported above the MA CAM reporting limit of 0.010 mg/kg.

Question I: All samples for EPH and metals were analyzed for a subset of the required MCP list per the client's request.

Lab Number	Sample Name	Matrix	Analysis
23E0520-01	TT-117C 2ft	Soil	8260B Low
23E0520-02	TT-117C 0-3ft	Soil	8100M
23E0520-03	TT-117C 8-5ft	Soil	8260B Low
23E0520-04	TT-117C 3-6ft	Soil	8100M
23E0520-05	TT-117 0-3ft	Soil	1010A, 1311, 1311/6010C, 6010C, 7.3.3.2, 7.3.4.1, 7471B, 8081B, 8082A, 8100M, 8151A, 8270D, 9045, 9050A
23E0520-06	TT-117 3-6ft	Soil	1010A, 1311, 1311/6010C, 6010C, 7.3.3.2, 7.3.4.1, 7471B, 8081B, 8082A, 8100M, 8151A, 8270D, 9045, 9050A
23E0520-07	TT-117 6-10ft	Soil	1010A, 1311, 1311/6010C, 6010C, 7.3.3.2, 7.3.4.1, 7471B, 8081B, 8082A, 8100M, 8151A, 8270D, 9045, 9050A
23E0520-08	TT-116C 0-3ft	Soil	8100M

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23E0520

PROJECT NARRATIVE

8081B Organochlorine Pesticides

DE31604-BS1	**Blank Spike recovery is above upper control limit (B+).**
	delta-BHC (309% @ 40-140%)
DE31604-BS1	**Reported above the quantitation limit; Estimated value (E).**
	delta-BHC
DE31604-BSD1	**Blank Spike recovery is above upper control limit (B+).**
	delta-BHC (279% @ 40-140%)
DE31604-BSD1	**Reported above the quantitation limit; Estimated value (E).**
	delta-BHC

8151A Chlorinated Herbicides

23E0520-05	**Modified result**
	MCPP
23E0520-05	**Peaks found in the retention time window for MCPP did not confirm by GC/MS.**
23E0520-06	**Lower value is used due to matrix interferences (LC).**
	2,4,5-T , Dicamba [2C] , Dichlorprop
23E0520-06	**Percent difference between primary and confirmation results exceeds 40% (P).**
	2,4,5-T , Dicamba [2C] , Dichlorprop
23E0520-07	**Lower value is used due to matrix interferences (LC).**
	Dicamba [2C] , Dichlorprop
23E0520-07	**Percent difference between primary and confirmation results exceeds 40% (P).**
	Dicamba [2C] , Dichlorprop
23E0520-07	**Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).**
	DCAA (205% @ 30-150%)

8270D Semi-Volatile Organic Compounds

D3E0293-CCV1	**Calibration required quadratic regression (Q).**
	2,4-Dinitrophenol (130% @ 80-120%), Pentachlorophenol (117% @ 80-120%)
D3E0293-CCV1	**Continuing Calibration %Diff/Drift is above control limit (CD+).**
	2,4-Dinitrophenol (30% @ 20%), 2-Nitrophenol (22% @ 20%)
D3E0294-CCV1	**Calibration required quadratic regression (Q).**
	2,4-Dinitrophenol (78% @ 80-120%)
D3E0294-CCV1	**Continuing Calibration %Diff/Drift is below control limit (CD-).**
	2,4-Dinitrophenol (22% @ 20%)

Total Metals

DE31626-SRM1	**Standard Reference Material is biased low (R-).**
	Silver (32% @ 70-130%)

No other observations noted.

End of Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23E0520

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: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0520

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **23E0520-01 through 23E0520-08**

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	(x) 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	(x) MassDEP EPH CAM IV B	(x) 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: May 26, 2023
Printed Name: Laurel Stoddard
Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117C 2ft
Date Sampled: 05/15/23 08:30
Percent Solids: 94
Initial Volume: 8g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-01
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 (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
1,1,1-Trichloroethane	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
1,1,2,2-Tetrachloroethane	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
1,1,2-Trichloroethane	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
1,1-Dichloroethane	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
1,1-Dichloroethene	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
1,1-Dichloropropene	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
1,2,3-Trichlorobenzene	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
1,2,3-Trichloropropane	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
1,2,4-Trichlorobenzene	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
1,2,4-Trimethylbenzene	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
1,2-Dibromo-3-Chloropropane	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
1,2-Dibromoethane	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
1,2-Dichlorobenzene	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
1,2-Dichloroethane	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
1,2-Dichloropropane	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
1,3,5-Trimethylbenzene	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
1,3-Dichlorobenzene	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
1,3-Dichloropropane	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
1,4-Dichlorobenzene	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
1,4-Dioxane	ND (0.0530)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
2,2-Dichloropropane	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
2-Butanone	ND (0.0331)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
2-Chlorotoluene	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
2-Hexanone	ND (0.0331)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
4-Chlorotoluene	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
4-Isopropyltoluene	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
4-Methyl-2-Pentanone	ND (0.0331)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Acetone	ND (0.0331)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Benzene	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Bromobenzene	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Bromochloromethane	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117C 2ft
Date Sampled: 05/15/23 08:30
Percent Solids: 94
Initial Volume: 8g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-01
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 (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Bromoform	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Bromomethane	ND (0.0066)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Carbon Disulfide	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Carbon Tetrachloride	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Chlorobenzene	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Chloroethane	ND (0.0066)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Chloroform	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Chloromethane	ND (0.0066)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
cis-1,2-Dichloroethene	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
cis-1,3-Dichloropropene	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Dibromochloromethane	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Dibromomethane	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Dichlorodifluoromethane	ND (0.0066)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Diethyl Ether	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Di-isopropyl ether	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Ethyl tertiary-butyl ether	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Ethylbenzene	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Hexachlorobutadiene	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Isopropylbenzene	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Methyl tert-Butyl Ether	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Methylene Chloride	ND (0.0166)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Naphthalene	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
n-Butylbenzene	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
n-Propylbenzene	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
sec-Butylbenzene	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Styrene	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
tert-Butylbenzene	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Tertiary-amyl methyl ether	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Tetrachloroethene	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Tetrahydrofuran	ND (0.0133)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Toluene	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117C 2ft
Date Sampled: 05/15/23 08:30
Percent Solids: 94
Initial Volume: 8g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-01
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 (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
trans-1,3-Dichloropropene	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Trichloroethene	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Trichlorofluoromethane	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Vinyl Chloride	ND (0.0066)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Xylene O	ND (0.0033)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Xylene P,M	ND (0.0066)		8260B Low		1	05/16/23 13:17	D3E0301	DE31616
Xylenes (Total)	ND (0.00663)		8260B Low		1	05/16/23 13:17		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichloroethane-d4	*121 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*94 %*		*70-130*
Surrogate: Dibromofluoromethane	*105 %*		*70-130*
Surrogate: Toluene-d8	*95 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117C 0-3ft
Date Sampled: 05/15/23 08:30
Percent Solids: 92
Initial Volume: 20.3g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 5/15/23 17:53

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	ND (10.7)		8100M		1	05/16/23 10:03		DE31517

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*76 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117C 8-5ft
Date Sampled: 05/15/23 09:25
Percent Solids: 76
Initial Volume: 11.8g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-03
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 (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
1,1,1-Trichloroethane	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
1,1,2,2-Tetrachloroethane	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
1,1,2-Trichloroethane	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
1,1-Dichloroethane	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
1,1-Dichloroethene	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
1,1-Dichloropropene	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
1,2,3-Trichlorobenzene	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
1,2,3-Trichloropropane	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
1,2,4-Trichlorobenzene	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
1,2,4-Trimethylbenzene	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
1,2-Dibromo-3-Chloropropane	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
1,2-Dibromoethane	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
1,2-Dichlorobenzene	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
1,2-Dichloroethane	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
1,2-Dichloropropane	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
1,3,5-Trimethylbenzene	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
1,3-Dichlorobenzene	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
1,3-Dichloropropane	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
1,4-Dichlorobenzene	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
1,4-Dioxane	ND (0.0445)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
2,2-Dichloropropane	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
2-Butanone	ND (0.0278)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
2-Chlorotoluene	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
2-Hexanone	ND (0.0278)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
4-Chlorotoluene	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
4-Isopropyltoluene	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
4-Methyl-2-Pentanone	ND (0.0278)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Acetone	**0.0301** (0.0278)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Benzene	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Bromobenzene	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Bromochloromethane	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117C 8-5ft
Date Sampled: 05/15/23 09:25
Percent Solids: 76
Initial Volume: 11.8g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-03
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 (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Bromoform	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Bromomethane	ND (0.0056)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Carbon Disulfide	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Carbon Tetrachloride	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Chlorobenzene	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Chloroethane	ND (0.0056)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Chloroform	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Chloromethane	ND (0.0056)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
cis-1,2-Dichloroethene	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
cis-1,3-Dichloropropene	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Dibromochloromethane	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Dibromomethane	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Dichlorodifluoromethane	ND (0.0056)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Diethyl Ether	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Di-isopropyl ether	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Ethyl tertiary-butyl ether	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Ethylbenzene	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Hexachlorobutadiene	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Isopropylbenzene	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Methyl tert-Butyl Ether	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Methylene Chloride	ND (0.0139)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Naphthalene	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
n-Butylbenzene	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
n-Propylbenzene	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
sec-Butylbenzene	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Styrene	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
tert-Butylbenzene	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Tertiary-amyl methyl ether	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Tetrachloroethene	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Tetrahydrofuran	ND (0.0111)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Toluene	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117C 8-5ft
Date Sampled: 05/15/23 09:25
Percent Solids: 76
Initial Volume: 11.8g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-03
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 (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
trans-1,3-Dichloropropene	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Trichloroethene	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Trichlorofluoromethane	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Vinyl Chloride	ND (0.0056)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Xylene O	ND (0.0028)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Xylene P,M	ND (0.0056)		8260B Low		1	05/16/23 13:43	D3E0301	DE31616
Xylenes (Total)	ND (0.00557)		8260B Low		1	05/16/23 13:43		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichloroethane-d4	*118 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*85 %*		*70-130*
Surrogate: Dibromofluoromethane	*103 %*		*70-130*
Surrogate: Toluene-d8	*105 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117C 3-6ft
Date Sampled: 05/15/23 09:13
Percent Solids: 86
Initial Volume: 19.5g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 5/15/23 17:53

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**185** (23.8)		8100M		2	05/16/23 14:22		DE31517

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*79 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117 0-3ft
Date Sampled: 05/09/23 10:00
Percent Solids: 90

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-05
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	**4.13** (2.50)		6010C		1	CEV	05/17/23 17:43	2.23	100	DE31626
Barium	**46.4** (2.50)		6010C		1	CEV	05/17/23 17:43	2.23	100	DE31626
Cadmium	ND (0.50)		6010C		1	CEV	05/17/23 17:43	2.23	100	DE31626
Chromium	**7.93** (1.00)		6010C		1	CEV	05/17/23 17:43	2.23	100	DE31626
Lead	**127** (5.00)		6010C		1	CEV	05/17/23 17:43	2.23	100	DE31626
Mercury	**0.388** (0.029)		7471B		1	YIV	05/17/23 12:21	0.76	40	DE31640
Selenium	ND (5.00)		6010C		1	CEV	05/17/23 17:43	2.23	100	DE31626
Silver	ND (0.50)		6010C		1	CEV	05/17/23 17:43	2.23	100	DE31626

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117 0-3ft
Date Sampled: 05/09/23 10:00
Percent Solids: 90

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-05
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	**0.174** (0.050)		1311/6010C		1	CEV	05/23/23 9:40	50	50	DE32206

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117 0-3ft
Date Sampled: 05/09/23 10:00
Percent Solids: 90
Initial Volume: 19.4g
Final Volume: 5ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 5/16/23 12:35

8081B Organochlorine Pesticides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
4,4´-DDD	ND (0.0029)		8081B		1	05/17/23 22:38	D3E0321	DE31604
4,4´-DDE	ND (0.0029)		8081B		1	05/17/23 22:38	D3E0321	DE31604
4,4´-DDT	ND (0.0029)		8081B		1	05/17/23 22:38	D3E0321	DE31604
Aldrin	ND (0.0029)		8081B		1	05/17/23 22:38	D3E0321	DE31604
alpha-BHC	ND (0.0029)		8081B		1	05/17/23 22:38	D3E0321	DE31604
alpha-Chlordane	ND (0.0029)		8081B		1	05/17/23 22:38	D3E0321	DE31604
beta-BHC	ND (0.0029)		8081B		1	05/17/23 22:38	D3E0321	DE31604
Chlordane (Total)	ND (0.0345)		8081B		1	05/17/23 22:38	D3E0321	DE31604
delta-BHC	ND (0.0029)		8081B		1	05/17/23 22:38	D3E0321	DE31604
Dieldrin	ND (0.0029)		8081B		1	05/17/23 22:38	D3E0321	DE31604
Endosulfan I	ND (0.0029)		8081B		1	05/17/23 22:38	D3E0321	DE31604
Endosulfan II	ND (0.0029)		8081B		1	05/17/23 22:38	D3E0321	DE31604
Endosulfan Sulfate	ND (0.0029)		8081B		1	05/17/23 22:38	D3E0321	DE31604
Endrin	ND (0.0029)		8081B		1	05/17/23 22:38	D3E0321	DE31604
Endrin Aldehyde	ND (0.0029)		8081B		1	05/17/23 22:38	D3E0321	DE31604
Endrin Ketone	ND (0.0029)		8081B		1	05/17/23 22:38	D3E0321	DE31604
gamma-BHC (Lindane)	ND (0.0017)		8081B		1	05/17/23 22:38	D3E0321	DE31604
gamma-Chlordane	ND (0.0029)		8081B		1	05/17/23 22:38	D3E0321	DE31604
Heptachlor	ND (0.0029)		8081B		1	05/17/23 22:38	D3E0321	DE31604
Heptachlor Epoxide	ND (0.0029)		8081B		1	05/17/23 22:38	D3E0321	DE31604
Hexachlorobenzene	ND (0.0029)		8081B		1	05/17/23 22:38	D3E0321	DE31604
Methoxychlor	ND (0.0029)		8081B		1	05/17/23 22:38	D3E0321	DE31604
Toxaphene	ND (0.144)		8081B		1	05/17/23 22:38	D3E0321	DE31604

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*47 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*55 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*35 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*45 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117 0-3ft
Date Sampled: 05/09/23 10:00
Percent Solids: 90
Initial Volume: 20g
Final Volume: 10ml
Extraction Method: 3540C

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JLG
Prepared: 5/16/23 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	05/19/23 16:11		DE31825
Aroclor 1221	ND (0.06)		8082A		1	05/19/23 16:11		DE31825
Aroclor 1232	ND (0.06)		8082A		1	05/19/23 16:11		DE31825
Aroclor 1242	ND (0.06)		8082A		1	05/19/23 16:11		DE31825
Aroclor 1248	ND (0.06)		8082A		1	05/19/23 16:11		DE31825
Aroclor 1254	ND (0.06)		8082A		1	05/19/23 16:11		DE31825
Aroclor 1260	ND (0.06)		8082A		1	05/19/23 16:11		DE31825
Aroclor 1262	ND (0.06)		8082A		1	05/19/23 16:11		DE31825
Aroclor 1268	ND (0.06)		8082A		1	05/19/23 16:11		DE31825

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*67 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*72 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*54 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*52 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117 0-3ft
Date Sampled: 05/09/23 10:00
Percent Solids: 90
Initial Volume: 19g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 5/23/23 10:15

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**379** (23.5)		8100M		2	05/24/23 5:50		DE32302

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*86 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117 0-3ft
Date Sampled: 05/09/23 10:00
Percent Solids: 90
Initial Volume: 10.2g
Final Volume: 4ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 5/17/23 16:15

8151A Chlorinated Herbicides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2,4,5-T	ND (0.010)		8151A		1	05/19/23 18:26	D3E0380	DE31741
2,4,5-TP (Silvex)	ND (0.010)		8151A		1	05/19/23 18:26	D3E0380	DE31741
2,4-D	ND (0.051)		8151A		1	05/19/23 18:26	D3E0380	DE31741
2,4-DB	ND (0.052)		8151A		1	05/19/23 18:26	D3E0380	DE31741
Dalapon	ND (0.050)		8151A		1	05/19/23 18:26	D3E0380	DE31741
Dicamba	ND (0.010)		8151A		1	05/19/23 18:26	D3E0380	DE31741
Dichlorprop	ND (0.051)		8151A		1	05/19/23 18:26	D3E0380	DE31741
Dinoseb	ND (0.052)		8151A		1	05/19/23 18:26	D3E0380	DE31741
MCPA	ND (2.54)		8151A		1	05/19/23 18:26	D3E0380	DE31741
MCPP	# ND (2.57)		8151A		1	05/19/23 18:26	D3E0380	DE31741

	%Recovery	Qualifier	Limits
Surrogate: DCAA	*72 %*		*30-150*
Surrogate: DCAA [2C]	*62 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117 0-3ft
Date Sampled: 05/09/23 10:00
Percent Solids: 90
Initial Volume: 19.3g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 5/15/23 17:49

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1-Biphenyl	**0.114** (0.029)		8270D		1	05/15/23 22:27	D3E0294	DE31516
1,2,4-Trichlorobenzene	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
1,2-Dichlorobenzene	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
1,3-Dichlorobenzene	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
1,4-Dichlorobenzene	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
2,4,5-Trichlorophenol	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
2,4,6-Trichlorophenol	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
2,4-Dichlorophenol	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
2,4-Dimethylphenol	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
2,4-Dinitrophenol	ND (1.15)		8270D		1	05/15/23 22:27	D3E0294	DE31516
2,4-Dinitrotoluene	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
2,6-Dinitrotoluene	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
2-Chloronaphthalene	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
2-Chlorophenol	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
2-Methylnaphthalene	**1.33** (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
2-Methylphenol	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
2-Nitrophenol	ND (0.577)		8270D		1	05/15/23 22:27	D3E0294	DE31516
3,3´-Dichlorobenzidine	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
3+4-Methylphenol	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
4-Bromophenyl-phenylether	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
4-Chloroaniline	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
4-Nitrophenol	ND (1.15)		8270D		1	05/15/23 22:27	D3E0294	DE31516
Acenaphthene	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
Acenaphthylene	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
Acetophenone	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
Aniline	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
Anthracene	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
Azobenzene	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
Benzo(a)anthracene	**0.802** (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
Benzo(a)pyrene	**0.801** (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
Benzo(b)fluoranthene	**0.637** (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
Benzo(g,h,i)perylene	**0.505** (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117 0-3ft
Date Sampled: 05/09/23 10:00
Percent Solids: 90
Initial Volume: 19.3g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 5/15/23 17:49

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Benzo(k)fluoranthene	**0.525** (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
bis(2-Chloroethoxy)methane	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
bis(2-Chloroethyl)ether	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
bis(2-chloroisopropyl)Ether	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
bis(2-Ethylhexyl)phthalate	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
Butylbenzylphthalate	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
Chrysene	**0.775** (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
Dibenzo(a,h)Anthracene	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
Dibenzofuran	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
Diethylphthalate	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
Dimethylphthalate	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
Di-n-butylphthalate	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
Di-n-octylphthalate	ND (0.577)		8270D		1	05/15/23 22:27	D3E0294	DE31516
Fluoranthene	**1.39** (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
Fluorene	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
Hexachlorobenzene	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
Hexachlorobutadiene	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
Hexachloroethane	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
Indeno(1,2,3-cd)Pyrene	**0.539** (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
Isophorone	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
Naphthalene	**0.373** (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
Nitrobenzene	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
N-Nitrosodimethylamine	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
Pentachlorophenol	ND (1.15)		8270D		1	05/15/23 22:27	D3E0294	DE31516
Phenanthrene	**0.891** (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
Phenol	ND (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516
Pyrene	**1.40** (0.289)		8270D		1	05/15/23 22:27	D3E0294	DE31516

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichlorobenzene-d4	*86 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*99 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*86 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117 0-3ft
Date Sampled: 05/09/23 10:00
Percent Solids: 90
Initial Volume: 19.3g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 5/15/23 17:49

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Fluorobiphenyl		*86 %*		*30-130*				
Surrogate: 2-Fluorophenol		*88 %*		*30-130*				
Surrogate: Nitrobenzene-d5		*81 %*		*30-130*				
Surrogate: Phenol-d6		*85 %*		*30-130*				
Surrogate: p-Terphenyl-d14		*101 %*		*30-130*				

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117 0-3ft
Date Sampled: 05/09/23 10:00
Percent Solids: 90

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-05
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Conductivity	**WL 982** (5)		9050A		1	EAM	05/15/23 20:20	umhos/cm	DE31563
Corrosivity (pH)	**8.15** (N/A)		9045		1	CCP	05/15/23 18:09	S.U.	DE31546
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 21.2 ºC.**								
Flashpoint	**> 200** (N/A)		1010A		1	LAB	05/16/23 14:34	°F	DE31624
Reactive Cyanide	ND (2.0)		7.3.3.2		1	JLK	05/16/23 16:06	mg/kg	DE31633
Reactive Sulfide	ND (2.0)		7.3.4.1		1	JLK	05/16/23 16:06	mg/kg	DE31633

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117 0-3ft
Date Sampled: 05/09/23 10:00
Percent Solids: 90
Initial Volume: 100g
Final Volume: 2000ml
Extraction Method: 1311

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-05
Sample Matrix: Soil
Units: °C
Analyst: YIV
Prepared: 5/19/23 17:30

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**23.1** (N/A)		1311		1	YIV	05/20/23 9:30	DE31952
Temperature (Max C)	**23.4** (N/A)		1311		1	YIV	05/20/23 9:30	DE31952
Temperature (Range)	**Temperature is within 23 +/-2 ºC.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117 3-6ft
Date Sampled: 05/09/23 10:35
Percent Solids: 81

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-06
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	**10.3** (2.53)		6010C		1	CEV	05/17/23 17:45	2.45	100	DE31626
Barium	**66.2** (2.53)		6010C		1	CEV	05/17/23 17:45	2.45	100	DE31626
Cadmium	**1.97** (0.51)		6010C		1	CEV	05/17/23 17:45	2.45	100	DE31626
Chromium	**11.4** (1.01)		6010C		1	CEV	05/17/23 17:45	2.45	100	DE31626
Lead	**221** (5.06)		6010C		1	CEV	05/17/23 17:45	2.45	100	DE31626
Mercury	**0.701** (0.037)		7471B		1	YIV	05/17/23 12:28	0.66	40	DE31640
Selenium	ND (5.06)		6010C		1	CEV	05/17/23 17:45	2.45	100	DE31626
Silver	ND (0.51)		6010C		1	CEV	05/17/23 17:45	2.45	100	DE31626

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117 3-6ft
Date Sampled: 05/09/23 10:35
Percent Solids: 81

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-06
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	**0.653** (0.050)		1311/6010C		1	CEV	05/23/23 10:36	50	50	DE32206

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117 3-6ft
Date Sampled: 05/09/23 10:35
Percent Solids: 81
Initial Volume: 19.9g
Final Volume: 5ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 5/16/23 12:35

8081B Organochlorine Pesticides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
4,4´-DDD	ND (0.0031)		8081B		1	05/17/23 23:08	D3E0321	DE31604
4,4´-DDE	ND (0.0031)		8081B		1	05/17/23 23:08	D3E0321	DE31604
4,4´-DDT	ND (0.0031)		8081B		1	05/17/23 23:08	D3E0321	DE31604
Aldrin	ND (0.0031)		8081B		1	05/17/23 23:08	D3E0321	DE31604
alpha-BHC	ND (0.0031)		8081B		1	05/17/23 23:08	D3E0321	DE31604
alpha-Chlordane	ND (0.0031)		8081B		1	05/17/23 23:08	D3E0321	DE31604
beta-BHC	ND (0.0031)		8081B		1	05/17/23 23:08	D3E0321	DE31604
Chlordane (Total)	ND (0.0374)		8081B		1	05/17/23 23:08	D3E0321	DE31604
delta-BHC	ND (0.0031)		8081B		1	05/17/23 23:08	D3E0321	DE31604
Dieldrin	ND (0.0031)		8081B		1	05/17/23 23:08	D3E0321	DE31604
Endosulfan I	ND (0.0031)		8081B		1	05/17/23 23:08	D3E0321	DE31604
Endosulfan II	ND (0.0031)		8081B		1	05/17/23 23:08	D3E0321	DE31604
Endosulfan Sulfate	ND (0.0031)		8081B		1	05/17/23 23:08	D3E0321	DE31604
Endrin	ND (0.0031)		8081B		1	05/17/23 23:08	D3E0321	DE31604
Endrin Aldehyde	ND (0.0031)		8081B		1	05/17/23 23:08	D3E0321	DE31604
Endrin Ketone	ND (0.0031)		8081B		1	05/17/23 23:08	D3E0321	DE31604
gamma-BHC (Lindane)	ND (0.0019)		8081B		1	05/17/23 23:08	D3E0321	DE31604
gamma-Chlordane	ND (0.0031)		8081B		1	05/17/23 23:08	D3E0321	DE31604
Heptachlor	ND (0.0031)		8081B		1	05/17/23 23:08	D3E0321	DE31604
Heptachlor Epoxide	ND (0.0031)		8081B		1	05/17/23 23:08	D3E0321	DE31604
Hexachlorobenzene	ND (0.0031)		8081B		1	05/17/23 23:08	D3E0321	DE31604
Methoxychlor	ND (0.0031)		8081B		1	05/17/23 23:08	D3E0321	DE31604
Toxaphene	ND (0.156)		8081B		1	05/17/23 23:08	D3E0321	DE31604

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*47 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*55 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*46 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*51 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117 3-6ft
Date Sampled: 05/09/23 10:35
Percent Solids: 81
Initial Volume: 20g
Final Volume: 10ml
Extraction Method: 3540C

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JLG
Prepared: 5/16/23 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	05/19/23 16:31		DE31825
Aroclor 1221	ND (0.06)		8082A		1	05/19/23 16:31		DE31825
Aroclor 1232	ND (0.06)		8082A		1	05/19/23 16:31		DE31825
Aroclor 1242	ND (0.06)		8082A		1	05/19/23 16:31		DE31825
Aroclor 1248	ND (0.06)		8082A		1	05/19/23 16:31		DE31825
Aroclor 1254	ND (0.06)		8082A		1	05/19/23 16:31		DE31825
Aroclor 1260	ND (0.06)		8082A		1	05/19/23 16:31		DE31825
Aroclor 1262	ND (0.06)		8082A		1	05/19/23 16:31		DE31825
Aroclor 1268	ND (0.06)		8082A		1	05/19/23 16:31		DE31825

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*59 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*62 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*52 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*57 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117 3-6ft
Date Sampled: 05/09/23 10:35
Percent Solids: 81
Initial Volume: 19.1g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 5/23/23 10:15

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**44.3** (13.0)		8100M		1	05/24/23 4:34		DE32302

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*80 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117 3-6ft
Date Sampled: 05/09/23 10:35
Percent Solids: 81
Initial Volume: 10.5g
Final Volume: 4ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 5/17/23 16:15

8151A Chlorinated Herbicides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2,4,5-T	**P, LC 0.054** (0.022)		8151A		10	05/22/23 10:11	D3E0380	DE31741
2,4,5-TP (Silvex)	ND (0.011)		8151A		1	05/19/23 18:54	D3E0380	DE31741
2,4-D	ND (0.055)		8151A		1	05/19/23 18:54	D3E0380	DE31741
2,4-DB	ND (0.056)		8151A		1	05/19/23 18:54	D3E0380	DE31741
Dalapon	ND (0.054)		8151A		1	05/19/23 18:54	D3E0380	DE31741
Dicamba [2C]	**P, LC 0.328** (0.111)		8151A		10	05/22/23 10:11	D3E0380	DE31741
Dichlorprop	**P, LC 0.554** (0.055)		8151A		1	05/19/23 18:54	D3E0380	DE31741
Dinoseb	ND (0.056)		8151A		1	05/19/23 18:54	D3E0380	DE31741
MCPA	ND (2.74)		8151A		1	05/19/23 18:54	D3E0380	DE31741
MCPP	ND (2.77)		8151A		1	05/19/23 18:54	D3E0380	DE31741

	%Recovery	Qualifier	Limits
Surrogate: DCAA	*95 %*		*30-150*
Surrogate: DCAA [2C]	*71 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117 3-6ft
Date Sampled: 05/09/23 10:35
Percent Solids: 81
Initial Volume: 20.5g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 5/15/23 17:49

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1-Biphenyl	**0.035** (0.030)		8270D		1	05/15/23 22:58	D3E0294	DE31516
1,2,4-Trichlorobenzene	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
1,2-Dichlorobenzene	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
1,3-Dichlorobenzene	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
1,4-Dichlorobenzene	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
2,4,5-Trichlorophenol	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
2,4,6-Trichlorophenol	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
2,4-Dichlorophenol	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
2,4-Dimethylphenol	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
2,4-Dinitrophenol	ND (1.21)		8270D		1	05/15/23 22:58	D3E0294	DE31516
2,4-Dinitrotoluene	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
2,6-Dinitrotoluene	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
2-Chloronaphthalene	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
2-Chlorophenol	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
2-Methylnaphthalene	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
2-Methylphenol	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
2-Nitrophenol	ND (0.605)		8270D		1	05/15/23 22:58	D3E0294	DE31516
3,3´-Dichlorobenzidine	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
3+4-Methylphenol	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
4-Bromophenyl-phenylether	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
4-Chloroaniline	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
4-Nitrophenol	ND (1.21)		8270D		1	05/15/23 22:58	D3E0294	DE31516
Acenaphthene	**0.402** (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
Acenaphthylene	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
Acetophenone	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
Aniline	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
Anthracene	**0.562** (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
Azobenzene	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
Benzo(a)anthracene	**0.957** (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
Benzo(a)pyrene	**0.974** (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
Benzo(b)fluoranthene	**0.690** (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
Benzo(g,h,i)perylene	**0.592** (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117 3-6ft
Date Sampled: 05/09/23 10:35
Percent Solids: 81
Initial Volume: 20.5g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 5/15/23 17:49

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Benzo(k)fluoranthene	**0.591** (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
bis(2-Chloroethoxy)methane	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
bis(2-Chloroethyl)ether	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
bis(2-chloroisopropyl)Ether	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
bis(2-Ethylhexyl)phthalate	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
Butylbenzylphthalate	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
Chrysene	**1.03** (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
Dibenzo(a,h)Anthracene	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
Dibenzofuran	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
Diethylphthalate	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
Dimethylphthalate	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
Di-n-butylphthalate	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
Di-n-octylphthalate	ND (0.605)		8270D		1	05/15/23 22:58	D3E0294	DE31516
Fluoranthene	**2.11** (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
Fluorene	**0.343** (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
Hexachlorobenzene	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
Hexachlorobutadiene	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
Hexachloroethane	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
Indeno(1,2,3-cd)Pyrene	**0.610** (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
Isophorone	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
Naphthalene	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
Nitrobenzene	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
N-Nitrosodimethylamine	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
Pentachlorophenol	ND (1.21)		8270D		1	05/15/23 22:58	D3E0294	DE31516
Phenanthrene	**2.08** (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
Phenol	ND (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516
Pyrene	**2.25** (0.302)		8270D		1	05/15/23 22:58	D3E0294	DE31516

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichlorobenzene-d4	*86 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*93 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*84 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117 3-6ft
Date Sampled: 05/09/23 10:35
Percent Solids: 81
Initial Volume: 20.5g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 5/15/23 17:49

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Fluorobiphenyl		*85 %*		*30-130*				
Surrogate: 2-Fluorophenol		*87 %*		*30-130*				
Surrogate: Nitrobenzene-d5		*82 %*		*30-130*				
Surrogate: Phenol-d6		*80 %*		*30-130*				
Surrogate: p-Terphenyl-d14		*100 %*		*30-130*				

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117 3-6ft
Date Sampled: 05/09/23 10:35
Percent Solids: 81

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-06
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Conductivity	**WL 1490** (5)		9050A		1	EAM	05/15/23 20:20	umhos/cm	DE31563
Corrosivity (pH)	**8.21** (N/A)		9045		1	CCP	05/15/23 18:09	S.U.	DE31546
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 21.1 ºC.**								
Flashpoint	**> 200** (N/A)		1010A		1	LAB	05/16/23 14:34	°F	DE31624
Reactive Cyanide	ND (2.0)		7.3.3.2		1	JLK	05/16/23 16:06	mg/kg	DE31633
Reactive Sulfide	ND (2.0)		7.3.4.1		1	JLK	05/16/23 16:06	mg/kg	DE31633

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117 3-6ft
Date Sampled: 05/09/23 10:35
Percent Solids: 81
Initial Volume: 100g
Final Volume: 2000ml
Extraction Method: 1311

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-06
Sample Matrix: Soil
Units: °C
Analyst: YIV
Prepared: 5/19/23 17:30

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**23.1** (N/A)		1311		1	YIV	05/20/23 9:30	DE31952
Temperature (Max C)	**23.4** (N/A)		1311		1	YIV	05/20/23 9:30	DE31952
Temperature (Range)	**Temperature is within 23 +/-2 ºC.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117 6-10ft
Date Sampled: 05/09/23 13:55
Percent Solids: 83

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-07
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** (2.84)		6010C		1	CEV	05/17/23 18:02	2.13	100	DE31626
Barium	**179** (2.84)		6010C		1	CEV	05/17/23 18:02	2.13	100	DE31626
Cadmium	ND (0.57)		6010C		1	CEV	05/17/23 18:02	2.13	100	DE31626
Chromium	**9.68** (1.13)		6010C		1	CEV	05/17/23 18:02	2.13	100	DE31626
Lead	**561** (5.67)		6010C		1	CEV	05/17/23 18:02	2.13	100	DE31626
Mercury	**3.20** (0.498)		7471B		20	YIV	05/17/23 15:49	0.96	40	DE31640
Selenium	ND (5.67)		6010C		1	CEV	05/17/23 18:02	2.13	100	DE31626
Silver	**1.83** (0.57)		6010C		1	CEV	05/17/23 18:02	2.13	100	DE31626

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117 6-10ft
Date Sampled: 05/09/23 13:55
Percent Solids: 83

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-07
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	**2.08** (0.050)		1311/6010C		1	CEV	05/23/23 9:43	50	50	DE32206

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117 6-10ft
Date Sampled: 05/09/23 13:55
Percent Solids: 83
Initial Volume: 19.6g
Final Volume: 5ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 5/16/23 12:35

8081B Organochlorine Pesticides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
4,4´-DDD	ND (0.0031)		8081B		1	05/17/23 23:38	D3E0321	DE31604
4,4´-DDE	ND (0.0031)		8081B		1	05/17/23 23:38	D3E0321	DE31604
4,4´-DDT	ND (0.0031)		8081B		1	05/17/23 23:38	D3E0321	DE31604
Aldrin	ND (0.0031)		8081B		1	05/17/23 23:38	D3E0321	DE31604
alpha-BHC	ND (0.0031)		8081B		1	05/17/23 23:38	D3E0321	DE31604
alpha-Chlordane	ND (0.0031)		8081B		1	05/17/23 23:38	D3E0321	DE31604
beta-BHC	ND (0.0031)		8081B		1	05/17/23 23:38	D3E0321	DE31604
Chlordane (Total)	ND (0.0370)		8081B		1	05/17/23 23:38	D3E0321	DE31604
delta-BHC	ND (0.0031)		8081B		1	05/17/23 23:38	D3E0321	DE31604
Dieldrin	ND (0.0031)		8081B		1	05/17/23 23:38	D3E0321	DE31604
Endosulfan I	ND (0.0031)		8081B		1	05/17/23 23:38	D3E0321	DE31604
Endosulfan II	ND (0.0031)		8081B		1	05/17/23 23:38	D3E0321	DE31604
Endosulfan Sulfate	ND (0.0031)		8081B		1	05/17/23 23:38	D3E0321	DE31604
Endrin	ND (0.0031)		8081B		1	05/17/23 23:38	D3E0321	DE31604
Endrin Aldehyde	ND (0.0031)		8081B		1	05/17/23 23:38	D3E0321	DE31604
Endrin Ketone	ND (0.0031)		8081B		1	05/17/23 23:38	D3E0321	DE31604
gamma-BHC (Lindane)	ND (0.0018)		8081B		1	05/17/23 23:38	D3E0321	DE31604
gamma-Chlordane	ND (0.0031)		8081B		1	05/17/23 23:38	D3E0321	DE31604
Heptachlor	ND (0.0031)		8081B		1	05/17/23 23:38	D3E0321	DE31604
Heptachlor Epoxide	ND (0.0031)		8081B		1	05/17/23 23:38	D3E0321	DE31604
Hexachlorobenzene	ND (0.0031)		8081B		1	05/17/23 23:38	D3E0321	DE31604
Methoxychlor	ND (0.0031)		8081B		1	05/17/23 23:38	D3E0321	DE31604
Toxaphene	ND (0.154)		8081B		1	05/17/23 23:38	D3E0321	DE31604

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*51 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*58 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*55 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*55 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117 6-10ft
Date Sampled: 05/09/23 13:55
Percent Solids: 83
Initial Volume: 20.4g
Final Volume: 10ml
Extraction Method: 3540C

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JLG
Prepared: 5/17/23 11:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	05/22/23 12:39		DE31938
Aroclor 1221	ND (0.06)		8082A		1	05/22/23 12:39		DE31938
Aroclor 1232	ND (0.06)		8082A		1	05/22/23 12:39		DE31938
Aroclor 1242	ND (0.06)		8082A		1	05/22/23 12:39		DE31938
Aroclor 1248	ND (0.06)		8082A		1	05/22/23 12:39		DE31938
Aroclor 1254	ND (0.06)		8082A		1	05/22/23 12:39		DE31938
Aroclor 1260	ND (0.06)		8082A		1	05/22/23 12:39		DE31938
Aroclor 1262	ND (0.06)		8082A		1	05/22/23 12:39		DE31938
Aroclor 1268	ND (0.06)		8082A		1	05/22/23 12:39		DE31938

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*71 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*77 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*64 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*73 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117 6-10ft
Date Sampled: 05/09/23 13:55
Percent Solids: 83
Initial Volume: 19g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 5/23/23 10:15

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**27.4** (12.7)		8100M		1	05/24/23 5:12		DE32302

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*75 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117 6-10ft
Date Sampled: 05/09/23 13:55
Percent Solids: 83
Initial Volume: 10.2g
Final Volume: 4ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 5/17/23 16:15

8151A Chlorinated Herbicides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2,4,5-T	**0.086** (0.023)		8151A		10	05/22/23 10:40	D3E0380	DE31741
2,4,5-TP (Silvex)	ND (0.011)		8151A		1	05/19/23 19:23	D3E0380	DE31741
2,4-D	ND (0.056)		8151A		1	05/19/23 19:23	D3E0380	DE31741
2,4-DB	ND (0.056)		8151A		1	05/19/23 19:23	D3E0380	DE31741
Dalapon	ND (0.054)		8151A		1	05/19/23 19:23	D3E0380	DE31741
Dicamba [2C]	**P, LC 0.561** (0.111)		8151A		10	05/22/23 10:40	D3E0380	DE31741
Dichlorprop	**P, LC 0.513** (0.056)		8151A		1	05/19/23 19:23	D3E0380	DE31741
Dinoseb	ND (0.056)		8151A		1	05/19/23 19:23	D3E0380	DE31741
MCPA	ND (2.75)		8151A		1	05/19/23 19:23	D3E0380	DE31741
MCPP	ND (2.78)		8151A		1	05/19/23 19:23	D3E0380	DE31741

	%Recovery	*Qualifier*	*Limits*
Surrogate: DCAA	*205 %*	*SM*	*30-150*
Surrogate: DCAA [2C]	*49 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117 6-10ft
Date Sampled: 05/09/23 13:55
Percent Solids: 83
Initial Volume: 19.3g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 5/15/23 17:49

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1-Biphenyl	ND (0.031)		8270D		1	05/15/23 23:30	D3E0294	DE31516
1,2,4-Trichlorobenzene	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
1,2-Dichlorobenzene	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
1,3-Dichlorobenzene	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
1,4-Dichlorobenzene	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
2,4,5-Trichlorophenol	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
2,4,6-Trichlorophenol	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
2,4-Dichlorophenol	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
2,4-Dimethylphenol	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
2,4-Dinitrophenol	ND (1.25)		8270D		1	05/15/23 23:30	D3E0294	DE31516
2,4-Dinitrotoluene	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
2,6-Dinitrotoluene	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
2-Chloronaphthalene	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
2-Chlorophenol	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
2-Methylnaphthalene	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
2-Methylphenol	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
2-Nitrophenol	ND (0.626)		8270D		1	05/15/23 23:30	D3E0294	DE31516
3,3´-Dichlorobenzidine	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
3+4-Methylphenol	**0.473** (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
4-Bromophenyl-phenylether	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
4-Chloroaniline	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
4-Nitrophenol	ND (1.25)		8270D		1	05/15/23 23:30	D3E0294	DE31516
Acenaphthene	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
Acenaphthylene	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
Acetophenone	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
Aniline	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
Anthracene	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
Azobenzene	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
Benzo(a)anthracene	**0.651** (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
Benzo(a)pyrene	**0.707** (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
Benzo(b)fluoranthene	**0.489** (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
Benzo(g,h,i)perylene	**0.437** (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117 6-10ft
Date Sampled: 05/09/23 13:55
Percent Solids: 83
Initial Volume: 19.3g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 5/15/23 17:49

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Benzo(k)fluoranthene	**0.469** (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
bis(2-Chloroethoxy)methane	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
bis(2-Chloroethyl)ether	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
bis(2-chloroisopropyl)Ether	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
bis(2-Ethylhexyl)phthalate	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
Butylbenzylphthalate	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
Chrysene	**0.687** (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
Dibenzo(a,h)Anthracene	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
Dibenzofuran	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
Diethylphthalate	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
Dimethylphthalate	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
Di-n-butylphthalate	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
Di-n-octylphthalate	ND (0.626)		8270D		1	05/15/23 23:30	D3E0294	DE31516
Fluoranthene	**1.47** (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
Fluorene	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
Hexachlorobenzene	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
Hexachlorobutadiene	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
Hexachloroethane	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
Indeno(1,2,3-cd)Pyrene	**0.445** (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
Isophorone	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
Naphthalene	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
Nitrobenzene	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
N-Nitrosodimethylamine	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
Pentachlorophenol	ND (1.25)		8270D		1	05/15/23 23:30	D3E0294	DE31516
Phenanthrene	**0.944** (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
Phenol	ND (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516
Pyrene	**1.43** (0.313)		8270D		1	05/15/23 23:30	D3E0294	DE31516

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichlorobenzene-d4	*82 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*88 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*82 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117 6-10ft
Date Sampled: 05/09/23 13:55
Percent Solids: 83
Initial Volume: 19.3g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 5/15/23 17:49

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Fluorobiphenyl		*82 %*		*30-130*				
Surrogate: 2-Fluorophenol		*84 %*		*30-130*				
Surrogate: Nitrobenzene-d5		*78 %*		*30-130*				
Surrogate: Phenol-d6		*78 %*		*30-130*				
Surrogate: p-Terphenyl-d14		*95 %*		*30-130*				

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117 6-10ft
Date Sampled: 05/09/23 13:55
Percent Solids: 83

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-07
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Conductivity	**WL 1700** (5)		9050A		1	EAM	05/15/23 20:20	umhos/cm	DE31563
Corrosivity (pH)	**8.42** (N/A)		9045		1	CCP	05/15/23 18:09	S.U.	DE31546
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 20.9 ºC.**								
Flashpoint	**> 200** (N/A)		1010A		1	LAB	05/16/23 14:34	°F	DE31624
Reactive Cyanide	ND (2.0)		7.3.3.2		1	JLK	05/16/23 16:06	mg/kg	DE31633
Reactive Sulfide	ND (2.0)		7.3.4.1		1	JLK	05/16/23 16:06	mg/kg	DE31633

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117 6-10ft
Date Sampled: 05/09/23 13:55
Percent Solids: 83
Initial Volume: 100g
Final Volume: 2000ml
Extraction Method: 1311

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-07
Sample Matrix: Soil
Units: °C
Analyst: YIV
Prepared: 5/19/23 17:30

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**23.1** (N/A)		1311		1	YIV	05/20/23 9:30	DE31952
Temperature (Max C)	**23.4** (N/A)		1311		1	YIV	05/20/23 9:30	DE31952
Temperature (Range)	**Temperature is within 23 +/-2 ºC.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-116C 0-3ft
Date Sampled: 05/15/23 13:40
Percent Solids: 89
Initial Volume: 19.2g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23E0520
ESS Laboratory Sample ID: 23E0520-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 5/15/23 17:53

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**129** (11.8)		8100M		1	05/16/23 10:40		DE31517

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*70 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0520

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch DE31626 - 3050B										
Blank										
Arsenic	ND	1.75	mg/kg wet							
Barium	ND	1.75	mg/kg wet							
Cadmium	ND	0.35	mg/kg wet							
Chromium	ND	0.70	mg/kg wet							
Lead	ND	3.51	mg/kg wet							
Selenium	ND	3.51	mg/kg wet							
Silver	ND	0.35	mg/kg wet							
LCS										
Arsenic	265	7.35	mg/kg wet	258.0		103	80-120			
Barium	762	7.35	mg/kg wet	809.0		94	80-120			
Cadmium	320	1.47	mg/kg wet	321.0		100	80-120			
Chromium	124	2.94	mg/kg wet	133.0		93	80-120			
Lead	105	14.7	mg/kg wet	102.0		103	80-120			
Selenium	52.1	14.7	mg/kg wet	49.40		105	80-120			
Silver	24.6	1.47	mg/kg wet	22.70		108	80-120			
LCS Dup										
Arsenic	262	7.81	mg/kg wet	258.0		102	80-120	0.9	30	
Barium	844	7.81	mg/kg wet	809.0		104	80-120	10	30	
Cadmium	318	1.56	mg/kg wet	321.0		99	80-120	0.8	30	
Chromium	122	3.12	mg/kg wet	133.0		91	80-120	2	30	
Lead	105	15.6	mg/kg wet	102.0		103	80-120	0.4	20	
Selenium	51.9	15.6	mg/kg wet	49.40		105	80-120	0.4	30	
Silver	24.6	1.56	mg/kg wet	22.70		108	80-120	0.1	30	
Reference										
Barium	480	7.69	mg/kg wet	500.0		96	70-130			
Cadmium	476	1.54	mg/kg wet	500.0		95	70-130			
Chromium	470	3.08	mg/kg wet	500.0		94	70-130			
Lead	515	15.4	mg/kg wet	500.0		103	70-130			
Silver	161	1.54	mg/kg wet	500.0		32	70-130			R-
Batch DE31640 - 7471A										
Blank										
Mercury	ND	0.033	mg/kg wet							
LCS										
Mercury	18.4	3.19	mg/kg wet	18.20		101	80-120			
LCS Dup										
Mercury	18.5	2.96	mg/kg wet	18.20		102	80-120	0.5	30	
1311 TCLP Metals										
Batch DE32206 - 3005A_TCLP										
Blank										
Lead	ND	0.050	mg/L							
LCS										

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0520

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
1311 TCLP Metals										
Batch DE32206 - 3005A_TCLP										
Lead	0.468	0.050	mg/L	0.5000		94	80-120			
LCS Dup										
Lead	0.482	0.050	mg/L	0.5000		96	80-120	3	20	
5035/8260B Volatile Organic Compounds / Low Level										
Batch DE31616 - 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	0.0050	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	0.0800	mg/kg wet							
2,2-Dichloropropane	ND	0.0050	mg/kg wet							
2-Butanone	ND	0.0500	mg/kg wet							
2-Chlorotoluene	ND	0.0050	mg/kg wet							
2-Hexanone	ND	0.0500	mg/kg wet							
4-Chlorotoluene	ND	0.0050	mg/kg wet							
4-Isopropyltoluene	ND	0.0050	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.0500	mg/kg wet							
Acetone	ND	0.0500	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							

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23E0520

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 DE31616 - 5035										
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	0.0050	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	0.0250	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	0.0200	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	*0.0553*		mg/kg wet	*0.05000*		*111*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0473*		mg/kg wet	*0.05000*		*95*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0492*		mg/kg wet	*0.05000*		*98*	*70-130*			
Surrogate: Toluene-d8	*0.0484*		mg/kg wet	*0.05000*		*97*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	0.0480	0.0050	mg/kg wet	0.05000		96	70-130			
1,1,1-Trichloroethane	0.0485	0.0050	mg/kg wet	0.05000		97	70-130			
1,1,2,2-Tetrachloroethane	0.0468	0.0050	mg/kg wet	0.05000		94	70-130			
1,1,2-Trichloroethane	0.0469	0.0050	mg/kg wet	0.05000		94	70-130			
1,1-Dichloroethane	0.0493	0.0050	mg/kg wet	0.05000		99	70-130			
1,1-Dichloroethene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130			
1,1-Dichloropropene	0.0514	0.0050	mg/kg wet	0.05000		103	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23E0520

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 DE31616 - 5035										
1,2,3-Trichlorobenzene	0.0492	0.0050	mg/kg wet	0.05000		98	70-130			
1,2,3-Trichloropropane	0.0457	0.0050	mg/kg wet	0.05000		91	70-130			
1,2,4-Trichlorobenzene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130			
1,2,4-Trimethylbenzene	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			
1,2-Dibromo-3-Chloropropane	0.0380	0.0050	mg/kg wet	0.05000		76	70-130			
1,2-Dibromoethane	0.0466	0.0050	mg/kg wet	0.05000		93	70-130			
1,2-Dichlorobenzene	0.0477	0.0050	mg/kg wet	0.05000		95	70-130			
1,2-Dichloroethane	0.0506	0.0050	mg/kg wet	0.05000		101	70-130			
1,2-Dichloropropane	0.0500	0.0050	mg/kg wet	0.05000		100	70-130			
1,3,5-Trimethylbenzene	0.0497	0.0050	mg/kg wet	0.05000		99	70-130			
1,3-Dichlorobenzene	0.0492	0.0050	mg/kg wet	0.05000		98	70-130			
1,3-Dichloropropane	0.0497	0.0050	mg/kg wet	0.05000		99	70-130			
1,4-Dichlorobenzene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130			
1,4-Dioxane	0.847	0.0800	mg/kg wet	1.000		85	70-130			
2,2-Dichloropropane	0.0481	0.0050	mg/kg wet	0.05000		96	70-130			
2-Butanone	0.234	0.0500	mg/kg wet	0.2500		93	70-130			
2-Chlorotoluene	0.0498	0.0050	mg/kg wet	0.05000		100	70-130			
2-Hexanone	0.204	0.0500	mg/kg wet	0.2500		82	70-130			
4-Chlorotoluene	0.0492	0.0050	mg/kg wet	0.05000		98	70-130			
4-Isopropyltoluene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130			
4-Methyl-2-Pentanone	0.217	0.0500	mg/kg wet	0.2500		87	70-130			
Acetone	0.219	0.0500	mg/kg wet	0.2500		88	70-130			
Benzene	0.0497	0.0050	mg/kg wet	0.05000		99	70-130			
Bromobenzene	0.0496	0.0050	mg/kg wet	0.05000		99	70-130			
Bromochloromethane	0.0507	0.0050	mg/kg wet	0.05000		101	70-130			
Bromodichloromethane	0.0486	0.0050	mg/kg wet	0.05000		97	70-130			
Bromoform	0.0346	0.0050	mg/kg wet	0.05000		69	70-130			
Bromomethane	0.0542	0.0100	mg/kg wet	0.05000		108	70-130			
Carbon Disulfide	0.0528	0.0050	mg/kg wet	0.05000		106	70-130			
Carbon Tetrachloride	0.0487	0.0050	mg/kg wet	0.05000		97	70-130			
Chlorobenzene	0.0480	0.0050	mg/kg wet	0.05000		96	70-130			
Chloroethane	0.0523	0.0100	mg/kg wet	0.05000		105	70-130			
Chloroform	0.0491	0.0050	mg/kg wet	0.05000		98	70-130			
Chloromethane	0.0460	0.0100	mg/kg wet	0.05000		92	70-130			
cis-1,2-Dichloroethene	0.0506	0.0050	mg/kg wet	0.05000		101	70-130			
cis-1,3-Dichloropropene	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
Dibromochloromethane	0.0400	0.0050	mg/kg wet	0.05000		80	70-130			
Dibromomethane	0.0485	0.0050	mg/kg wet	0.05000		97	70-130			
Dichlorodifluoromethane	0.0407	0.0100	mg/kg wet	0.05000		81	70-130			
Diethyl Ether	0.0566	0.0050	mg/kg wet	0.05000		113	70-130			
Di-isopropyl ether	0.0522	0.0050	mg/kg wet	0.05000		104	70-130			
Ethyl tertiary-butyl ether	0.0490	0.0050	mg/kg wet	0.05000		98	70-130			
Ethylbenzene	0.0468	0.0050	mg/kg wet	0.05000		94	70-130			
Hexachlorobutadiene	0.0497	0.0050	mg/kg wet	0.05000		99	70-130			
Isopropylbenzene	0.0496	0.0050	mg/kg wet	0.05000		99	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0520

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 DE31616 - 5035										
Methyl tert-Butyl Ether	0.0481	0.0050	mg/kg wet	0.05000		96	70-130			
Methylene Chloride	0.0481	0.0250	mg/kg wet	0.05000		96	70-130			
Naphthalene	0.0411	0.0050	mg/kg wet	0.05000		82	70-130			
n-Butylbenzene	0.0489	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	0.0472	0.0050	mg/kg wet	0.05000		94	70-130			
Styrene	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
tert-Butylbenzene	0.0495	0.0050	mg/kg wet	0.05000		99	70-130			
Tertiary-amyl methyl ether	0.0470	0.0050	mg/kg wet	0.05000		94	70-130			
Tetrachloroethene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130			
Tetrahydrofuran	0.0419	0.0200	mg/kg wet	0.05000		84	70-130			
Toluene	0.0491	0.0050	mg/kg wet	0.05000		98	70-130			
trans-1,2-Dichloroethene	0.0504	0.0050	mg/kg wet	0.05000		101	70-130			
trans-1,3-Dichloropropene	0.0426	0.0050	mg/kg wet	0.05000		85	70-130			
Trichloroethene	0.0499	0.0050	mg/kg wet	0.05000		100	70-130			
Trichlorofluoromethane	0.0489	0.0050	mg/kg wet	0.05000		98	70-130			
Vinyl Chloride	0.0515	0.0100	mg/kg wet	0.05000		103	70-130			
Xylene O	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			
Xylene P,M	0.0992	0.0100	mg/kg wet	0.1000		99	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0496*		mg/kg wet	*0.05000*		*99*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0472*		mg/kg wet	*0.05000*		*94*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0509*		mg/kg wet	*0.05000*		*102*	*70-130*			
Surrogate: Toluene-d8	*0.0491*		mg/kg wet	*0.05000*		*98*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	0.0483	0.0050	mg/kg wet	0.05000		97	70-130	0.6	20	
1,1,1-Trichloroethane	0.0496	0.0050	mg/kg wet	0.05000		99	70-130	2	20	
1,1,2,2-Tetrachloroethane	0.0479	0.0050	mg/kg wet	0.05000		96	70-130	2	20	
1,1,2-Trichloroethane	0.0486	0.0050	mg/kg wet	0.05000		97	70-130	4	20	
1,1-Dichloroethane	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	1	20	
1,1-Dichloroethene	0.0513	0.0050	mg/kg wet	0.05000		103	70-130	2	20	
1,1-Dichloropropene	0.0525	0.0050	mg/kg wet	0.05000		105	70-130	2	20	
1,2,3-Trichlorobenzene	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	1	20	
1,2,3-Trichloropropane	0.0470	0.0050	mg/kg wet	0.05000		94	70-130	3	20	
1,2,4-Trichlorobenzene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130	1	20	
1,2,4-Trimethylbenzene	0.0483	0.0050	mg/kg wet	0.05000		97	70-130	0.2	20	
1,2-Dibromo-3-Chloropropane	0.0402	0.0050	mg/kg wet	0.05000		80	70-130	6	20	
1,2-Dibromoethane	0.0473	0.0050	mg/kg wet	0.05000		95	70-130	1	20	
1,2-Dichlorobenzene	0.0479	0.0050	mg/kg wet	0.05000		96	70-130	0.4	20	
1,2-Dichloroethane	0.0518	0.0050	mg/kg wet	0.05000		104	70-130	2	20	
1,2-Dichloropropane	0.0508	0.0050	mg/kg wet	0.05000		102	70-130	2	20	
1,3,5-Trimethylbenzene	0.0504	0.0050	mg/kg wet	0.05000		101	70-130	2	20	
1,3-Dichlorobenzene	0.0490	0.0050	mg/kg wet	0.05000		98	70-130	0.5	20	
1,3-Dichloropropane	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	2	20	
1,4-Dichlorobenzene	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	2	20	
1,4-Dioxane	0.901	0.0800	mg/kg wet	1.000		90	70-130	6	20	

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23E0520

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 DE31616 - 5035										
2,2-Dichloropropane	0.0487	0.0050	mg/kg wet	0.05000		97	70-130	1	20	
2-Butanone	0.245	0.0500	mg/kg wet	0.2500		98	70-130	5	20	
2-Chlorotoluene	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	0.4	20	
2-Hexanone	0.216	0.0500	mg/kg wet	0.2500		87	70-130	6	20	
4-Chlorotoluene	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	1	20	
4-Isopropyltoluene	0.0490	0.0050	mg/kg wet	0.05000		98	70-130	0.4	20	
4-Methyl-2-Pentanone	0.232	0.0500	mg/kg wet	0.2500		93	70-130	7	20	
Acetone	0.234	0.0500	mg/kg wet	0.2500		93	70-130	6	20	
Benzene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130	2	20	
Bromobenzene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130	0.9	20	
Bromochloromethane	0.0511	0.0050	mg/kg wet	0.05000		102	70-130	0.7	20	
Bromodichloromethane	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	4	20	
Bromoform	0.0355	0.0050	mg/kg wet	0.05000		71	70-130	3	20	
Bromomethane	0.0560	0.0100	mg/kg wet	0.05000		112	70-130	3	20	
Carbon Disulfide	0.0540	0.0050	mg/kg wet	0.05000		108	70-130	2	20	
Carbon Tetrachloride	0.0492	0.0050	mg/kg wet	0.05000		98	70-130	1	20	
Chlorobenzene	0.0478	0.0050	mg/kg wet	0.05000		96	70-130	0.4	20	
Chloroethane	0.0539	0.0100	mg/kg wet	0.05000		108	70-130	3	20	
Chloroform	0.0500	0.0050	mg/kg wet	0.05000		100	70-130	2	20	
Chloromethane	0.0464	0.0100	mg/kg wet	0.05000		93	70-130	0.9	20	
cis-1,2-Dichloroethene	0.0515	0.0050	mg/kg wet	0.05000		103	70-130	2	20	
cis-1,3-Dichloropropene	0.0478	0.0050	mg/kg wet	0.05000		96	70-130	2	20	
Dibromochloromethane	0.0408	0.0050	mg/kg wet	0.05000		82	70-130	2	20	
Dibromomethane	0.0500	0.0050	mg/kg wet	0.05000		100	70-130	3	20	
Dichlorodifluoromethane	0.0414	0.0100	mg/kg wet	0.05000		83	70-130	2	20	
Diethyl Ether	0.0579	0.0050	mg/kg wet	0.05000		116	70-130	2	20	
Di-isopropyl ether	0.0532	0.0050	mg/kg wet	0.05000		106	70-130	2	20	
Ethyl tertiary-butyl ether	0.0504	0.0050	mg/kg wet	0.05000		101	70-130	3	20	
Ethylbenzene	0.0469	0.0050	mg/kg wet	0.05000		94	70-130	0.2	20	
Hexachlorobutadiene	0.0496	0.0050	mg/kg wet	0.05000		99	70-130	0.2	20	
Isopropylbenzene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130	1	20	
Methyl tert-Butyl Ether	0.0497	0.0050	mg/kg wet	0.05000		99	70-130	3	20	
Methylene Chloride	0.0495	0.0250	mg/kg wet	0.05000		99	70-130	3	20	
Naphthalene	0.0427	0.0050	mg/kg wet	0.05000		85	70-130	4	20	
n-Butylbenzene	0.0492	0.0050	mg/kg wet	0.05000		98	70-130	0.7	20	
n-Propylbenzene	0.0496	0.0050	mg/kg wet	0.05000		99	70-130	0.3	20	
sec-Butylbenzene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130	0.5	20	
Styrene	0.0472	0.0050	mg/kg wet	0.05000		94	70-130	0.2	20	
tert-Butylbenzene	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	0.8	20	
Tertiary-amyl methyl ether	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	3	20	
Tetrachloroethene	0.0483	0.0050	mg/kg wet	0.05000		97	70-130	0.9	20	
Tetrahydrofuran	0.0457	0.0200	mg/kg wet	0.05000		91	70-130	9	20	
Toluene	0.0502	0.0050	mg/kg wet	0.05000		100	70-130	2	20	
trans-1,2-Dichloroethene	0.0511	0.0050	mg/kg wet	0.05000		102	70-130	1	20	
trans-1,3-Dichloropropene	0.0432	0.0050	mg/kg wet	0.05000		86	70-130	2	20	

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0520

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 DE31616 - 5035										
Trichloroethene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130	2	20	
Trichlorofluoromethane	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	2	20	
Vinyl Chloride	0.0519	0.0100	mg/kg wet	0.05000		104	70-130	0.8	20	
Xylene O	0.0490	0.0050	mg/kg wet	0.05000		98	70-130	0.9	20	
Xylene P,M	0.100	0.0100	mg/kg wet	0.1000		100	70-130	0.9	20	
Surrogate: 1,2-Dichloroethane-d4	*0.0510*		mg/kg wet	*0.05000*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0472*		mg/kg wet	*0.05000*		*94*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0511*		mg/kg wet	*0.05000*		*102*	*70-130*			
Surrogate: Toluene-d8	*0.0484*		mg/kg wet	*0.05000*		*97*	*70-130*			
8081B Organochlorine Pesticides										
Batch DE31604 - 3546										
Blank										
4,4´-DDD	ND	0.0025	mg/kg wet							
4,4´-DDD [2C]	ND	0.0025	mg/kg wet							
4,4´-DDE	ND	0.0025	mg/kg wet							
4,4´-DDE [2C]	ND	0.0025	mg/kg wet							
4,4´-DDT	ND	0.0025	mg/kg wet							
4,4´-DDT [2C]	ND	0.0025	mg/kg wet							
Aldrin	ND	0.0025	mg/kg wet							
Aldrin [2C]	ND	0.0025	mg/kg wet							
alpha-BHC	ND	0.0025	mg/kg wet							
alpha-BHC [2C]	ND	0.0025	mg/kg wet							
alpha-Chlordane	ND	0.0025	mg/kg wet							
alpha-Chlordane [2C]	ND	0.0025	mg/kg wet							
beta-BHC	ND	0.0025	mg/kg wet							
beta-BHC [2C]	ND	0.0025	mg/kg wet							
Chlordane (Total)	ND	0.0300	mg/kg wet							
Chlordane (Total) [2C]	ND	0.0300	mg/kg wet							
delta-BHC	ND	0.0025	mg/kg wet							
delta-BHC [2C]	ND	0.0025	mg/kg wet							
Dieldrin	ND	0.0025	mg/kg wet							
Dieldrin [2C]	ND	0.0025	mg/kg wet							
Endosulfan I	ND	0.0025	mg/kg wet							
Endosulfan I [2C]	ND	0.0025	mg/kg wet							
Endosulfan II	ND	0.0025	mg/kg wet							
Endosulfan II [2C]	ND	0.0025	mg/kg wet							
Endosulfan Sulfate	ND	0.0025	mg/kg wet							
Endosulfan Sulfate [2C]	ND	0.0025	mg/kg wet							
Endrin	ND	0.0025	mg/kg wet							
Endrin [2C]	ND	0.0025	mg/kg wet							
Endrin Aldehyde	ND	0.0025	mg/kg wet							
Endrin Aldehyde [2C]	ND	0.0025	mg/kg wet							
Endrin Ketone	ND	0.0025	mg/kg wet							
Endrin Ketone [2C]	ND	0.0025	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23E0520

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8081B Organochlorine Pesticides										
Batch DE31604 - 3546										
gamma-BHC (Lindane)	ND	0.0015	mg/kg wet							
gamma-BHC (Lindane) [2C]	ND	0.0015	mg/kg wet							
gamma-Chlordane	ND	0.0025	mg/kg wet							
gamma-Chlordane [2C]	ND	0.0025	mg/kg wet							
Heptachlor	ND	0.0025	mg/kg wet							
Heptachlor [2C]	ND	0.0025	mg/kg wet							
Heptachlor Epoxide	ND	0.0025	mg/kg wet							
Heptachlor Epoxide [2C]	ND	0.0025	mg/kg wet							
Hexachlorobenzene	ND	0.0025	mg/kg wet							
Hexachlorobenzene [2C]	ND	0.0025	mg/kg wet							
Methoxychlor	ND	0.0025	mg/kg wet							
Methoxychlor [2C]	ND	0.0025	mg/kg wet							
Toxaphene	ND	0.125	mg/kg wet							
Toxaphene [2C]	ND	0.125	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0126*		mg/kg wet	*0.01250*		*100*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0116*		mg/kg wet	*0.01250*		*93*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0116*		mg/kg wet	*0.01250*		*93*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0106*		mg/kg wet	*0.01250*		*84*	*30-150*			
LCS										
4,4´-DDD	0.0114	0.0025	mg/kg wet	0.01250		91	40-140			
4,4´-DDD [2C]	0.0122	0.0025	mg/kg wet	0.01250		98	40-140			
4,4´-DDE	0.0129	0.0025	mg/kg wet	0.01250		103	40-140			
4,4´-DDE [2C]	0.0126	0.0025	mg/kg wet	0.01250		101	40-140			
4,4´-DDT	0.0149	0.0025	mg/kg wet	0.01250		119	40-140			
4,4´-DDT [2C]	0.0147	0.0025	mg/kg wet	0.01250		118	40-140			
Aldrin	0.0128	0.0025	mg/kg wet	0.01250		103	40-140			
Aldrin [2C]	0.0123	0.0025	mg/kg wet	0.01250		99	40-140			
alpha-BHC	0.0123	0.0025	mg/kg wet	0.01250		99	40-140			
alpha-BHC [2C]	0.0121	0.0025	mg/kg wet	0.01250		96	40-140			
alpha-Chlordane	0.0120	0.0025	mg/kg wet	0.01250		96	40-140			
alpha-Chlordane [2C]	0.0120	0.0025	mg/kg wet	0.01250		96	40-140			
beta-BHC	0.0123	0.0025	mg/kg wet	0.01250		99	40-140			
beta-BHC [2C]	0.0108	0.0025	mg/kg wet	0.01250		86	40-140			
delta-BHC	0.0387	0.0025	mg/kg wet	0.01250		309	40-140			B+, E
delta-BHC [2C]	0.0132	0.0025	mg/kg wet	0.01250		105	40-140			
Dieldrin	0.0128	0.0025	mg/kg wet	0.01250		102	40-140			
Dieldrin [2C]	0.0132	0.0025	mg/kg wet	0.01250		106	40-140			
Endosulfan I	0.0111	0.0025	mg/kg wet	0.01250		88	40-140			
Endosulfan I [2C]	0.0119	0.0025	mg/kg wet	0.01250		95	40-140			
Endosulfan II	0.0125	0.0025	mg/kg wet	0.01250		100	40-140			
Endosulfan II [2C]	0.0129	0.0025	mg/kg wet	0.01250		103	40-140			
Endosulfan Sulfate	0.0114	0.0025	mg/kg wet	0.01250		91	40-140			
Endosulfan Sulfate [2C]	0.0125	0.0025	mg/kg wet	0.01250		100	40-140			
Endrin	0.0123	0.0025	mg/kg wet	0.01250		98	40-140			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23E0520

Quality Control Data

8081B Organochlorine Pesticides

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch DE31604 - 3546										
Endrin [2C]	0.0125	0.0025	mg/kg wet	0.01250		100	40-140			
Endrin Aldehyde	0.0128	0.0025	mg/kg wet	0.01250		102	40-140			
Endrin Aldehyde [2C]	0.0129	0.0025	mg/kg wet	0.01250		103	40-140			
Endrin Ketone	0.0130	0.0025	mg/kg wet	0.01250		104	40-140			
Endrin Ketone [2C]	0.0130	0.0025	mg/kg wet	0.01250		104	40-140			
gamma-BHC (Lindane)	0.0123	0.0015	mg/kg wet	0.01250		99	40-140			
gamma-BHC (Lindane) [2C]	0.0125	0.0015	mg/kg wet	0.01250		100	40-140			
gamma-Chlordane	0.0111	0.0025	mg/kg wet	0.01250		89	40-140			
gamma-Chlordane [2C]	0.0121	0.0025	mg/kg wet	0.01250		97	40-140			
Heptachlor	0.0125	0.0025	mg/kg wet	0.01250		100	40-140			
Heptachlor [2C]	0.0123	0.0025	mg/kg wet	0.01250		99	40-140			
Heptachlor Epoxide	0.0121	0.0025	mg/kg wet	0.01250		96	40-140			
Heptachlor Epoxide [2C]	0.0120	0.0025	mg/kg wet	0.01250		96	40-140			
Hexachlorobenzene	0.0122	0.0025	mg/kg wet	0.01250		97	40-140			
Hexachlorobenzene [2C]	0.0119	0.0025	mg/kg wet	0.01250		95	40-140			
Methoxychlor	0.0130	0.0025	mg/kg wet	0.01250		104	40-140			
Methoxychlor [2C]	0.0122	0.0025	mg/kg wet	0.01250		97	40-140			
Surrogate: Decachlorobiphenyl	*0.0131*		mg/kg wet	*0.01250*		*105*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0122*		mg/kg wet	*0.01250*		*97*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0131*		mg/kg wet	*0.01250*		*105*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0119*		mg/kg wet	*0.01250*		*95*	*30-150*			
LCS Dup										
4,4´-DDD	0.0108	0.0025	mg/kg wet	0.01250		86	40-140	6	30	
4,4´-DDD [2C]	0.0111	0.0025	mg/kg wet	0.01250		89	40-140	9	30	
4,4´-DDE	0.0118	0.0025	mg/kg wet	0.01250		94	40-140	9	30	
4,4´-DDE [2C]	0.0114	0.0025	mg/kg wet	0.01250		91	40-140	10	30	
4,4´-DDT	0.0134	0.0025	mg/kg wet	0.01250		107	40-140	11	30	
4,4´-DDT [2C]	0.0129	0.0025	mg/kg wet	0.01250		103	40-140	13	30	
Aldrin	0.0115	0.0025	mg/kg wet	0.01250		92	40-140	11	30	
Aldrin [2C]	0.0112	0.0025	mg/kg wet	0.01250		90	40-140	9	30	
alpha-BHC	0.0110	0.0025	mg/kg wet	0.01250		88	40-140	12	30	
alpha-BHC [2C]	0.0109	0.0025	mg/kg wet	0.01250		87	40-140	10	30	
alpha-Chlordane	0.0109	0.0025	mg/kg wet	0.01250		88	40-140	9	30	
alpha-Chlordane [2C]	0.0110	0.0025	mg/kg wet	0.01250		88	40-140	8	30	
beta-BHC	0.0106	0.0025	mg/kg wet	0.01250		85	40-140	15	30	
beta-BHC [2C]	0.0099	0.0025	mg/kg wet	0.01250		79	40-140	8	30	
delta-BHC	0.0349	0.0025	mg/kg wet	0.01250		279	40-140	10	30	E, B+
delta-BHC [2C]	0.0119	0.0025	mg/kg wet	0.01250		96	40-140	10	30	
Dieldrin	0.0118	0.0025	mg/kg wet	0.01250		94	40-140	8	30	
Dieldrin [2C]	0.0122	0.0025	mg/kg wet	0.01250		97	40-140	8	30	
Endosulfan I	0.0102	0.0025	mg/kg wet	0.01250		82	40-140	8	30	
Endosulfan I [2C]	0.0110	0.0025	mg/kg wet	0.01250		88	40-140	8	30	
Endosulfan II	0.0116	0.0025	mg/kg wet	0.01250		93	40-140	7	30	
Endosulfan II [2C]	0.0119	0.0025	mg/kg wet	0.01250		95	40-140	9	30	

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0520

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8081B Organochlorine Pesticides										
Batch DE31604 - 3546										
Endosulfan Sulfate	0.0103	0.0025	mg/kg wet	0.01250		82	40-140	11	30	
Endosulfan Sulfate [2C]	0.0112	0.0025	mg/kg wet	0.01250		90	40-140	11	30	
Endrin	0.0113	0.0025	mg/kg wet	0.01250		90	40-140	9	30	
Endrin [2C]	0.0114	0.0025	mg/kg wet	0.01250		91	40-140	10	30	
Endrin Aldehyde	0.0120	0.0025	mg/kg wet	0.01250		96	40-140	6	30	
Endrin Aldehyde [2C]	0.0119	0.0025	mg/kg wet	0.01250		95	40-140	8	30	
Endrin Ketone	0.0119	0.0025	mg/kg wet	0.01250		95	40-140	9	30	
Endrin Ketone [2C]	0.0118	0.0025	mg/kg wet	0.01250		95	40-140	10	30	
gamma-BHC (Lindane)	0.0111	0.0015	mg/kg wet	0.01250		89	40-140	11	30	
gamma-BHC (Lindane) [2C]	0.0112	0.0015	mg/kg wet	0.01250		89	40-140	12	30	
gamma-Chlordane	0.0102	0.0025	mg/kg wet	0.01250		82	40-140	9	30	
gamma-Chlordane [2C]	0.0111	0.0025	mg/kg wet	0.01250		89	40-140	8	30	
Heptachlor	0.0113	0.0025	mg/kg wet	0.01250		91	40-140	10	30	
Heptachlor [2C]	0.0115	0.0025	mg/kg wet	0.01250		92	40-140	7	30	
Heptachlor Epoxide	0.0110	0.0025	mg/kg wet	0.01250		88	40-140	9	30	
Heptachlor Epoxide [2C]	0.0111	0.0025	mg/kg wet	0.01250		89	40-140	8	30	
Hexachlorobenzene	0.0111	0.0025	mg/kg wet	0.01250		89	40-140	9	30	
Hexachlorobenzene [2C]	0.0108	0.0025	mg/kg wet	0.01250		86	40-140	10	30	
Methoxychlor	0.0114	0.0025	mg/kg wet	0.01250		91	40-140	13	30	
Methoxychlor [2C]	0.0109	0.0025	mg/kg wet	0.01250		87	40-140	11	30	
Surrogate: Decachlorobiphenyl	*0.0121*		mg/kg wet	*0.01250*		*97*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0113*		mg/kg wet	*0.01250*		*90*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0115*		mg/kg wet	*0.01250*		*92*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0105*		mg/kg wet	*0.01250*		*84*	*30-150*			
8082A Polychlorinated Biphenyls (PCB)										
Batch DE31825 - 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							

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0520

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DE31825 - 3540C										
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0202*		mg/kg wet	*0.02500*		*81*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0211*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0185*		mg/kg wet	*0.02500*		*74*	*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		75	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		73	40-140			
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		72	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		75	40-140			
Surrogate: Decachlorobiphenyl	*0.0183*		mg/kg wet	*0.02500*		*73*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0192*		mg/kg wet	*0.02500*		*77*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0182*		mg/kg wet	*0.02500*		*73*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0180*		mg/kg wet	*0.02500*		*72*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		75	40-140	0.2	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		74	40-140	1	30	
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		76	40-140	5	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		78	40-140	4	30	
Surrogate: Decachlorobiphenyl	*0.0184*		mg/kg wet	*0.02500*		*74*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0192*		mg/kg wet	*0.02500*		*77*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0182*		mg/kg wet	*0.02500*		*73*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0179*		mg/kg wet	*0.02500*		*72*	*30-150*			
Batch DE31938 - 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							

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Client Name: Tetra Tech, Inc.
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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 DE31938 - 3540C										
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0243*		mg/kg wet	*0.02500*		*97*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0255*		mg/kg wet	*0.02500*		*102*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0224*		mg/kg wet	*0.02500*		*90*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0241*		mg/kg wet	*0.02500*		*96*	*30-150*			
LCS										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		101	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		102	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		103	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		105	40-140			
Surrogate: Decachlorobiphenyl	*0.0252*		mg/kg wet	*0.02500*		*101*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0261*		mg/kg wet	*0.02500*		*104*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0260*		mg/kg wet	*0.02500*		*104*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0263*		mg/kg wet	*0.02500*		*105*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		82	40-140	21	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		83	40-140	20	30	
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		87	40-140	17	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		90	40-140	16	30	
Surrogate: Decachlorobiphenyl	*0.0207*		mg/kg wet	*0.02500*		*83*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0214*		mg/kg wet	*0.02500*		*86*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0200*		mg/kg wet	*0.02500*		*80*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0200*		mg/kg wet	*0.02500*		*80*	*30-150*			
8100M Total Petroleum Hydrocarbons										
Batch DE31517 - 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 (C9-C36)	ND	10.0	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
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ESS Laboratory Work Order: 23E0520

Quality Control Data

8100M Total Petroleum Hydrocarbons

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch DE31517 - 3546										
Triacontane (C30)	ND	0.2	mg/kg wet							
Surrogate: O-Terphenyl	*4.25*		mg/kg wet	*5.000*		*85*	*40-140*			
LCS										
Decane (C10)	1.9	0.2	mg/kg wet	2.500		74	40-140			
Docosane (C22)	2.3	0.2	mg/kg wet	2.500		90	40-140			
Dodecane (C12)	1.9	0.2	mg/kg wet	2.500		76	40-140			
Eicosane (C20)	2.2	0.2	mg/kg wet	2.500		87	40-140			
Hexacosane (C26)	2.3	0.2	mg/kg wet	2.500		91	40-140			
Hexadecane (C16)	2.1	0.2	mg/kg wet	2.500		84	40-140			
Hexatriacontane (C36)	2.0	0.2	mg/kg wet	2.500		81	40-140			
Nonadecane (C19)	2.1	0.2	mg/kg wet	2.500		84	40-140			
Nonane (C9)	1.6	0.2	mg/kg wet	2.500		63	30-140			
Octacosane (C28)	2.1	0.2	mg/kg wet	2.500		85	40-140			
Octadecane (C18)	2.1	0.2	mg/kg wet	2.500		83	40-140			
Tetracosane (C24)	2.1	0.2	mg/kg wet	2.500		83	40-140			
Tetradecane (C14)	2.0	0.2	mg/kg wet	2.500		79	40-140			
Total Petroleum Hydrocarbons (C9-C36)	29.3	10.0	mg/kg wet	35.00		84	40-140			
Triacontane (C30)	2.0	0.2	mg/kg wet	2.500		81	40-140			
Surrogate: O-Terphenyl	*4.27*		mg/kg wet	*5.000*		*85*	*40-140*			
LCS Dup										
Decane (C10)	1.8	0.2	mg/kg wet	2.500		73	40-140	1	25	
Docosane (C22)	2.2	0.2	mg/kg wet	2.500		88	40-140	3	25	
Dodecane (C12)	1.9	0.2	mg/kg wet	2.500		75	40-140	2	25	
Eicosane (C20)	2.1	0.2	mg/kg wet	2.500		84	40-140	3	25	
Hexacosane (C26)	2.2	0.2	mg/kg wet	2.500		89	40-140	3	25	
Hexadecane (C16)	2.0	0.2	mg/kg wet	2.500		81	40-140	3	25	
Hexatriacontane (C36)	2.0	0.2	mg/kg wet	2.500		79	40-140	2	25	
Nonadecane (C19)	2.0	0.2	mg/kg wet	2.500		81	40-140	4	25	
Nonane (C9)	1.5	0.2	mg/kg wet	2.500		62	30-140	1	25	
Octacosane (C28)	2.1	0.2	mg/kg wet	2.500		83	40-140	3	25	
Octadecane (C18)	2.0	0.2	mg/kg wet	2.500		80	40-140	4	25	
Tetracosane (C24)	2.0	0.2	mg/kg wet	2.500		81	40-140	2	25	
Tetradecane (C14)	1.9	0.2	mg/kg wet	2.500		77	40-140	3	25	
Total Petroleum Hydrocarbons (C9-C36)	28.7	10.0	mg/kg wet	35.00		82	40-140	2	25	
Triacontane (C30)	2.0	0.2	mg/kg wet	2.500		79	40-140	2	25	
Surrogate: O-Terphenyl	*4.10*		mg/kg wet	*5.000*		*82*	*40-140*			
Batch DE32302 - 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							

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Client Name: Tetra Tech, Inc.
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Quality Control Data

8100M Total Petroleum Hydrocarbons

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch DE32302 - 3546										
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 (C9-C36)	ND	10.0	mg/kg wet							
Triacontane (C30)	ND	0.2	mg/kg wet							
Surrogate: O-Terphenyl	*3.91*		mg/kg wet	*5.000*		*78*	*40-140*			
LCS										
Decane (C10)	1.6	0.2	mg/kg wet	2.500		66	40-140			
Docosane (C22)	2.1	0.2	mg/kg wet	2.500		83	40-140			
Dodecane (C12)	1.8	0.2	mg/kg wet	2.500		70	40-140			
Eicosane (C20)	2.0	0.2	mg/kg wet	2.500		80	40-140			
Hexacosane (C26)	2.1	0.2	mg/kg wet	2.500		83	40-140			
Hexadecane (C16)	1.9	0.2	mg/kg wet	2.500		77	40-140			
Hexatriacontane (C36)	2.0	0.2	mg/kg wet	2.500		82	40-140			
Nonadecane (C19)	2.0	0.2	mg/kg wet	2.500		79	40-140			
Nonane (C9)	1.4	0.2	mg/kg wet	2.500		57	30-140			
Octacosane (C28)	2.0	0.2	mg/kg wet	2.500		81	40-140			
Octadecane (C18)	1.9	0.2	mg/kg wet	2.500		78	40-140			
Tetracosane (C24)	1.9	0.2	mg/kg wet	2.500		75	40-140			
Tetradecane (C14)	1.8	0.2	mg/kg wet	2.500		74	40-140			
Total Petroleum Hydrocarbons (C9-C36)	26.7	10.0	mg/kg wet	35.00		76	40-140			
Triacontane (C30)	2.0	0.2	mg/kg wet	2.500		80	40-140			
Surrogate: O-Terphenyl	*3.89*		mg/kg wet	*5.000*		*78*	*40-140*			
LCS Dup										
Decane (C10)	1.6	0.2	mg/kg wet	2.500		66	40-140	0.4	25	
Docosane (C22)	2.0	0.2	mg/kg wet	2.500		81	40-140	2	25	
Dodecane (C12)	1.8	0.2	mg/kg wet	2.500		71	40-140	0.8	25	
Eicosane (C20)	2.0	0.2	mg/kg wet	2.500		79	40-140	2	25	
Hexacosane (C26)	2.1	0.2	mg/kg wet	2.500		82	40-140	1	25	
Hexadecane (C16)	1.9	0.2	mg/kg wet	2.500		76	40-140	0.3	25	
Hexatriacontane (C36)	2.0	0.2	mg/kg wet	2.500		81	40-140	1	25	
Nonadecane (C19)	2.0	0.2	mg/kg wet	2.500		78	40-140	1	25	
Nonane (C9)	1.4	0.2	mg/kg wet	2.500		57	30-140	0.3	25	
Octacosane (C28)	2.0	0.2	mg/kg wet	2.500		80	40-140	1	25	
Octadecane (C18)	1.9	0.2	mg/kg wet	2.500		77	40-140	0.9	25	
Tetracosane (C24)	1.8	0.2	mg/kg wet	2.500		74	40-140	2	25	
Tetradecane (C14)	1.8	0.2	mg/kg wet	2.500		74	40-140	0.4	25	

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
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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 DE32302 - 3546										
Total Petroleum Hydrocarbons (C9-C36)	26.3	10.0	mg/kg wet	35.00		75	40-140	1	25	
Triacontane (C30)	2.0	0.2	mg/kg wet	2.500		79	40-140	1	25	
Surrogate: O-Terphenyl	*3.81*		mg/kg wet	*5.000*		*76*	*40-140*			
8151A Chlorinated Herbicides										
Batch DE31741 - 3546										
Blank										
2,4,5-T	ND	0.002	mg/kg wet							
2,4,5-T [2C]	ND	0.002	mg/kg wet							
2,4,5-TP (Silvex)	ND	0.010	mg/kg wet							
2,4,5-TP (Silvex) [2C]	ND	0.010	mg/kg wet							
2,4-D	ND	0.047	mg/kg wet							
2,4-D [2C]	ND	0.047	mg/kg wet							
2,4-DB	ND	0.048	mg/kg wet							
2,4-DB [2C]	ND	0.048	mg/kg wet							
Dalapon	ND	0.046	mg/kg wet							
Dalapon [2C]	ND	0.046	mg/kg wet							
Dicamba	ND	0.009	mg/kg wet							
Dicamba [2C]	ND	0.009	mg/kg wet							
Dichlorprop	ND	0.047	mg/kg wet							
Dichlorprop [2C]	ND	0.047	mg/kg wet							
Dinoseb	ND	0.048	mg/kg wet							
Dinoseb [2C]	ND	0.048	mg/kg wet							
MCPA	ND	2.32	mg/kg wet							
MCPA [2C]	ND	2.32	mg/kg wet							
MCPP	ND	2.35	mg/kg wet							
MCPP [2C]	ND	2.35	mg/kg wet							
Surrogate: DCAA	*0.180*		mg/kg wet	*0.2000*		*90*	*30-150*			
Surrogate: DCAA [2C]	*0.165*		mg/kg wet	*0.2000*		*83*	*30-150*			
LCS										
2,4,5-T	0.013	0.010	mg/kg wet	0.01900		66	40-140			
2,4,5-T [2C]	0.013	0.010	mg/kg wet	0.01900		66	40-140			
2,4,5-TP (Silvex)	0.013	0.010	mg/kg wet	0.01900		70	40-140			
2,4,5-TP (Silvex) [2C]	0.014	0.010	mg/kg wet	0.01900		74	40-140			
2,4-D	0.130	0.047	mg/kg wet	0.1880		69	40-140			
2,4-D [2C]	0.134	0.047	mg/kg wet	0.1880		71	40-140			
2,4-DB	0.153	0.048	mg/kg wet	0.1900		81	40-140			
2,4-DB [2C]	0.144	0.048	mg/kg wet	0.1900		76	40-140			
Dalapon	0.248	0.046	mg/kg wet	0.4550		54	40-140			
Dalapon [2C]	0.268	0.046	mg/kg wet	0.4550		59	40-140			
Dicamba	0.012	0.009	mg/kg wet	0.01880		64	40-140			
Dicamba [2C]	0.014	0.009	mg/kg wet	0.01880		72	40-140			
Dichlorprop	0.172	0.047	mg/kg wet	0.1880		92	40-140			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23E0520

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8151A Chlorinated Herbicides										
Batch DE31741 - 3546										
Dichlorprop [2C]	0.149	0.047	mg/kg wet	0.1880		79	40-140			
Dinoseb	0.019	0.048	mg/kg wet	0.09500		20	10-100			
Dinoseb [2C]	0.021	0.048	mg/kg wet	0.09500		22	10-100			
MCPA	17.0	2.32	mg/kg wet	18.60		92	40-140			
MCPA [2C]	16.9	2.32	mg/kg wet	18.60		91	40-140			
MCPP	15.4	2.35	mg/kg wet	18.80		82	40-140			
MCPP [2C]	15.9	2.35	mg/kg wet	18.80		84	40-140			
Surrogate: DCAA	*0.185*		mg/kg wet	*0.2000*		*93*	*30-150*			
Surrogate: DCAA [2C]	*0.160*		mg/kg wet	*0.2000*		*80*	*30-150*			
LCS Dup										
2,4,5-T	0.013	0.010	mg/kg wet	0.01900		66	40-140	0	30	
2,4,5-T [2C]	0.013	0.010	mg/kg wet	0.01900		68	40-140	3	30	
2,4,5-TP (Silvex)	0.014	0.010	mg/kg wet	0.01900		72	40-140	3	30	
2,4,5-TP (Silvex) [2C]	0.014	0.010	mg/kg wet	0.01900		74	40-140	0	30	
2,4-D	0.133	0.047	mg/kg wet	0.1880		71	40-140	2	30	
2,4-D [2C]	0.141	0.047	mg/kg wet	0.1880		75	40-140	5	30	
2,4-DB	0.146	0.048	mg/kg wet	0.1900		77	40-140	5	30	
2,4-DB [2C]	0.139	0.048	mg/kg wet	0.1900		73	40-140	3	30	
Dalapon	0.290	0.046	mg/kg wet	0.4550		64	40-140	16	30	
Dalapon [2C]	0.318	0.046	mg/kg wet	0.4550		70	40-140	17	30	
Dicamba	0.013	0.009	mg/kg wet	0.01880		68	40-140	6	30	
Dicamba [2C]	0.014	0.009	mg/kg wet	0.01880		76	40-140	5	30	
Dichlorprop	0.178	0.047	mg/kg wet	0.1880		95	40-140	3	30	
Dichlorprop [2C]	0.161	0.047	mg/kg wet	0.1880		86	40-140	8	30	
Dinoseb	0.017	0.048	mg/kg wet	0.09500		18	10-100	15	30	
Dinoseb [2C]	0.017	0.048	mg/kg wet	0.09500		18	10-100	16	30	
MCPA	17.9	2.32	mg/kg wet	18.60		96	40-140	5	30	
MCPA [2C]	17.2	2.32	mg/kg wet	18.60		92	40-140	2	30	
MCPP	16.4	2.35	mg/kg wet	18.80		87	40-140	6	30	
MCPP [2C]	17.1	2.35	mg/kg wet	18.80		91	40-140	7	30	
Surrogate: DCAA	*0.180*		mg/kg wet	*0.2000*		*90*	*30-150*			
Surrogate: DCAA [2C]	*0.154*		mg/kg wet	*0.2000*		*77*	*30-150*			
8270D Semi-Volatile Organic Compounds										
Batch DE31516 - 3546										
Blank										
1,1-Biphenyl	ND	0.025	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.250	mg/kg wet							
1,2-Dichlorobenzene	ND	0.250	mg/kg wet							
1,3-Dichlorobenzene	ND	0.250	mg/kg wet							
1,4-Dichlorobenzene	ND	0.250	mg/kg wet							
2,4,5-Trichlorophenol	ND	0.250	mg/kg wet							
2,4,6-Trichlorophenol	ND	0.250	mg/kg wet							

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Client Name: Tetra Tech, Inc.
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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 DE31516 - 3546										
2,4-Dichlorophenol	ND	0.250	mg/kg wet							
2,4-Dimethylphenol	ND	0.250	mg/kg wet							
2,4-Dinitrophenol	ND	1.00	mg/kg wet							
2,4-Dinitrotoluene	ND	0.250	mg/kg wet							
2,6-Dinitrotoluene	ND	0.250	mg/kg wet							
2-Chloronaphthalene	ND	0.250	mg/kg wet							
2-Chlorophenol	ND	0.250	mg/kg wet							
2-Methylnaphthalene	ND	0.250	mg/kg wet							
2-Methylphenol	ND	0.250	mg/kg wet							
2-Nitrophenol	ND	0.500	mg/kg wet							
3,3´-Dichlorobenzidine	ND	0.250	mg/kg wet							
3+4-Methylphenol	ND	0.250	mg/kg wet							
4-Bromophenyl-phenylether	ND	0.250	mg/kg wet							
4-Chloroaniline	ND	0.250	mg/kg wet							
4-Nitrophenol	ND	1.00	mg/kg wet							
Acenaphthene	ND	0.250	mg/kg wet							
Acenaphthylene	ND	0.250	mg/kg wet							
Acetophenone	ND	0.250	mg/kg wet							
Aniline	ND	0.250	mg/kg wet							
Anthracene	ND	0.250	mg/kg wet							
Azobenzene	ND	0.250	mg/kg wet							
Benzo(a)anthracene	ND	0.250	mg/kg wet							
Benzo(a)pyrene	ND	0.250	mg/kg wet							
Benzo(b)fluoranthene	ND	0.250	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.250	mg/kg wet							
Benzo(k)fluoranthene	ND	0.250	mg/kg wet							
bis(2-Chloroethoxy)methane	ND	0.250	mg/kg wet							
bis(2-Chloroethyl)ether	ND	0.250	mg/kg wet							
bis(2-chloroisopropyl)Ether	ND	0.250	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.250	mg/kg wet							
Butylbenzylphthalate	ND	0.250	mg/kg wet							
Chrysene	ND	0.250	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.250	mg/kg wet							
Dibenzofuran	ND	0.250	mg/kg wet							
Diethylphthalate	ND	0.250	mg/kg wet							
Dimethylphthalate	ND	0.250	mg/kg wet							
Di-n-butylphthalate	ND	0.250	mg/kg wet							
Di-n-octylphthalate	ND	0.500	mg/kg wet							
Fluoranthene	ND	0.250	mg/kg wet							
Fluorene	ND	0.250	mg/kg wet							
Hexachlorobenzene	ND	0.250	mg/kg wet							
Hexachlorobutadiene	ND	0.250	mg/kg wet							
Hexachloroethane	ND	0.250	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.250	mg/kg wet							
Isophorone	ND	0.250	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 DE31516 - 3546										
Naphthalene	ND	0.250	mg/kg wet							
Nitrobenzene	ND	0.250	mg/kg wet							
N-Nitrosodimethylamine	ND	0.250	mg/kg wet							
Pentachlorophenol	ND	1.00	mg/kg wet							
Phenanthrene	ND	0.250	mg/kg wet							
Phenol	ND	0.250	mg/kg wet							
Pyrene	ND	0.250	mg/kg wet							
Pyridine	ND	0.250	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*2.33*		mg/kg wet	*2.500*		*93*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*3.68*		mg/kg wet	*3.750*		*98*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.53*		mg/kg wet	*3.750*		*94*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.36*		mg/kg wet	*2.500*		*94*	*30-130*			
Surrogate: 2-Fluorophenol	*3.49*		mg/kg wet	*3.750*		*93*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.32*		mg/kg wet	*2.500*		*93*	*30-130*			
Surrogate: Phenol-d6	*3.46*		mg/kg wet	*3.750*		*92*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.65*		mg/kg wet	*2.500*		*106*	*30-130*			
LCS										
1,1-Biphenyl	2.05	0.025	mg/kg wet	2.500		82	40-140			
1,2,4-Trichlorobenzene	1.89	0.250	mg/kg wet	2.500		76	40-140			
1,2-Dichlorobenzene	1.99	0.250	mg/kg wet	2.500		79	40-140			
1,3-Dichlorobenzene	1.96	0.250	mg/kg wet	2.500		78	40-140			
1,4-Dichlorobenzene	1.99	0.250	mg/kg wet	2.500		80	40-140			
2,4,5-Trichlorophenol	2.45	0.250	mg/kg wet	2.500		98	30-130			
2,4,6-Trichlorophenol	2.36	0.250	mg/kg wet	2.500		94	30-130			
2,4-Dichlorophenol	2.01	0.250	mg/kg wet	2.500		81	30-130			
2,4-Dimethylphenol	1.85	0.250	mg/kg wet	2.500		74	30-130			
2,4-Dinitrophenol	2.77	1.00	mg/kg wet	2.500		111	30-130			
2,4-Dinitrotoluene	2.63	0.250	mg/kg wet	2.500		105	40-140			
2,6-Dinitrotoluene	2.52	0.250	mg/kg wet	2.500		101	40-140			
2-Chloronaphthalene	2.20	0.250	mg/kg wet	2.500		88	40-140			
2-Chlorophenol	2.05	0.250	mg/kg wet	2.500		82	30-130			
2-Methylnaphthalene	1.86	0.250	mg/kg wet	2.500		75	40-140			
2-Methylphenol	1.98	0.250	mg/kg wet	2.500		79	30-130			
2-Nitrophenol	2.13	0.500	mg/kg wet	2.500		85	30-130			
3,3´-Dichlorobenzidine	2.33	0.250	mg/kg wet	2.500		93	40-140			
3+4-Methylphenol	4.07	0.250	mg/kg wet	5.000		81	30-130			
4-Bromophenyl-phenylether	2.30	0.250	mg/kg wet	2.500		92	40-140			
4-Chloroaniline	1.60	0.250	mg/kg wet	2.500		64	40-140			
4-Nitrophenol	2.09	1.00	mg/kg wet	2.500		84	30-130			
Acenaphthene	2.05	0.250	mg/kg wet	2.500		82	40-140			
Acenaphthylene	2.14	0.250	mg/kg wet	2.500		85	40-140			
Acetophenone	1.98	0.250	mg/kg wet	2.500		79	40-140			
Aniline	1.55	0.250	mg/kg wet	2.500		62	40-140			
Anthracene	2.31	0.250	mg/kg wet	2.500		92	40-140			
Azobenzene	1.93	0.250	mg/kg wet	2.500		77	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 DE31516 - 3546										
Benzo(a)anthracene	2.54	0.250	mg/kg wet	2.500		102	40-140			
Benzo(a)pyrene	2.81	0.250	mg/kg wet	2.500		112	40-140			
Benzo(b)fluoranthene	2.42	0.250	mg/kg wet	2.500		97	40-140			
Benzo(g,h,i)perylene	2.48	0.250	mg/kg wet	2.500		99	40-140			
Benzo(k)fluoranthene	2.31	0.250	mg/kg wet	2.500		92	40-140			
bis(2-Chloroethoxy)methane	1.64	0.250	mg/kg wet	2.500		66	40-140			
bis(2-Chloroethyl)ether	1.81	0.250	mg/kg wet	2.500		72	40-140			
bis(2-chloroisopropyl)Ether	1.70	0.250	mg/kg wet	2.500		68	40-140			
bis(2-Ethylhexyl)phthalate	2.17	0.250	mg/kg wet	2.500		87	40-140			
Butylbenzylphthalate	2.32	0.250	mg/kg wet	2.500		93	40-140			
Chrysene	2.52	0.250	mg/kg wet	2.500		101	40-140			
Dibenzo(a,h)Anthracene	2.71	0.250	mg/kg wet	2.500		108	40-140			
Dibenzofuran	2.17	0.250	mg/kg wet	2.500		87	40-140			
Diethylphthalate	2.39	0.250	mg/kg wet	2.500		96	40-140			
Dimethylphthalate	2.34	0.250	mg/kg wet	2.500		94	40-140			
Di-n-butylphthalate	2.46	0.250	mg/kg wet	2.500		99	40-140			
Di-n-octylphthalate	2.03	0.500	mg/kg wet	2.500		81	40-140			
Fluoranthene	2.54	0.250	mg/kg wet	2.500		102	40-140			
Fluorene	2.24	0.250	mg/kg wet	2.500		90	40-140			
Hexachlorobenzene	2.49	0.250	mg/kg wet	2.500		99	40-140			
Hexachlorobutadiene	1.99	0.250	mg/kg wet	2.500		80	40-140			
Hexachloroethane	1.97	0.250	mg/kg wet	2.500		79	40-140			
Indeno(1,2,3-cd)Pyrene	2.64	0.250	mg/kg wet	2.500		106	40-140			
Isophorone	1.67	0.250	mg/kg wet	2.500		67	40-140			
Naphthalene	1.74	0.250	mg/kg wet	2.500		70	40-140			
Nitrobenzene	1.79	0.250	mg/kg wet	2.500		71	40-140			
N-Nitrosodimethylamine	1.59	0.250	mg/kg wet	2.500		64	40-140			
Pentachlorophenol	2.74	1.00	mg/kg wet	2.500		109	30-130			
Phenanthrene	2.24	0.250	mg/kg wet	2.500		89	40-140			
Phenol	2.00	0.250	mg/kg wet	2.500		80	30-130			
Pyrene	2.31	0.250	mg/kg wet	2.500		92	40-140			
Pyridine	1.79	0.250	mg/kg wet	2.500		71	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*2.23*		mg/kg wet	*2.500*		*89*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.26*		mg/kg wet	*3.750*		*114*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.50*		mg/kg wet	*3.750*		*93*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.33*		mg/kg wet	*2.500*		*93*	*30-130*			
Surrogate: 2-Fluorophenol	*3.42*		mg/kg wet	*3.750*		*91*	*30-130*			
Surrogate: Nitrobenzene-d5	*1.98*		mg/kg wet	*2.500*		*79*	*30-130*			
Surrogate: Phenol-d6	*3.41*		mg/kg wet	*3.750*		*91*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.63*		mg/kg wet	*2.500*		*105*	*30-130*			
LCS Dup										
1,1-Biphenyl	2.14	0.025	mg/kg wet	2.500		86	40-140	4	30	
1,2,4-Trichlorobenzene	2.01	0.250	mg/kg wet	2.500		80	40-140	6	30	
1,2-Dichlorobenzene	2.07	0.250	mg/kg wet	2.500		83	40-140	4	30	
1,3-Dichlorobenzene	2.05	0.250	mg/kg wet	2.500		82	40-140	4	30	

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Client Name: Tetra Tech, Inc.
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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 DE31516 - 3546										
1,4-Dichlorobenzene	2.08	0.250	mg/kg wet	2.500		83	40-140	4	30	
2,4,5-Trichlorophenol	2.54	0.250	mg/kg wet	2.500		102	30-130	4	30	
2,4,6-Trichlorophenol	2.50	0.250	mg/kg wet	2.500		100	30-130	6	30	
2,4-Dichlorophenol	2.15	0.250	mg/kg wet	2.500		86	30-130	7	30	
2,4-Dimethylphenol	1.96	0.250	mg/kg wet	2.500		78	30-130	5	30	
2,4-Dinitrophenol	2.98	1.00	mg/kg wet	2.500		119	30-130	7	30	
2,4-Dinitrotoluene	2.62	0.250	mg/kg wet	2.500		105	40-140	0.2	30	
2,6-Dinitrotoluene	2.61	0.250	mg/kg wet	2.500		104	40-140	3	30	
2-Chloronaphthalene	2.27	0.250	mg/kg wet	2.500		91	40-140	3	30	
2-Chlorophenol	2.18	0.250	mg/kg wet	2.500		87	30-130	6	30	
2-Methylnaphthalene	1.97	0.250	mg/kg wet	2.500		79	40-140	6	30	
2-Methylphenol	2.07	0.250	mg/kg wet	2.500		83	30-130	4	30	
2-Nitrophenol	2.27	0.500	mg/kg wet	2.500		91	30-130	6	30	
3,3´-Dichlorobenzidine	2.34	0.250	mg/kg wet	2.500		93	40-140	0.4	30	
3+4-Methylphenol	4.27	0.250	mg/kg wet	5.000		85	30-130	5	30	
4-Bromophenyl-phenylether	2.37	0.250	mg/kg wet	2.500		95	40-140	3	30	
4-Chloroaniline	1.64	0.250	mg/kg wet	2.500		66	40-140	3	30	
4-Nitrophenol	2.08	1.00	mg/kg wet	2.500		83	30-130	0.4	30	
Acenaphthene	2.15	0.250	mg/kg wet	2.500		86	40-140	5	30	
Acenaphthylene	2.20	0.250	mg/kg wet	2.500		88	40-140	3	30	
Acetophenone	2.09	0.250	mg/kg wet	2.500		84	40-140	5	30	
Aniline	1.66	0.250	mg/kg wet	2.500		66	40-140	7	30	
Anthracene	2.36	0.250	mg/kg wet	2.500		94	40-140	2	30	
Azobenzene	1.99	0.250	mg/kg wet	2.500		79	40-140	3	30	
Benzo(a)anthracene	2.55	0.250	mg/kg wet	2.500		102	40-140	0.2	30	
Benzo(a)pyrene	2.85	0.250	mg/kg wet	2.500		114	40-140	1	30	
Benzo(b)fluoranthene	2.51	0.250	mg/kg wet	2.500		100	40-140	3	30	
Benzo(g,h,i)perylene	2.41	0.250	mg/kg wet	2.500		97	40-140	3	30	
Benzo(k)fluoranthene	2.40	0.250	mg/kg wet	2.500		96	40-140	4	30	
bis(2-Chloroethoxy)methane	1.75	0.250	mg/kg wet	2.500		70	40-140	6	30	
bis(2-Chloroethyl)ether	1.90	0.250	mg/kg wet	2.500		76	40-140	5	30	
bis(2-chloroisopropyl)Ether	1.82	0.250	mg/kg wet	2.500		73	40-140	7	30	
bis(2-Ethylhexyl)phthalate	2.21	0.250	mg/kg wet	2.500		89	40-140	2	30	
Butylbenzylphthalate	2.35	0.250	mg/kg wet	2.500		94	40-140	1	30	
Chrysene	2.57	0.250	mg/kg wet	2.500		103	40-140	2	30	
Dibenzo(a,h)Anthracene	2.69	0.250	mg/kg wet	2.500		108	40-140	0.8	30	
Dibenzofuran	2.26	0.250	mg/kg wet	2.500		90	40-140	4	30	
Diethylphthalate	2.42	0.250	mg/kg wet	2.500		97	40-140	0.9	30	
Dimethylphthalate	2.41	0.250	mg/kg wet	2.500		96	40-140	3	30	
Di-n-butylphthalate	2.48	0.250	mg/kg wet	2.500		99	40-140	0.8	30	
Di-n-octylphthalate	2.12	0.500	mg/kg wet	2.500		85	40-140	5	30	
Fluoranthene	2.52	0.250	mg/kg wet	2.500		101	40-140	1	30	
Fluorene	2.31	0.250	mg/kg wet	2.500		93	40-140	3	30	
Hexachlorobenzene	2.54	0.250	mg/kg wet	2.500		101	40-140	2	30	
Hexachlorobutadiene	2.14	0.250	mg/kg wet	2.500		86	40-140	7	30	

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0520

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DE31516 - 3546										
Hexachloroethane	2.05	0.250	mg/kg wet	2.500		82	40-140	4	30	
Indeno(1,2,3-cd)Pyrene	2.61	0.250	mg/kg wet	2.500		105	40-140	1	30	
Isophorone	1.75	0.250	mg/kg wet	2.500		70	40-140	5	30	
Naphthalene	1.85	0.250	mg/kg wet	2.500		74	40-140	6	30	
Nitrobenzene	1.88	0.250	mg/kg wet	2.500		75	40-140	5	30	
N-Nitrosodimethylamine	1.65	0.250	mg/kg wet	2.500		66	40-140	3	30	
Pentachlorophenol	2.76	1.00	mg/kg wet	2.500		111	30-130	1	30	
Phenanthrene	2.27	0.250	mg/kg wet	2.500		91	40-140	2	30	
Phenol	2.13	0.250	mg/kg wet	2.500		85	30-130	6	30	
Pyrene	2.40	0.250	mg/kg wet	2.500		96	40-140	4	30	
Pyridine	1.87	0.250	mg/kg wet	2.500		75	40-140	5	30	
Surrogate: 1,2-Dichlorobenzene-d4	*2.22*		mg/kg wet	*2.500*		*89*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.18*		mg/kg wet	*3.750*		*111*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.52*		mg/kg wet	*3.750*		*94*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.31*		mg/kg wet	*2.500*		*92*	*30-130*			
Surrogate: 2-Fluorophenol	*3.46*		mg/kg wet	*3.750*		*92*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.03*		mg/kg wet	*2.500*		*81*	*30-130*			
Surrogate: Phenol-d6	*3.47*		mg/kg wet	*3.750*		*92*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.62*		mg/kg wet	*2.500*		*105*	*30-130*			
Classical Chemistry										
Batch DE31563 - General Preparation										
Blank										
Conductivity	ND	5	umhos/cm							
LCS										
Conductivity	1290		umhos/cm	1411		92	90-110			
Batch DE31624 - General Preparation										
Reference										
Flashpoint	81		°F	81.00		100	97.9-102.1			
Batch DE31633 - 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: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23E0520

Notes and Definitions

R-	Standard Reference Material is biased low (R-).
>	Greater than.
B+	Blank Spike recovery is above upper control limit (B+).
CD-	Continuing Calibration %Diff/Drift is below control limit (CD-).
CD+	Continuing Calibration %Diff/Drift is above control limit (CD+).
D	Diluted.
E	Reported above the quantitation limit; Estimated value (E).
LC	Lower value is used due to matrix interferences (LC).
#	Modified result
Q	Calibration required quadratic regression (Q).
Z17	Temperature is within 23 +/-2 ºC.
SM	Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).
U	Analyte included in the analysis, but not detected
WL	Results obtained from a deionized water leach of the sample.
XH	Peaks found in the retention time window for MCPP did not confirm by GC/MS.
Z-09	ND
Z-10	Soil pH measured in water at 20.9 ºC.
Z-10a	Soil pH measured in water at 21.1 ºC.
Z-10b	Soil pH measured in water at 21.2 ºC.
P	Percent difference between primary and confirmation results exceeds 40% (P).
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 Probable Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23E0520

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

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tetra Tech FW, Inc - ESS

Shipped/Delivered Via: ESS Courier

ESS Project ID: 23E0520
Date Received: 5/15/2023
Project Due Date: 5/22/2023
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: 0.3 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
    pH (5-7)

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/Acid Lot#:
    b. Low Level VOA vials frozen: Date: 5/15/23 Time: 1645 By: MC

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:

Resolution:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
1	430517	Yes	N/A	Yes	VOA Vial	DI Water	
1	430518	Yes	N/A	Yes	VOA Vial	DI Water	
1	430521	Yes	N/A	Yes	VOA Vial	MeOH	
1	430523	Yes	N/A	Yes	4 oz. Jar	NP	
2	430526	Yes	N/A	Yes	8 oz jar	NP	
3	430519	Yes	N/A	Yes	VOA Vial	DI Water	
3	430520	Yes	N/A	Yes	VOA Vial	DI Water	
3	430522	Yes	N/A	Yes	VOA Vial	MeOH	
3	430524	Yes	N/A	Yes	4 oz. Jar	NP	
4	430528	Yes	N/A	Yes	8 oz jar	NP	
5	430529	Yes	N/A	Yes	8 oz jar	NP	
5	430530	Yes	N/A	Yes	8 oz jar	NP	
6	430531	Yes	N/A	Yes	8 oz jar	NP	
6	430532	Yes	N/A	Yes	8 oz jar	NP	
7	430533	Yes	N/A	Yes	8 oz jar	NP	
7	430534	Yes	N/A	Yes	8 oz jar	NP	
8	430536	Yes	N/A	Yes	8 oz jar	NP	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tetra Tech FW, Inc - ESS

ESS Project ID: 23E0520
Date Received: 5/15/2023

2nd Review

Were all containers scanned into storage/lab?	Initials TD	
Are barcode labels on correct containers?		Yes / No
Are all Flashpoint stickers attached/container ID # circled?		Yes / No / NA
Are all Hex Chrome stickers attached?		Yes / No / NA
Are all QC stickers attached?		Yes / No / NA
Are VOA stickers attached if bubbles noted?		Yes / No / NA

Completed By: [signature] Date & Time: 5/15/23. 1636

Reviewed By: [signature] Date & Time: 5/15/23 1645

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02910
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 23E0520 | Page of

Turn Time (Days) ☑ > 5 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: MA **Criteria:** RCS-1

Is this project for any of the following?:
☐ CT RCP ☑ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)
☐ Limit Checker ☐ State Forms ☐ EQuIS
☑ Excel ☐ State Upload ☐ Enviro Data
☐ CLP-Like Package ☑ Other (Specify) → Tetra Tech Excel format

CLIENT INFORMATION

Client: Tetra Tech
Address: 100 Nickerson Rd.
Marlborough, MA 01752
Phone: 508-782-4937 (Karl Seibert)
Email Distribution List: karl.seibert@tetratech.com
william.phelps@tetratech.com

PROJECT INFORMATION

Project Name: Massport - Cypher Street
Project Location: South Boston, Massachusetts
Project Number: 143-278997-23002
Project Manager: William Phelps, Karl Seibert
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	VOCs (8260) High	VOCs (8260) Low	RCRA 8 metals, SVOCs (8270), flashpoint	Reactivity, conductivity, pH	PCBs by Soxhlet Extraction	Total Solids	Pesticides/Herbicides	TPH	Total Number of Bottles
1	5/15/23	830	Grab	Soil	TT-117C (2')	X	X				X			4
2		8:30am	comp	soil	TT-117C (0-3')								X	1
3		9:25am	Grab	soil	TT-117C (8-5')	X	X				X			4
4		9:13am	Comp		TT-117C (3-6')								X	1
5	5/9/23	1000	comp		TT-117 (0-3)			X	X	X		X	X	2
6	5/9/23	1035	comp		TT-117 (3-6)			X	X	X		X	X	2
7	5/9/23	1355	Comp		TT-117 (6-10)			X	X	X		X	X	2
8	5/15/23	1:40pm	comp	~~asphalt dust~~	TT-116C ~~Asphalt top~~ (0-3')					X			X	1
		10:54	comp	soil	TT-116C (TOS)					X				1
			comp	~~crushed asphalt~~	TT-116C ~~Asphalt bottom~~					X				1
Container Type:	AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial					V	V	AG	AG	AG	AG	AG	AG	
Container Volume:	1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*					7	7	10	10	10	8	10	10	
Preservation Code:	1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*					6	10	1	1	1	1	1	1	

DH

ML - 5/22/23

Sampled by :

Chain needs to be filled out neatly and completely for on time delivery.

Laboratory Use Only
Cooler Temperature (°C): 0.3
on ice

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration
☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	5/15/23	1:55pm	AO 5/15/23 1355	AO	5/15/23	1601	[signature]
Relinquished by (Signature)	**Date**	**Time**	**Received by (Signature)**	**Relinquished by (Signature)**	**Date**	**Time**	**Received by (Signature)**

CERTIFICATE OF ANALYSIS

William Phelps
Tetra Tech, Inc.
100 Nickerson Road
Marlborough, MA 01752

RE: Massport - Cypher Street (143-278997-23002)
ESS Laboratory Work Order Number: 23F0048

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 2:18 pm, Jun 09, 2023

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: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23F0048

SAMPLE RECEIPT

The following samples were received on June 01, 2023 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 June 1, 2023 at 19:15.
Tetrahydrofuran is reported above the MA CAM reporting limit of 0.010 mg/kg.

Question I: All samples for EPH were analyzed for a subset of the required MCP list per the client's request.

Lab Number	Sample Name	Matrix	Analysis
23F0048-01	TT-120B 2.5ft	Soil	8260B Low
23F0048-02	TT-120C 6ft	Soil	8260B, 8260B Low
23F0048-03	TT-121A 9.5ft	Soil	8260B Low
23F0048-04	TT-117C 14ft	Soil	8260B Low
23F0048-05	TT-118B 13ft	Soil	8260B Low
23F0048-06	TT-120B 0-3ft	Soil	8100M
23F0048-07	TT-120B 3-6ft	Soil	8100M
23F0048-08	TT-120C 0-3ft	Soil	8100M
23F0048-09	TT-120C 3-6ft	Soil	8100M
23F0048-10	TT-121A 0-3ft	Soil	8100M
23F0048-11	TT-121A 3-6ft	Soil	8100M

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23F0048

PROJECT NARRATIVE

5035/8260B Volatile Organic Compounds / Low Level

23F0048-01	**Surrogate recovery(ies) above upper control limit (S+).**
	1,2-Dichloroethane-d4 (139% @ 70-130%)
23F0048-02	**Reported above the quantitation limit; Estimated value (E).**
	Naphthalene
D3F0075-CCV1	**Calibration required quadratic regression (Q).**
	Naphthalene (103% @ 80-120%)
D3F0089-CCV1	**Calibration required quadratic regression (Q).**
	Naphthalene (108% @ 80-120%)
D3F0089-CCV1	**Continuing Calibration %Diff/Drift is below control limit (CD-).**
	Dichlorodifluoromethane (21% @ 20%), Methylene Chloride (22% @ 20%)

5035/8260B Volatile Organic Compounds / Methanol

D3F0111-CCV1	**Calibration required quadratic regression (Q).**
	1,2,3-Trichlorobenzene (109% @ 80-120%), Naphthalene (106% @ 80-120%)
D3F0111-CCV1	**Continuing Calibration %Diff/Drift is above control limit (CD+).**
	Bromoform (22% @ 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: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23F0048

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: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23F0048

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **23F0048-01 through 23F0048-11**

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	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	( ) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	(x) 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: June 09, 2023
Printed Name: Laurel Stoddard
Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-120B 2.5ft
Date Sampled: 06/01/23 08:50
Percent Solids: 87
Initial Volume: 9.4g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0048
ESS Laboratory Sample ID: 23F0048-01
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 (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
1,1,1-Trichloroethane	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
1,1,2,2-Tetrachloroethane	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
1,1,2-Trichloroethane	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
1,1-Dichloroethane	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
1,1-Dichloroethene	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
1,1-Dichloropropene	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
1,2,3-Trichlorobenzene	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
1,2,3-Trichloropropane	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
1,2,4-Trichlorobenzene	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
1,2,4-Trimethylbenzene	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
1,2-Dibromo-3-Chloropropane	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
1,2-Dibromoethane	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
1,2-Dichlorobenzene	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
1,2-Dichloroethane	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
1,2-Dichloropropane	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
1,3,5-Trimethylbenzene	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
1,3-Dichlorobenzene	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
1,3-Dichloropropane	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
1,4-Dichlorobenzene	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
1,4-Dioxane	ND (0.0492)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
2,2-Dichloropropane	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
2-Butanone	ND (0.0307)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
2-Chlorotoluene	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
2-Hexanone	ND (0.0307)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
4-Chlorotoluene	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
4-Isopropyltoluene	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
4-Methyl-2-Pentanone	ND (0.0307)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Acetone	ND (0.0307)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Benzene	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Bromobenzene	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Bromochloromethane	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-120B 2.5ft
Date Sampled: 06/01/23 08:50
Percent Solids: 87
Initial Volume: 9.4g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0048
ESS Laboratory Sample ID: 23F0048-01
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 (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Bromoform	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Bromomethane	ND (0.0061)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Carbon Disulfide	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Carbon Tetrachloride	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Chlorobenzene	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Chloroethane	ND (0.0061)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Chloroform	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Chloromethane	ND (0.0061)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
cis-1,2-Dichloroethene	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
cis-1,3-Dichloropropene	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Dibromochloromethane	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Dibromomethane	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Dichlorodifluoromethane	ND (0.0061)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Diethyl Ether	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Di-isopropyl ether	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Ethyl tertiary-butyl ether	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Ethylbenzene	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Hexachlorobutadiene	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Isopropylbenzene	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Methyl tert-Butyl Ether	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Methylene Chloride	ND (0.0154)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Naphthalene	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
n-Butylbenzene	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
n-Propylbenzene	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
sec-Butylbenzene	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Styrene	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
tert-Butylbenzene	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Tertiary-amyl methyl ether	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Tetrachloroethene	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Tetrahydrofuran	ND (0.0123)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Toluene	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-120B 2.5ft
Date Sampled: 06/01/23 08:50
Percent Solids: 87
Initial Volume: 9.4g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0048
ESS Laboratory Sample ID: 23F0048-01
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 (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
trans-1,3-Dichloropropene	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Trichloroethene	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Trichlorofluoromethane	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Vinyl Chloride	ND (0.0061)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Xylene O	ND (0.0031)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Xylene P,M	ND (0.0061)		8260B Low		1	06/05/23 16:40	D3F0075	DF30604
Xylenes (Total)	ND (0.00615)		8260B Low		1	06/05/23 16:40		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichloroethane-d4	*139 %*	*S+*	*70-130*
Surrogate: 4-Bromofluorobenzene	*86 %*		*70-130*
Surrogate: Dibromofluoromethane	*106 %*		*70-130*
Surrogate: Toluene-d8	*101 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-120C 6ft
Date Sampled: 06/01/23 11:30
Percent Solids: 85
Initial Volume: 7.7g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0048
ESS Laboratory Sample ID: 23F0048-02
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 (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
1,1,1-Trichloroethane	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
1,1,2,2-Tetrachloroethane	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
1,1,2-Trichloroethane	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
1,1-Dichloroethane	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
1,1-Dichloroethene	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
1,1-Dichloropropene	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
1,2,3-Trichlorobenzene	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
1,2,3-Trichloropropane	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
1,2,4-Trichlorobenzene	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
1,2,4-Trimethylbenzene	**0.0039** (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
1,2-Dibromo-3-Chloropropane	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
1,2-Dibromoethane	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
1,2-Dichlorobenzene	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
1,2-Dichloroethane	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
1,2-Dichloropropane	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
1,3,5-Trimethylbenzene	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
1,3-Dichlorobenzene	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
1,3-Dichloropropane	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
1,4-Dichlorobenzene	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
1,4-Dioxane	ND (0.0614)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
2,2-Dichloropropane	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
2-Butanone	ND (0.0384)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
2-Chlorotoluene	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
2-Hexanone	ND (0.0384)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
4-Chlorotoluene	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
4-Isopropyltoluene	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
4-Methyl-2-Pentanone	ND (0.0384)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Acetone	ND (0.0384)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Benzene	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Bromobenzene	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Bromochloromethane	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-120C 6ft
Date Sampled: 06/01/23 11:30
Percent Solids: 85
Initial Volume: 7.7g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0048
ESS Laboratory Sample ID: 23F0048-02
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 (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Bromoform	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Bromomethane	ND (0.0077)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Carbon Disulfide	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Carbon Tetrachloride	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Chlorobenzene	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Chloroethane	ND (0.0077)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Chloroform	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Chloromethane	ND (0.0077)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
cis-1,2-Dichloroethene	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
cis-1,3-Dichloropropene	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Dibromochloromethane	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Dibromomethane	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Dichlorodifluoromethane	ND (0.0077)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Diethyl Ether	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Di-isopropyl ether	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Ethyl tertiary-butyl ether	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Ethylbenzene	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Hexachlorobutadiene	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Isopropylbenzene	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Methyl tert-Butyl Ether	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Methylene Chloride	ND (0.0192)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Naphthalene	**E 0.264** (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
n-Butylbenzene	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
n-Propylbenzene	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
sec-Butylbenzene	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Styrene	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
tert-Butylbenzene	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Tertiary-amyl methyl ether	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Tetrachloroethene	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Tetrahydrofuran	ND (0.0153)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Toluene	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-120C 6ft
Date Sampled: 06/01/23 11:30
Percent Solids: 85
Initial Volume: 7.7g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0048
ESS Laboratory Sample ID: 23F0048-02
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 (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
trans-1,3-Dichloropropene	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Trichloroethene	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Trichlorofluoromethane	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Vinyl Chloride	ND (0.0077)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Xylene O	ND (0.0038)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Xylene P,M	ND (0.0077)		8260B Low		1	06/06/23 16:38	D3F0089	DF30619
Xylenes (Total)	ND (0.00767)		8260B Low		1	06/06/23 16:38		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichloroethane-d4	*120 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*93 %*		*70-130*
Surrogate: Dibromofluoromethane	*95 %*		*70-130*
Surrogate: Toluene-d8	*99 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-120C 6ft
Date Sampled: 06/01/23 11:30
Percent Solids: 85
Initial Volume: 17.3g
Final Volume: 15ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0048
ESS Laboratory Sample ID: 23F0048-02
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 (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
1,1,1-Trichloroethane	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
1,1,2,2-Tetrachloroethane	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
1,1,2-Trichloroethane	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
1,1-Dichloroethane	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
1,1-Dichloroethene	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
1,1-Dichloropropene	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
1,2,3-Trichlorobenzene	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
1,2,3-Trichloropropane	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
1,2,4-Trichlorobenzene	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
1,2,4-Trimethylbenzene	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
1,2-Dibromo-3-Chloropropane	ND (1.21)		8260B		1	06/07/23 12:00	D3F0111	DF30723
1,2-Dibromoethane	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
1,2-Dichlorobenzene	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
1,2-Dichloroethane	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
1,2-Dichloropropane	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
1,3,5-Trimethylbenzene	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
1,3-Dichlorobenzene	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
1,3-Dichloropropane	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
1,4-Dichlorobenzene	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
1,4-Dioxane - Screen	ND (48.3)		8260B		1	06/07/23 12:00	D3F0111	DF30723
2,2-Dichloropropane	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
2-Butanone	ND (1.21)		8260B		1	06/07/23 12:00	D3F0111	DF30723
2-Chlorotoluene	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
2-Hexanone	ND (1.21)		8260B		1	06/07/23 12:00	D3F0111	DF30723
4-Chlorotoluene	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
4-Isopropyltoluene	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
4-Methyl-2-Pentanone	ND (1.21)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Acetone	ND (1.21)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Benzene	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Bromobenzene	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Bromochloromethane	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-120C 6ft
Date Sampled: 06/01/23 11:30
Percent Solids: 85
Initial Volume: 17.3g
Final Volume: 15ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0048
ESS Laboratory Sample ID: 23F0048-02
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 (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Bromoform	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Bromomethane	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Carbon Disulfide	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Carbon Tetrachloride	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Chlorobenzene	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Chloroethane	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Chloroform	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Chloromethane	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
cis-1,2-Dichloroethene	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
cis-1,3-Dichloropropene	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Dibromochloromethane	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Dibromomethane	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Dichlorodifluoromethane	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Diethyl Ether	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Di-isopropyl ether	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Ethyl tertiary-butyl ether	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Ethylbenzene	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Hexachlorobutadiene	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Isopropylbenzene	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Methyl tert-Butyl Ether	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Methylene Chloride	ND (0.483)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Naphthalene	**11.5** (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
n-Butylbenzene	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
n-Propylbenzene	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
sec-Butylbenzene	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Styrene	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
tert-Butylbenzene	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Tertiary-amyl methyl ether	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Tetrachloroethene	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Tetrahydrofuran	ND (1.21)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Toluene	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-120C 6ft
Date Sampled: 06/01/23 11:30
Percent Solids: 85
Initial Volume: 17.3g
Final Volume: 15ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0048
ESS Laboratory Sample ID: 23F0048-02
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 (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
trans-1,3-Dichloropropene	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Trichloroethene	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Trichlorofluoromethane	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Vinyl Chloride	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Xylene O	ND (0.241)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Xylene P,M	ND (0.483)		8260B		1	06/07/23 12:00	D3F0111	DF30723
Xylenes (Total)	ND (0.483)		8260B		1	06/07/23 12:00		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichloroethane-d4	*101 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*102 %*		*70-130*
Surrogate: Dibromofluoromethane	*103 %*		*70-130*
Surrogate: Toluene-d8	*102 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121A 9.5ft
Date Sampled: 06/01/23 13:50
Percent Solids: 72
Initial Volume: 12.4g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0048
ESS Laboratory Sample ID: 23F0048-03
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 (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
1,1,1-Trichloroethane	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
1,1,2,2-Tetrachloroethane	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
1,1,2-Trichloroethane	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
1,1-Dichloroethane	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
1,1-Dichloroethene	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
1,1-Dichloropropene	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
1,2,3-Trichlorobenzene	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
1,2,3-Trichloropropane	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
1,2,4-Trichlorobenzene	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
1,2,4-Trimethylbenzene	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
1,2-Dibromo-3-Chloropropane	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
1,2-Dibromoethane	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
1,2-Dichlorobenzene	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
1,2-Dichloroethane	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
1,2-Dichloropropane	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
1,3,5-Trimethylbenzene	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
1,3-Dichlorobenzene	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
1,3-Dichloropropane	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
1,4-Dichlorobenzene	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
1,4-Dioxane	ND (0.0445)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
2,2-Dichloropropane	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
2-Butanone	ND (0.0278)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
2-Chlorotoluene	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
2-Hexanone	ND (0.0278)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
4-Chlorotoluene	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
4-Isopropyltoluene	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
4-Methyl-2-Pentanone	ND (0.0278)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Acetone	**0.0372** (0.0278)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Benzene	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Bromobenzene	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Bromochloromethane	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121A 9.5ft
Date Sampled: 06/01/23 13:50
Percent Solids: 72
Initial Volume: 12.4g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0048
ESS Laboratory Sample ID: 23F0048-03
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 (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Bromoform	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Bromomethane	ND (0.0056)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Carbon Disulfide	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Carbon Tetrachloride	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Chlorobenzene	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Chloroethane	ND (0.0056)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Chloroform	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Chloromethane	ND (0.0056)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
cis-1,2-Dichloroethene	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
cis-1,3-Dichloropropene	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Dibromochloromethane	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Dibromomethane	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Dichlorodifluoromethane	ND (0.0056)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Diethyl Ether	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Di-isopropyl ether	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Ethyl tertiary-butyl ether	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Ethylbenzene	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Hexachlorobutadiene	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Isopropylbenzene	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Methyl tert-Butyl Ether	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Methylene Chloride	ND (0.0139)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Naphthalene	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
n-Butylbenzene	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
n-Propylbenzene	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
sec-Butylbenzene	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Styrene	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
tert-Butylbenzene	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Tertiary-amyl methyl ether	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Tetrachloroethene	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Tetrahydrofuran	ND (0.0111)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Toluene	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121A 9.5ft
Date Sampled: 06/01/23 13:50
Percent Solids: 72
Initial Volume: 12.4g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0048
ESS Laboratory Sample ID: 23F0048-03
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 (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
trans-1,3-Dichloropropene	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Trichloroethene	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Trichlorofluoromethane	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Vinyl Chloride	ND (0.0056)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Xylene O	ND (0.0028)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Xylene P,M	ND (0.0056)		8260B Low		1	06/06/23 13:13	D3F0089	DF30619
Xylenes (Total)	ND (0.00557)		8260B Low		1	06/06/23 13:13		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichloroethane-d4	*108 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*98 %*		*70-130*
Surrogate: Dibromofluoromethane	*90 %*		*70-130*
Surrogate: Toluene-d8	*99 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117C 14ft
Date Sampled: 06/01/23 10:50
Percent Solids: 56
Initial Volume: 6.4g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0048
ESS Laboratory Sample ID: 23F0048-04
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 (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
1,1,1-Trichloroethane	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
1,1,2,2-Tetrachloroethane	ND (0.0042)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
1,1,2-Trichloroethane	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
1,1-Dichloroethane	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
1,1-Dichloroethene	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
1,1-Dichloropropene	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
1,2,3-Trichlorobenzene	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
1,2,3-Trichloropropane	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
1,2,4-Trichlorobenzene	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
1,2,4-Trimethylbenzene	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
1,2-Dibromo-3-Chloropropane	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
1,2-Dibromoethane	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
1,2-Dichlorobenzene	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
1,2-Dichloroethane	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
1,2-Dichloropropane	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
1,3,5-Trimethylbenzene	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
1,3-Dichlorobenzene	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
1,3-Dichloropropane	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
1,4-Dichlorobenzene	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
1,4-Dioxane	ND (0.111)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
2,2-Dichloropropane	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
2-Butanone	ND (0.0694)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
2-Chlorotoluene	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
2-Hexanone	ND (0.0694)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
4-Chlorotoluene	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
4-Isopropyltoluene	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
4-Methyl-2-Pentanone	ND (0.0694)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Acetone	**0.124** (0.0694)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Benzene	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Bromobenzene	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Bromochloromethane	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117C 14ft
Date Sampled: 06/01/23 10:50
Percent Solids: 56
Initial Volume: 6.4g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0048
ESS Laboratory Sample ID: 23F0048-04
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 (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Bromoform	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Bromomethane	ND (0.0139)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Carbon Disulfide	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Carbon Tetrachloride	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Chlorobenzene	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Chloroethane	ND (0.0139)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Chloroform	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Chloromethane	ND (0.0139)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
cis-1,2-Dichloroethene	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
cis-1,3-Dichloropropene	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Dibromochloromethane	ND (0.0042)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Dibromomethane	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Dichlorodifluoromethane	ND (0.0139)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Diethyl Ether	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Di-isopropyl ether	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Ethyl tertiary-butyl ether	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Ethylbenzene	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Hexachlorobutadiene	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Isopropylbenzene	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Methyl tert-Butyl Ether	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Methylene Chloride	ND (0.0347)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Naphthalene	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
n-Butylbenzene	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
n-Propylbenzene	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
sec-Butylbenzene	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Styrene	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
tert-Butylbenzene	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Tertiary-amyl methyl ether	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Tetrachloroethene	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Tetrahydrofuran	ND (0.0277)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Toluene	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117C 14ft
Date Sampled: 06/01/23 10:50
Percent Solids: 56
Initial Volume: 6.4g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0048
ESS Laboratory Sample ID: 23F0048-04
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 (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
trans-1,3-Dichloropropene	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Trichloroethene	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Trichlorofluoromethane	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Vinyl Chloride	ND (0.0139)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Xylene O	ND (0.0069)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Xylene P,M	ND (0.0139)		8260B Low		1	06/06/23 13:38	D3F0089	DF30619
Xylenes (Total)	ND (0.0139)		8260B Low		1	06/06/23 13:38		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichloroethane-d4	*114 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*91 %*		*70-130*
Surrogate: Dibromofluoromethane	*92 %*		*70-130*
Surrogate: Toluene-d8	*101 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118B 13ft
Date Sampled: 06/01/23 09:40
Percent Solids: 78
Initial Volume: 5.9g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0048
ESS Laboratory Sample ID: 23F0048-05
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 (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
1,1,1-Trichloroethane	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
1,1,2,2-Tetrachloroethane	ND (0.0033)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
1,1,2-Trichloroethane	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
1,1-Dichloroethane	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
1,1-Dichloroethene	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
1,1-Dichloropropene	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
1,2,3-Trichlorobenzene	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
1,2,3-Trichloropropane	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
1,2,4-Trichlorobenzene	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
1,2,4-Trimethylbenzene	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
1,2-Dibromo-3-Chloropropane	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
1,2-Dibromoethane	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
1,2-Dichlorobenzene	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
1,2-Dichloroethane	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
1,2-Dichloropropane	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
1,3,5-Trimethylbenzene	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
1,3-Dichlorobenzene	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
1,3-Dichloropropane	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
1,4-Dichlorobenzene	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
1,4-Dioxane	ND (0.0872)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
2,2-Dichloropropane	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
2-Butanone	ND (0.0545)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
2-Chlorotoluene	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
2-Hexanone	ND (0.0545)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
4-Chlorotoluene	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
4-Isopropyltoluene	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
4-Methyl-2-Pentanone	ND (0.0545)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Acetone	ND (0.0545)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Benzene	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Bromobenzene	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Bromochloromethane	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118B 13ft
Date Sampled: 06/01/23 09:40
Percent Solids: 78
Initial Volume: 5.9g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0048
ESS Laboratory Sample ID: 23F0048-05
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 (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Bromoform	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Bromomethane	ND (0.0109)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Carbon Disulfide	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Carbon Tetrachloride	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Chlorobenzene	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Chloroethane	ND (0.0109)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Chloroform	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Chloromethane	ND (0.0109)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
cis-1,2-Dichloroethene	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
cis-1,3-Dichloropropene	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Dibromochloromethane	ND (0.0033)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Dibromomethane	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Dichlorodifluoromethane	ND (0.0109)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Diethyl Ether	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Di-isopropyl ether	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Ethyl tertiary-butyl ether	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Ethylbenzene	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Hexachlorobutadiene	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Isopropylbenzene	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Methyl tert-Butyl Ether	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Methylene Chloride	ND (0.0272)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Naphthalene	**0.0071** (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
n-Butylbenzene	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
n-Propylbenzene	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
sec-Butylbenzene	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Styrene	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
tert-Butylbenzene	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Tertiary-amyl methyl ether	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Tetrachloroethene	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Tetrahydrofuran	ND (0.0218)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Toluene	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118B 13ft
Date Sampled: 06/01/23 09:40
Percent Solids: 78
Initial Volume: 5.9g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0048
ESS Laboratory Sample ID: 23F0048-05
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 (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
trans-1,3-Dichloropropene	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Trichloroethene	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Trichlorofluoromethane	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Vinyl Chloride	ND (0.0109)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Xylene O	ND (0.0054)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Xylene P,M	ND (0.0109)		8260B Low		1	06/06/23 14:04	D3F0089	DF30619
Xylenes (Total)	ND (0.0109)		8260B Low		1	06/06/23 14:04		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichloroethane-d4	*114 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*96 %*		*70-130*
Surrogate: Dibromofluoromethane	*92 %*		*70-130*
Surrogate: Toluene-d8	*98 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-120B 0-3ft
Date Sampled: 06/01/23 09:00
Percent Solids: 87
Initial Volume: 20.1g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0048
ESS Laboratory Sample ID: 23F0048-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 6/1/23 19:50

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**139** (22.8)		8100M		2	06/05/23 22:55		DF30160

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*78 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-120B 3-6ft
Date Sampled: 06/01/23 09:20
Percent Solids: 75
Initial Volume: 19.5g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0048
ESS Laboratory Sample ID: 23F0048-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 6/1/23 19:50

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**70.9** (13.6)		8100M		1	06/05/23 17:20		DF30160

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*72 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-120C 0-3ft
Date Sampled: 06/01/23 11:00
Percent Solids: 81
Initial Volume: 20.1g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0048
ESS Laboratory Sample ID: 23F0048-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 6/1/23 19:50

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**83.8** (12.3)		8100M		1	06/05/23 16:02		DF30160

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*70 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-120C 3-6ft
Date Sampled: 06/01/23 11:30
Percent Solids: 77
Initial Volume: 20.5g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0048
ESS Laboratory Sample ID: 23F0048-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 6/1/23 19:50

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**3290** (127)		8100M		10	06/05/23 23:37		DF30160

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*74 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121A 0-3ft
Date Sampled: 06/01/23 13:08
Percent Solids: 91
Initial Volume: 20.3g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0048
ESS Laboratory Sample ID: 23F0048-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 6/1/23 19:50

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**261** (108)		8100M		10	06/05/23 20:08		DF30160

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*63 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121A 3-6ft
Date Sampled: 06/01/23 13:45
Percent Solids: 78
Initial Volume: 19.6g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0048
ESS Laboratory Sample ID: 23F0048-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 6/1/23 19:50

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**290** (26.1)		8100M		2	06/05/23 22:15		DF30160

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*72 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23F0048

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 DF30604 - 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	0.0050	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	0.0800	mg/kg wet							
2,2-Dichloropropane	ND	0.0050	mg/kg wet							
2-Butanone	ND	0.0500	mg/kg wet							
2-Chlorotoluene	ND	0.0050	mg/kg wet							
2-Hexanone	ND	0.0500	mg/kg wet							
4-Chlorotoluene	ND	0.0050	mg/kg wet							
4-Isopropyltoluene	ND	0.0050	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.0500	mg/kg wet							
Acetone	ND	0.0500	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	0.0050	mg/kg wet							

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Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23F0048

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 DF30604 - 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	0.0250	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	0.0200	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	*0.0582*		mg/kg wet	*0.05000*		*116*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0455*		mg/kg wet	*0.05000*		*91*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0466*		mg/kg wet	*0.05000*		*93*	*70-130*			
Surrogate: Toluene-d8	*0.0494*		mg/kg wet	*0.05000*		*99*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	0.0421	0.0050	mg/kg wet	0.05000		84	70-130			
1,1,1-Trichloroethane	0.0478	0.0050	mg/kg wet	0.05000		96	70-130			
1,1,2,2-Tetrachloroethane	0.0482	0.0050	mg/kg wet	0.05000		96	70-130			
1,1,2-Trichloroethane	0.0450	0.0050	mg/kg wet	0.05000		90	70-130			
1,1-Dichloroethane	0.0456	0.0050	mg/kg wet	0.05000		91	70-130			
1,1-Dichloroethene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130			
1,1-Dichloropropene	0.0443	0.0050	mg/kg wet	0.05000		89	70-130			
1,2,3-Trichlorobenzene	0.0452	0.0050	mg/kg wet	0.05000		90	70-130			
1,2,3-Trichloropropane	0.0430	0.0050	mg/kg wet	0.05000		86	70-130			
1,2,4-Trichlorobenzene	0.0450	0.0050	mg/kg wet	0.05000		90	70-130			
1,2,4-Trimethylbenzene	0.0424	0.0050	mg/kg wet	0.05000		85	70-130			
1,2-Dibromo-3-Chloropropane	0.0476	0.0050	mg/kg wet	0.05000		95	70-130			
1,2-Dibromoethane	0.0417	0.0050	mg/kg wet	0.05000		83	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23F0048

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 DF30604 - 5035										
1,2-Dichlorobenzene	0.0443	0.0050	mg/kg wet	0.05000		89	70-130			
1,2-Dichloroethane	0.0444	0.0050	mg/kg wet	0.05000		89	70-130			
1,2-Dichloropropane	0.0463	0.0050	mg/kg wet	0.05000		93	70-130			
1,3,5-Trimethylbenzene	0.0442	0.0050	mg/kg wet	0.05000		88	70-130			
1,3-Dichlorobenzene	0.0449	0.0050	mg/kg wet	0.05000		90	70-130			
1,3-Dichloropropane	0.0476	0.0050	mg/kg wet	0.05000		95	70-130			
1,4-Dichlorobenzene	0.0458	0.0050	mg/kg wet	0.05000		92	70-130			
1,4-Dioxane	1.06	0.0800	mg/kg wet	1.000		106	70-130			
2,2-Dichloropropane	0.0467	0.0050	mg/kg wet	0.05000		93	70-130			
2-Butanone	0.238	0.0500	mg/kg wet	0.2500		95	70-130			
2-Chlorotoluene	0.0468	0.0050	mg/kg wet	0.05000		94	70-130			
2-Hexanone	0.266	0.0500	mg/kg wet	0.2500		106	70-130			
4-Chlorotoluene	0.0438	0.0050	mg/kg wet	0.05000		88	70-130			
4-Isopropyltoluene	0.0425	0.0050	mg/kg wet	0.05000		85	70-130			
4-Methyl-2-Pentanone	0.232	0.0500	mg/kg wet	0.2500		93	70-130			
Acetone	0.258	0.0500	mg/kg wet	0.2500		103	70-130			
Benzene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
Bromobenzene	0.0467	0.0050	mg/kg wet	0.05000		93	70-130			
Bromochloromethane	0.0462	0.0050	mg/kg wet	0.05000		92	70-130			
Bromodichloromethane	0.0427	0.0050	mg/kg wet	0.05000		85	70-130			
Bromoform	0.0463	0.0050	mg/kg wet	0.05000		93	70-130			
Bromomethane	0.0460	0.0100	mg/kg wet	0.05000		92	70-130			
Carbon Disulfide	0.0487	0.0050	mg/kg wet	0.05000		97	70-130			
Carbon Tetrachloride	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
Chlorobenzene	0.0440	0.0050	mg/kg wet	0.05000		88	70-130			
Chloroethane	0.0485	0.0100	mg/kg wet	0.05000		97	70-130			
Chloroform	0.0447	0.0050	mg/kg wet	0.05000		89	70-130			
Chloromethane	0.0439	0.0100	mg/kg wet	0.05000		88	70-130			
cis-1,2-Dichloroethene	0.0469	0.0050	mg/kg wet	0.05000		94	70-130			
cis-1,3-Dichloropropene	0.0418	0.0050	mg/kg wet	0.05000		84	70-130			
Dibromochloromethane	0.0412	0.0050	mg/kg wet	0.05000		82	70-130			
Dibromomethane	0.0457	0.0050	mg/kg wet	0.05000		91	70-130			
Dichlorodifluoromethane	0.0399	0.0100	mg/kg wet	0.05000		80	70-130			
Diethyl Ether	0.0498	0.0050	mg/kg wet	0.05000		100	70-130			
Di-isopropyl ether	0.0463	0.0050	mg/kg wet	0.05000		93	70-130			
Ethyl tertiary-butyl ether	0.0477	0.0050	mg/kg wet	0.05000		95	70-130			
Ethylbenzene	0.0418	0.0050	mg/kg wet	0.05000		84	70-130			
Hexachlorobutadiene	0.0463	0.0050	mg/kg wet	0.05000		93	70-130			
Isopropylbenzene	0.0447	0.0050	mg/kg wet	0.05000		89	70-130			
Methyl tert-Butyl Ether	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
Methylene Chloride	0.0422	0.0250	mg/kg wet	0.05000		84	70-130			
Naphthalene	0.0509	0.0050	mg/kg wet	0.05000		102	70-130			
n-Butylbenzene	0.0443	0.0050	mg/kg wet	0.05000		89	70-130			
n-Propylbenzene	0.0440	0.0050	mg/kg wet	0.05000		88	70-130			
sec-Butylbenzene	0.0417	0.0050	mg/kg wet	0.05000		83	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23F0048

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 DF30604 - 5035										
Styrene	0.0402	0.0050	mg/kg wet	0.05000		80	70-130			
tert-Butylbenzene	0.0433	0.0050	mg/kg wet	0.05000		87	70-130			
Tertiary-amyl methyl ether	0.0473	0.0050	mg/kg wet	0.05000		95	70-130			
Tetrachloroethene	0.0453	0.0050	mg/kg wet	0.05000		91	70-130			
Tetrahydrofuran	0.0478	0.0200	mg/kg wet	0.05000		96	70-130			
Toluene	0.0461	0.0050	mg/kg wet	0.05000		92	70-130			
trans-1,2-Dichloroethene	0.0479	0.0050	mg/kg wet	0.05000		96	70-130			
trans-1,3-Dichloropropene	0.0386	0.0050	mg/kg wet	0.05000		77	70-130			
Trichloroethene	0.0461	0.0050	mg/kg wet	0.05000		92	70-130			
Trichlorofluoromethane	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			
Vinyl Chloride	0.0466	0.0100	mg/kg wet	0.05000		93	70-130			
Xylene O	0.0414	0.0050	mg/kg wet	0.05000		83	70-130			
Xylene P,M	0.0841	0.0100	mg/kg wet	0.1000		84	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0517*		mg/kg wet	*0.05000*		*103*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0506*		mg/kg wet	*0.05000*		*101*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0471*		mg/kg wet	*0.05000*		*94*	*70-130*			
Surrogate: Toluene-d8	*0.0497*		mg/kg wet	*0.05000*		*99*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	0.0426	0.0050	mg/kg wet	0.05000		85	70-130	1	20	
1,1,1-Trichloroethane	0.0478	0.0050	mg/kg wet	0.05000		96	70-130	0.04	20	
1,1,2,2-Tetrachloroethane	0.0476	0.0050	mg/kg wet	0.05000		95	70-130	1	20	
1,1,2-Trichloroethane	0.0444	0.0050	mg/kg wet	0.05000		89	70-130	1	20	
1,1-Dichloroethane	0.0451	0.0050	mg/kg wet	0.05000		90	70-130	1	20	
1,1-Dichloroethene	0.0495	0.0050	mg/kg wet	0.05000		99	70-130	0.3	20	
1,1-Dichloropropene	0.0445	0.0050	mg/kg wet	0.05000		89	70-130	0.3	20	
1,2,3-Trichlorobenzene	0.0454	0.0050	mg/kg wet	0.05000		91	70-130	0.4	20	
1,2,3-Trichloropropane	0.0428	0.0050	mg/kg wet	0.05000		86	70-130	0.5	20	
1,2,4-Trichlorobenzene	0.0451	0.0050	mg/kg wet	0.05000		90	70-130	0.3	20	
1,2,4-Trimethylbenzene	0.0426	0.0050	mg/kg wet	0.05000		85	70-130	0.5	20	
1,2-Dibromo-3-Chloropropane	0.0475	0.0050	mg/kg wet	0.05000		95	70-130	0.3	20	
1,2-Dibromoethane	0.0422	0.0050	mg/kg wet	0.05000		84	70-130	1	20	
1,2-Dichlorobenzene	0.0447	0.0050	mg/kg wet	0.05000		89	70-130	1	20	
1,2-Dichloroethane	0.0444	0.0050	mg/kg wet	0.05000		89	70-130	0.09	20	
1,2-Dichloropropane	0.0463	0.0050	mg/kg wet	0.05000		93	70-130	0	20	
1,3,5-Trimethylbenzene	0.0443	0.0050	mg/kg wet	0.05000		89	70-130	0.2	20	
1,3-Dichlorobenzene	0.0444	0.0050	mg/kg wet	0.05000		89	70-130	1	20	
1,3-Dichloropropane	0.0474	0.0050	mg/kg wet	0.05000		95	70-130	0.4	20	
1,4-Dichlorobenzene	0.0469	0.0050	mg/kg wet	0.05000		94	70-130	2	20	
1,4-Dioxane	1.07	0.0800	mg/kg wet	1.000		107	70-130	1	20	
2,2-Dichloropropane	0.0464	0.0050	mg/kg wet	0.05000		93	70-130	0.6	20	
2-Butanone	0.239	0.0500	mg/kg wet	0.2500		95	70-130	0.08	20	
2-Chlorotoluene	0.0474	0.0050	mg/kg wet	0.05000		95	70-130	1	20	
2-Hexanone	0.264	0.0500	mg/kg wet	0.2500		106	70-130	0.6	20	
4-Chlorotoluene	0.0446	0.0050	mg/kg wet	0.05000		89	70-130	2	20	
4-Isopropyltoluene	0.0428	0.0050	mg/kg wet	0.05000		86	70-130	0.7	20	

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
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ESS Laboratory Work Order: 23F0048

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 DF30604 - 5035										
4-Methyl-2-Pentanone	0.230	0.0500	mg/kg wet	0.2500		92	70-130	0.8	20	
Acetone	0.269	0.0500	mg/kg wet	0.2500		108	70-130	4	20	
Benzene	0.0462	0.0050	mg/kg wet	0.05000		92	70-130	0.7	20	
Bromobenzene	0.0465	0.0050	mg/kg wet	0.05000		93	70-130	0.4	20	
Bromochloromethane	0.0459	0.0050	mg/kg wet	0.05000		92	70-130	0.5	20	
Bromodichloromethane	0.0426	0.0050	mg/kg wet	0.05000		85	70-130	0.3	20	
Bromoform	0.0459	0.0050	mg/kg wet	0.05000		92	70-130	0.9	20	
Bromomethane	0.0462	0.0100	mg/kg wet	0.05000		92	70-130	0.6	20	
Carbon Disulfide	0.0492	0.0050	mg/kg wet	0.05000		98	70-130	1	20	
Carbon Tetrachloride	0.0466	0.0050	mg/kg wet	0.05000		93	70-130	2	20	
Chlorobenzene	0.0444	0.0050	mg/kg wet	0.05000		89	70-130	0.7	20	
Chloroethane	0.0483	0.0100	mg/kg wet	0.05000		97	70-130	0.3	20	
Chloroform	0.0445	0.0050	mg/kg wet	0.05000		89	70-130	0.4	20	
Chloromethane	0.0440	0.0100	mg/kg wet	0.05000		88	70-130	0.2	20	
cis-1,2-Dichloroethene	0.0472	0.0050	mg/kg wet	0.05000		94	70-130	0.6	20	
cis-1,3-Dichloropropene	0.0420	0.0050	mg/kg wet	0.05000		84	70-130	0.5	20	
Dibromochloromethane	0.0408	0.0050	mg/kg wet	0.05000		82	70-130	0.9	20	
Dibromomethane	0.0456	0.0050	mg/kg wet	0.05000		91	70-130	0.1	20	
Dichlorodifluoromethane	0.0393	0.0100	mg/kg wet	0.05000		79	70-130	2	20	
Diethyl Ether	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	0.2	20	
Di-isopropyl ether	0.0464	0.0050	mg/kg wet	0.05000		93	70-130	0.3	20	
Ethyl tertiary-butyl ether	0.0481	0.0050	mg/kg wet	0.05000		96	70-130	0.8	20	
Ethylbenzene	0.0421	0.0050	mg/kg wet	0.05000		84	70-130	0.8	20	
Hexachlorobutadiene	0.0475	0.0050	mg/kg wet	0.05000		95	70-130	2	20	
Isopropylbenzene	0.0451	0.0050	mg/kg wet	0.05000		90	70-130	0.9	20	
Methyl tert-Butyl Ether	0.0473	0.0050	mg/kg wet	0.05000		95	70-130	0.2	20	
Methylene Chloride	0.0422	0.0250	mg/kg wet	0.05000		84	70-130	0.1	20	
Naphthalene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	0.7	20	
n-Butylbenzene	0.0445	0.0050	mg/kg wet	0.05000		89	70-130	0.4	20	
n-Propylbenzene	0.0443	0.0050	mg/kg wet	0.05000		89	70-130	0.7	20	
sec-Butylbenzene	0.0419	0.0050	mg/kg wet	0.05000		84	70-130	0.4	20	
Styrene	0.0403	0.0050	mg/kg wet	0.05000		81	70-130	0.3	20	
tert-Butylbenzene	0.0439	0.0050	mg/kg wet	0.05000		88	70-130	1	20	
Tertiary-amyl methyl ether	0.0473	0.0050	mg/kg wet	0.05000		95	70-130	0.08	20	
Tetrachloroethene	0.0458	0.0050	mg/kg wet	0.05000		92	70-130	1	20	
Tetrahydrofuran	0.0467	0.0200	mg/kg wet	0.05000		93	70-130	2	20	
Toluene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130	0.6	20	
trans-1,2-Dichloroethene	0.0481	0.0050	mg/kg wet	0.05000		96	70-130	0.3	20	
trans-1,3-Dichloropropene	0.0380	0.0050	mg/kg wet	0.05000		76	70-130	2	20	
Trichloroethene	0.0461	0.0050	mg/kg wet	0.05000		92	70-130	0.04	20	
Trichlorofluoromethane	0.0451	0.0050	mg/kg wet	0.05000		90	70-130	0.5	20	
Vinyl Chloride	0.0461	0.0100	mg/kg wet	0.05000		92	70-130	1	20	
Xylene O	0.0414	0.0050	mg/kg wet	0.05000		83	70-130	0.1	20	
Xylene P,M	0.0848	0.0100	mg/kg wet	0.1000		85	70-130	0.9	20	
Surrogate: 1,2-Dichloroethane-d4	*0.0504*		mg/kg wet	*0.05000*		*101*	*70-130*			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23F0048

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 DF30604 - 5035										
Surrogate: 4-Bromofluorobenzene	*0.0494*		mg/kg wet	*0.05000*		*99*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0462*		mg/kg wet	*0.05000*		*92*	*70-130*			
Surrogate: Toluene-d8	*0.0492*		mg/kg wet	*0.05000*		*98*	*70-130*			
Batch DF30619 - 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	0.0050	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	0.0800	mg/kg wet							
2,2-Dichloropropane	ND	0.0050	mg/kg wet							
2-Butanone	ND	0.0500	mg/kg wet							
2-Chlorotoluene	ND	0.0050	mg/kg wet							
2-Hexanone	ND	0.0500	mg/kg wet							
4-Chlorotoluene	ND	0.0050	mg/kg wet							
4-Isopropyltoluene	ND	0.0050	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.0500	mg/kg wet							
Acetone	ND	0.0500	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: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23F0048

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 DF30619 - 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	0.0050	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	0.0250	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	0.0200	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	*0.0516*		mg/kg wet	*0.05000*		*103*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0475*		mg/kg wet	*0.05000*		*95*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0425*		mg/kg wet	*0.05000*		*85*	*70-130*			
Surrogate: Toluene-d8	*0.0494*		mg/kg wet	*0.05000*		*99*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	0.0457	0.0050	mg/kg wet	0.05000		91	70-130			
1,1,1-Trichloroethane	0.0479	0.0050	mg/kg wet	0.05000		96	70-130			
1,1,2,2-Tetrachloroethane	0.0487	0.0050	mg/kg wet	0.05000		97	70-130			
1,1,2-Trichloroethane	0.0437	0.0050	mg/kg wet	0.05000		87	70-130			
1,1-Dichloroethane	0.0450	0.0050	mg/kg wet	0.05000		90	70-130			
1,1-Dichloroethene	0.0526	0.0050	mg/kg wet	0.05000		105	70-130			
1,1-Dichloropropene	0.0456	0.0050	mg/kg wet	0.05000		91	70-130			
1,2,3-Trichlorobenzene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23F0048

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 DF30619 - 5035										
1,2,3-Trichloropropane	0.0435	0.0050	mg/kg wet	0.05000		87	70-130			
1,2,4-Trichlorobenzene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130			
1,2,4-Trimethylbenzene	0.0469	0.0050	mg/kg wet	0.05000		94	70-130			
1,2-Dibromo-3-Chloropropane	0.0473	0.0050	mg/kg wet	0.05000		95	70-130			
1,2-Dibromoethane	0.0458	0.0050	mg/kg wet	0.05000		92	70-130			
1,2-Dichlorobenzene	0.0486	0.0050	mg/kg wet	0.05000		97	70-130			
1,2-Dichloroethane	0.0421	0.0050	mg/kg wet	0.05000		84	70-130			
1,2-Dichloropropane	0.0463	0.0050	mg/kg wet	0.05000		93	70-130			
1,3,5-Trimethylbenzene	0.0486	0.0050	mg/kg wet	0.05000		97	70-130			
1,3-Dichlorobenzene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130			
1,3-Dichloropropane	0.0510	0.0050	mg/kg wet	0.05000		102	70-130			
1,4-Dichlorobenzene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130			
1,4-Dioxane	1.09	0.0800	mg/kg wet	1.000		109	70-130			
2,2-Dichloropropane	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
2-Butanone	0.232	0.0500	mg/kg wet	0.2500		93	70-130			
2-Chlorotoluene	0.0516	0.0050	mg/kg wet	0.05000		103	70-130			
2-Hexanone	0.277	0.0500	mg/kg wet	0.2500		111	70-130			
4-Chlorotoluene	0.0480	0.0050	mg/kg wet	0.05000		96	70-130			
4-Isopropyltoluene	0.0469	0.0050	mg/kg wet	0.05000		94	70-130			
4-Methyl-2-Pentanone	0.218	0.0500	mg/kg wet	0.2500		87	70-130			
Acetone	0.280	0.0500	mg/kg wet	0.2500		112	70-130			
Benzene	0.0466	0.0050	mg/kg wet	0.05000		93	70-130			
Bromobenzene	0.0517	0.0050	mg/kg wet	0.05000		103	70-130			
Bromochloromethane	0.0461	0.0050	mg/kg wet	0.05000		92	70-130			
Bromodichloromethane	0.0416	0.0050	mg/kg wet	0.05000		83	70-130			
Bromoform	0.0483	0.0050	mg/kg wet	0.05000		97	70-130			
Bromomethane	0.0450	0.0100	mg/kg wet	0.05000		90	70-130			
Carbon Disulfide	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			
Carbon Tetrachloride	0.0456	0.0050	mg/kg wet	0.05000		91	70-130			
Chlorobenzene	0.0491	0.0050	mg/kg wet	0.05000		98	70-130			
Chloroethane	0.0488	0.0100	mg/kg wet	0.05000		98	70-130			
Chloroform	0.0436	0.0050	mg/kg wet	0.05000		87	70-130			
Chloromethane	0.0412	0.0100	mg/kg wet	0.05000		82	70-130			
cis-1,2-Dichloroethene	0.0481	0.0050	mg/kg wet	0.05000		96	70-130			
cis-1,3-Dichloropropene	0.0426	0.0050	mg/kg wet	0.05000		85	70-130			
Dibromochloromethane	0.0434	0.0050	mg/kg wet	0.05000		87	70-130			
Dibromomethane	0.0435	0.0050	mg/kg wet	0.05000		87	70-130			
Dichlorodifluoromethane	0.0371	0.0100	mg/kg wet	0.05000		74	70-130			
Diethyl Ether	0.0499	0.0050	mg/kg wet	0.05000		100	70-130			
Di-isopropyl ether	0.0460	0.0050	mg/kg wet	0.05000		92	70-130			
Ethyl tertiary-butyl ether	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			
Ethylbenzene	0.0473	0.0050	mg/kg wet	0.05000		95	70-130			
Hexachlorobutadiene	0.0516	0.0050	mg/kg wet	0.05000		103	70-130			
Isopropylbenzene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130			
Methyl tert-Butyl Ether	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, 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 DF30619 - 5035										
Methylene Chloride	0.0409	0.0250	mg/kg wet	0.05000		82	70-130			
Naphthalene	0.0551	0.0050	mg/kg wet	0.05000		110	70-130			
n-Butylbenzene	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			
n-Propylbenzene	0.0487	0.0050	mg/kg wet	0.05000		97	70-130			
sec-Butylbenzene	0.0462	0.0050	mg/kg wet	0.05000		92	70-130			
Styrene	0.0458	0.0050	mg/kg wet	0.05000		92	70-130			
tert-Butylbenzene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130			
Tertiary-amyl methyl ether	0.0488	0.0050	mg/kg wet	0.05000		98	70-130			
Tetrachloroethene	0.0529	0.0050	mg/kg wet	0.05000		106	70-130			
Tetrahydrofuran	0.0466	0.0200	mg/kg wet	0.05000		93	70-130			
Toluene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130			
trans-1,2-Dichloroethene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130			
trans-1,3-Dichloropropene	0.0384	0.0050	mg/kg wet	0.05000		77	70-130			
Trichloroethene	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
Trichlorofluoromethane	0.0444	0.0050	mg/kg wet	0.05000		89	70-130			
Vinyl Chloride	0.0443	0.0100	mg/kg wet	0.05000		89	70-130			
Xylene O	0.0463	0.0050	mg/kg wet	0.05000		93	70-130			
Xylene P,M	0.0951	0.0100	mg/kg wet	0.1000		95	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0450*		mg/kg wet	*0.05000*		*90*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0502*		mg/kg wet	*0.05000*		*100*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0433*		mg/kg wet	*0.05000*		*87*	*70-130*			
Surrogate: Toluene-d8	*0.0516*		mg/kg wet	*0.05000*		*103*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	0.0463	0.0050	mg/kg wet	0.05000		93	70-130	1	20	
1,1,1-Trichloroethane	0.0475	0.0050	mg/kg wet	0.05000		95	70-130	0.7	20	
1,1,2,2-Tetrachloroethane	0.0519	0.0050	mg/kg wet	0.05000		104	70-130	6	20	
1,1,2-Trichloroethane	0.0452	0.0050	mg/kg wet	0.05000		90	70-130	4	20	
1,1-Dichloroethane	0.0449	0.0050	mg/kg wet	0.05000		90	70-130	0.2	20	
1,1-Dichloroethene	0.0519	0.0050	mg/kg wet	0.05000		104	70-130	1	20	
1,1-Dichloropropene	0.0445	0.0050	mg/kg wet	0.05000		89	70-130	2	20	
1,2,3-Trichlorobenzene	0.0495	0.0050	mg/kg wet	0.05000		99	70-130	1	20	
1,2,3-Trichloropropane	0.0470	0.0050	mg/kg wet	0.05000		94	70-130	8	20	
1,2,4-Trichlorobenzene	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	0.1	20	
1,2,4-Trimethylbenzene	0.0465	0.0050	mg/kg wet	0.05000		93	70-130	0.8	20	
1,2-Dibromo-3-Chloropropane	0.0524	0.0050	mg/kg wet	0.05000		105	70-130	10	20	
1,2-Dibromoethane	0.0478	0.0050	mg/kg wet	0.05000		96	70-130	4	20	
1,2-Dichlorobenzene	0.0491	0.0050	mg/kg wet	0.05000		98	70-130	0.9	20	
1,2-Dichloroethane	0.0434	0.0050	mg/kg wet	0.05000		87	70-130	3	20	
1,2-Dichloropropane	0.0469	0.0050	mg/kg wet	0.05000		94	70-130	1	20	
1,3,5-Trimethylbenzene	0.0483	0.0050	mg/kg wet	0.05000		97	70-130	0.6	20	
1,3-Dichlorobenzene	0.0490	0.0050	mg/kg wet	0.05000		98	70-130	0.3	20	
1,3-Dichloropropane	0.0527	0.0050	mg/kg wet	0.05000		105	70-130	3	20	
1,4-Dichlorobenzene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130	0.4	20	
1,4-Dioxane	1.23	0.0800	mg/kg wet	1.000		123	70-130	12	20	
2,2-Dichloropropane	0.0464	0.0050	mg/kg wet	0.05000		93	70-130	1	20	

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23F0048

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 DF30619 - 5035										
2-Butanone	0.236	0.0500	mg/kg wet	0.2500		94	70-130	2	20	
2-Chlorotoluene	0.0513	0.0050	mg/kg wet	0.05000		103	70-130	0.6	20	
2-Hexanone	0.290	0.0500	mg/kg wet	0.2500		116	70-130	4	20	
4-Chlorotoluene	0.0479	0.0050	mg/kg wet	0.05000		96	70-130	0.2	20	
4-Isopropyltoluene	0.0465	0.0050	mg/kg wet	0.05000		93	70-130	0.9	20	
4-Methyl-2-Pentanone	0.239	0.0500	mg/kg wet	0.2500		96	70-130	9	20	
Acetone	0.262	0.0500	mg/kg wet	0.2500		105	70-130	7	20	
Benzene	0.0468	0.0050	mg/kg wet	0.05000		94	70-130	0.5	20	
Bromobenzene	0.0519	0.0050	mg/kg wet	0.05000		104	70-130	0.4	20	
Bromochloromethane	0.0472	0.0050	mg/kg wet	0.05000		94	70-130	2	20	
Bromodichloromethane	0.0420	0.0050	mg/kg wet	0.05000		84	70-130	0.9	20	
Bromoform	0.0510	0.0050	mg/kg wet	0.05000		102	70-130	5	20	
Bromomethane	0.0465	0.0100	mg/kg wet	0.05000		93	70-130	3	20	
Carbon Disulfide	0.0493	0.0050	mg/kg wet	0.05000		99	70-130	0.1	20	
Carbon Tetrachloride	0.0449	0.0050	mg/kg wet	0.05000		90	70-130	2	20	
Chlorobenzene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130	0.3	20	
Chloroethane	0.0486	0.0100	mg/kg wet	0.05000		97	70-130	0.3	20	
Chloroform	0.0440	0.0050	mg/kg wet	0.05000		88	70-130	0.8	20	
Chloromethane	0.0421	0.0100	mg/kg wet	0.05000		84	70-130	2	20	
cis-1,2-Dichloroethene	0.0481	0.0050	mg/kg wet	0.05000		96	70-130	0.08	20	
cis-1,3-Dichloropropene	0.0434	0.0050	mg/kg wet	0.05000		87	70-130	2	20	
Dibromochloromethane	0.0449	0.0050	mg/kg wet	0.05000		90	70-130	3	20	
Dibromomethane	0.0459	0.0050	mg/kg wet	0.05000		92	70-130	5	20	
Dichlorodifluoromethane	0.0370	0.0100	mg/kg wet	0.05000		74	70-130	0.2	20	
Diethyl Ether	0.0523	0.0050	mg/kg wet	0.05000		105	70-130	5	20	
Di-isopropyl ether	0.0467	0.0050	mg/kg wet	0.05000		93	70-130	2	20	
Ethyl tertiary-butyl ether	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	3	20	
Ethylbenzene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130	0.6	20	
Hexachlorobutadiene	0.0511	0.0050	mg/kg wet	0.05000		102	70-130	0.8	20	
Isopropylbenzene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130	0.6	20	
Methyl tert-Butyl Ether	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	4	20	
Methylene Chloride	0.0415	0.0250	mg/kg wet	0.05000		83	70-130	1	20	
Naphthalene	0.0575	0.0050	mg/kg wet	0.05000		115	70-130	4	20	
n-Butylbenzene	0.0477	0.0050	mg/kg wet	0.05000		95	70-130	1	20	
n-Propylbenzene	0.0483	0.0050	mg/kg wet	0.05000		97	70-130	1	20	
sec-Butylbenzene	0.0456	0.0050	mg/kg wet	0.05000		91	70-130	1	20	
Styrene	0.0457	0.0050	mg/kg wet	0.05000		91	70-130	0.09	20	
tert-Butylbenzene	0.0484	0.0050	mg/kg wet	0.05000		97	70-130	0.8	20	
Tertiary-amyl methyl ether	0.0504	0.0050	mg/kg wet	0.05000		101	70-130	3	20	
Tetrachloroethene	0.0517	0.0050	mg/kg wet	0.05000		103	70-130	2	20	
Tetrahydrofuran	0.0507	0.0200	mg/kg wet	0.05000		101	70-130	8	20	
Toluene	0.0472	0.0050	mg/kg wet	0.05000		94	70-130	0.5	20	
trans-1,2-Dichloroethene	0.0504	0.0050	mg/kg wet	0.05000		101	70-130	0.7	20	
trans-1,3-Dichloropropene	0.0394	0.0050	mg/kg wet	0.05000		79	70-130	2	20	
Trichloroethene	0.0466	0.0050	mg/kg wet	0.05000		93	70-130	1	20	

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
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ESS Laboratory Work Order: 23F0048

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 DF30619 - 5035										
Trichlorofluoromethane	0.0438	0.0050	mg/kg wet	0.05000		88	70-130	1	20	
Vinyl Chloride	0.0444	0.0100	mg/kg wet	0.05000		89	70-130	0.2	20	
Xylene O	0.0463	0.0050	mg/kg wet	0.05000		93	70-130	0.04	20	
Xylene P,M	0.0947	0.0100	mg/kg wet	0.1000		95	70-130	0.5	20	
Surrogate: 1,2-Dichloroethane-d4	*0.0460*		mg/kg wet	*0.05000*		*92*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0503*		mg/kg wet	*0.05000*		*101*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0436*		mg/kg wet	*0.05000*		*87*	*70-130*			
Surrogate: Toluene-d8	*0.0516*		mg/kg wet	*0.05000*		*103*	*70-130*			
5035/8260B Volatile Organic Compounds / Methanol										
Batch DF30723 - 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							

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23F0048

Quality Control Data

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch DF30723 - 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	*5.03*		mg/kg wet	*5.000*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*5.14*		mg/kg wet	*5.000*		*103*	*70-130*			
Surrogate: Dibromofluoromethane	*5.15*		mg/kg wet	*5.000*		*103*	*70-130*			
Surrogate: Toluene-d8	*5.02*		mg/kg wet	*5.000*		*100*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	2.04	0.200	mg/kg wet	2.000		102	70-130			
1,1,1-Trichloroethane	1.89	0.200	mg/kg wet	2.000		95	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
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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 DF30723 - 5035										
1,1,2,2-Tetrachloroethane	2.01	0.200	mg/kg wet	2.000		100	70-130			
1,1,2-Trichloroethane	1.95	0.200	mg/kg wet	2.000		98	70-130			
1,1-Dichloroethane	1.91	0.200	mg/kg wet	2.000		95	70-130			
1,1-Dichloroethene	1.83	0.200	mg/kg wet	2.000		92	70-130			
1,1-Dichloropropene	2.02	0.200	mg/kg wet	2.000		101	70-130			
1,2,3-Trichlorobenzene	1.88	0.200	mg/kg wet	2.000		94	70-130			
1,2,3-Trichloropropane	1.98	0.200	mg/kg wet	2.000		99	70-130			
1,2,4-Trichlorobenzene	2.01	0.200	mg/kg wet	2.000		101	70-130			
1,2,4-Trimethylbenzene	1.92	0.200	mg/kg wet	2.000		96	70-130			
1,2-Dibromo-3-Chloropropane	1.95	1.00	mg/kg wet	2.000		97	70-130			
1,2-Dibromoethane	1.96	0.200	mg/kg wet	2.000		98	70-130			
1,2-Dichlorobenzene	1.92	0.200	mg/kg wet	2.000		96	70-130			
1,2-Dichloroethane	1.89	0.200	mg/kg wet	2.000		95	70-130			
1,2-Dichloropropane	1.93	0.200	mg/kg wet	2.000		97	70-130			
1,3,5-Trimethylbenzene	1.98	0.200	mg/kg wet	2.000		99	70-130			
1,3-Dichlorobenzene	1.90	0.200	mg/kg wet	2.000		95	70-130			
1,3-Dichloropropane	2.03	0.200	mg/kg wet	2.000		102	70-130			
1,4-Dichlorobenzene	2.06	0.200	mg/kg wet	2.000		103	70-130			
1,4-Dioxane - Screen	44.5	40.0	mg/kg wet	40.00		111	44-241			
2,2-Dichloropropane	1.93	0.200	mg/kg wet	2.000		96	70-130			
2-Butanone	11.0	1.00	mg/kg wet	10.00		110	70-130			
2-Chlorotoluene	1.96	0.200	mg/kg wet	2.000		98	70-130			
2-Hexanone	11.8	1.00	mg/kg wet	10.00		118	70-130			
4-Chlorotoluene	1.95	0.200	mg/kg wet	2.000		97	70-130			
4-Isopropyltoluene	1.90	0.200	mg/kg wet	2.000		95	70-130			
4-Methyl-2-Pentanone	11.2	1.00	mg/kg wet	10.00		112	70-130			
Acetone	12.1	1.00	mg/kg wet	10.00		121	70-130			
Benzene	1.95	0.200	mg/kg wet	2.000		97	70-130			
Bromobenzene	1.97	0.200	mg/kg wet	2.000		98	70-130			
Bromochloromethane	2.00	0.200	mg/kg wet	2.000		100	70-130			
Bromodichloromethane	1.99	0.200	mg/kg wet	2.000		100	70-130			
Bromoform	2.07	0.200	mg/kg wet	2.000		104	70-130			
Bromomethane	1.88	0.200	mg/kg wet	2.000		94	70-130			
Carbon Disulfide	2.12	0.200	mg/kg wet	2.000		106	70-130			
Carbon Tetrachloride	1.94	0.200	mg/kg wet	2.000		97	70-130			
Chlorobenzene	1.89	0.200	mg/kg wet	2.000		94	70-130			
Chloroethane	2.07	0.200	mg/kg wet	2.000		103	70-130			
Chloroform	1.95	0.200	mg/kg wet	2.000		97	70-130			
Chloromethane	1.79	0.200	mg/kg wet	2.000		89	70-130			
cis-1,2-Dichloroethene	1.96	0.200	mg/kg wet	2.000		98	70-130			
cis-1,3-Dichloropropene	1.94	0.200	mg/kg wet	2.000		97	70-130			
Dibromochloromethane	2.00	0.200	mg/kg wet	2.000		100	70-130			
Dibromomethane	1.99	0.200	mg/kg wet	2.000		100	70-130			
Dichlorodifluoromethane	1.62	0.200	mg/kg wet	2.000		81	70-130			
Diethyl Ether	2.18	0.200	mg/kg wet	2.000		109	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23F0048

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 DF30723 - 5035										
Di-isopropyl ether	2.08	0.200	mg/kg wet	2.000		104	70-130			
Ethyl tertiary-butyl ether	2.07	0.200	mg/kg wet	2.000		103	70-130			
Ethylbenzene	1.92	0.200	mg/kg wet	2.000		96	70-130			
Hexachlorobutadiene	2.09	0.200	mg/kg wet	2.000		104	70-130			
Isopropylbenzene	1.96	0.200	mg/kg wet	2.000		98	70-130			
Methyl tert-Butyl Ether	2.09	0.200	mg/kg wet	2.000		104	70-130			
Methylene Chloride	1.79	0.400	mg/kg wet	2.000		90	70-130			
Naphthalene	1.88	0.200	mg/kg wet	2.000		94	70-130			
n-Butylbenzene	1.96	0.200	mg/kg wet	2.000		98	70-130			
n-Propylbenzene	1.93	0.200	mg/kg wet	2.000		97	70-130			
sec-Butylbenzene	1.85	0.200	mg/kg wet	2.000		93	70-130			
Styrene	1.95	0.200	mg/kg wet	2.000		98	70-130			
tert-Butylbenzene	1.95	0.200	mg/kg wet	2.000		97	70-130			
Tertiary-amyl methyl ether	2.00	0.200	mg/kg wet	2.000		100	70-130			
Tetrachloroethene	1.86	0.200	mg/kg wet	2.000		93	70-130			
Tetrahydrofuran	2.04	1.00	mg/kg wet	2.000		102	70-130			
Toluene	1.94	0.200	mg/kg wet	2.000		97	70-130			
trans-1,2-Dichloroethene	1.81	0.200	mg/kg wet	2.000		90	70-130			
trans-1,3-Dichloropropene	1.81	0.200	mg/kg wet	2.000		90	70-130			
Trichloroethene	1.94	0.200	mg/kg wet	2.000		97	70-130			
Trichlorofluoromethane	1.87	0.200	mg/kg wet	2.000		94	70-130			
Vinyl Chloride	1.99	0.200	mg/kg wet	2.000		100	70-130			
Xylene O	1.98	0.200	mg/kg wet	2.000		99	70-130			
Xylene P,M	4.01	0.400	mg/kg wet	4.000		100	70-130			
Surrogate: 1,2-Dichloroethane-d4	*4.97*		mg/kg wet	*5.000*		*99*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*4.97*		mg/kg wet	*5.000*		*99*	*70-130*			
Surrogate: Dibromofluoromethane	*4.97*		mg/kg wet	*5.000*		*99*	*70-130*			
Surrogate: Toluene-d8	*4.99*		mg/kg wet	*5.000*		*100*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	2.02	0.200	mg/kg wet	2.000		101	70-130	1	20	
1,1,1-Trichloroethane	1.89	0.200	mg/kg wet	2.000		95	70-130	0.1	20	
1,1,2,2-Tetrachloroethane	1.95	0.200	mg/kg wet	2.000		97	70-130	3	20	
1,1,2-Trichloroethane	1.92	0.200	mg/kg wet	2.000		96	70-130	2	20	
1,1-Dichloroethane	1.92	0.200	mg/kg wet	2.000		96	70-130	0.6	20	
1,1-Dichloroethene	1.81	0.200	mg/kg wet	2.000		90	70-130	1	20	
1,1-Dichloropropene	2.02	0.200	mg/kg wet	2.000		101	70-130	0	20	
1,2,3-Trichlorobenzene	1.80	0.200	mg/kg wet	2.000		90	70-130	5	20	
1,2,3-Trichloropropane	1.92	0.200	mg/kg wet	2.000		96	70-130	3	20	
1,2,4-Trichlorobenzene	1.88	0.200	mg/kg wet	2.000		94	70-130	7	20	
1,2,4-Trimethylbenzene	1.85	0.200	mg/kg wet	2.000		92	70-130	4	20	
1,2-Dibromo-3-Chloropropane	1.81	1.00	mg/kg wet	2.000		91	70-130	7	20	
1,2-Dibromoethane	1.97	0.200	mg/kg wet	2.000		98	70-130	0.5	20	
1,2-Dichlorobenzene	1.87	0.200	mg/kg wet	2.000		94	70-130	2	20	
1,2-Dichloroethane	1.86	0.200	mg/kg wet	2.000		93	70-130	2	20	
1,2-Dichloropropane	1.92	0.200	mg/kg wet	2.000		96	70-130	0.8	20	

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23F0048

Quality Control Data

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch DF30723 - 5035										
1,3,5-Trimethylbenzene	1.91	0.200	mg/kg wet	2.000		95	70-130	4	20	
1,3-Dichlorobenzene	1.87	0.200	mg/kg wet	2.000		94	70-130	1	20	
1,3-Dichloropropane	2.05	0.200	mg/kg wet	2.000		103	70-130	1	20	
1,4-Dichlorobenzene	1.97	0.200	mg/kg wet	2.000		99	70-130	4	20	
1,4-Dioxane - Screen	42.7	40.0	mg/kg wet	40.00		107	44-241	4	200	
2,2-Dichloropropane	1.90	0.200	mg/kg wet	2.000		95	70-130	1	20	
2-Butanone	10.9	1.00	mg/kg wet	10.00		109	70-130	2	20	
2-Chlorotoluene	1.89	0.200	mg/kg wet	2.000		95	70-130	3	20	
2-Hexanone	11.5	1.00	mg/kg wet	10.00		115	70-130	2	20	
4-Chlorotoluene	1.90	0.200	mg/kg wet	2.000		95	70-130	3	20	
4-Isopropyltoluene	1.84	0.200	mg/kg wet	2.000		92	70-130	3	20	
4-Methyl-2-Pentanone	10.9	1.00	mg/kg wet	10.00		109	70-130	2	20	
Acetone	12.0	1.00	mg/kg wet	10.00		120	70-130	0.9	20	
Benzene	1.94	0.200	mg/kg wet	2.000		97	70-130	0.4	20	
Bromobenzene	1.91	0.200	mg/kg wet	2.000		96	70-130	3	20	
Bromochloromethane	1.87	0.200	mg/kg wet	2.000		94	70-130	7	20	
Bromodichloromethane	1.99	0.200	mg/kg wet	2.000		99	70-130	0.3	20	
Bromoform	1.99	0.200	mg/kg wet	2.000		100	70-130	4	20	
Bromomethane	1.90	0.200	mg/kg wet	2.000		95	70-130	0.8	20	
Carbon Disulfide	2.08	0.200	mg/kg wet	2.000		104	70-130	2	20	
Carbon Tetrachloride	1.94	0.200	mg/kg wet	2.000		97	70-130	0.3	20	
Chlorobenzene	1.87	0.200	mg/kg wet	2.000		93	70-130	1	20	
Chloroethane	1.98	0.200	mg/kg wet	2.000		99	70-130	4	20	
Chloroform	1.91	0.200	mg/kg wet	2.000		96	70-130	2	20	
Chloromethane	1.76	0.200	mg/kg wet	2.000		88	70-130	2	20	
cis-1,2-Dichloroethene	1.91	0.200	mg/kg wet	2.000		96	70-130	3	20	
cis-1,3-Dichloropropene	1.94	0.200	mg/kg wet	2.000		97	70-130	0.1	20	
Dibromochloromethane	1.97	0.200	mg/kg wet	2.000		98	70-130	2	20	
Dibromomethane	1.97	0.200	mg/kg wet	2.000		98	70-130	1	20	
Dichlorodifluoromethane	1.63	0.200	mg/kg wet	2.000		82	70-130	0.7	20	
Diethyl Ether	2.30	0.200	mg/kg wet	2.000		115	70-130	6	20	
Di-isopropyl ether	2.05	0.200	mg/kg wet	2.000		102	70-130	1	20	
Ethyl tertiary-butyl ether	2.08	0.200	mg/kg wet	2.000		104	70-130	0.6	20	
Ethylbenzene	1.88	0.200	mg/kg wet	2.000		94	70-130	2	20	
Hexachlorobutadiene	1.92	0.200	mg/kg wet	2.000		96	70-130	8	20	
Isopropylbenzene	1.89	0.200	mg/kg wet	2.000		95	70-130	4	20	
Methyl tert-Butyl Ether	2.11	0.200	mg/kg wet	2.000		106	70-130	1	20	
Methylene Chloride	1.90	0.400	mg/kg wet	2.000		95	70-130	6	20	
Naphthalene	1.76	0.200	mg/kg wet	2.000		88	70-130	6	20	
n-Butylbenzene	1.86	0.200	mg/kg wet	2.000		93	70-130	5	20	
n-Propylbenzene	1.87	0.200	mg/kg wet	2.000		94	70-130	3	20	
sec-Butylbenzene	1.79	0.200	mg/kg wet	2.000		89	70-130	4	20	
Styrene	1.93	0.200	mg/kg wet	2.000		96	70-130	1	20	
tert-Butylbenzene	1.89	0.200	mg/kg wet	2.000		94	70-130	3	20	
Tertiary-amyl methyl ether	2.00	0.200	mg/kg wet	2.000		100	70-130	0.2	20	

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23F0048

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 DF30723 - 5035										
Tetrachloroethene	1.82	0.200	mg/kg wet	2.000		91	70-130	2	20	
Tetrahydrofuran	2.03	1.00	mg/kg wet	2.000		101	70-130	0.7	20	
Toluene	1.91	0.200	mg/kg wet	2.000		96	70-130	2	20	
trans-1,2-Dichloroethene	1.86	0.200	mg/kg wet	2.000		93	70-130	3	20	
trans-1,3-Dichloropropene	1.77	0.200	mg/kg wet	2.000		89	70-130	2	20	
Trichloroethene	1.94	0.200	mg/kg wet	2.000		97	70-130	0.4	20	
Trichlorofluoromethane	1.89	0.200	mg/kg wet	2.000		94	70-130	1	20	
Vinyl Chloride	2.02	0.200	mg/kg wet	2.000		101	70-130	1	20	
Xylene O	1.97	0.200	mg/kg wet	2.000		98	70-130	0.4	20	
Xylene P,M	3.91	0.400	mg/kg wet	4.000		98	70-130	3	20	
Surrogate: 1,2-Dichloroethane-d4	*4.98*		mg/kg wet	*5.000*		*100*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*4.96*		mg/kg wet	*5.000*		*99*	*70-130*			
Surrogate: Dibromofluoromethane	*5.02*		mg/kg wet	*5.000*		*100*	*70-130*			
Surrogate: Toluene-d8	*4.97*		mg/kg wet	*5.000*		*99*	*70-130*			
8100M Total Petroleum Hydrocarbons										
Batch DF30160 - 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 (C9-C36)	ND	10.0	mg/kg wet							
Triacontane (C30)	ND	0.2	mg/kg wet							
Surrogate: O-Terphenyl	*3.75*		mg/kg wet	*5.000*		*75*	*40-140*			
LCS										
Decane (C10)	1.8	0.2	mg/kg wet	2.500		71	40-140			
Docosane (C22)	1.9	0.2	mg/kg wet	2.500		76	40-140			
Dodecane (C12)	1.8	0.2	mg/kg wet	2.500		74	40-140			
Eicosane (C20)	1.9	0.2	mg/kg wet	2.500		75	40-140			
Hexacosane (C26)	2.0	0.2	mg/kg wet	2.500		78	40-140			
Hexadecane (C16)	1.9	0.2	mg/kg wet	2.500		75	40-140			
Hexatriacontane (C36)	2.3	0.2	mg/kg wet	2.500		91	40-140			
Nonadecane (C19)	1.9	0.2	mg/kg wet	2.500		74	40-140			
Nonane (C9)	1.6	0.2	mg/kg wet	2.500		62	30-140			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23F0048

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8100M Total Petroleum Hydrocarbons										
Batch DF30160 - 3546										
Octacosane (C28)	2.0	0.2	mg/kg wet	2.500		78	40-140			
Octadecane (C18)	1.9	0.2	mg/kg wet	2.500		74	40-140			
Tetracosane (C24)	1.7	0.2	mg/kg wet	2.500		69	40-140			
Tetradecane (C14)	1.8	0.2	mg/kg wet	2.500		74	40-140			
Total Petroleum Hydrocarbons (C9-C36)	26.7	10.0	mg/kg wet	35.00		76	40-140			
Triacontane (C30)	2.0	0.2	mg/kg wet	2.500		82	40-140			
Surrogate: O-Terphenyl	*3.80*		mg/kg wet	*5.000*		*76*	*40-140*			
LCS Dup										
Decane (C10)	1.8	0.2	mg/kg wet	2.500		72	40-140	1	25	
Docosane (C22)	1.9	0.2	mg/kg wet	2.500		75	40-140	0.5	25	
Dodecane (C12)	1.9	0.2	mg/kg wet	2.500		74	40-140	0.8	25	
Eicosane (C20)	1.9	0.2	mg/kg wet	2.500		75	40-140	0.9	25	
Hexacosane (C26)	1.9	0.2	mg/kg wet	2.500		78	40-140	0.7	25	
Hexadecane (C16)	1.9	0.2	mg/kg wet	2.500		75	40-140	0.5	25	
Hexatriacontane (C36)	2.2	0.2	mg/kg wet	2.500		89	40-140	1	25	
Nonadecane (C19)	1.9	0.2	mg/kg wet	2.500		74	40-140	0.3	25	
Nonane (C9)	1.6	0.2	mg/kg wet	2.500		63	30-140	2	25	
Octacosane (C28)	1.9	0.2	mg/kg wet	2.500		78	40-140	0.5	25	
Octadecane (C18)	1.9	0.2	mg/kg wet	2.500		75	40-140	0.4	25	
Tetracosane (C24)	1.7	0.2	mg/kg wet	2.500		69	40-140	0.7	25	
Tetradecane (C14)	1.8	0.2	mg/kg wet	2.500		74	40-140	0.6	25	
Total Petroleum Hydrocarbons (C9-C36)	26.4	10.0	mg/kg wet	35.00		75	40-140	1	25	
Triacontane (C30)	2.0	0.2	mg/kg wet	2.500		82	40-140	0.01	25	
Surrogate: O-Terphenyl	*3.73*		mg/kg wet	*5.000*		*75*	*40-140*			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23F0048

Notes and Definitions

U	Analyte included in the analysis, but not detected
S+	Surrogate recovery(ies) above upper control limit (S+).
Q	Calibration required quadratic regression (Q).
E	Reported above the quantitation limit; Estimated value (E).
D	Diluted.
CD+	Continuing Calibration %Diff/Drift is above control limit (CD+).
CD-	Continuing Calibration %Diff/Drift is below control limit (CD-).
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 Probable Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23F0048

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

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tetra Tech FW, Inc - ESS

Shipped/Delivered Via: ESS Courier

ESS Project ID: 23F0048
Date Received: 6/1/2023
Project Due Date: 6/8/2023
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: 4.9 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/Acid Lot#:
    b. Low Level VOA vials frozen: Date: 6/1/23 Time: 1915 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:

Resolution:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
1	437381	Yes	N/A	Yes	VOA Vial	MeOH	
1	437386	Yes	N/A	Yes	VOA Vial	DI Water	
1	437387	Yes	N/A	Yes	VOA Vial	DI Water	
1	437504	Yes	N/A	Yes	4 oz. Jar	NP	
2	437382	Yes	N/A	Yes	VOA Vial	MeOH	
2	437388	Yes	N/A	Yes	VOA Vial	DI Water	
2	437389	Yes	N/A	Yes	VOA Vial	DI Water	
2	437505	Yes	N/A	Yes	4 oz. Jar	NP	
3	437383	Yes	N/A	Yes	VOA Vial	MeOH	
3	437390	Yes	N/A	Yes	VOA Vial	DI Water	
3	437391	Yes	N/A	Yes	VOA Vial	DI Water	
3	437506	Yes	N/A	Yes	4 oz. Jar	NP	
4	437384	Yes	N/A	Yes	VOA Vial	MeOH	
4	437392	Yes	N/A	Yes	VOA Vial	DI Water	
4	437393	Yes	N/A	Yes	VOA Vial	DI Water	
4	437507	Yes	N/A	Yes	4 oz. Jar	NP	
5	437385	Yes	N/A	Yes	VOA Vial	MeOH	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tetra Tech FW, Inc - ESS

ESS Project ID: 23F0048
Date Received: 6/1/2023

5	437394	Yes	N/A	Yes	VOA Vial	DI Water
5	437395	Yes	N/A	Yes	VOA Vial	DI Water
5	437508	Yes	N/A	Yes	4 oz. Jar	NP
6	437509	Yes	N/A	Yes	8 oz jar	NP
7	437510	Yes	N/A	Yes	8 oz jar	NP
8	437511	Yes	N/A	Yes	8 oz jar	NP
9	437512	Yes	N/A	Yes	8 oz jar	NP
10	437513	Yes	N/A	Yes	8 oz jar	NP
11	437514	Yes	N/A	Yes	8 oz jar	NP

2nd Review

Were all containers scanned into storage/lab? Initials BB

Are barcode labels on correct containers? Yes / No

Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA

Are all Hex Chrome stickers attached? Yes / No / NA

Are all QC stickers attached? Yes / No / NA

Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: _____ Date & Time: 6/1/23 18:57

Reviewed By: _____ Date & Time: 6/1/23 1915

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02910
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 23F0048 | Page 1 of 2

Turn Time (Days) ☑ > 5 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: MA Criteria: RCS-1

Is this project for any of the following?: ☐ CT RCP ☑ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)

☐ Limit Checker ☐ State Forms ☐ EQuIS
☑ Excel ☐ State Upload ☐ Enviro Data
☐ CLP-Like Package ☑ Other (Specify) → Tetra Tech Excel format

CLIENT INFORMATION

Client: Tetra Tech
Address: 100 Nickerson Rd. Marlborough, MA 01752
Phone: 508-782-4937 (Karl Seibert)
Email Distribution List: karl.seibert@tetratech.com, william.phelps@tetratech.com

PROJECT INFORMATION

Project Name: Massport - Cypher Street
Project Location: South Boston, Massachusetts
Project Number: 143-278997-23002
Project Manager: William Phelps, Karl Seibert
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	VOCs (8260) High	VOCs (8260) Low	RCRA 8 metals, SVOCs (8270), flashpoint	Reactivity, conductivity, pH	PCBs by Soxhlet Extraction	Total Solids	Pesticides/Herbicides	TPH	Total Number of Bottles
1	6/1/23	850	GRAB	Soil	TT-120B (2.5')	X	X				X			4
2		1130			TT-120C (6')	X	X				X			4
3		1350			TT-121A (9.5')	X	X				X			4
4		1050			TT-117C (14')	X	X				X			4
5		940			TT-118B (13')	X	X				X			4
6		900	COMP		TT-120B (0-3)								X	1
7		920			TT-120B (3-6)								X	1
8		1100			TT-120C (0-3)								X	1
9		1130			TT-120C (3-6)								X	1
10		1300			TT-121A (0-3)								X	1
Container Type:	AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial					V	V	AG	AG	AG	AG	AG	AG	
Container Volume:	1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*					7	7	10	10	10	8	10	10	
Preservation Code:	1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*					6	10	1	1	1	1	1	1	

Sampled by : D. Homan R. Seibert

Chain needs to be filled out neatly and completely for on time delivery.

Laboratory Use Only
Cooler Temperature (°C): 4.9
On ice

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration
☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
Karl Seibert	6/1/23	1517	AO 6/1/23 1517	AO	6/1/23	1611	
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

CHAIN OF CUSTODY

ESS LABORATORY
185 Frances Avenue
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ESS Lab # 23F0048 | Page 2 of 2

Turn Time (Days) ☑ > 5 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: MA **Criteria:** RCS-1

Is this project for any of the following?:
☐ CT RCP ☑ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)
☐ Limit Checker ☐ State Forms ☐ EQuIS
☑ Excel ☐ State Upload ☐ Enviro Data
☐ CLP-Like Package ☑ Other (Specify) → Tetra Tech Excel format

CLIENT INFORMATION

Client: Tetra Tech
Address: 100 Nickerson Rd.
Marlborough, MA 01752
Phone: 508-782-4937 (Karl Seibert)
Email Distribution List: karl.seibert@tetratech.com
william.phelps@tetratech.com

PROJECT INFORMATION

Project Name: Massport - Cypher Street
Project Location: South Boston, Massachusetts
Project Number: 143-278997-23002
Project Manager: William Phelps, Karl Seibert
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	VOCs (8260) High	VOCs (8260) Low	RCRA 8 metals, SVOCs (8270), flashpoint	Reactivity, conductivity, pH	PCBs by Soxhlet Extraction	Total Solids	Pesticides/Herbicides	TPH	Total Number of Bottles
11	6/1/23	1345	Comp	soil	TJ-121A (3-6)								X	1
Container Type:	AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial					V	V	AG	AG	AG	AG	AG	AG	
Container Volume:	1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*					7	7	10	10	10	8	10	10	
Preservation Code:	1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*					6	10	1	1	1	1	1	1	

Sampled by : D. Homan K. Seibert

Chain needs to be filled out neatly and completely for on time delivery.

Laboratory Use Only
Cooler Temperature (°C): 4.9
on ice

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration
☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
Karl Seibert	6/1/23	1517	AO 6/1/23 1517	AO	6/1/23	1611	
Relinquished by (Signature)	**Date**	**Time**	**Received by (Signature)**	**Relinquished by (Signature)**	**Date**	**Time**	**Received by (Signature)**

CERTIFICATE OF ANALYSIS

William Phelps
Tetra Tech, Inc.
100 Nickerson Road
Marlborough, MA 01752

RE: Massport - Cypher Street (143-278997-23002)
ESS Laboratory Work Order Number: 23F0094

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 2:12 pm, Jun 20, 2023

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: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23F0094

SAMPLE RECEIPT

The following samples were received on June 02, 2023 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 June 2, 2023 at 17:15.
Tetrahydrofuran is reported above the MA CAM reporting limit of 0.010 mg/kg.

Question I: All samples for metals and EPH were analyzed for a subset of the required MCP list per the client's request.

Lab Number	Sample Name	Matrix	Analysis
23F0094-01	TT-121 3-6ft	Soil	1010A, 1311, 1311/6010C, 6010C, 7.3.3.2, 7.3.4.1, 7471B, 8081B, 8082A, 8100M, 8151A, 8270D, 9045, 9050A
23F0094-02	TT-121 6-8ft	Soil	1010A, 1311, 1311/6010C, 6010C, 7.3.3.2, 7.3.4.1, 7471B, 8081B, 8082A, 8100M, 8151A, 8270D, 9045, 9050A
23F0094-03	TT-121C 0-3ft	Soil	8100M
23F0094-04	TT-121C 2ft	Soil	8260B Low
23F0094-05	TT-117B-C 10-15	Soil	1010A, 1311, 1311/6010C, 6010C, 7.3.3.2, 7.3.4.1, 7471B, 8081B, 8082A, 8100M, 8151A, 8270D, 9045, 9050A
23F0094-06	TT-118B-C 10-15	Soil	1010A, 1311, 1311/6010C, 6010C, 7.3.3.2, 7.3.4.1, 7471B, 8081B, 8082A, 8100M, 8151A, 8270D, 9045, 9050A
23F0094-07	TT-119A-C 10-15	Soil	1010A, 6010C, 7.3.3.2, 7.3.4.1, 7471B, 8081B, 8082A, 8100M, 8151A, 8270D, 9045, 9050A
23F0094-08	TT-120A 11ft	Soil	8260B Low

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23F0094

23F0094-09	TT-119C 14ft	Soil	8260B Low
23F0094-10	TT-121C 7ft	Soil	8260B, 8260B Low
23F0094-11	TT-121C 3-6ft	Soil	8100M
23F0094-12	TT-120 10-12ft	Soil	1010A, 1311, 1311/6010C, 6010C, 6020A, 7.3.3.2, 7.3.4.1, 7471B, 8081B, 8082A, 8100M, 8151A, 8270D, 9045, 9050A

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23F0094

PROJECT NARRATIVE

5035/8260B Volatile Organic Compounds / Low Level

23F0094-04	**Internal Standard(s) outside of criteria. Sample was reanalyzed to confirm (IC).**
	1,4-Dichlorobenzene-D4 (42% @ 50-200%)
23F0094-04	**Surrogate recovery(ies) above upper control limit (S+).**
	1,2-Dichloroethane-d4 (138% @ 70-130%)
23F0094-04RE1	**Internal Standard(s) outside of criteria. Sample was reanalyzed to confirm (IC).**
	1,4-Dichlorobenzene-D4 (46% @ 50-200%)
23F0094-10	**Internal Standard(s) outside of criteria. Sample was reanalyzed to confirm (IC).**
	1,4-Dichlorobenzene-D4 (31% @ 50-200%)
23F0094-10	**Reported above the quantitation limit; Estimated value (E).**
	Isopropylbenzene , n-Butylbenzene , n-Propylbenzene , sec-Butylbenzene , tert-Butylbenzene
23F0094-10	**Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).**
	4-Bromofluorobenzene (2160% @ 70-130%)
D3F0075-CCV1	**Calibration required quadratic regression (Q).**
	Naphthalene (103% @ 80-120%)
D3F0089-CCV1	**Calibration required quadratic regression (Q).**
	Naphthalene (108% @ 80-120%)
D3F0089-CCV1	**Continuing Calibration %Diff/Drift is below control limit (CD-).**
	Dichlorodifluoromethane (21% @ 20%), Methylene Chloride (22% @ 20%)
D3F0114-CCV1	**Calibration required quadratic regression (Q).**
	Naphthalene (117% @ 80-120%)
D3F0114-CCV1	**Continuing Calibration %Diff/Drift is below control limit (CD-).**
	Chloromethane (21% @ 20%)

5035/8260B Volatile Organic Compounds / Methanol

D3F0111-CCV1	**Calibration required quadratic regression (Q).**
	1,2,3-Trichlorobenzene (109% @ 80-120%), Naphthalene (106% @ 80-120%)
D3F0111-CCV1	**Continuing Calibration %Diff/Drift is above control limit (CD+).**
	Bromoform (22% @ 20%)

8081B Organochlorine Pesticides

23F0094-01	**Lower value is used due to matrix interferences (LC).**
	Endrin Aldehyde
23F0094-01	**Percent difference between primary and confirmation results exceeds 40% (P).**
	Endrin Aldehyde
23F0094-02	**Lower value is used due to matrix interferences (LC).**
	Endosulfan II [2C] , Endrin Aldehyde
23F0094-02	**Percent difference between primary and confirmation results exceeds 40% (P).**
	Endosulfan II [2C] , Endrin Aldehyde
D3F0279-CCVA	**Continuing Calibration %Diff/Drift is below control limit (CD-).**
	Decachlorobiphenyl (28% @ 20%), Endrin Aldehyde (21% @ 20%), Endrin Ketone (22% @ 20%), Methoxychlor (26% @ 20%)

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23F0094

8151A Chlorinated Herbicides

23F0094-02	**Lower value is used due to matrix interferences (LC).**
	Dichlorprop
23F0094-02	**Modified result**
	MCPP , MCPP [2C]
23F0094-02	**Peaks found in the retention time window for MCPP did not confirm by GC/MS.**
23F0094-02	**Percent difference between primary and confirmation results exceeds 40% (P).**
	Dichlorprop
23F0094-02	**Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).**
	DCAA (215% @ 30-150%)
23F0094-05	**Modified result**
	MCPP , MCPP [2C]
23F0094-05	**Peaks found in the retention time window for MCPP did not confirm by GC/MS.**
23F0094-05	**Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).**
	DCAA (275% @ 30-150%)
23F0094-06	**Modified result**
	MCPP , MCPP [2C]
23F0094-06	**Peaks found in the retention time window for MCPP did not confirm by GC/MS.**
23F0094-07	**Modified result**
	MCPP , MCPP [2C]
23F0094-07	**Peaks found in the retention time window for MCPP did not confirm by GC/MS.**
D3F0102-CCV4	**Continuing Calibration %Diff/Drift is above control limit (CD+).**
	MCPA (16% @ 15%)
DF30545-BSD1	**Relative percent difference for duplicate is outside of criteria (D+).**
	2,4,5-T (33% @ 30%), 2,4,5-TP (Silvex) [2C] (32% @ 30%), 2,4-DB (31% @ 30%), Dalapon [2C] (31% @ 30%), Dicamba (33% @ 30%), MCPP (31% @ 30%), MCPP [2C] (32% @ 30%)

8270D Semi-Volatile Organic Compounds

23F0094-02	**Surrogate recovery(ies) above upper control limit (S+).**
	Nitrobenzene-d5 (145% @ 30-130%)
D3F0042-CCV1	**Calibration required quadratic regression (Q).**
	2,4-Dinitrophenol (93% @ 80-120%)
D3F0070-CCV1	**Calibration required quadratic regression (Q).**
	2,4-Dinitrophenol (115% @ 80-120%)
D3F0219-CCV1	**Calibration required quadratic regression (Q).**
	2,4-Dinitrophenol (77% @ 80-120%)
D3F0219-CCV1	**Continuing Calibration %Diff/Drift is below control limit (CD-).**
	2,4-Dinitrophenol (23% @ 20%)

Total Metals

23F0094-06	**Elevated Method Reporting Limits due to sample matrix (EL).**
	Selenium , Silver
23F0094-07	**Elevated Method Reporting Limits due to sample matrix (EL).**
	Selenium , Silver
23F0094-12	**Elevated Method Reporting Limits due to sample matrix (EL).**
	Silver

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23F0094

DF30831-BSD1 **Blank Spike recovery is above upper control limit (B+).**
Mercury (142% @ 80-120%)

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: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23F0094

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: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23F0094

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **23F0094-01 through 23F0094-12**

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	(x) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
(x) 6010 Metals CAM III A	(x) 6020 Metals CAM III D	(x) MassDEP EPH CAM IV B	(x) 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: June 20, 2023
Printed Name: Laurel Stoddard
Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121 3-6ft
Date Sampled: 06/01/23 13:40
Percent Solids: 83

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-01
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	**6.89** (2.86)		6010C		1	CEV	06/05/23 19:31	2.11	100	DF30508
Barium	**124** (2.86)		6010C		1	CEV	06/05/23 19:31	2.11	100	DF30508
Cadmium	ND (0.57)		6010C		1	CEV	06/05/23 19:31	2.11	100	DF30508
Chromium	**12.0** (1.14)		6010C		1	CEV	06/05/23 19:31	2.11	100	DF30508
Lead	**307** (5.71)		6010C		1	CEV	06/05/23 19:31	2.11	100	DF30508
Mercury	**0.686** (0.037)		7471B		1	BJV	06/06/23 13:33	0.64	40	DF30509
Selenium	ND (5.71)		6010C		1	CEV	06/05/23 19:31	2.11	100	DF30508
Silver	ND (0.57)		6010C		1	CEV	06/05/23 19:31	2.11	100	DF30508

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121 3-6ft
Date Sampled: 06/01/23 13:40
Percent Solids: 83

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-01
Sample Matrix: Soil
Units: mg/L

Extraction Method: 3005A SPLP

1311 TCLP Metals

Analyte	Results (MRL)	MDL	Method	TCLP Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Lead	ND (0.050)		1311/6010C		1	CEV	06/08/23 12:50	50	50	DF30728

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121 3-6ft
Date Sampled: 06/01/23 13:40
Percent Solids: 83
Initial Volume: 19.4g
Final Volume: 5ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/5/23 9:30

8081B Organochlorine Pesticides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
4,4´-DDD	ND (0.0031)		8081B		1	06/08/23 23:33	D3F0124	DF30503
4,4´-DDE	ND (0.0031)		8081B		1	06/08/23 23:33	D3F0124	DF30503
4,4´-DDT	ND (0.0031)		8081B		1	06/08/23 23:33	D3F0124	DF30503
Aldrin	ND (0.0031)		8081B		1	06/08/23 23:33	D3F0124	DF30503
alpha-BHC	ND (0.0031)		8081B		1	06/08/23 23:33	D3F0124	DF30503
alpha-Chlordane	ND (0.0031)		8081B		1	06/08/23 23:33	D3F0124	DF30503
beta-BHC	ND (0.0031)		8081B		1	06/08/23 23:33	D3F0124	DF30503
Chlordane (Total)	ND (0.0373)		8081B		1	06/08/23 23:33	D3F0124	DF30503
delta-BHC	ND (0.0031)		8081B		1	06/08/23 23:33	D3F0124	DF30503
Dieldrin	ND (0.0031)		8081B		1	06/08/23 23:33	D3F0124	DF30503
Endosulfan I	ND (0.0031)		8081B		1	06/08/23 23:33	D3F0124	DF30503
Endosulfan II [2C]	ND (0.0031)		8081B		1	06/08/23 23:33	D3F0124	DF30503
Endosulfan Sulfate	ND (0.0031)		8081B		1	06/08/23 23:33	D3F0124	DF30503
Endrin	ND (0.0031)		8081B		1	06/08/23 23:33	D3F0124	DF30503
Endrin Aldehyde	**P, LC 0.0146** (0.0031)		8081B		1	06/08/23 23:33	D3F0124	DF30503
Endrin Ketone	ND (0.0031)		8081B		1	06/08/23 23:33	D3F0124	DF30503
gamma-BHC (Lindane)	ND (0.0019)		8081B		1	06/08/23 23:33	D3F0124	DF30503
gamma-Chlordane	ND (0.0031)		8081B		1	06/08/23 23:33	D3F0124	DF30503
Heptachlor	ND (0.0031)		8081B		1	06/08/23 23:33	D3F0124	DF30503
Heptachlor Epoxide	ND (0.0031)		8081B		1	06/08/23 23:33	D3F0124	DF30503
Hexachlorobenzene	ND (0.0031)		8081B		1	06/08/23 23:33	D3F0124	DF30503
Methoxychlor	ND (0.0031)		8081B		1	06/08/23 23:33	D3F0124	DF30503
Toxaphene	ND (0.155)		8081B		1	06/08/23 23:33	D3F0124	DF30503

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*51 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*40 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*55 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121 3-6ft
Date Sampled: 06/01/23 13:40
Percent Solids: 83
Initial Volume: 20.5g
Final Volume: 10ml
Extraction Method: 3540C

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JLG
Prepared: 6/5/23 7:14

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/06/23 18:16		DF30502
Aroclor 1221	ND (0.06)		8082A		1	06/06/23 18:16		DF30502
Aroclor 1232	ND (0.06)		8082A		1	06/06/23 18:16		DF30502
Aroclor 1242	ND (0.06)		8082A		1	06/06/23 18:16		DF30502
Aroclor 1248	ND (0.06)		8082A		1	06/06/23 18:16		DF30502
Aroclor 1254	ND (0.06)		8082A		1	06/06/23 18:16		DF30502
Aroclor 1260	ND (0.06)		8082A		1	06/06/23 18:16		DF30502
Aroclor 1262	ND (0.06)		8082A		1	06/06/23 18:16		DF30502
Aroclor 1268	ND (0.06)		8082A		1	06/06/23 18:16		DF30502

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*73 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*78 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*53 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*55 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121 3-6ft
Date Sampled: 06/01/23 13:40
Percent Solids: 83
Initial Volume: 19.4g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 6/5/23 19:33

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**96.0** (12.4)		8100M		1	06/06/23 21:56		DF30544

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*72 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121 3-6ft
Date Sampled: 06/01/23 13:40
Percent Solids: 83
Initial Volume: 10.5g
Final Volume: 4ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/5/23 17:10

8151A Chlorinated Herbicides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2,4,5-T	ND (0.011)		8151A		1	06/07/23 22:45	D3F0102	DF30545
2,4,5-TP (Silvex)	ND (0.011)		8151A		1	06/07/23 22:45	D3F0102	DF30545
2,4-D	ND (0.054)		8151A		1	06/07/23 22:45	D3F0102	DF30545
2,4-DB	ND (0.055)		8151A		1	06/07/23 22:45	D3F0102	DF30545
Dalapon	ND (0.052)		8151A		1	06/07/23 22:45	D3F0102	DF30545
Dicamba	ND (0.011)		8151A		1	06/07/23 22:45	D3F0102	DF30545
Dichlorprop	ND (0.054)		8151A		1	06/07/23 22:45	D3F0102	DF30545
Dinoseb	ND (0.055)		8151A		1	06/07/23 22:45	D3F0102	DF30545
MCPA	ND (2.67)		8151A		1	06/07/23 22:45	D3F0102	DF30545
MCPP	ND (2.70)		8151A		1	06/07/23 22:45	D3F0102	DF30545

	%Recovery	*Qualifier*	*Limits*
Surrogate: DCAA	*94 %*		*30-150*
Surrogate: DCAA [2C]	*71 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121 3-6ft
Date Sampled: 06/01/23 13:40
Percent Solids: 83
Initial Volume: 19.6g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 6/2/23 18:07

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1-Biphenyl	**0.037** (0.031)		8270D		1	06/05/23 20:43	D3F0070	DF30237
1,2,4-Trichlorobenzene	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
1,2-Dichlorobenzene	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
1,3-Dichlorobenzene	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
1,4-Dichlorobenzene	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
2,4,5-Trichlorophenol	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
2,4,6-Trichlorophenol	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
2,4-Dichlorophenol	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
2,4-Dimethylphenol	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
2,4-Dinitrophenol	ND (1.23)		8270D		1	06/05/23 20:43	D3F0070	DF30237
2,4-Dinitrotoluene	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
2,6-Dinitrotoluene	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
2-Chloronaphthalene	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
2-Chlorophenol	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
2-Methylnaphthalene	**0.636** (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
2-Methylphenol	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
2-Nitrophenol	ND (0.615)		8270D		1	06/05/23 20:43	D3F0070	DF30237
3,3´-Dichlorobenzidine	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
3+4-Methylphenol	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
4-Bromophenyl-phenylether	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
4-Chloroaniline	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
4-Nitrophenol	ND (1.23)		8270D		1	06/05/23 20:43	D3F0070	DF30237
Acenaphthene	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
Acenaphthylene	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
Acetophenone	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
Aniline	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
Anthracene	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
Azobenzene	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
Benzo(a)anthracene	**0.312** (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
Benzo(a)pyrene	**0.359** (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
Benzo(b)fluoranthene	**0.309** (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
Benzo(g,h,i)perylene	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121 3-6ft
Date Sampled: 06/01/23 13:40
Percent Solids: 83
Initial Volume: 19.6g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 6/2/23 18:07

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Benzo(k)fluoranthene	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
bis(2-Chloroethoxy)methane	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
bis(2-Chloroethyl)ether	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
bis(2-chloroisopropyl)Ether	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
bis(2-Ethylhexyl)phthalate	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
Butylbenzylphthalate	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
Chrysene	**0.352** (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
Dibenzo(a,h)Anthracene	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
Dibenzofuran	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
Diethylphthalate	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
Dimethylphthalate	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
Di-n-butylphthalate	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
Di-n-octylphthalate	ND (0.615)		8270D		1	06/05/23 20:43	D3F0070	DF30237
Fluoranthene	**0.502** (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
Fluorene	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
Hexachlorobenzene	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
Hexachlorobutadiene	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
Hexachloroethane	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
Indeno(1,2,3-cd)Pyrene	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
Isophorone	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
Naphthalene	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
Nitrobenzene	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
N-Nitrosodimethylamine	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
Pentachlorophenol	ND (1.23)		8270D		1	06/05/23 20:43	D3F0070	DF30237
Phenanthrene	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
Phenol	ND (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237
Pyrene	**0.475** (0.308)		8270D		1	06/05/23 20:43	D3F0070	DF30237

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*95 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*104 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*94 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*101 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121 3-6ft
Date Sampled: 06/01/23 13:40
Percent Solids: 83
Initial Volume: 19.6g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 6/2/23 18:07

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Fluorophenol		*97 %*		*30-130*				
Surrogate: Nitrobenzene-d5		*96 %*		*30-130*				
Surrogate: Phenol-d6		*91 %*		*30-130*				
Surrogate: p-Terphenyl-d14		*104 %*		*30-130*				

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121 3-6ft
Date Sampled: 06/01/23 13:40
Percent Solids: 83

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-01
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Conductivity	**WL 239** (5)		9050A		1	CCP	06/05/23 14:30	umhos/cm	DF30535
Corrosivity (pH)	**7.53** (N/A)		9045		1	EAM	06/02/23 19:41	S.U.	DF30227
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 21.3 ºC.**								
Flashpoint	**> 200** (N/A)		1010A		1	JLK	06/05/23 16:27	°F	DF30546
Reactive Cyanide	ND (2.0)		7.3.3.2		1	JLK	06/05/23 15:30	mg/kg	DF30540
Reactive Sulfide	ND (2.0)		7.3.4.1		1	JLK	06/05/23 15:30	mg/kg	DF30540

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121 3-6ft
Date Sampled: 06/01/23 13:40
Percent Solids: 83
Initial Volume: 100g
Final Volume: 2000ml
Extraction Method: 1311

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-01
Sample Matrix: Soil
Units: °C
Analyst: ESC
Prepared: 6/6/23 15:15

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**20.5** (N/A)		1311		1	ESC	06/07/23 8:43	DF30615
Temperature (Max C)	**21.1** (N/A)		1311		1	ESC	06/07/23 8:43	DF30615
Temperature (Range)	**Temperature is not within 23 +/-2 ºC.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121 6-8ft
Date Sampled: 06/01/23 13:55
Percent Solids: 73

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-02
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	**8.22** (2.66)		6010C		1	CEV	06/05/23 19:33	2.58	100	DF30508
Barium	**171** (2.66)		6010C		1	CEV	06/05/23 19:33	2.58	100	DF30508
Cadmium	ND (0.53)		6010C		1	CEV	06/05/23 19:33	2.58	100	DF30508
Chromium	**10.5** (1.07)		6010C		1	CEV	06/05/23 19:33	2.58	100	DF30508
Lead	**331** (5.33)		6010C		1	CEV	06/05/23 19:33	2.58	100	DF30508
Mercury	**0.739** (0.043)		7471B		1	BJV	06/06/23 13:36	0.63	40	DF30509
Selenium	ND (5.33)		6010C		1	CEV	06/05/23 19:33	2.58	100	DF30508
Silver	ND (0.53)		6010C		1	CEV	06/05/23 19:33	2.58	100	DF30508

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121 6-8ft
Date Sampled: 06/01/23 13:55
Percent Solids: 73

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-02
Sample Matrix: Soil
Units: mg/L

Extraction Method: 3005A SPLP

1311 TCLP Metals

Analyte	Results (MRL)	MDL	Method	TCLP Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Lead	**0.663** (0.050)		1311/6010C		1	CEV	06/08/23 12:53	50	50	DF30728

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121 6-8ft
Date Sampled: 06/01/23 13:55
Percent Solids: 73
Initial Volume: 20.9g
Final Volume: 5ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/5/23 9:30

8081B Organochlorine Pesticides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
4,4´-DDD [2C]	ND (0.0033)		8081B		1	06/09/23 0:03	D3F0124	DF30503
4,4´-DDE	ND (0.0033)		8081B		1	06/09/23 0:03	D3F0124	DF30503
4,4´-DDT	ND (0.0033)		8081B		1	06/09/23 0:03	D3F0124	DF30503
Aldrin	ND (0.0033)		8081B		1	06/09/23 0:03	D3F0124	DF30503
alpha-BHC	ND (0.0033)		8081B		1	06/09/23 0:03	D3F0124	DF30503
alpha-Chlordane	ND (0.0033)		8081B		1	06/09/23 0:03	D3F0124	DF30503
beta-BHC	ND (0.0033)		8081B		1	06/09/23 0:03	D3F0124	DF30503
Chlordane (Total)	ND (0.0395)		8081B		1	06/09/23 0:03	D3F0124	DF30503
delta-BHC	ND (0.0033)		8081B		1	06/09/23 0:03	D3F0124	DF30503
Dieldrin	ND (0.0033)		8081B		1	06/09/23 0:03	D3F0124	DF30503
Endosulfan I	ND (0.0033)		8081B		1	06/09/23 0:03	D3F0124	DF30503
Endosulfan II [2C]	**P, LC 0.0068** (0.0033)		8081B		1	06/09/23 0:03	D3F0124	DF30503
Endosulfan Sulfate	ND (0.0033)		8081B		1	06/09/23 0:03	D3F0124	DF30503
Endrin	ND (0.0033)		8081B		1	06/09/23 0:03	D3F0124	DF30503
Endrin Aldehyde	**P, LC 0.0538** (0.0164)		8081B		5	06/09/23 10:03	D3F0124	DF30503
Endrin Ketone	ND (0.0033)		8081B		1	06/09/23 0:03	D3F0124	DF30503
gamma-BHC (Lindane)	ND (0.0020)		8081B		1	06/09/23 0:03	D3F0124	DF30503
gamma-Chlordane	ND (0.0033)		8081B		1	06/09/23 0:03	D3F0124	DF30503
Heptachlor	ND (0.0033)		8081B		1	06/09/23 0:03	D3F0124	DF30503
Heptachlor Epoxide [2C]	ND (0.0033)		8081B		1	06/09/23 0:03	D3F0124	DF30503
Hexachlorobenzene	ND (0.0033)		8081B		1	06/09/23 0:03	D3F0124	DF30503
Methoxychlor	ND (0.0033)		8081B		1	06/09/23 0:03	D3F0124	DF30503
Toxaphene	ND (0.164)		8081B		1	06/09/23 0:03	D3F0124	DF30503

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*48 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*96 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*31 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*45 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121 6-8ft
Date Sampled: 06/01/23 13:55
Percent Solids: 73
Initial Volume: 20.2g
Final Volume: 10ml
Extraction Method: 3540C

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JLG
Prepared: 6/5/23 7:14

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/07/23 20:56		DF30754
Aroclor 1221	ND (0.07)		8082A		1	06/07/23 20:56		DF30754
Aroclor 1232	ND (0.07)		8082A		1	06/07/23 20:56		DF30754
Aroclor 1242	ND (0.07)		8082A		1	06/07/23 20:56		DF30754
Aroclor 1248	ND (0.07)		8082A		1	06/07/23 20:56		DF30754
Aroclor 1254	ND (0.07)		8082A		1	06/07/23 20:56		DF30754
Aroclor 1260	ND (0.07)		8082A		1	06/07/23 20:56		DF30754
Aroclor 1262	ND (0.07)		8082A		1	06/07/23 20:56		DF30754
Aroclor 1268	ND (0.07)		8082A		1	06/07/23 20:56		DF30754

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*104 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*92 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*55 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*59 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121 6-8ft
Date Sampled: 06/01/23 13:55
Percent Solids: 73
Initial Volume: 19.3g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 6/5/23 19:33

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**2510** (14.2)		8100M		1	06/06/23 13:24		DF30544

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*61 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121 6-8ft
Date Sampled: 06/01/23 13:55
Percent Solids: 73
Initial Volume: 10.1g
Final Volume: 4ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/5/23 17:10

8151A Chlorinated Herbicides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2,4,5-T	ND (0.013)		8151A		1	06/07/23 23:13	D3F0102	DF30545
2,4,5-TP (Silvex)	ND (0.013)		8151A		1	06/07/23 23:13	D3F0102	DF30545
2,4-D	ND (0.064)		8151A		1	06/07/23 23:13	D3F0102	DF30545
2,4-DB	ND (0.065)		8151A		1	06/07/23 23:13	D3F0102	DF30545
Dalapon	ND (0.062)		8151A		1	06/07/23 23:13	D3F0102	DF30545
Dicamba	**0.287** (0.064)		8151A		5	06/08/23 10:58	D3F0102	DF30545
Dichlorprop	**P, LC 0.115** (0.064)		8151A		1	06/07/23 23:13	D3F0102	DF30545
Dinoseb	ND (0.065)		8151A		1	06/07/23 23:13	D3F0102	DF30545
MCPA	ND (3.17)		8151A		1	06/07/23 23:13	D3F0102	DF30545
MCPP	# ND (16.0)		8151A		5	06/08/23 10:58	D3F0102	DF30545

	%Recovery	Qualifier	Limits
Surrogate: DCAA	*215 %*	*SM*	*30-150*
Surrogate: DCAA [2C]	*83 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121 6-8ft
Date Sampled: 06/01/23 13:55
Percent Solids: 73
Initial Volume: 19g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 6/2/23 18:07

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1-Biphenyl	ND (0.036)		8270D		1	06/05/23 21:14	D3F0070	DF30237
1,2,4-Trichlorobenzene	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
1,2-Dichlorobenzene	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
1,3-Dichlorobenzene	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
1,4-Dichlorobenzene	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
2,4,5-Trichlorophenol	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
2,4,6-Trichlorophenol	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
2,4-Dichlorophenol	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
2,4-Dimethylphenol	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
2,4-Dinitrophenol	ND (1.45)		8270D		1	06/05/23 21:14	D3F0070	DF30237
2,4-Dinitrotoluene	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
2,6-Dinitrotoluene	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
2-Chloronaphthalene	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
2-Chlorophenol	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
2-Methylnaphthalene	**0.645** (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
2-Methylphenol	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
2-Nitrophenol	ND (0.724)		8270D		1	06/05/23 21:14	D3F0070	DF30237
3,3´-Dichlorobenzidine	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
3+4-Methylphenol	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
4-Bromophenyl-phenylether	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
4-Chloroaniline	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
4-Nitrophenol	ND (1.45)		8270D		1	06/05/23 21:14	D3F0070	DF30237
Acenaphthene	**0.422** (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
Acenaphthylene	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
Acetophenone	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
Aniline	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
Anthracene	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
Azobenzene	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
Benzo(a)anthracene	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
Benzo(a)pyrene	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
Benzo(b)fluoranthene	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
Benzo(g,h,i)perylene	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121 6-8ft
Date Sampled: 06/01/23 13:55
Percent Solids: 73
Initial Volume: 19g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 6/2/23 18:07

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Benzo(k)fluoranthene	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
bis(2-Chloroethoxy)methane	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
bis(2-Chloroethyl)ether	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
bis(2-chloroisopropyl)Ether	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
bis(2-Ethylhexyl)phthalate	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
Butylbenzylphthalate	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
Chrysene	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
Dibenzo(a,h)Anthracene	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
Dibenzofuran	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
Diethylphthalate	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
Dimethylphthalate	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
Di-n-butylphthalate	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
Di-n-octylphthalate	ND (0.724)		8270D		1	06/05/23 21:14	D3F0070	DF30237
Fluoranthene	**0.382** (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
Fluorene	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
Hexachlorobenzene	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
Hexachlorobutadiene	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
Hexachloroethane	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
Indeno(1,2,3-cd)Pyrene	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
Isophorone	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
Naphthalene	**0.560** (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
Nitrobenzene	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
N-Nitrosodimethylamine	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
Pentachlorophenol	ND (1.45)		8270D		1	06/05/23 21:14	D3F0070	DF30237
Phenanthrene	**0.463** (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
Phenol	ND (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237
Pyrene	**0.367** (0.362)		8270D		1	06/05/23 21:14	D3F0070	DF30237

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*87 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*106 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*82 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*99 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121 6-8ft
Date Sampled: 06/01/23 13:55
Percent Solids: 73
Initial Volume: 19g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 6/2/23 18:07

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Fluorophenol		*83 %*		*30-130*				
Surrogate: Nitrobenzene-d5		*145 %*	*S+*	*30-130*				
Surrogate: Phenol-d6		*97 %*		*30-130*				
Surrogate: p-Terphenyl-d14		*103 %*		*30-130*				

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121 6-8ft
Date Sampled: 06/01/23 13:55
Percent Solids: 73

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-02
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Conductivity	**WL 393** (5)		9050A		1	CCP	06/05/23 14:30	umhos/cm	DF30535
Corrosivity (pH)	**8.05** (N/A)		9045		1	EAM	06/02/23 19:41	S.U.	DF30227
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 21.4 ºC.**								
Flashpoint	**> 200** (N/A)		1010A		1	JLK	06/05/23 16:27	°F	DF30546
Reactive Cyanide	ND (2.0)		7.3.3.2		1	JLK	06/05/23 15:30	mg/kg	DF30540
Reactive Sulfide	ND (2.0)		7.3.4.1		1	JLK	06/05/23 15:30	mg/kg	DF30540

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121 6-8ft
Date Sampled: 06/01/23 13:55
Percent Solids: 73
Initial Volume: 100g
Final Volume: 2000ml
Extraction Method: 1311

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-02
Sample Matrix: Soil
Units: °C
Analyst: ESC
Prepared: 6/6/23 15:15

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**20.5** (N/A)		1311		1	ESC	06/07/23 8:43	DF30615
Temperature (Max C)	**21.1** (N/A)		1311		1	ESC	06/07/23 8:43	DF30615
Temperature (Range)	**Temperature is not within 23 +/-2 ºC.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121C 0-3ft
Date Sampled: 06/01/23 11:55
Percent Solids: 93
Initial Volume: 19.3g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 6/5/23 19:33

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**188** (11.1)		8100M		1	06/06/23 23:58		DF30544

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*70 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121C 2ft
Date Sampled: 06/02/23 11:45
Percent Solids: 86
Initial Volume: 7.8g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-04
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	06/05/23 20:31	D3F0075	DF30604
1,1,1-Trichloroethane	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
1,1,2,2-Tetrachloroethane	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
1,1,2-Trichloroethane	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
1,1-Dichloroethane	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
1,1-Dichloroethene	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
1,1-Dichloropropene	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
1,2,3-Trichlorobenzene	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
1,2,3-Trichloropropane	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
1,2,4-Trichlorobenzene	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
1,2,4-Trimethylbenzene	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
1,2-Dibromo-3-Chloropropane	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
1,2-Dibromoethane	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
1,2-Dichlorobenzene	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
1,2-Dichloroethane	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
1,2-Dichloropropane	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
1,3,5-Trimethylbenzene	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
1,3-Dichlorobenzene	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
1,3-Dichloropropane	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
1,4-Dichlorobenzene	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
1,4-Dioxane	ND (0.0595)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
2,2-Dichloropropane	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
2-Butanone	ND (0.0372)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
2-Chlorotoluene	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
2-Hexanone	ND (0.0372)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
4-Chlorotoluene	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
4-Isopropyltoluene	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
4-Methyl-2-Pentanone	ND (0.0372)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
Acetone	**0.0616** (0.0372)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
Benzene	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
Bromobenzene	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
Bromochloromethane	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121C 2ft
Date Sampled: 06/02/23 11:45
Percent Solids: 86
Initial Volume: 7.8g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-04
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	06/05/23 20:31	D3F0075	DF30604
Bromoform	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
Bromomethane	ND (0.0074)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
Carbon Disulfide	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
Carbon Tetrachloride	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
Chlorobenzene	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
Chloroethane	ND (0.0074)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
Chloroform	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
Chloromethane	ND (0.0074)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
cis-1,2-Dichloroethene	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
cis-1,3-Dichloropropene	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
Dibromochloromethane	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
Dibromomethane	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
Dichlorodifluoromethane	ND (0.0074)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
Diethyl Ether	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
Di-isopropyl ether	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
Ethyl tertiary-butyl ether	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
Ethylbenzene	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
Hexachlorobutadiene	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
Isopropylbenzene	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
Methyl tert-Butyl Ether	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
Methylene Chloride	ND (0.0186)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
Naphthalene	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
n-Butylbenzene	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
n-Propylbenzene	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
sec-Butylbenzene	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
Styrene	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
tert-Butylbenzene	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
Tertiary-amyl methyl ether	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
Tetrachloroethene	**0.0135** (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
Tetrahydrofuran	ND (0.0149)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
Toluene	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121C 2ft
Date Sampled: 06/02/23 11:45
Percent Solids: 86
Initial Volume: 7.8g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-04
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	06/05/23 20:31	D3F0075	DF30604
trans-1,3-Dichloropropene	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
Trichloroethene	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
Trichlorofluoromethane	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
Vinyl Chloride	ND (0.0074)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
Xylene O	ND (0.0037)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
Xylene P,M	ND (0.0074)		8260B Low		1	06/05/23 20:31	D3F0075	DF30604
Xylenes (Total)	ND (0.00744)		8260B Low		1	06/05/23 20:31		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichloroethane-d4	*138 %*	*S+*	*70-130*
Surrogate: 4-Bromofluorobenzene	*80 %*		*70-130*
Surrogate: Dibromofluoromethane	*107 %*		*70-130*
Surrogate: Toluene-d8	*108 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121C 2ft
Date Sampled: 06/02/23 11:45
Percent Solids: 86
Initial Volume: 8g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-04RE1
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 (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
1,1,1-Trichloroethane	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
1,1,2,2-Tetrachloroethane	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
1,1,2-Trichloroethane	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
1,1-Dichloroethane	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
1,1-Dichloroethene	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
1,1-Dichloropropene	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
1,2,3-Trichlorobenzene	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
1,2,3-Trichloropropane	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
1,2,4-Trichlorobenzene	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
1,2,4-Trimethylbenzene	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
1,2-Dibromo-3-Chloropropane	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
1,2-Dibromoethane	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
1,2-Dichlorobenzene	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
1,2-Dichloroethane	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
1,2-Dichloropropane	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
1,3,5-Trimethylbenzene	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
1,3-Dichlorobenzene	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
1,3-Dichloropropane	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
1,4-Dichlorobenzene	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
1,4-Dioxane	ND (0.0580)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
2,2-Dichloropropane	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
2-Butanone	ND (0.0362)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
2-Chlorotoluene	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
2-Hexanone	ND (0.0362)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
4-Chlorotoluene	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
4-Isopropyltoluene	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
4-Methyl-2-Pentanone	ND (0.0362)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Acetone	ND (0.0362)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Benzene	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Bromobenzene	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Bromochloromethane	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121C 2ft
Date Sampled: 06/02/23 11:45
Percent Solids: 86
Initial Volume: 8g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-04RE1
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 (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Bromoform	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Bromomethane	ND (0.0072)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Carbon Disulfide	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Carbon Tetrachloride	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Chlorobenzene	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Chloroethane	ND (0.0072)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Chloroform	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Chloromethane	ND (0.0072)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
cis-1,2-Dichloroethene	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
cis-1,3-Dichloropropene	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Dibromochloromethane	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Dibromomethane	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Dichlorodifluoromethane	ND (0.0072)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Diethyl Ether	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Di-isopropyl ether	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Ethyl tertiary-butyl ether	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Ethylbenzene	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Hexachlorobutadiene	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Isopropylbenzene	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Methyl tert-Butyl Ether	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Methylene Chloride	ND (0.0181)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Naphthalene	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
n-Butylbenzene	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
n-Propylbenzene	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
sec-Butylbenzene	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Styrene	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
tert-Butylbenzene	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Tertiary-amyl methyl ether	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Tetrachloroethene	**0.0117** (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Tetrahydrofuran	ND (0.0145)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Toluene	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121C 2ft
Date Sampled: 06/02/23 11:45
Percent Solids: 86
Initial Volume: 8g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-04RE1
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 (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
trans-1,3-Dichloropropene	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Trichloroethene	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Trichlorofluoromethane	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Vinyl Chloride	ND (0.0072)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Xylene O	ND (0.0036)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Xylene P,M	ND (0.0072)		8260B Low		1	06/06/23 14:30	D3F0089	DF30619
Xylenes (Total)	ND (0.00725)		8260B Low		1	06/06/23 14:30		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichloroethane-d4	*130 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*83 %*		*70-130*
Surrogate: Dibromofluoromethane	*99 %*		*70-130*
Surrogate: Toluene-d8	*108 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117B-C 10-15
Date Sampled: 06/01/23 10:30
Percent Solids: 67

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-05
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	**13.0** (1.39)		6010C		1	CEV	06/05/23 19:35	5.38	100	DF30508
Barium	**109** (1.39)		6010C		1	CEV	06/05/23 19:35	5.38	100	DF30508
Cadmium	**0.39** (0.28)		6010C		1	CEV	06/05/23 19:35	5.38	100	DF30508
Chromium	**9.05** (1.12)		6010C		2	CEV	06/06/23 10:38	5.38	100	DF30508
Lead	**895** (5.58)		6010C		2	CEV	06/06/23 10:38	5.38	100	DF30508
Mercury	**1.73** (0.290)		7471B		20	BJV	06/06/23 14:39	2.05	40	DF30509
Selenium	ND (5.58)		6010C		2	CEV	06/06/23 10:38	5.38	100	DF30508
Silver	ND (0.56)		6010C		2	CEV	06/06/23 10:38	5.38	100	DF30508

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117B-C 10-15
Date Sampled: 06/01/23 10:30
Percent Solids: 67

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-05
Sample Matrix: Soil
Units: mg/L

Extraction Method: 3005A SPLP

1311 TCLP Metals

Analyte	Results (MRL)	MDL	Method	TCLP Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Lead	**1.60** (0.050)		1311/6010C		1	CEV	06/08/23 12:55	50	50	DF30728

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117B-C 10-15
Date Sampled: 06/01/23 10:30
Percent Solids: 67
Initial Volume: 19.2g
Final Volume: 5ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/5/23 9:30

8081B Organochlorine Pesticides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
4,4´-DDD	ND (0.0039)		8081B		1	06/09/23 0:33	D3F0124	DF30503
4,4´-DDE	ND (0.0039)		8081B		1	06/09/23 0:33	D3F0124	DF30503
4,4´-DDT	ND (0.0039)		8081B		1	06/09/23 0:33	D3F0124	DF30503
Aldrin	ND (0.0039)		8081B		1	06/09/23 0:33	D3F0124	DF30503
alpha-BHC	ND (0.0039)		8081B		1	06/09/23 0:33	D3F0124	DF30503
alpha-Chlordane	ND (0.0039)		8081B		1	06/09/23 0:33	D3F0124	DF30503
beta-BHC	ND (0.0039)		8081B		1	06/09/23 0:33	D3F0124	DF30503
Chlordane (Total)	ND (0.0469)		8081B		1	06/09/23 0:33	D3F0124	DF30503
delta-BHC	ND (0.0039)		8081B		1	06/09/23 0:33	D3F0124	DF30503
Dieldrin	ND (0.0039)		8081B		1	06/09/23 0:33	D3F0124	DF30503
Endosulfan I	ND (0.0039)		8081B		1	06/09/23 0:33	D3F0124	DF30503
Endosulfan II	ND (0.0039)		8081B		1	06/09/23 0:33	D3F0124	DF30503
Endosulfan Sulfate	ND (0.0039)		8081B		1	06/09/23 0:33	D3F0124	DF30503
Endrin	ND (0.0039)		8081B		1	06/09/23 0:33	D3F0124	DF30503
Endrin Aldehyde	ND (0.0039)		8081B		1	06/09/23 0:33	D3F0124	DF30503
Endrin Ketone	ND (0.0039)		8081B		1	06/09/23 0:33	D3F0124	DF30503
gamma-BHC (Lindane)	ND (0.0023)		8081B		1	06/09/23 0:33	D3F0124	DF30503
gamma-Chlordane	ND (0.0039)		8081B		1	06/09/23 0:33	D3F0124	DF30503
Heptachlor	ND (0.0039)		8081B		1	06/09/23 0:33	D3F0124	DF30503
Heptachlor Epoxide	ND (0.0039)		8081B		1	06/09/23 0:33	D3F0124	DF30503
Hexachlorobenzene	ND (0.0039)		8081B		1	06/09/23 0:33	D3F0124	DF30503
Methoxychlor	ND (0.0039)		8081B		1	06/09/23 0:33	D3F0124	DF30503
Toxaphene	ND (0.195)		8081B		1	06/09/23 0:33	D3F0124	DF30503

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*39 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*60 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*47 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*57 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117B-C 10-15
Date Sampled: 06/01/23 10:30
Percent Solids: 67
Initial Volume: 20.3g
Final Volume: 10ml
Extraction Method: 3540C

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JLG
Prepared: 6/5/23 7:14

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/07/23 21:16		DF30754
Aroclor 1221	ND (0.07)		8082A		1	06/07/23 21:16		DF30754
Aroclor 1232	ND (0.07)		8082A		1	06/07/23 21:16		DF30754
Aroclor 1242	ND (0.07)		8082A		1	06/07/23 21:16		DF30754
Aroclor 1248	ND (0.07)		8082A		1	06/07/23 21:16		DF30754
Aroclor 1254	ND (0.07)		8082A		1	06/07/23 21:16		DF30754
Aroclor 1260	ND (0.07)		8082A		1	06/07/23 21:16		DF30754
Aroclor 1262	ND (0.07)		8082A		1	06/07/23 21:16		DF30754
Aroclor 1268	ND (0.07)		8082A		1	06/07/23 21:16		DF30754

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*85 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*82 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*75 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*80 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117B-C 10-15
Date Sampled: 06/01/23 10:30
Percent Solids: 67
Initial Volume: 20.6g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 6/5/23 19:33

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**663** (29.1)		8100M		2	06/07/23 1:58		DF30544

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*77 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117B-C 10-15
Date Sampled: 06/01/23 10:30
Percent Solids: 67
Initial Volume: 10.5g
Final Volume: 4ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/5/23 17:10

8151A Chlorinated Herbicides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2,4,5-T	ND (0.068)		8151A		5	06/08/23 11:27	D3F0102	DF30545
2,4,5-TP (Silvex)	ND (0.014)		8151A		1	06/07/23 23:42	D3F0102	DF30545
2,4-D	ND (0.067)		8151A		1	06/07/23 23:42	D3F0102	DF30545
2,4-DB	ND (0.068)		8151A		1	06/07/23 23:42	D3F0102	DF30545
Dalapon	ND (0.065)		8151A		1	06/07/23 23:42	D3F0102	DF30545
Dicamba [2C]	**0.368** (0.067)		8151A		5	06/08/23 11:27	D3F0102	DF30545
Dichlorprop [2C]	**0.800** (0.067)		8151A		1	06/07/23 23:42	D3F0102	DF30545
Dinoseb	ND (0.068)		8151A		1	06/07/23 23:42	D3F0102	DF30545
MCPA	ND (3.32)		8151A		1	06/07/23 23:42	D3F0102	DF30545
MCPP [2C]	# ND (16.8)		8151A		5	06/08/23 11:27	D3F0102	DF30545

	%Recovery	Qualifier	Limits
Surrogate: DCAA	*275 %*	*SM*	*30-150*
Surrogate: DCAA [2C]	*91 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117B-C 10-15
Date Sampled: 06/01/23 10:30
Percent Solids: 67
Initial Volume: 20.4g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 6/2/23 18:07

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1-Biphenyl	ND (0.037)		8270D		1	06/05/23 21:45	D3F0070	DF30237
1,2,4-Trichlorobenzene	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
1,2-Dichlorobenzene	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
1,3-Dichlorobenzene	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
1,4-Dichlorobenzene	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
2,4,5-Trichlorophenol	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
2,4,6-Trichlorophenol	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
2,4-Dichlorophenol	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
2,4-Dimethylphenol	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
2,4-Dinitrophenol	ND (1.47)		8270D		1	06/05/23 21:45	D3F0070	DF30237
2,4-Dinitrotoluene	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
2,6-Dinitrotoluene	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
2-Chloronaphthalene	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
2-Chlorophenol	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
2-Methylnaphthalene	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
2-Methylphenol	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
2-Nitrophenol	ND (0.735)		8270D		1	06/05/23 21:45	D3F0070	DF30237
3,3´-Dichlorobenzidine	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
3+4-Methylphenol	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
4-Bromophenyl-phenylether	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
4-Chloroaniline	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
4-Nitrophenol	ND (1.47)		8270D		1	06/05/23 21:45	D3F0070	DF30237
Acenaphthene	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
Acenaphthylene	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
Acetophenone	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
Aniline	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
Anthracene	**0.444** (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
Azobenzene	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
Benzo(a)anthracene	**1.08** (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
Benzo(a)pyrene	**1.12** (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
Benzo(b)fluoranthene	**0.807** (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
Benzo(g,h,i)perylene	**0.673** (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117B-C 10-15
Date Sampled: 06/01/23 10:30
Percent Solids: 67
Initial Volume: 20.4g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 6/2/23 18:07

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Benzo(k)fluoranthene	**0.691** (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
bis(2-Chloroethoxy)methane	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
bis(2-Chloroethyl)ether	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
bis(2-chloroisopropyl)Ether	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
bis(2-Ethylhexyl)phthalate	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
Butylbenzylphthalate	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
Chrysene	**1.06** (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
Dibenzo(a,h)Anthracene	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
Dibenzofuran	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
Diethylphthalate	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
Dimethylphthalate	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
Di-n-butylphthalate	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
Di-n-octylphthalate	ND (0.735)		8270D		1	06/05/23 21:45	D3F0070	DF30237
Fluoranthene	**2.05** (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
Fluorene	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
Hexachlorobenzene	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
Hexachlorobutadiene	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
Hexachloroethane	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
Indeno(1,2,3-cd)Pyrene	**0.674** (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
Isophorone	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
Naphthalene	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
Nitrobenzene	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
N-Nitrosodimethylamine	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
Pentachlorophenol	ND (1.47)		8270D		1	06/05/23 21:45	D3F0070	DF30237
Phenanthrene	**1.36** (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
Phenol	ND (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237
Pyrene	**1.86** (0.368)		8270D		1	06/05/23 21:45	D3F0070	DF30237

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichlorobenzene-d4	*89 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*95 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*88 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*93 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117B-C 10-15
Date Sampled: 06/01/23 10:30
Percent Solids: 67
Initial Volume: 20.4g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 6/2/23 18:07

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Fluorophenol		*92 %*		*30-130*				
Surrogate: Nitrobenzene-d5		*88 %*		*30-130*				
Surrogate: Phenol-d6		*89 %*		*30-130*				
Surrogate: p-Terphenyl-d14		*106 %*		*30-130*				

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117B-C 10-15
Date Sampled: 06/01/23 10:30
Percent Solids: 67

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-05
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Conductivity	**WL 2090** (5)		9050A		1	CCP	06/05/23 14:30	umhos/cm	DF30535
Corrosivity (pH)	**7.66** (N/A)		9045		1	EAM	06/02/23 19:41	S.U.	DF30227
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 21.3 ºC.**								
Flashpoint	**> 200** (N/A)		1010A		1	JLK	06/05/23 16:27	°F	DF30546
Reactive Cyanide	ND (2.0)		7.3.3.2		1	JLK	06/05/23 15:30	mg/kg	DF30540
Reactive Sulfide	**12.5** (2.0)		7.3.4.1		1	JLK	06/05/23 15:30	mg/kg	DF30540

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-117B-C 10-15
Date Sampled: 06/01/23 10:30
Percent Solids: 67
Initial Volume: 100g
Final Volume: 2000ml
Extraction Method: 1311

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-05
Sample Matrix: Soil
Units: °C
Analyst: ESC
Prepared: 6/6/23 15:15

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**20.5** (N/A)		1311		1	ESC	06/07/23 8:43	DF30615
Temperature (Max C)	**21.1** (N/A)		1311		1	ESC	06/07/23 8:43	DF30615
Temperature (Range)	**Temperature is not within 23 +/-2 ºC.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118B-C 10-15
Date Sampled: 05/31/23 13:00
Percent Solids: 75

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-06
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	**7.77** (3.16)		6010C		1	CEV	06/05/23 19:38	2.1	100	DF30508
Barium	**84.8** (3.16)		6010C		1	CEV	06/05/23 19:38	2.1	100	DF30508
Cadmium	ND (0.63)		6010C		1	CEV	06/05/23 19:38	2.1	100	DF30508
Chromium	**38.8** (2.53)		6010C		2	CEV	06/06/23 10:40	2.1	100	DF30508
Lead	**103** (12.7)		6010C		2	CEV	06/06/23 10:40	2.1	100	DF30508
Mercury	**0.194** (0.043)		7471B		1	BJV	06/06/23 13:40	0.61	40	DF30509
Selenium	**EL** ND (12.7)		6010C		2	CEV	06/06/23 10:40	2.1	100	DF30508
Silver	**EL** ND (2.53)		6010C		4	CEV	06/07/23 9:44	2.1	100	DF30508

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118B-C 10-15
Date Sampled: 05/31/23 13:00
Percent Solids: 75

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-06
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	**0.071** (0.050)		1311/6010C		1	CEV	06/09/23 10:32	50	50	DF30860

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118B-C 10-15
Date Sampled: 05/31/23 13:00
Percent Solids: 75
Initial Volume: 20.9g
Final Volume: 5ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/5/23 9:30

8081B Organochlorine Pesticides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
4,4´-DDD	ND (0.0032)		8081B		1	06/09/23 1:33	D3F0124	DF30503
4,4´-DDE	ND (0.0032)		8081B		1	06/09/23 1:33	D3F0124	DF30503
4,4´-DDT	ND (0.0032)		8081B		1	06/09/23 1:33	D3F0124	DF30503
Aldrin	ND (0.0032)		8081B		1	06/09/23 1:33	D3F0124	DF30503
alpha-BHC	ND (0.0032)		8081B		1	06/09/23 1:33	D3F0124	DF30503
alpha-Chlordane	ND (0.0032)		8081B		1	06/09/23 1:33	D3F0124	DF30503
beta-BHC	ND (0.0032)		8081B		1	06/09/23 1:33	D3F0124	DF30503
Chlordane (Total)	ND (0.0381)		8081B		1	06/09/23 1:33	D3F0124	DF30503
delta-BHC	ND (0.0032)		8081B		1	06/09/23 1:33	D3F0124	DF30503
Dieldrin	ND (0.0032)		8081B		1	06/09/23 1:33	D3F0124	DF30503
Endosulfan I	ND (0.0032)		8081B		1	06/09/23 1:33	D3F0124	DF30503
Endosulfan II	ND (0.0032)		8081B		1	06/09/23 1:33	D3F0124	DF30503
Endosulfan Sulfate	ND (0.0032)		8081B		1	06/09/23 1:33	D3F0124	DF30503
Endrin	ND (0.0032)		8081B		1	06/09/23 1:33	D3F0124	DF30503
Endrin Aldehyde	ND (0.0032)		8081B		1	06/09/23 1:33	D3F0124	DF30503
Endrin Ketone	ND (0.0032)		8081B		1	06/09/23 1:33	D3F0124	DF30503
gamma-BHC (Lindane)	ND (0.0019)		8081B		1	06/09/23 1:33	D3F0124	DF30503
gamma-Chlordane	ND (0.0032)		8081B		1	06/09/23 1:33	D3F0124	DF30503
Heptachlor	ND (0.0032)		8081B		1	06/09/23 1:33	D3F0124	DF30503
Heptachlor Epoxide	ND (0.0032)		8081B		1	06/09/23 1:33	D3F0124	DF30503
Hexachlorobenzene	ND (0.0032)		8081B		1	06/09/23 1:33	D3F0124	DF30503
Methoxychlor	ND (0.0032)		8081B		1	06/09/23 1:33	D3F0124	DF30503
Toxaphene	ND (0.159)		8081B		1	06/09/23 1:33	D3F0124	DF30503

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*41 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*51 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*58 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*56 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118B-C 10-15
Date Sampled: 05/31/23 13:00
Percent Solids: 75
Initial Volume: 20.4g
Final Volume: 10ml
Extraction Method: 3540C

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JLG
Prepared: 6/5/23 7:14

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/06/23 19:14		DF30502
Aroclor 1221	ND (0.07)		8082A		1	06/06/23 19:14		DF30502
Aroclor 1232	ND (0.07)		8082A		1	06/06/23 19:14		DF30502
Aroclor 1242	ND (0.07)		8082A		1	06/06/23 19:14		DF30502
Aroclor 1248	ND (0.07)		8082A		1	06/06/23 19:14		DF30502
Aroclor 1254	ND (0.07)		8082A		1	06/06/23 19:14		DF30502
Aroclor 1260	ND (0.07)		8082A		1	06/06/23 19:14		DF30502
Aroclor 1262	ND (0.07)		8082A		1	06/06/23 19:14		DF30502
Aroclor 1268	ND (0.07)		8082A		1	06/06/23 19:14		DF30502

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*59 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*65 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*69 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*79 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118B-C 10-15
Date Sampled: 05/31/23 13:00
Percent Solids: 75
Initial Volume: 19.5g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 6/5/23 19:33

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**93.9** (13.6)		8100M		1	06/06/23 19:13		DF30544

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*71 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118B-C 10-15
Date Sampled: 05/31/23 13:00
Percent Solids: 75
Initial Volume: 10.4g
Final Volume: 4ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/5/23 17:10

8151A Chlorinated Herbicides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2,4,5-T	ND (0.012)		8151A		1	06/08/23 0:11	D3F0102	DF30545
2,4,5-TP (Silvex)	ND (0.012)		8151A		1	06/08/23 0:11	D3F0102	DF30545
2,4-D	ND (0.060)		8151A		1	06/08/23 0:11	D3F0102	DF30545
2,4-DB	ND (0.061)		8151A		1	06/08/23 0:11	D3F0102	DF30545
Dalapon	ND (0.058)		8151A		1	06/08/23 0:11	D3F0102	DF30545
Dicamba	ND (0.012)		8151A		1	06/08/23 0:11	D3F0102	DF30545
Dichlorprop	ND (0.060)		8151A		1	06/08/23 0:11	D3F0102	DF30545
Dinoseb	ND (0.061)		8151A		1	06/08/23 0:11	D3F0102	DF30545
MCPA	ND (2.97)		8151A		1	06/08/23 0:11	D3F0102	DF30545
MCPP	# ND (3.00)		8151A		1	06/08/23 0:11	D3F0102	DF30545

	%Recovery	*Qualifier*	*Limits*
Surrogate: DCAA	*89 %*		*30-150*
Surrogate: DCAA [2C]	*68 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118B-C 10-15
Date Sampled: 05/31/23 13:00
Percent Solids: 75
Initial Volume: 19.5g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 6/2/23 18:07

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1-Biphenyl	ND (0.034)		8270D		1	06/05/23 22:16	D3F0070	DF30237
1,2,4-Trichlorobenzene	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
1,2-Dichlorobenzene	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
1,3-Dichlorobenzene	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
1,4-Dichlorobenzene	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
2,4,5-Trichlorophenol	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
2,4,6-Trichlorophenol	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
2,4-Dichlorophenol	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
2,4-Dimethylphenol	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
2,4-Dinitrophenol	ND (1.36)		8270D		1	06/05/23 22:16	D3F0070	DF30237
2,4-Dinitrotoluene	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
2,6-Dinitrotoluene	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
2-Chloronaphthalene	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
2-Chlorophenol	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
2-Methylnaphthalene	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
2-Methylphenol	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
2-Nitrophenol	ND (0.681)		8270D		1	06/05/23 22:16	D3F0070	DF30237
3,3´-Dichlorobenzidine	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
3+4-Methylphenol	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
4-Bromophenyl-phenylether	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
4-Chloroaniline	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
4-Nitrophenol	ND (1.36)		8270D		1	06/05/23 22:16	D3F0070	DF30237
Acenaphthene	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
Acenaphthylene	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
Acetophenone	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
Aniline	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
Anthracene	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
Azobenzene	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
Benzo(a)anthracene	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
Benzo(a)pyrene	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
Benzo(b)fluoranthene	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
Benzo(g,h,i)perylene	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118B-C 10-15
Date Sampled: 05/31/23 13:00
Percent Solids: 75
Initial Volume: 19.5g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 6/2/23 18:07

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Benzo(k)fluoranthene	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
bis(2-Chloroethoxy)methane	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
bis(2-Chloroethyl)ether	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
bis(2-chloroisopropyl)Ether	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
bis(2-Ethylhexyl)phthalate	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
Butylbenzylphthalate	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
Chrysene	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
Dibenzo(a,h)Anthracene	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
Dibenzofuran	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
Diethylphthalate	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
Dimethylphthalate	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
Di-n-butylphthalate	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
Di-n-octylphthalate	ND (0.681)		8270D		1	06/05/23 22:16	D3F0070	DF30237
Fluoranthene	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
Fluorene	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
Hexachlorobenzene	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
Hexachlorobutadiene	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
Hexachloroethane	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
Indeno(1,2,3-cd)Pyrene	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
Isophorone	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
Naphthalene	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
Nitrobenzene	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
N-Nitrosodimethylamine	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
Pentachlorophenol	ND (1.36)		8270D		1	06/05/23 22:16	D3F0070	DF30237
Phenanthrene	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
Phenol	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237
Pyrene	ND (0.341)		8270D		1	06/05/23 22:16	D3F0070	DF30237

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichlorobenzene-d4	*80 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*89 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*80 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*82 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118B-C 10-15
Date Sampled: 05/31/23 13:00
Percent Solids: 75
Initial Volume: 19.5g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 6/2/23 18:07

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Fluorophenol		*84 %*		*30-130*				
Surrogate: Nitrobenzene-d5		*81 %*		*30-130*				
Surrogate: Phenol-d6		*79 %*		*30-130*				
Surrogate: p-Terphenyl-d14		*87 %*		*30-130*				

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118B-C 10-15
Date Sampled: 05/31/23 13:00
Percent Solids: 75

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-06
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Conductivity	**WL 3890** (5)		9050A		1	CCP	06/05/23 14:30	umhos/cm	DF30535
Corrosivity (pH)	**8.27** (N/A)		9045		1	EAM	06/02/23 19:41	S.U.	DF30227
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 21.3 ºC.**								
Flashpoint	**> 200** (N/A)		1010A		1	JLK	06/05/23 16:27	°F	DF30546
Reactive Cyanide	ND (2.0)		7.3.3.2		1	JLK	06/05/23 15:30	mg/kg	DF30540
Reactive Sulfide	ND (2.0)		7.3.4.1		1	JLK	06/05/23 15:30	mg/kg	DF30540

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-118B-C 10-15
Date Sampled: 05/31/23 13:00
Percent Solids: 75
Initial Volume: 100g
Final Volume: 2000ml
Extraction Method: 1311

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-06
Sample Matrix: Soil
Units: °C
Analyst: ESC
Prepared: 6/7/23 20:00

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**20.5** (N/A)		1311		1	ESC	06/08/23 13:03	DF30732
Temperature (Max C)	**22.1** (N/A)		1311		1	ESC	06/08/23 13:03	DF30732
Temperature (Range)	**Temperature is not within 23 +/-2 ºC.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119A-C 10-15
Date Sampled: 06/02/23 10:00
Percent Solids: 78

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-07
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	**8.10** (2.74)		6010C		1	CEV	06/05/23 19:40	2.34	100	DF30508
Barium	**77.3** (2.74)		6010C		1	CEV	06/05/23 19:40	2.34	100	DF30508
Cadmium	ND (0.55)		6010C		1	CEV	06/05/23 19:40	2.34	100	DF30508
Chromium	**43.0** (2.19)		6010C		2	CEV	06/06/23 10:42	2.34	100	DF30508
Lead	**19.8** (11.0)		6010C		2	CEV	06/06/23 10:42	2.34	100	DF30508
Mercury	**0.038** (0.036)		7471B		1	BJV	06/06/23 14:41	0.71	40	DF30509
Selenium	**EL** ND (11.0)		6010C		2	CEV	06/06/23 10:42	2.34	100	DF30508
Silver	**EL** ND (2.19)		6010C		4	CEV	06/07/23 9:46	2.34	100	DF30508

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119A-C 10-15
Date Sampled: 06/02/23 10:00
Percent Solids: 78
Initial Volume: 20.1g
Final Volume: 5ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/7/23 10:05

8081B Organochlorine Pesticides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
4,4´-DDD	ND (0.0032)		8081B		1	06/09/23 2:03	D3F0124	DF30705
4,4´-DDE	ND (0.0032)		8081B		1	06/09/23 2:03	D3F0124	DF30705
4,4´-DDT	ND (0.0032)		8081B		1	06/09/23 2:03	D3F0124	DF30705
Aldrin	ND (0.0032)		8081B		1	06/09/23 2:03	D3F0124	DF30705
alpha-BHC	ND (0.0032)		8081B		1	06/09/23 2:03	D3F0124	DF30705
alpha-Chlordane	ND (0.0032)		8081B		1	06/09/23 2:03	D3F0124	DF30705
beta-BHC	ND (0.0032)		8081B		1	06/09/23 2:03	D3F0124	DF30705
Chlordane (Total)	ND (0.0383)		8081B		1	06/09/23 2:03	D3F0124	DF30705
delta-BHC	ND (0.0032)		8081B		1	06/09/23 2:03	D3F0124	DF30705
Dieldrin	ND (0.0032)		8081B		1	06/09/23 2:03	D3F0124	DF30705
Endosulfan I	ND (0.0032)		8081B		1	06/09/23 2:03	D3F0124	DF30705
Endosulfan II	ND (0.0032)		8081B		1	06/09/23 2:03	D3F0124	DF30705
Endosulfan Sulfate	ND (0.0032)		8081B		1	06/09/23 2:03	D3F0124	DF30705
Endrin	ND (0.0032)		8081B		1	06/09/23 2:03	D3F0124	DF30705
Endrin Aldehyde	ND (0.0032)		8081B		1	06/09/23 2:03	D3F0124	DF30705
Endrin Ketone	ND (0.0032)		8081B		1	06/09/23 2:03	D3F0124	DF30705
gamma-BHC (Lindane)	ND (0.0019)		8081B		1	06/09/23 2:03	D3F0124	DF30705
gamma-Chlordane	ND (0.0032)		8081B		1	06/09/23 2:03	D3F0124	DF30705
Heptachlor	ND (0.0032)		8081B		1	06/09/23 2:03	D3F0124	DF30705
Heptachlor Epoxide	ND (0.0032)		8081B		1	06/09/23 2:03	D3F0124	DF30705
Hexachlorobenzene	ND (0.0032)		8081B		1	06/09/23 2:03	D3F0124	DF30705
Methoxychlor	ND (0.0032)		8081B		1	06/09/23 2:03	D3F0124	DF30705
Toxaphene	ND (0.159)		8081B		1	06/09/23 2:03	D3F0124	DF30705

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*45 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*53 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*56 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*54 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119A-C 10-15
Date Sampled: 06/02/23 10:00
Percent Solids: 78
Initial Volume: 19.8g
Final Volume: 10ml
Extraction Method: 3540C

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JLG
Prepared: 6/6/23 10:18

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/07/23 18:18		DF30729
Aroclor 1221	ND (0.06)		8082A		1	06/07/23 18:18		DF30729
Aroclor 1232	ND (0.06)		8082A		1	06/07/23 18:18		DF30729
Aroclor 1242	ND (0.06)		8082A		1	06/07/23 18:18		DF30729
Aroclor 1248	ND (0.06)		8082A		1	06/07/23 18:18		DF30729
Aroclor 1254	ND (0.06)		8082A		1	06/07/23 18:18		DF30729
Aroclor 1260	ND (0.06)		8082A		1	06/07/23 18:18		DF30729
Aroclor 1262	ND (0.06)		8082A		1	06/07/23 18:18		DF30729
Aroclor 1268	ND (0.06)		8082A		1	06/07/23 18:18		DF30729

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*73 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*82 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*68 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*73 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119A-C 10-15
Date Sampled: 06/02/23 10:00
Percent Solids: 78
Initial Volume: 19.7g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 6/5/23 19:33

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	ND (13.0)		8100M		1	06/06/23 12:39		DF30544

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*73 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119A-C 10-15
Date Sampled: 06/02/23 10:00
Percent Solids: 78
Initial Volume: 10.4g
Final Volume: 4ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/5/23 17:10

8151A Chlorinated Herbicides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2,4,5-T	ND (0.012)		8151A		1	06/08/23 0:40	D3F0102	DF30545
2,4,5-TP (Silvex)	ND (0.012)		8151A		1	06/08/23 0:40	D3F0102	DF30545
2,4-D	ND (0.058)		8151A		1	06/08/23 0:40	D3F0102	DF30545
2,4-DB	ND (0.059)		8151A		1	06/08/23 0:40	D3F0102	DF30545
Dalapon	ND (0.056)		8151A		1	06/08/23 0:40	D3F0102	DF30545
Dicamba [2C]	ND (0.012)		8151A		1	06/08/23 0:40	D3F0102	DF30545
Dichlorprop	ND (0.058)		8151A		1	06/08/23 0:40	D3F0102	DF30545
Dinoseb	ND (0.059)		8151A		1	06/08/23 0:40	D3F0102	DF30545
MCPA	ND (2.87)		8151A		1	06/08/23 0:40	D3F0102	DF30545
MCPP	# ND (2.90)		8151A		1	06/08/23 0:40	D3F0102	DF30545

	%Recovery	*Qualifier*	*Limits*
Surrogate: DCAA	*81 %*		*30-150*
Surrogate: DCAA [2C]	*60 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119A-C 10-15
Date Sampled: 06/02/23 10:00
Percent Solids: 78
Initial Volume: 19.4g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 6/2/23 18:07

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1-Biphenyl	ND (0.033)		8270D		1	06/05/23 22:47	D3F0070	DF30237
1,2,4-Trichlorobenzene	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
1,2-Dichlorobenzene	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
1,3-Dichlorobenzene	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
1,4-Dichlorobenzene	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
2,4,5-Trichlorophenol	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
2,4,6-Trichlorophenol	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
2,4-Dichlorophenol	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
2,4-Dimethylphenol	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
2,4-Dinitrophenol	ND (1.32)		8270D		1	06/05/23 22:47	D3F0070	DF30237
2,4-Dinitrotoluene	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
2,6-Dinitrotoluene	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
2-Chloronaphthalene	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
2-Chlorophenol	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
2-Methylnaphthalene	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
2-Methylphenol	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
2-Nitrophenol	ND (0.661)		8270D		1	06/05/23 22:47	D3F0070	DF30237
3,3´-Dichlorobenzidine	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
3+4-Methylphenol	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
4-Bromophenyl-phenylether	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
4-Chloroaniline	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
4-Nitrophenol	ND (1.32)		8270D		1	06/05/23 22:47	D3F0070	DF30237
Acenaphthene	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
Acenaphthylene	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
Acetophenone	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
Aniline	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
Anthracene	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
Azobenzene	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
Benzo(a)anthracene	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
Benzo(a)pyrene	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
Benzo(b)fluoranthene	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
Benzo(g,h,i)perylene	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119A-C 10-15
Date Sampled: 06/02/23 10:00
Percent Solids: 78
Initial Volume: 19.4g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 6/2/23 18:07

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Benzo(k)fluoranthene	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
bis(2-Chloroethoxy)methane	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
bis(2-Chloroethyl)ether	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
bis(2-chloroisopropyl)Ether	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
bis(2-Ethylhexyl)phthalate	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
Butylbenzylphthalate	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
Chrysene	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
Dibenzo(a,h)Anthracene	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
Dibenzofuran	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
Diethylphthalate	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
Dimethylphthalate	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
Di-n-butylphthalate	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
Di-n-octylphthalate	ND (0.661)		8270D		1	06/05/23 22:47	D3F0070	DF30237
Fluoranthene	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
Fluorene	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
Hexachlorobenzene	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
Hexachlorobutadiene	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
Hexachloroethane	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
Indeno(1,2,3-cd)Pyrene	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
Isophorone	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
Naphthalene	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
Nitrobenzene	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
N-Nitrosodimethylamine	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
Pentachlorophenol	ND (1.32)		8270D		1	06/05/23 22:47	D3F0070	DF30237
Phenanthrene	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
Phenol	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237
Pyrene	ND (0.330)		8270D		1	06/05/23 22:47	D3F0070	DF30237

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*86 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*92 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*88 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*85 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119A-C 10-15
Date Sampled: 06/02/23 10:00
Percent Solids: 78
Initial Volume: 19.4g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 6/2/23 18:07

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Fluorophenol		*95 %*		*30-130*				
Surrogate: Nitrobenzene-d5		*85 %*		*30-130*				
Surrogate: Phenol-d6		*87 %*		*30-130*				
Surrogate: p-Terphenyl-d14		*94 %*		*30-130*				

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119A-C 10-15
Date Sampled: 06/02/23 10:00
Percent Solids: 78

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-07
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Conductivity	**WL 3620** (5)		9050A		1	CCP	06/05/23 14:30	umhos/cm	DF30535
Corrosivity (pH)	**8.31** (N/A)		9045		1	EAM	06/02/23 19:41	S.U.	DF30227
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 21.3 ºC.**								
Flashpoint	**> 200** (N/A)		1010A		1	JLK	06/05/23 16:27	°F	DF30546
Reactive Cyanide	ND (2.0)		7.3.3.2		1	JLK	06/05/23 15:30	mg/kg	DF30540
Reactive Sulfide	ND (2.0)		7.3.4.1		1	JLK	06/05/23 15:30	mg/kg	DF30540

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-120A 11ft
Date Sampled: 06/02/23 09:30
Percent Solids: 74
Initial Volume: 5.7g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-08
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 (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
1,1,1-Trichloroethane	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
1,1,2,2-Tetrachloroethane	ND (0.0036)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
1,1,2-Trichloroethane	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
1,1-Dichloroethane	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
1,1-Dichloroethene	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
1,1-Dichloropropene	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
1,2,3-Trichlorobenzene	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
1,2,3-Trichloropropane	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
1,2,4-Trichlorobenzene	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
1,2,4-Trimethylbenzene	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
1,2-Dibromo-3-Chloropropane	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
1,2-Dibromoethane	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
1,2-Dichlorobenzene	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
1,2-Dichloroethane	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
1,2-Dichloropropane	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
1,3,5-Trimethylbenzene	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
1,3-Dichlorobenzene	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
1,3-Dichloropropane	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
1,4-Dichlorobenzene	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
1,4-Dioxane	ND (0.0953)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
2,2-Dichloropropane	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
2-Butanone	ND (0.0596)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
2-Chlorotoluene	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
2-Hexanone	ND (0.0596)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
4-Chlorotoluene	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
4-Isopropyltoluene	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
4-Methyl-2-Pentanone	ND (0.0596)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Acetone	ND (0.0596)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Benzene	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Bromobenzene	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Bromochloromethane	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-120A 11ft
Date Sampled: 06/02/23 09:30
Percent Solids: 74
Initial Volume: 5.7g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-08
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 (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Bromoform	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Bromomethane	ND (0.0119)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Carbon Disulfide	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Carbon Tetrachloride	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Chlorobenzene	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Chloroethane	ND (0.0119)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Chloroform	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Chloromethane	ND (0.0119)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
cis-1,2-Dichloroethene	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
cis-1,3-Dichloropropene	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Dibromochloromethane	ND (0.0036)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Dibromomethane	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Dichlorodifluoromethane	ND (0.0119)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Diethyl Ether	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Di-isopropyl ether	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Ethyl tertiary-butyl ether	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Ethylbenzene	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Hexachlorobutadiene	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Isopropylbenzene	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Methyl tert-Butyl Ether	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Methylene Chloride	ND (0.0298)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Naphthalene	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
n-Butylbenzene	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
n-Propylbenzene	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
sec-Butylbenzene	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Styrene	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
tert-Butylbenzene	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Tertiary-amyl methyl ether	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Tetrachloroethene	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Tetrahydrofuran	ND (0.0238)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Toluene	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-120A 11ft
Date Sampled: 06/02/23 09:30
Percent Solids: 74
Initial Volume: 5.7g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-08
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 (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
trans-1,3-Dichloropropene	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Trichloroethene	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Trichlorofluoromethane	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Vinyl Chloride	ND (0.0119)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Xylene O	ND (0.0060)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Xylene P,M	ND (0.0119)		8260B Low		1	06/06/23 15:21	D3F0089	DF30619
Xylenes (Total)	ND (0.0119)		8260B Low		1	06/06/23 15:21		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichloroethane-d4	*117 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*99 %*		*70-130*
Surrogate: Dibromofluoromethane	*93 %*		*70-130*
Surrogate: Toluene-d8	*96 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119C 14ft
Date Sampled: 06/02/23 10:20
Percent Solids: 73
Initial Volume: 6.8g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-09
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	06/06/23 15:47	D3F0089	DF30619
1,1,1-Trichloroethane	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
1,1,2,2-Tetrachloroethane	ND (0.0030)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
1,1,2-Trichloroethane	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
1,1-Dichloroethane	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
1,1-Dichloroethene	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
1,1-Dichloropropene	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
1,2,3-Trichlorobenzene	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
1,2,3-Trichloropropane	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
1,2,4-Trichlorobenzene	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
1,2,4-Trimethylbenzene	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
1,2-Dibromo-3-Chloropropane	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
1,2-Dibromoethane	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
1,2-Dichlorobenzene	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
1,2-Dichloroethane	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
1,2-Dichloropropane	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
1,3,5-Trimethylbenzene	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
1,3-Dichlorobenzene	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
1,3-Dichloropropane	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
1,4-Dichlorobenzene	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
1,4-Dioxane	ND (0.0809)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
2,2-Dichloropropane	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
2-Butanone	ND (0.0506)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
2-Chlorotoluene	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
2-Hexanone	ND (0.0506)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
4-Chlorotoluene	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
4-Isopropyltoluene	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
4-Methyl-2-Pentanone	ND (0.0506)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
Acetone	ND (0.0506)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
Benzene	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
Bromobenzene	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
Bromochloromethane	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119C 14ft
Date Sampled: 06/02/23 10:20
Percent Solids: 73
Initial Volume: 6.8g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-09
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	06/06/23 15:47	D3F0089	DF30619
Bromoform	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
Bromomethane	ND (0.0101)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
Carbon Disulfide	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
Carbon Tetrachloride	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
Chlorobenzene	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
Chloroethane	ND (0.0101)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
Chloroform	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
Chloromethane	ND (0.0101)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
cis-1,2-Dichloroethene	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
cis-1,3-Dichloropropene	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
Dibromochloromethane	ND (0.0030)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
Dibromomethane	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
Dichlorodifluoromethane	ND (0.0101)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
Diethyl Ether	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
Di-isopropyl ether	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
Ethyl tertiary-butyl ether	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
Ethylbenzene	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
Hexachlorobutadiene	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
Isopropylbenzene	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
Methyl tert-Butyl Ether	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
Methylene Chloride	ND (0.0253)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
Naphthalene	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
n-Butylbenzene	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
n-Propylbenzene	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
sec-Butylbenzene	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
Styrene	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
tert-Butylbenzene	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
Tertiary-amyl methyl ether	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
Tetrachloroethene	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
Tetrahydrofuran	ND (0.0202)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
Toluene	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-119C 14ft
Date Sampled: 06/02/23 10:20
Percent Solids: 73
Initial Volume: 6.8g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-09
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	06/06/23 15:47	D3F0089	DF30619
trans-1,3-Dichloropropene	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
Trichloroethene	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
Trichlorofluoromethane	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
Vinyl Chloride	ND (0.0101)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
Xylene O	ND (0.0051)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
Xylene P,M	ND (0.0101)		8260B Low		1	06/06/23 15:47	D3F0089	DF30619
Xylenes (Total)	ND (0.0101)		8260B Low		1	06/06/23 15:47		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichloroethane-d4	*116 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*99 %*		*70-130*
Surrogate: Dibromofluoromethane	*94 %*		*70-130*
Surrogate: Toluene-d8	*97 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121C 7ft
Date Sampled: 06/02/23 13:50
Percent Solids: 83
Initial Volume: 6.9g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-10
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 (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
1,1,1-Trichloroethane	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
1,1,2,2-Tetrachloroethane	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
1,1,2-Trichloroethane	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
1,1-Dichloroethane	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
1,1-Dichloroethene	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
1,1-Dichloropropene	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
1,2,3-Trichlorobenzene	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
1,2,3-Trichloropropane	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
1,2,4-Trichlorobenzene	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
1,2,4-Trimethylbenzene	**0.0211** (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
1,2-Dibromo-3-Chloropropane	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
1,2-Dibromoethane	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
1,2-Dichlorobenzene	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
1,2-Dichloroethane	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
1,2-Dichloropropane	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
1,3,5-Trimethylbenzene	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
1,3-Dichlorobenzene	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
1,3-Dichloropropane	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
1,4-Dichlorobenzene	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
1,4-Dioxane	ND (0.0699)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
2,2-Dichloropropane	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
2-Butanone	ND (0.0437)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
2-Chlorotoluene	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
2-Hexanone	ND (0.0437)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
4-Chlorotoluene	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
4-Isopropyltoluene	**0.0165** (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
4-Methyl-2-Pentanone	ND (0.0437)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Acetone	**0.0748** (0.0437)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Benzene	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Bromobenzene	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Bromochloromethane	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121C 7ft
Date Sampled: 06/02/23 13:50
Percent Solids: 83
Initial Volume: 6.9g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-10
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 (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Bromoform	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Bromomethane	ND (0.0087)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Carbon Disulfide	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Carbon Tetrachloride	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Chlorobenzene	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Chloroethane	ND (0.0087)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Chloroform	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Chloromethane	ND (0.0087)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
cis-1,2-Dichloroethene	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
cis-1,3-Dichloropropene	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Dibromochloromethane	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Dibromomethane	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Dichlorodifluoromethane	ND (0.0087)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Diethyl Ether	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Di-isopropyl ether	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Ethyl tertiary-butyl ether	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Ethylbenzene	**0.0158** (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Hexachlorobutadiene	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Isopropylbenzene	**E 0.702** (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Methyl tert-Butyl Ether	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Methylene Chloride	ND (0.0218)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Naphthalene	**0.0152** (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
n-Butylbenzene	**E 0.693** (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
n-Propylbenzene	**E 1.26** (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
sec-Butylbenzene	**E 1.42** (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Styrene	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
tert-Butylbenzene	**E 0.660** (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Tertiary-amyl methyl ether	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Tetrachloroethene	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Tetrahydrofuran	ND (0.0175)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Toluene	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121C 7ft
Date Sampled: 06/02/23 13:50
Percent Solids: 83
Initial Volume: 6.9g
Final Volume: 10ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-10
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 (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
trans-1,3-Dichloropropene	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Trichloroethene	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Trichlorofluoromethane	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Vinyl Chloride	ND (0.0087)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Xylene O	ND (0.0044)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Xylene P,M	ND (0.0087)		8260B Low		1	06/06/23 20:29	D3F0089	DF30619
Xylenes (Total)	ND (0.00874)		8260B Low		1	06/06/23 20:29		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichloroethane-d4	*117 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*2160 %*	*SM*	*70-130*
Surrogate: Dibromofluoromethane	*95 %*		*70-130*
Surrogate: Toluene-d8	*109 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121C 7ft
Date Sampled: 06/02/23 13:50
Percent Solids: 83
Initial Volume: 17.3g
Final Volume: 15ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-10
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 (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
1,1,1-Trichloroethane	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
1,1,2,2-Tetrachloroethane	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
1,1,2-Trichloroethane	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
1,1-Dichloroethane	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
1,1-Dichloroethene	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
1,1-Dichloropropene	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
1,2,3-Trichlorobenzene	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
1,2,3-Trichloropropane	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
1,2,4-Trichlorobenzene	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
1,2,4-Trimethylbenzene	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
1,2-Dibromo-3-Chloropropane	ND (1.25)		8260B		1	06/07/23 12:52	D3F0111	DF30723
1,2-Dibromoethane	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
1,2-Dichlorobenzene	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
1,2-Dichloroethane	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
1,2-Dichloropropane	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
1,3,5-Trimethylbenzene	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
1,3-Dichlorobenzene	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
1,3-Dichloropropane	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
1,4-Dichlorobenzene	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
1,4-Dioxane - Screen	ND (50.0)		8260B		1	06/07/23 12:52	D3F0111	DF30723
2,2-Dichloropropane	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
2-Butanone	ND (1.25)		8260B		1	06/07/23 12:52	D3F0111	DF30723
2-Chlorotoluene	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
2-Hexanone	ND (1.25)		8260B		1	06/07/23 12:52	D3F0111	DF30723
4-Chlorotoluene	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
4-Isopropyltoluene	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
4-Methyl-2-Pentanone	ND (1.25)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Acetone	ND (1.25)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Benzene	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Bromobenzene	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Bromochloromethane	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121C 7ft
Date Sampled: 06/02/23 13:50
Percent Solids: 83
Initial Volume: 17.3g
Final Volume: 15ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-10
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 (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Bromoform	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Bromomethane	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Carbon Disulfide	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Carbon Tetrachloride	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Chlorobenzene	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Chloroethane	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Chloroform	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Chloromethane	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
cis-1,2-Dichloroethene	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
cis-1,3-Dichloropropene	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Dibromochloromethane	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Dibromomethane	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Dichlorodifluoromethane	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Diethyl Ether	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Di-isopropyl ether	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Ethyl tertiary-butyl ether	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Ethylbenzene	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Hexachlorobutadiene	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Isopropylbenzene	**0.673** (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Methyl tert-Butyl Ether	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Methylene Chloride	ND (0.500)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Naphthalene	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
n-Butylbenzene	**1.94** (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
n-Propylbenzene	**1.03** (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
sec-Butylbenzene	**2.77** (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Styrene	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
tert-Butylbenzene	**1.11** (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Tertiary-amyl methyl ether	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Tetrachloroethene	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Tetrahydrofuran	ND (1.25)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Toluene	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121C 7ft
Date Sampled: 06/02/23 13:50
Percent Solids: 83
Initial Volume: 17.3g
Final Volume: 15ml
Extraction Method: 5035

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-10
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 (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
trans-1,3-Dichloropropene	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Trichloroethene	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Trichlorofluoromethane	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Vinyl Chloride	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Xylene O	ND (0.250)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Xylene P,M	ND (0.500)		8260B		1	06/07/23 12:52	D3F0111	DF30723
Xylenes (Total)	ND (0.500)		8260B		1	06/07/23 12:52		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichloroethane-d4	*105 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*106 %*		*70-130*
Surrogate: Dibromofluoromethane	*109 %*		*70-130*
Surrogate: Toluene-d8	*103 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-121C 3-6ft
Date Sampled: 06/02/23 13:40
Percent Solids: 75
Initial Volume: 19.2g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 6/5/23 19:33

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**955** (13.9)		8100M		1	06/06/23 19:55		DF30544

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*70 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-120 10-12ft
Date Sampled: 06/02/23 07:45
Percent Solids: 70

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-12
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	**12.3** (3.18)		6010C		1	CEV	06/12/23 11:15	2.26	100	DF30909
Barium	**207** (3.18)		6010C		1	CEV	06/12/23 11:15	2.26	100	DF30909
Cadmium	ND (0.64)		6010C		1	CEV	06/12/23 11:15	2.26	100	DF30909
Chromium	**84.6** (3.81)		6010C		3	CEV	06/13/23 13:09	2.26	100	DF30909
Lead	**440** (19.1)		6010C		3	CEV	06/13/23 13:09	2.26	100	DF30909
Mercury	**2.23** (0.212)		7471B		5	BJV	06/09/23 15:42	0.67	40	DF30831
Selenium	ND (0.64)		6020A		1	BJV	06/15/23 9:37	2.26	100	DF30909
Silver	**EL** ND (1.91)		6010C		3	CEV	06/13/23 13:09	2.26	100	DF30909

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-120 10-12ft
Date Sampled: 06/02/23 07:45
Percent Solids: 70

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-12
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	**0.719** (0.050)		1311/6010C		1	CEV	06/15/23 12:43	50	50	DF31427

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-120 10-12ft
Date Sampled: 06/02/23 07:45
Percent Solids: 70
Initial Volume: 19.7g
Final Volume: 5ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/23 16:45

8081B Organochlorine Pesticides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
4,4´-DDD	ND (0.0036)		8081B		1	06/13/23 12:39	D3F0230	DF31245
4,4´-DDE	ND (0.0036)		8081B		1	06/13/23 12:39	D3F0230	DF31245
4,4´-DDT	ND (0.0036)		8081B		1	06/13/23 12:39	D3F0230	DF31245
Aldrin	ND (0.0036)		8081B		1	06/13/23 12:39	D3F0230	DF31245
alpha-BHC	ND (0.0036)		8081B		1	06/13/23 12:39	D3F0230	DF31245
alpha-Chlordane	ND (0.0036)		8081B		1	06/13/23 12:39	D3F0230	DF31245
beta-BHC	ND (0.0036)		8081B		1	06/13/23 12:39	D3F0230	DF31245
Chlordane (Total)	ND (0.0437)		8081B		1	06/13/23 12:39	D3F0230	DF31245
delta-BHC	ND (0.0036)		8081B		1	06/13/23 12:39	D3F0230	DF31245
Dieldrin	ND (0.0036)		8081B		1	06/13/23 12:39	D3F0230	DF31245
Endosulfan I	ND (0.0036)		8081B		1	06/13/23 12:39	D3F0230	DF31245
Endosulfan II	ND (0.0036)		8081B		1	06/13/23 12:39	D3F0230	DF31245
Endosulfan Sulfate	ND (0.0036)		8081B		1	06/13/23 12:39	D3F0230	DF31245
Endrin	ND (0.0036)		8081B		1	06/13/23 12:39	D3F0230	DF31245
Endrin Aldehyde	ND (0.0036)		8081B		1	06/13/23 12:39	D3F0230	DF31245
Endrin Ketone	ND (0.0036)		8081B		1	06/13/23 12:39	D3F0230	DF31245
gamma-BHC (Lindane)	ND (0.0022)		8081B		1	06/13/23 12:39	D3F0230	DF31245
gamma-Chlordane	ND (0.0036)		8081B		1	06/13/23 12:39	D3F0230	DF31245
Heptachlor	ND (0.0036)		8081B		1	06/13/23 12:39	D3F0230	DF31245
Heptachlor Epoxide	ND (0.0036)		8081B		1	06/13/23 12:39	D3F0230	DF31245
Hexachlorobenzene	ND (0.0036)		8081B		1	06/13/23 12:39	D3F0230	DF31245
Methoxychlor	ND (0.0036)		8081B		1	06/13/23 12:39	D3F0230	DF31245
Toxaphene	ND (0.182)		8081B		1	06/13/23 12:39	D3F0230	DF31245

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*53 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*69 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*58 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*63 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-120 10-12ft
Date Sampled: 06/02/23 07:45
Percent Solids: 70
Initial Volume: 19.8g
Final Volume: 10ml
Extraction Method: 3540C

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JLG
Prepared: 6/9/23 10:37

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/12/23 12:50		DF30906
Aroclor 1221	ND (0.07)		8082A		1	06/12/23 12:50		DF30906
Aroclor 1232	ND (0.07)		8082A		1	06/12/23 12:50		DF30906
Aroclor 1242	ND (0.07)		8082A		1	06/12/23 12:50		DF30906
Aroclor 1248	ND (0.07)		8082A		1	06/12/23 12:50		DF30906
Aroclor 1254	ND (0.07)		8082A		1	06/12/23 12:50		DF30906
Aroclor 1260	ND (0.07)		8082A		1	06/12/23 12:50		DF30906
Aroclor 1262	ND (0.07)		8082A		1	06/12/23 12:50		DF30906
Aroclor 1268	ND (0.07)		8082A		1	06/12/23 12:50		DF30906

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*73 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*73 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*47 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*51 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-120 10-12ft
Date Sampled: 06/02/23 07:45
Percent Solids: 70
Initial Volume: 20.5g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JDN
Prepared: 6/8/23 15:35

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons (C9-C36)	**17.6** (14.0)		8100M		1	06/09/23 22:10		DF30856

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*79 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-120 10-12ft
Date Sampled: 06/02/23 07:45
Percent Solids: 70
Initial Volume: 10.2g
Final Volume: 4ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/9/23 16:45

8151A Chlorinated Herbicides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2,4,5-T	ND (0.013)		8151A		1	06/12/23 11:30	D3F0197	DF30864
2,4,5-TP (Silvex)	ND (0.013)		8151A		1	06/12/23 11:30	D3F0197	DF30864
2,4-D	ND (0.066)		8151A		1	06/12/23 11:30	D3F0197	DF30864
2,4-DB	ND (0.067)		8151A		1	06/12/23 11:30	D3F0197	DF30864
Dalapon	ND (0.064)		8151A		1	06/12/23 11:30	D3F0197	DF30864
Dicamba	**0.177** (0.066)		8151A		5	06/12/23 14:51	D3F0197	DF30864
Dichlorprop [2C]	**0.266** (0.066)		8151A		1	06/12/23 11:30	D3F0197	DF30864
Dinoseb	ND (0.067)		8151A		1	06/12/23 11:30	D3F0197	DF30864
MCPA	ND (3.27)		8151A		1	06/12/23 11:30	D3F0197	DF30864
MCPP	ND (3.31)		8151A		1	06/12/23 11:30	D3F0197	DF30864

	%Recovery	*Qualifier*	*Limits*
Surrogate: DCAA	*79 %*		*30-150*
Surrogate: DCAA [2C]	*63 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-120 10-12ft
Date Sampled: 06/02/23 07:45
Percent Solids: 70
Initial Volume: 20.3g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 6/9/23 19:56

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1-Biphenyl	ND (0.035)		8270D		1	06/12/23 21:07	D3F0219	DF30942
1,2,4-Trichlorobenzene	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
1,2-Dichlorobenzene	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
1,3-Dichlorobenzene	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
1,4-Dichlorobenzene	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
2,4,5-Trichlorophenol	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
2,4,6-Trichlorophenol	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
2,4-Dichlorophenol	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
2,4-Dimethylphenol	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
2,4-Dinitrophenol	ND (1.41)		8270D		1	06/12/23 21:07	D3F0219	DF30942
2,4-Dinitrotoluene	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
2,6-Dinitrotoluene	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
2-Chloronaphthalene	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
2-Chlorophenol	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
2-Methylnaphthalene	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
2-Methylphenol	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
2-Nitrophenol	ND (0.707)		8270D		1	06/12/23 21:07	D3F0219	DF30942
3,3´-Dichlorobenzidine	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
3+4-Methylphenol	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
4-Bromophenyl-phenylether	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
4-Chloroaniline	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
4-Nitrophenol	ND (1.41)		8270D		1	06/12/23 21:07	D3F0219	DF30942
Acenaphthene	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
Acenaphthylene	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
Acetophenone	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
Aniline	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
Anthracene	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
Azobenzene	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
Benzo(a)anthracene	**0.369** (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
Benzo(a)pyrene	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
Benzo(b)fluoranthene	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
Benzo(g,h,i)perylene	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-120 10-12ft
Date Sampled: 06/02/23 07:45
Percent Solids: 70
Initial Volume: 20.3g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 6/9/23 19:56

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Benzo(k)fluoranthene	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
bis(2-Chloroethoxy)methane	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
bis(2-Chloroethyl)ether	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
bis(2-chloroisopropyl)Ether	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
bis(2-Ethylhexyl)phthalate	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
Butylbenzylphthalate	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
Chrysene	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
Dibenzo(a,h)Anthracene	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
Dibenzofuran	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
Diethylphthalate	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
Dimethylphthalate	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
Di-n-butylphthalate	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
Di-n-octylphthalate	ND (0.707)		8270D		1	06/12/23 21:07	D3F0219	DF30942
Fluoranthene	**0.897** (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
Fluorene	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
Hexachlorobenzene	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
Hexachlorobutadiene	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
Hexachloroethane	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
Indeno(1,2,3-cd)Pyrene	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
Isophorone	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
Naphthalene	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
Nitrobenzene	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
N-Nitrosodimethylamine	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
Pentachlorophenol	ND (1.41)		8270D		1	06/12/23 21:07	D3F0219	DF30942
Phenanthrene	**0.792** (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
Phenol	ND (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942
Pyrene	**0.695** (0.354)		8270D		1	06/12/23 21:07	D3F0219	DF30942

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*86 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*87 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*91 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*96 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-120 10-12ft
Date Sampled: 06/02/23 07:45
Percent Solids: 70
Initial Volume: 20.3g
Final Volume: 1ml
Extraction Method: 3546

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 6/9/23 19:56

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Fluorophenol		*86 %*		*30-130*				
Surrogate: Nitrobenzene-d5		*92 %*		*30-130*				
Surrogate: Phenol-d6		*89 %*		*30-130*				
Surrogate: p-Terphenyl-d14		*102 %*		*30-130*				

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-120 10-12ft
Date Sampled: 06/02/23 07:45
Percent Solids: 70

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-12
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Conductivity	**WL 929** (5)		9050A		1	LAB	06/09/23 11:50	umhos/cm	DF30919
Corrosivity (pH)	**7.66** (N/A)		9045		1	CCP	06/08/23 19:20	S.U.	DF30852
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 21.3 ºC.**								
Flashpoint	**> 200** (N/A)		1010A		1	JLK	06/08/23 16:52	°F	DF30866
Reactive Cyanide	ND (2.0)		7.3.3.2		1	JLK	06/08/23 15:25	mg/kg	DF30845
Reactive Sulfide	ND (2.0)		7.3.4.1		1	JLK	06/08/23 15:25	mg/kg	DF30845

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
Client Sample ID: TT-120 10-12ft
Date Sampled: 06/02/23 07:45
Percent Solids: 70
Initial Volume: 100g
Final Volume: 2000ml
Extraction Method: 1311

ESS Laboratory Work Order: 23F0094
ESS Laboratory Sample ID: 23F0094-12
Sample Matrix: Soil
Units: °C
Analyst: AFV
Prepared: 6/13/23 20:15

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**20.2** (N/A)		1311		1	AFV	06/14/23 12:20	DF31364
Temperature (Max C)	**22.7** (N/A)		1311		1	AFV	06/14/23 12:20	DF31364
Temperature (Range)	**Temperature is not within 23 +/-2 ºC.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23F0094

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
				Total Metals						
Batch DF30508 - 3050B										
Blank										
Arsenic	ND	2.20	mg/kg wet							
Barium	ND	2.20	mg/kg wet							
Cadmium	ND	0.44	mg/kg wet							
Chromium	ND	0.88	mg/kg wet							
Lead	ND	4.41	mg/kg wet							
Selenium	ND	4.41	mg/kg wet							
Silver	ND	0.44	mg/kg wet							
LCS										
Arsenic	264	7.69	mg/kg wet	258.0		102	80-120			
Barium	900	7.69	mg/kg wet	809.0		111	80-120			
Cadmium	328	1.54	mg/kg wet	321.0		102	80-120			
Chromium	136	3.08	mg/kg wet	133.0		102	80-120			
Lead	106	15.4	mg/kg wet	102.0		104	80-120			
Selenium	49.0	15.4	mg/kg wet	49.40		99	80-120			
Silver	24.9	1.54	mg/kg wet	22.70		110	80-120			
LCS Dup										
Arsenic	237	8.06	mg/kg wet	258.0		92	80-120	11	20	
Barium	747	8.06	mg/kg wet	809.0		92	80-120	19	20	
Cadmium	302	1.61	mg/kg wet	321.0		94	80-120	8	20	
Chromium	124	3.23	mg/kg wet	133.0		93	80-120	10	20	
Lead	97.5	16.1	mg/kg wet	102.0		96	80-120	9	20	
Selenium	45.7	16.1	mg/kg wet	49.40		93	80-120	7	30	
Silver	22.7	1.61	mg/kg wet	22.70		100	80-120	10	30	
Batch DF30509 - 7471A										
Blank										
Mercury	ND	0.031	mg/kg wet							
LCS										
Mercury	16.5	3.05	mg/kg wet	18.20		91	80-120			
LCS Dup										
Mercury	16.8	3.25	mg/kg wet	18.20		92	80-120	1	30	
Batch DF30831 - 7471A										
Blank										
Mercury	ND	0.033	mg/kg wet							
LCS										
Mercury	19.8	3.00	mg/kg wet	18.20		109	80-120			
LCS Dup										
Mercury	25.9	2.96	mg/kg wet	18.20		142	80-120	27	30	B+
Batch DF30909 - 3050B										
Blank										
Arsenic	ND	2.50	mg/kg wet							
Barium	ND	2.50	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23F0094

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch DF30909 - 3050B										
Chromium	ND	1.00	mg/kg wet							
Lead	ND	5.00	mg/kg wet							
Silver	ND	0.50	mg/kg wet							
Blank										
Selenium	ND	0.50	mg/kg wet							
LCS										
Arsenic	251	7.94	mg/kg wet	258.0		97	80-120			
Barium	734	7.94	mg/kg wet	809.0		91	80-120			
Cadmium	303	1.59	mg/kg wet	321.0		94	80-120			
Chromium	119	3.17	mg/kg wet	133.0		89	80-120			
Lead	101	15.9	mg/kg wet	102.0		99	80-120			
Silver	22.6	1.59	mg/kg wet	22.70		100	80-120			
LCS										
Selenium	56.3	7.94	mg/kg wet	49.40		114	80-120			
LCS Dup										
Arsenic	251	7.46	mg/kg wet	258.0		97	80-120	0.02	20	
Barium	785	7.46	mg/kg wet	809.0		97	80-120	7	20	
Cadmium	305	1.49	mg/kg wet	321.0		95	80-120	0.9	20	
Chromium	124	2.99	mg/kg wet	133.0		93	80-120	5	20	
Lead	102	14.9	mg/kg wet	102.0		100	80-120	0.9	20	
Silver	23.2	1.49	mg/kg wet	22.70		102	80-120	2	30	
LCS Dup										
Selenium	54.2	7.46	mg/kg wet	49.40		110	80-120	4	30	
1311 TCLP Metals										
Batch DF30728 - 3005A_SPLP										
Blank										
Lead	ND	0.050	mg/L							
LCS										
Lead	0.463	0.050	mg/L	0.5000		93	80-120			
LCS Dup										
Lead	0.470	0.050	mg/L	0.5000		94	80-120	2	20	
Batch DF30860 - 3005A_TCLP										
Blank										
Lead	ND	0.050	mg/L							
LCS										
Lead	0.462	0.050	mg/L	0.5000		92	80-120			
LCS Dup										
Lead	0.475	0.050	mg/L	0.5000		95	80-120	3	20	
Batch DF31427 - 3005A_TCLP										
Blank										
Lead	ND	0.050	mg/L							
LCS										

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23F0094

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
1311 TCLP Metals										
Batch DF31427 - 3005A_TCLP										
Lead	0.474	0.050	mg/L	0.5000		95	80-120			
LCS Dup										
Lead	0.476	0.050	mg/L	0.5000		95	80-120	0.4	20	
5035/8260B Volatile Organic Compounds / Low Level										
Batch DF30604 - 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	0.0050	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	0.0800	mg/kg wet							
2,2-Dichloropropane	ND	0.0050	mg/kg wet							
2-Butanone	ND	0.0500	mg/kg wet							
2-Chlorotoluene	ND	0.0050	mg/kg wet							
2-Hexanone	ND	0.0500	mg/kg wet							
4-Chlorotoluene	ND	0.0050	mg/kg wet							
4-Isopropyltoluene	ND	0.0050	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.0500	mg/kg wet							
Acetone	ND	0.0500	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 DF30604 - 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	0.0050	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	0.0250	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	0.0200	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	*0.0582*		mg/kg wet	*0.05000*		*116*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0455*		mg/kg wet	*0.05000*		*91*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0466*		mg/kg wet	*0.05000*		*93*	*70-130*			
Surrogate: Toluene-d8	*0.0494*		mg/kg wet	*0.05000*		*99*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	0.0421	0.0050	mg/kg wet	0.05000		84	70-130			
1,1,1-Trichloroethane	0.0478	0.0050	mg/kg wet	0.05000		96	70-130			
1,1,2,2-Tetrachloroethane	0.0482	0.0050	mg/kg wet	0.05000		96	70-130			
1,1,2-Trichloroethane	0.0450	0.0050	mg/kg wet	0.05000		90	70-130			
1,1-Dichloroethane	0.0456	0.0050	mg/kg wet	0.05000		91	70-130			
1,1-Dichloroethene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130			
1,1-Dichloropropene	0.0443	0.0050	mg/kg wet	0.05000		89	70-130			
1,2,3-Trichlorobenzene	0.0452	0.0050	mg/kg wet	0.05000		90	70-130			
1,2,3-Trichloropropane	0.0430	0.0050	mg/kg wet	0.05000		86	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 DF30604 - 5035										
1,2,4-Trichlorobenzene	0.0450	0.0050	mg/kg wet	0.05000		90	70-130			
1,2,4-Trimethylbenzene	0.0424	0.0050	mg/kg wet	0.05000		85	70-130			
1,2-Dibromo-3-Chloropropane	0.0476	0.0050	mg/kg wet	0.05000		95	70-130			
1,2-Dibromoethane	0.0417	0.0050	mg/kg wet	0.05000		83	70-130			
1,2-Dichlorobenzene	0.0443	0.0050	mg/kg wet	0.05000		89	70-130			
1,2-Dichloroethane	0.0444	0.0050	mg/kg wet	0.05000		89	70-130			
1,2-Dichloropropane	0.0463	0.0050	mg/kg wet	0.05000		93	70-130			
1,3,5-Trimethylbenzene	0.0442	0.0050	mg/kg wet	0.05000		88	70-130			
1,3-Dichlorobenzene	0.0449	0.0050	mg/kg wet	0.05000		90	70-130			
1,3-Dichloropropane	0.0476	0.0050	mg/kg wet	0.05000		95	70-130			
1,4-Dichlorobenzene	0.0458	0.0050	mg/kg wet	0.05000		92	70-130			
1,4-Dioxane	1.06	0.0800	mg/kg wet	1.000		106	70-130			
2,2-Dichloropropane	0.0467	0.0050	mg/kg wet	0.05000		93	70-130			
2-Butanone	0.238	0.0500	mg/kg wet	0.2500		95	70-130			
2-Chlorotoluene	0.0468	0.0050	mg/kg wet	0.05000		94	70-130			
2-Hexanone	0.266	0.0500	mg/kg wet	0.2500		106	70-130			
4-Chlorotoluene	0.0438	0.0050	mg/kg wet	0.05000		88	70-130			
4-Isopropyltoluene	0.0425	0.0050	mg/kg wet	0.05000		85	70-130			
4-Methyl-2-Pentanone	0.232	0.0500	mg/kg wet	0.2500		93	70-130			
Acetone	0.258	0.0500	mg/kg wet	0.2500		103	70-130			
Benzene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
Bromobenzene	0.0467	0.0050	mg/kg wet	0.05000		93	70-130			
Bromochloromethane	0.0462	0.0050	mg/kg wet	0.05000		92	70-130			
Bromodichloromethane	0.0427	0.0050	mg/kg wet	0.05000		85	70-130			
Bromoform	0.0463	0.0050	mg/kg wet	0.05000		93	70-130			
Bromomethane	0.0460	0.0100	mg/kg wet	0.05000		92	70-130			
Carbon Disulfide	0.0487	0.0050	mg/kg wet	0.05000		97	70-130			
Carbon Tetrachloride	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
Chlorobenzene	0.0440	0.0050	mg/kg wet	0.05000		88	70-130			
Chloroethane	0.0485	0.0100	mg/kg wet	0.05000		97	70-130			
Chloroform	0.0447	0.0050	mg/kg wet	0.05000		89	70-130			
Chloromethane	0.0439	0.0100	mg/kg wet	0.05000		88	70-130			
cis-1,2-Dichloroethene	0.0469	0.0050	mg/kg wet	0.05000		94	70-130			
cis-1,3-Dichloropropene	0.0418	0.0050	mg/kg wet	0.05000		84	70-130			
Dibromochloromethane	0.0412	0.0050	mg/kg wet	0.05000		82	70-130			
Dibromomethane	0.0457	0.0050	mg/kg wet	0.05000		91	70-130			
Dichlorodifluoromethane	0.0399	0.0100	mg/kg wet	0.05000		80	70-130			
Diethyl Ether	0.0498	0.0050	mg/kg wet	0.05000		100	70-130			
Di-isopropyl ether	0.0463	0.0050	mg/kg wet	0.05000		93	70-130			
Ethyl tertiary-butyl ether	0.0477	0.0050	mg/kg wet	0.05000		95	70-130			
Ethylbenzene	0.0418	0.0050	mg/kg wet	0.05000		84	70-130			
Hexachlorobutadiene	0.0463	0.0050	mg/kg wet	0.05000		93	70-130			
Isopropylbenzene	0.0447	0.0050	mg/kg wet	0.05000		89	70-130			
Methyl tert-Butyl Ether	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
Methylene Chloride	0.0422	0.0250	mg/kg wet	0.05000		84	70-130			
Naphthalene	0.0509	0.0050	mg/kg wet	0.05000		102	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 DF30604 - 5035										
n-Butylbenzene	0.0443	0.0050	mg/kg wet	0.05000		89	70-130			
n-Propylbenzene	0.0440	0.0050	mg/kg wet	0.05000		88	70-130			
sec-Butylbenzene	0.0417	0.0050	mg/kg wet	0.05000		83	70-130			
Styrene	0.0402	0.0050	mg/kg wet	0.05000		80	70-130			
tert-Butylbenzene	0.0433	0.0050	mg/kg wet	0.05000		87	70-130			
Tertiary-amyl methyl ether	0.0473	0.0050	mg/kg wet	0.05000		95	70-130			
Tetrachloroethene	0.0453	0.0050	mg/kg wet	0.05000		91	70-130			
Tetrahydrofuran	0.0478	0.0200	mg/kg wet	0.05000		96	70-130			
Toluene	0.0461	0.0050	mg/kg wet	0.05000		92	70-130			
trans-1,2-Dichloroethene	0.0479	0.0050	mg/kg wet	0.05000		96	70-130			
trans-1,3-Dichloropropene	0.0386	0.0050	mg/kg wet	0.05000		77	70-130			
Trichloroethene	0.0461	0.0050	mg/kg wet	0.05000		92	70-130			
Trichlorofluoromethane	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			
Vinyl Chloride	0.0466	0.0100	mg/kg wet	0.05000		93	70-130			
Xylene O	0.0414	0.0050	mg/kg wet	0.05000		83	70-130			
Xylene P,M	0.0841	0.0100	mg/kg wet	0.1000		84	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0517*		mg/kg wet	*0.05000*		*103*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0506*		mg/kg wet	*0.05000*		*101*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0471*		mg/kg wet	*0.05000*		*94*	*70-130*			
Surrogate: Toluene-d8	*0.0497*		mg/kg wet	*0.05000*		*99*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	0.0426	0.0050	mg/kg wet	0.05000		85	70-130	1	20	
1,1,1-Trichloroethane	0.0478	0.0050	mg/kg wet	0.05000		96	70-130	0.04	20	
1,1,2,2-Tetrachloroethane	0.0476	0.0050	mg/kg wet	0.05000		95	70-130	1	20	
1,1,2-Trichloroethane	0.0444	0.0050	mg/kg wet	0.05000		89	70-130	1	20	
1,1-Dichloroethane	0.0451	0.0050	mg/kg wet	0.05000		90	70-130	1	20	
1,1-Dichloroethene	0.0495	0.0050	mg/kg wet	0.05000		99	70-130	0.3	20	
1,1-Dichloropropene	0.0445	0.0050	mg/kg wet	0.05000		89	70-130	0.3	20	
1,2,3-Trichlorobenzene	0.0454	0.0050	mg/kg wet	0.05000		91	70-130	0.4	20	
1,2,3-Trichloropropane	0.0428	0.0050	mg/kg wet	0.05000		86	70-130	0.5	20	
1,2,4-Trichlorobenzene	0.0451	0.0050	mg/kg wet	0.05000		90	70-130	0.3	20	
1,2,4-Trimethylbenzene	0.0426	0.0050	mg/kg wet	0.05000		85	70-130	0.5	20	
1,2-Dibromo-3-Chloropropane	0.0475	0.0050	mg/kg wet	0.05000		95	70-130	0.3	20	
1,2-Dibromoethane	0.0422	0.0050	mg/kg wet	0.05000		84	70-130	1	20	
1,2-Dichlorobenzene	0.0447	0.0050	mg/kg wet	0.05000		89	70-130	1	20	
1,2-Dichloroethane	0.0444	0.0050	mg/kg wet	0.05000		89	70-130	0.09	20	
1,2-Dichloropropane	0.0463	0.0050	mg/kg wet	0.05000		93	70-130	0	20	
1,3,5-Trimethylbenzene	0.0443	0.0050	mg/kg wet	0.05000		89	70-130	0.2	20	
1,3-Dichlorobenzene	0.0444	0.0050	mg/kg wet	0.05000		89	70-130	1	20	
1,3-Dichloropropane	0.0474	0.0050	mg/kg wet	0.05000		95	70-130	0.4	20	
1,4-Dichlorobenzene	0.0469	0.0050	mg/kg wet	0.05000		94	70-130	2	20	
1,4-Dioxane	1.07	0.0800	mg/kg wet	1.000		107	70-130	1	20	
2,2-Dichloropropane	0.0464	0.0050	mg/kg wet	0.05000		93	70-130	0.6	20	
2-Butanone	0.239	0.0500	mg/kg wet	0.2500		95	70-130	0.08	20	
2-Chlorotoluene	0.0474	0.0050	mg/kg wet	0.05000		95	70-130	1	20	
2-Hexanone	0.264	0.0500	mg/kg wet	0.2500		106	70-130	0.6	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 DF30604 - 5035										
4-Chlorotoluene	0.0446	0.0050	mg/kg wet	0.05000		89	70-130	2	20	
4-Isopropyltoluene	0.0428	0.0050	mg/kg wet	0.05000		86	70-130	0.7	20	
4-Methyl-2-Pentanone	0.230	0.0500	mg/kg wet	0.2500		92	70-130	0.8	20	
Acetone	0.269	0.0500	mg/kg wet	0.2500		108	70-130	4	20	
Benzene	0.0462	0.0050	mg/kg wet	0.05000		92	70-130	0.7	20	
Bromobenzene	0.0465	0.0050	mg/kg wet	0.05000		93	70-130	0.4	20	
Bromochloromethane	0.0459	0.0050	mg/kg wet	0.05000		92	70-130	0.5	20	
Bromodichloromethane	0.0426	0.0050	mg/kg wet	0.05000		85	70-130	0.3	20	
Bromoform	0.0459	0.0050	mg/kg wet	0.05000		92	70-130	0.9	20	
Bromomethane	0.0462	0.0100	mg/kg wet	0.05000		92	70-130	0.6	20	
Carbon Disulfide	0.0492	0.0050	mg/kg wet	0.05000		98	70-130	1	20	
Carbon Tetrachloride	0.0466	0.0050	mg/kg wet	0.05000		93	70-130	2	20	
Chlorobenzene	0.0444	0.0050	mg/kg wet	0.05000		89	70-130	0.7	20	
Chloroethane	0.0483	0.0100	mg/kg wet	0.05000		97	70-130	0.3	20	
Chloroform	0.0445	0.0050	mg/kg wet	0.05000		89	70-130	0.4	20	
Chloromethane	0.0440	0.0100	mg/kg wet	0.05000		88	70-130	0.2	20	
cis-1,2-Dichloroethene	0.0472	0.0050	mg/kg wet	0.05000		94	70-130	0.6	20	
cis-1,3-Dichloropropene	0.0420	0.0050	mg/kg wet	0.05000		84	70-130	0.5	20	
Dibromochloromethane	0.0408	0.0050	mg/kg wet	0.05000		82	70-130	0.9	20	
Dibromomethane	0.0456	0.0050	mg/kg wet	0.05000		91	70-130	0.1	20	
Dichlorodifluoromethane	0.0393	0.0100	mg/kg wet	0.05000		79	70-130	2	20	
Diethyl Ether	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	0.2	20	
Di-isopropyl ether	0.0464	0.0050	mg/kg wet	0.05000		93	70-130	0.3	20	
Ethyl tertiary-butyl ether	0.0481	0.0050	mg/kg wet	0.05000		96	70-130	0.8	20	
Ethylbenzene	0.0421	0.0050	mg/kg wet	0.05000		84	70-130	0.8	20	
Hexachlorobutadiene	0.0475	0.0050	mg/kg wet	0.05000		95	70-130	2	20	
Isopropylbenzene	0.0451	0.0050	mg/kg wet	0.05000		90	70-130	0.9	20	
Methyl tert-Butyl Ether	0.0473	0.0050	mg/kg wet	0.05000		95	70-130	0.2	20	
Methylene Chloride	0.0422	0.0250	mg/kg wet	0.05000		84	70-130	0.1	20	
Naphthalene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	0.7	20	
n-Butylbenzene	0.0445	0.0050	mg/kg wet	0.05000		89	70-130	0.4	20	
n-Propylbenzene	0.0443	0.0050	mg/kg wet	0.05000		89	70-130	0.7	20	
sec-Butylbenzene	0.0419	0.0050	mg/kg wet	0.05000		84	70-130	0.4	20	
Styrene	0.0403	0.0050	mg/kg wet	0.05000		81	70-130	0.3	20	
tert-Butylbenzene	0.0439	0.0050	mg/kg wet	0.05000		88	70-130	1	20	
Tertiary-amyl methyl ether	0.0473	0.0050	mg/kg wet	0.05000		95	70-130	0.08	20	
Tetrachloroethene	0.0458	0.0050	mg/kg wet	0.05000		92	70-130	1	20	
Tetrahydrofuran	0.0467	0.0200	mg/kg wet	0.05000		93	70-130	2	20	
Toluene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130	0.6	20	
trans-1,2-Dichloroethene	0.0481	0.0050	mg/kg wet	0.05000		96	70-130	0.3	20	
trans-1,3-Dichloropropene	0.0380	0.0050	mg/kg wet	0.05000		76	70-130	2	20	
Trichloroethene	0.0461	0.0050	mg/kg wet	0.05000		92	70-130	0.04	20	
Trichlorofluoromethane	0.0451	0.0050	mg/kg wet	0.05000		90	70-130	0.5	20	
Vinyl Chloride	0.0461	0.0100	mg/kg wet	0.05000		92	70-130	1	20	
Xylene O	0.0414	0.0050	mg/kg wet	0.05000		83	70-130	0.1	20	
Xylene P,M	0.0848	0.0100	mg/kg wet	0.1000		85	70-130	0.9	20	

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23F0094

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 DF30604 - 5035										
Surrogate: 1,2-Dichloroethane-d4	*0.0504*		mg/kg wet	*0.05000*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0494*		mg/kg wet	*0.05000*		*99*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0462*		mg/kg wet	*0.05000*		*92*	*70-130*			
Surrogate: Toluene-d8	*0.0492*		mg/kg wet	*0.05000*		*98*	*70-130*			
Batch DF30619 - 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	0.0050	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	0.0800	mg/kg wet							
2,2-Dichloropropane	ND	0.0050	mg/kg wet							
2-Butanone	ND	0.0500	mg/kg wet							
2-Chlorotoluene	ND	0.0050	mg/kg wet							
2-Hexanone	ND	0.0500	mg/kg wet							
4-Chlorotoluene	ND	0.0050	mg/kg wet							
4-Isopropyltoluene	ND	0.0050	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.0500	mg/kg wet							
Acetone	ND	0.0500	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							

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Client Name: Tetra Tech, 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 DF30619 - 5035										
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	0.0050	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	0.0250	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	0.0200	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	*0.0516*		mg/kg wet	*0.05000*		*103*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0475*		mg/kg wet	*0.05000*		*95*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0425*		mg/kg wet	*0.05000*		*85*	*70-130*			
Surrogate: Toluene-d8	*0.0494*		mg/kg wet	*0.05000*		*99*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	0.0457	0.0050	mg/kg wet	0.05000		91	70-130			
1,1,1-Trichloroethane	0.0479	0.0050	mg/kg wet	0.05000		96	70-130			
1,1,2,2-Tetrachloroethane	0.0487	0.0050	mg/kg wet	0.05000		97	70-130			
1,1,2-Trichloroethane	0.0437	0.0050	mg/kg wet	0.05000		87	70-130			
1,1-Dichloroethane	0.0450	0.0050	mg/kg wet	0.05000		90	70-130			
1,1-Dichloroethene	0.0526	0.0050	mg/kg wet	0.05000		105	70-130			
1,1-Dichloropropene	0.0456	0.0050	mg/kg wet	0.05000		91	70-130			
1,2,3-Trichlorobenzene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130			

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Client Name: Tetra Tech, 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 DF30619 - 5035										
1,2,3-Trichloropropane	0.0435	0.0050	mg/kg wet	0.05000		87	70-130			
1,2,4-Trichlorobenzene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130			
1,2,4-Trimethylbenzene	0.0469	0.0050	mg/kg wet	0.05000		94	70-130			
1,2-Dibromo-3-Chloropropane	0.0473	0.0050	mg/kg wet	0.05000		95	70-130			
1,2-Dibromoethane	0.0458	0.0050	mg/kg wet	0.05000		92	70-130			
1,2-Dichlorobenzene	0.0486	0.0050	mg/kg wet	0.05000		97	70-130			
1,2-Dichloroethane	0.0421	0.0050	mg/kg wet	0.05000		84	70-130			
1,2-Dichloropropane	0.0463	0.0050	mg/kg wet	0.05000		93	70-130			
1,3,5-Trimethylbenzene	0.0486	0.0050	mg/kg wet	0.05000		97	70-130			
1,3-Dichlorobenzene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130			
1,3-Dichloropropane	0.0510	0.0050	mg/kg wet	0.05000		102	70-130			
1,4-Dichlorobenzene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130			
1,4-Dioxane	1.09	0.0800	mg/kg wet	1.000		109	70-130			
2,2-Dichloropropane	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
2-Butanone	0.232	0.0500	mg/kg wet	0.2500		93	70-130			
2-Chlorotoluene	0.0516	0.0050	mg/kg wet	0.05000		103	70-130			
2-Hexanone	0.277	0.0500	mg/kg wet	0.2500		111	70-130			
4-Chlorotoluene	0.0480	0.0050	mg/kg wet	0.05000		96	70-130			
4-Isopropyltoluene	0.0469	0.0050	mg/kg wet	0.05000		94	70-130			
4-Methyl-2-Pentanone	0.218	0.0500	mg/kg wet	0.2500		87	70-130			
Acetone	0.280	0.0500	mg/kg wet	0.2500		112	70-130			
Benzene	0.0466	0.0050	mg/kg wet	0.05000		93	70-130			
Bromobenzene	0.0517	0.0050	mg/kg wet	0.05000		103	70-130			
Bromochloromethane	0.0461	0.0050	mg/kg wet	0.05000		92	70-130			
Bromodichloromethane	0.0416	0.0050	mg/kg wet	0.05000		83	70-130			
Bromoform	0.0483	0.0050	mg/kg wet	0.05000		97	70-130			
Bromomethane	0.0450	0.0100	mg/kg wet	0.05000		90	70-130			
Carbon Disulfide	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			
Carbon Tetrachloride	0.0456	0.0050	mg/kg wet	0.05000		91	70-130			
Chlorobenzene	0.0491	0.0050	mg/kg wet	0.05000		98	70-130			
Chloroethane	0.0488	0.0100	mg/kg wet	0.05000		98	70-130			
Chloroform	0.0436	0.0050	mg/kg wet	0.05000		87	70-130			
Chloromethane	0.0412	0.0100	mg/kg wet	0.05000		82	70-130			
cis-1,2-Dichloroethene	0.0481	0.0050	mg/kg wet	0.05000		96	70-130			
cis-1,3-Dichloropropene	0.0426	0.0050	mg/kg wet	0.05000		85	70-130			
Dibromochloromethane	0.0434	0.0050	mg/kg wet	0.05000		87	70-130			
Dibromomethane	0.0435	0.0050	mg/kg wet	0.05000		87	70-130			
Dichlorodifluoromethane	0.0371	0.0100	mg/kg wet	0.05000		74	70-130			
Diethyl Ether	0.0499	0.0050	mg/kg wet	0.05000		100	70-130			
Di-isopropyl ether	0.0460	0.0050	mg/kg wet	0.05000		92	70-130			
Ethyl tertiary-butyl ether	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			
Ethylbenzene	0.0473	0.0050	mg/kg wet	0.05000		95	70-130			
Hexachlorobutadiene	0.0516	0.0050	mg/kg wet	0.05000		103	70-130			
Isopropylbenzene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130			
Methyl tert-Butyl Ether	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			
Methylene Chloride	0.0409	0.0250	mg/kg wet	0.05000		82	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
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ESS Laboratory Work Order: 23F0094

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 DF30619 - 5035										
Naphthalene	0.0551	0.0050	mg/kg wet	0.05000		110	70-130			
n-Butylbenzene	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			
n-Propylbenzene	0.0487	0.0050	mg/kg wet	0.05000		97	70-130			
sec-Butylbenzene	0.0462	0.0050	mg/kg wet	0.05000		92	70-130			
Styrene	0.0458	0.0050	mg/kg wet	0.05000		92	70-130			
tert-Butylbenzene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130			
Tertiary-amyl methyl ether	0.0488	0.0050	mg/kg wet	0.05000		98	70-130			
Tetrachloroethene	0.0529	0.0050	mg/kg wet	0.05000		106	70-130			
Tetrahydrofuran	0.0466	0.0200	mg/kg wet	0.05000		93	70-130			
Toluene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130			
trans-1,2-Dichloroethene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130			
trans-1,3-Dichloropropene	0.0384	0.0050	mg/kg wet	0.05000		77	70-130			
Trichloroethene	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
Trichlorofluoromethane	0.0444	0.0050	mg/kg wet	0.05000		89	70-130			
Vinyl Chloride	0.0443	0.0100	mg/kg wet	0.05000		89	70-130			
Xylene O	0.0463	0.0050	mg/kg wet	0.05000		93	70-130			
Xylene P,M	0.0951	0.0100	mg/kg wet	0.1000		95	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0450*		mg/kg wet	*0.05000*		*90*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0502*		mg/kg wet	*0.05000*		*100*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0433*		mg/kg wet	*0.05000*		*87*	*70-130*			
Surrogate: Toluene-d8	*0.0516*		mg/kg wet	*0.05000*		*103*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	0.0463	0.0050	mg/kg wet	0.05000		93	70-130	1	20	
1,1,1-Trichloroethane	0.0475	0.0050	mg/kg wet	0.05000		95	70-130	0.7	20	
1,1,2,2-Tetrachloroethane	0.0519	0.0050	mg/kg wet	0.05000		104	70-130	6	20	
1,1,2-Trichloroethane	0.0452	0.0050	mg/kg wet	0.05000		90	70-130	4	20	
1,1-Dichloroethane	0.0449	0.0050	mg/kg wet	0.05000		90	70-130	0.2	20	
1,1-Dichloroethene	0.0519	0.0050	mg/kg wet	0.05000		104	70-130	1	20	
1,1-Dichloropropene	0.0445	0.0050	mg/kg wet	0.05000		89	70-130	2	20	
1,2,3-Trichlorobenzene	0.0495	0.0050	mg/kg wet	0.05000		99	70-130	1	20	
1,2,3-Trichloropropane	0.0470	0.0050	mg/kg wet	0.05000		94	70-130	8	20	
1,2,4-Trichlorobenzene	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	0.1	20	
1,2,4-Trimethylbenzene	0.0465	0.0050	mg/kg wet	0.05000		93	70-130	0.8	20	
1,2-Dibromo-3-Chloropropane	0.0524	0.0050	mg/kg wet	0.05000		105	70-130	10	20	
1,2-Dibromoethane	0.0478	0.0050	mg/kg wet	0.05000		96	70-130	4	20	
1,2-Dichlorobenzene	0.0491	0.0050	mg/kg wet	0.05000		98	70-130	0.9	20	
1,2-Dichloroethane	0.0434	0.0050	mg/kg wet	0.05000		87	70-130	3	20	
1,2-Dichloropropane	0.0469	0.0050	mg/kg wet	0.05000		94	70-130	1	20	
1,3,5-Trimethylbenzene	0.0483	0.0050	mg/kg wet	0.05000		97	70-130	0.6	20	
1,3-Dichlorobenzene	0.0490	0.0050	mg/kg wet	0.05000		98	70-130	0.3	20	
1,3-Dichloropropane	0.0527	0.0050	mg/kg wet	0.05000		105	70-130	3	20	
1,4-Dichlorobenzene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130	0.4	20	
1,4-Dioxane	1.23	0.0800	mg/kg wet	1.000		123	70-130	12	20	
2,2-Dichloropropane	0.0464	0.0050	mg/kg wet	0.05000		93	70-130	1	20	
2-Butanone	0.236	0.0500	mg/kg wet	0.2500		94	70-130	2	20	
2-Chlorotoluene	0.0513	0.0050	mg/kg wet	0.05000		103	70-130	0.6	20	

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, 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 DF30619 - 5035										
2-Hexanone	0.290	0.0500	mg/kg wet	0.2500		116	70-130	4	20	
4-Chlorotoluene	0.0479	0.0050	mg/kg wet	0.05000		96	70-130	0.2	20	
4-Isopropyltoluene	0.0465	0.0050	mg/kg wet	0.05000		93	70-130	0.9	20	
4-Methyl-2-Pentanone	0.239	0.0500	mg/kg wet	0.2500		96	70-130	9	20	
Acetone	0.262	0.0500	mg/kg wet	0.2500		105	70-130	7	20	
Benzene	0.0468	0.0050	mg/kg wet	0.05000		94	70-130	0.5	20	
Bromobenzene	0.0519	0.0050	mg/kg wet	0.05000		104	70-130	0.4	20	
Bromochloromethane	0.0472	0.0050	mg/kg wet	0.05000		94	70-130	2	20	
Bromodichloromethane	0.0420	0.0050	mg/kg wet	0.05000		84	70-130	0.9	20	
Bromoform	0.0510	0.0050	mg/kg wet	0.05000		102	70-130	5	20	
Bromomethane	0.0465	0.0100	mg/kg wet	0.05000		93	70-130	3	20	
Carbon Disulfide	0.0493	0.0050	mg/kg wet	0.05000		99	70-130	0.1	20	
Carbon Tetrachloride	0.0449	0.0050	mg/kg wet	0.05000		90	70-130	2	20	
Chlorobenzene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130	0.3	20	
Chloroethane	0.0486	0.0100	mg/kg wet	0.05000		97	70-130	0.3	20	
Chloroform	0.0440	0.0050	mg/kg wet	0.05000		88	70-130	0.8	20	
Chloromethane	0.0421	0.0100	mg/kg wet	0.05000		84	70-130	2	20	
cis-1,2-Dichloroethene	0.0481	0.0050	mg/kg wet	0.05000		96	70-130	0.08	20	
cis-1,3-Dichloropropene	0.0434	0.0050	mg/kg wet	0.05000		87	70-130	2	20	
Dibromochloromethane	0.0449	0.0050	mg/kg wet	0.05000		90	70-130	3	20	
Dibromomethane	0.0459	0.0050	mg/kg wet	0.05000		92	70-130	5	20	
Dichlorodifluoromethane	0.0370	0.0100	mg/kg wet	0.05000		74	70-130	0.2	20	
Diethyl Ether	0.0523	0.0050	mg/kg wet	0.05000		105	70-130	5	20	
Di-isopropyl ether	0.0467	0.0050	mg/kg wet	0.05000		93	70-130	2	20	
Ethyl tertiary-butyl ether	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	3	20	
Ethylbenzene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130	0.6	20	
Hexachlorobutadiene	0.0511	0.0050	mg/kg wet	0.05000		102	70-130	0.8	20	
Isopropylbenzene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130	0.6	20	
Methyl tert-Butyl Ether	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	4	20	
Methylene Chloride	0.0415	0.0250	mg/kg wet	0.05000		83	70-130	1	20	
Naphthalene	0.0575	0.0050	mg/kg wet	0.05000		115	70-130	4	20	
n-Butylbenzene	0.0477	0.0050	mg/kg wet	0.05000		95	70-130	1	20	
n-Propylbenzene	0.0483	0.0050	mg/kg wet	0.05000		97	70-130	1	20	
sec-Butylbenzene	0.0456	0.0050	mg/kg wet	0.05000		91	70-130	1	20	
Styrene	0.0457	0.0050	mg/kg wet	0.05000		91	70-130	0.09	20	
tert-Butylbenzene	0.0484	0.0050	mg/kg wet	0.05000		97	70-130	0.8	20	
Tertiary-amyl methyl ether	0.0504	0.0050	mg/kg wet	0.05000		101	70-130	3	20	
Tetrachloroethene	0.0517	0.0050	mg/kg wet	0.05000		103	70-130	2	20	
Tetrahydrofuran	0.0507	0.0200	mg/kg wet	0.05000		101	70-130	8	20	
Toluene	0.0472	0.0050	mg/kg wet	0.05000		94	70-130	0.5	20	
trans-1,2-Dichloroethene	0.0504	0.0050	mg/kg wet	0.05000		101	70-130	0.7	20	
trans-1,3-Dichloropropene	0.0394	0.0050	mg/kg wet	0.05000		79	70-130	2	20	
Trichloroethene	0.0466	0.0050	mg/kg wet	0.05000		93	70-130	1	20	
Trichlorofluoromethane	0.0438	0.0050	mg/kg wet	0.05000		88	70-130	1	20	
Vinyl Chloride	0.0444	0.0100	mg/kg wet	0.05000		89	70-130	0.2	20	
Xylene O	0.0463	0.0050	mg/kg wet	0.05000		93	70-130	0.04	20	

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23F0094

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 DF30619 - 5035										
Xylene P,M	0.0947	0.0100	mg/kg wet	0.1000		95	70-130	0.5	20	
Surrogate: 1,2-Dichloroethane-d4	*0.0460*		mg/kg wet	*0.05000*		*92*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0503*		mg/kg wet	*0.05000*		*101*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0436*		mg/kg wet	*0.05000*		*87*	*70-130*			
Surrogate: Toluene-d8	*0.0516*		mg/kg wet	*0.05000*		*103*	*70-130*			
5035/8260B Volatile Organic Compounds / Methanol										
Batch DF30723 - 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							
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							

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23F0094

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 DF30723 - 5035										
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	*5.03*		mg/kg wet	*5.000*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*5.14*		mg/kg wet	*5.000*		*103*	*70-130*			
Surrogate: Dibromofluoromethane	*5.15*		mg/kg wet	*5.000*		*103*	*70-130*			
Surrogate: Toluene-d8	*5.02*		mg/kg wet	*5.000*		*100*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	2.04	0.200	mg/kg wet	2.000		102	70-130			
1,1,1-Trichloroethane	1.89	0.200	mg/kg wet	2.000		95	70-130			
1,1,2,2-Tetrachloroethane	2.01	0.200	mg/kg wet	2.000		100	70-130			
1,1,2-Trichloroethane	1.95	0.200	mg/kg wet	2.000		98	70-130			
1,1-Dichloroethane	1.91	0.200	mg/kg wet	2.000		95	70-130			
1,1-Dichloroethene	1.83	0.200	mg/kg wet	2.000		92	70-130			
1,1-Dichloropropene	2.02	0.200	mg/kg wet	2.000		101	70-130			

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Client Name: Tetra Tech, 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 DF30723 - 5035										
1,2,3-Trichlorobenzene	1.88	0.200	mg/kg wet	2.000		94	70-130			
1,2,3-Trichloropropane	1.98	0.200	mg/kg wet	2.000		99	70-130			
1,2,4-Trichlorobenzene	2.01	0.200	mg/kg wet	2.000		101	70-130			
1,2,4-Trimethylbenzene	1.92	0.200	mg/kg wet	2.000		96	70-130			
1,2-Dibromo-3-Chloropropane	1.95	1.00	mg/kg wet	2.000		97	70-130			
1,2-Dibromoethane	1.96	0.200	mg/kg wet	2.000		98	70-130			
1,2-Dichlorobenzene	1.92	0.200	mg/kg wet	2.000		96	70-130			
1,2-Dichloroethane	1.89	0.200	mg/kg wet	2.000		95	70-130			
1,2-Dichloropropane	1.93	0.200	mg/kg wet	2.000		97	70-130			
1,3,5-Trimethylbenzene	1.98	0.200	mg/kg wet	2.000		99	70-130			
1,3-Dichlorobenzene	1.90	0.200	mg/kg wet	2.000		95	70-130			
1,3-Dichloropropane	2.03	0.200	mg/kg wet	2.000		102	70-130			
1,4-Dichlorobenzene	2.06	0.200	mg/kg wet	2.000		103	70-130			
1,4-Dioxane - Screen	44.5	40.0	mg/kg wet	40.00		111	44-241			
2,2-Dichloropropane	1.93	0.200	mg/kg wet	2.000		96	70-130			
2-Butanone	11.0	1.00	mg/kg wet	10.00		110	70-130			
2-Chlorotoluene	1.96	0.200	mg/kg wet	2.000		98	70-130			
2-Hexanone	11.8	1.00	mg/kg wet	10.00		118	70-130			
4-Chlorotoluene	1.95	0.200	mg/kg wet	2.000		97	70-130			
4-Isopropyltoluene	1.90	0.200	mg/kg wet	2.000		95	70-130			
4-Methyl-2-Pentanone	11.2	1.00	mg/kg wet	10.00		112	70-130			
Acetone	12.1	1.00	mg/kg wet	10.00		121	70-130			
Benzene	1.95	0.200	mg/kg wet	2.000		97	70-130			
Bromobenzene	1.97	0.200	mg/kg wet	2.000		98	70-130			
Bromochloromethane	2.00	0.200	mg/kg wet	2.000		100	70-130			
Bromodichloromethane	1.99	0.200	mg/kg wet	2.000		100	70-130			
Bromoform	2.07	0.200	mg/kg wet	2.000		104	70-130			
Bromomethane	1.88	0.200	mg/kg wet	2.000		94	70-130			
Carbon Disulfide	2.12	0.200	mg/kg wet	2.000		106	70-130			
Carbon Tetrachloride	1.94	0.200	mg/kg wet	2.000		97	70-130			
Chlorobenzene	1.89	0.200	mg/kg wet	2.000		94	70-130			
Chloroethane	2.07	0.200	mg/kg wet	2.000		103	70-130			
Chloroform	1.95	0.200	mg/kg wet	2.000		97	70-130			
Chloromethane	1.79	0.200	mg/kg wet	2.000		89	70-130			
cis-1,2-Dichloroethene	1.96	0.200	mg/kg wet	2.000		98	70-130			
cis-1,3-Dichloropropene	1.94	0.200	mg/kg wet	2.000		97	70-130			
Dibromochloromethane	2.00	0.200	mg/kg wet	2.000		100	70-130			
Dibromomethane	1.99	0.200	mg/kg wet	2.000		100	70-130			
Dichlorodifluoromethane	1.62	0.200	mg/kg wet	2.000		81	70-130			
Diethyl Ether	2.18	0.200	mg/kg wet	2.000		109	70-130			
Di-isopropyl ether	2.08	0.200	mg/kg wet	2.000		104	70-130			
Ethyl tertiary-butyl ether	2.07	0.200	mg/kg wet	2.000		103	70-130			
Ethylbenzene	1.92	0.200	mg/kg wet	2.000		96	70-130			
Hexachlorobutadiene	2.09	0.200	mg/kg wet	2.000		104	70-130			
Isopropylbenzene	1.96	0.200	mg/kg wet	2.000		98	70-130			
Methyl tert-Butyl Ether	2.09	0.200	mg/kg wet	2.000		104	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23F0094

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 DF30723 - 5035										
Methylene Chloride	1.79	0.400	mg/kg wet	2.000		90	70-130			
Naphthalene	1.88	0.200	mg/kg wet	2.000		94	70-130			
n-Butylbenzene	1.96	0.200	mg/kg wet	2.000		98	70-130			
n-Propylbenzene	1.93	0.200	mg/kg wet	2.000		97	70-130			
sec-Butylbenzene	1.85	0.200	mg/kg wet	2.000		93	70-130			
Styrene	1.95	0.200	mg/kg wet	2.000		98	70-130			
tert-Butylbenzene	1.95	0.200	mg/kg wet	2.000		97	70-130			
Tertiary-amyl methyl ether	2.00	0.200	mg/kg wet	2.000		100	70-130			
Tetrachloroethene	1.86	0.200	mg/kg wet	2.000		93	70-130			
Tetrahydrofuran	2.04	1.00	mg/kg wet	2.000		102	70-130			
Toluene	1.94	0.200	mg/kg wet	2.000		97	70-130			
trans-1,2-Dichloroethene	1.81	0.200	mg/kg wet	2.000		90	70-130			
trans-1,3-Dichloropropene	1.81	0.200	mg/kg wet	2.000		90	70-130			
Trichloroethene	1.94	0.200	mg/kg wet	2.000		97	70-130			
Trichlorofluoromethane	1.87	0.200	mg/kg wet	2.000		94	70-130			
Vinyl Chloride	1.99	0.200	mg/kg wet	2.000		100	70-130			
Xylene O	1.98	0.200	mg/kg wet	2.000		99	70-130			
Xylene P,M	4.01	0.400	mg/kg wet	4.000		100	70-130			
Surrogate: 1,2-Dichloroethane-d4	*4.97*		mg/kg wet	*5.000*		*99*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*4.97*		mg/kg wet	*5.000*		*99*	*70-130*			
Surrogate: Dibromofluoromethane	*4.97*		mg/kg wet	*5.000*		*99*	*70-130*			
Surrogate: Toluene-d8	*4.99*		mg/kg wet	*5.000*		*100*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	2.02	0.200	mg/kg wet	2.000		101	70-130	1	20	
1,1,1-Trichloroethane	1.89	0.200	mg/kg wet	2.000		95	70-130	0.1	20	
1,1,2,2-Tetrachloroethane	1.95	0.200	mg/kg wet	2.000		97	70-130	3	20	
1,1,2-Trichloroethane	1.92	0.200	mg/kg wet	2.000		96	70-130	2	20	
1,1-Dichloroethane	1.92	0.200	mg/kg wet	2.000		96	70-130	0.6	20	
1,1-Dichloroethene	1.81	0.200	mg/kg wet	2.000		90	70-130	1	20	
1,1-Dichloropropene	2.02	0.200	mg/kg wet	2.000		101	70-130	0	20	
1,2,3-Trichlorobenzene	1.80	0.200	mg/kg wet	2.000		90	70-130	5	20	
1,2,3-Trichloropropane	1.92	0.200	mg/kg wet	2.000		96	70-130	3	20	
1,2,4-Trichlorobenzene	1.88	0.200	mg/kg wet	2.000		94	70-130	7	20	
1,2,4-Trimethylbenzene	1.85	0.200	mg/kg wet	2.000		92	70-130	4	20	
1,2-Dibromo-3-Chloropropane	1.81	1.00	mg/kg wet	2.000		91	70-130	7	20	
1,2-Dibromoethane	1.97	0.200	mg/kg wet	2.000		98	70-130	0.5	20	
1,2-Dichlorobenzene	1.87	0.200	mg/kg wet	2.000		94	70-130	2	20	
1,2-Dichloroethane	1.86	0.200	mg/kg wet	2.000		93	70-130	2	20	
1,2-Dichloropropane	1.92	0.200	mg/kg wet	2.000		96	70-130	0.8	20	
1,3,5-Trimethylbenzene	1.91	0.200	mg/kg wet	2.000		95	70-130	4	20	
1,3-Dichlorobenzene	1.87	0.200	mg/kg wet	2.000		94	70-130	1	20	
1,3-Dichloropropane	2.05	0.200	mg/kg wet	2.000		103	70-130	1	20	
1,4-Dichlorobenzene	1.97	0.200	mg/kg wet	2.000		99	70-130	4	20	
1,4-Dioxane - Screen	42.7	40.0	mg/kg wet	40.00		107	44-241	4	200	
2,2-Dichloropropane	1.90	0.200	mg/kg wet	2.000		95	70-130	1	20	
2-Butanone	10.9	1.00	mg/kg wet	10.00		109	70-130	2	20	

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23F0094

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 DF30723 - 5035										
2-Chlorotoluene	1.89	0.200	mg/kg wet	2.000		95	70-130	3	20	
2-Hexanone	11.5	1.00	mg/kg wet	10.00		115	70-130	2	20	
4-Chlorotoluene	1.90	0.200	mg/kg wet	2.000		95	70-130	3	20	
4-Isopropyltoluene	1.84	0.200	mg/kg wet	2.000		92	70-130	3	20	
4-Methyl-2-Pentanone	10.9	1.00	mg/kg wet	10.00		109	70-130	2	20	
Acetone	12.0	1.00	mg/kg wet	10.00		120	70-130	0.9	20	
Benzene	1.94	0.200	mg/kg wet	2.000		97	70-130	0.4	20	
Bromobenzene	1.91	0.200	mg/kg wet	2.000		96	70-130	3	20	
Bromochloromethane	1.87	0.200	mg/kg wet	2.000		94	70-130	7	20	
Bromodichloromethane	1.99	0.200	mg/kg wet	2.000		99	70-130	0.3	20	
Bromoform	1.99	0.200	mg/kg wet	2.000		100	70-130	4	20	
Bromomethane	1.90	0.200	mg/kg wet	2.000		95	70-130	0.8	20	
Carbon Disulfide	2.08	0.200	mg/kg wet	2.000		104	70-130	2	20	
Carbon Tetrachloride	1.94	0.200	mg/kg wet	2.000		97	70-130	0.3	20	
Chlorobenzene	1.87	0.200	mg/kg wet	2.000		93	70-130	1	20	
Chloroethane	1.98	0.200	mg/kg wet	2.000		99	70-130	4	20	
Chloroform	1.91	0.200	mg/kg wet	2.000		96	70-130	2	20	
Chloromethane	1.76	0.200	mg/kg wet	2.000		88	70-130	2	20	
cis-1,2-Dichloroethene	1.91	0.200	mg/kg wet	2.000		96	70-130	3	20	
cis-1,3-Dichloropropene	1.94	0.200	mg/kg wet	2.000		97	70-130	0.1	20	
Dibromochloromethane	1.97	0.200	mg/kg wet	2.000		98	70-130	2	20	
Dibromomethane	1.97	0.200	mg/kg wet	2.000		98	70-130	1	20	
Dichlorodifluoromethane	1.63	0.200	mg/kg wet	2.000		82	70-130	0.7	20	
Diethyl Ether	2.30	0.200	mg/kg wet	2.000		115	70-130	6	20	
Di-isopropyl ether	2.05	0.200	mg/kg wet	2.000		102	70-130	1	20	
Ethyl tertiary-butyl ether	2.08	0.200	mg/kg wet	2.000		104	70-130	0.6	20	
Ethylbenzene	1.88	0.200	mg/kg wet	2.000		94	70-130	2	20	
Hexachlorobutadiene	1.92	0.200	mg/kg wet	2.000		96	70-130	8	20	
Isopropylbenzene	1.89	0.200	mg/kg wet	2.000		95	70-130	4	20	
Methyl tert-Butyl Ether	2.11	0.200	mg/kg wet	2.000		106	70-130	1	20	
Methylene Chloride	1.90	0.400	mg/kg wet	2.000		95	70-130	6	20	
Naphthalene	1.76	0.200	mg/kg wet	2.000		88	70-130	6	20	
n-Butylbenzene	1.86	0.200	mg/kg wet	2.000		93	70-130	5	20	
n-Propylbenzene	1.87	0.200	mg/kg wet	2.000		94	70-130	3	20	
sec-Butylbenzene	1.79	0.200	mg/kg wet	2.000		89	70-130	4	20	
Styrene	1.93	0.200	mg/kg wet	2.000		96	70-130	1	20	
tert-Butylbenzene	1.89	0.200	mg/kg wet	2.000		94	70-130	3	20	
Tertiary-amyl methyl ether	2.00	0.200	mg/kg wet	2.000		100	70-130	0.2	20	
Tetrachloroethene	1.82	0.200	mg/kg wet	2.000		91	70-130	2	20	
Tetrahydrofuran	2.03	1.00	mg/kg wet	2.000		101	70-130	0.7	20	
Toluene	1.91	0.200	mg/kg wet	2.000		96	70-130	2	20	
trans-1,2-Dichloroethene	1.86	0.200	mg/kg wet	2.000		93	70-130	3	20	
trans-1,3-Dichloropropene	1.77	0.200	mg/kg wet	2.000		89	70-130	2	20	
Trichloroethene	1.94	0.200	mg/kg wet	2.000		97	70-130	0.4	20	
Trichlorofluoromethane	1.89	0.200	mg/kg wet	2.000		94	70-130	1	20	
Vinyl Chloride	2.02	0.200	mg/kg wet	2.000		101	70-130	1	20	

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
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ESS Laboratory Work Order: 23F0094

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 DF30723 - 5035										
Xylene O	1.97	0.200	mg/kg wet	2.000		98	70-130	0.4	20	
Xylene P,M	3.91	0.400	mg/kg wet	4.000		98	70-130	3	20	
Surrogate: 1,2-Dichloroethane-d4	*4.98*		mg/kg wet	*5.000*		*100*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*4.96*		mg/kg wet	*5.000*		*99*	*70-130*			
Surrogate: Dibromofluoromethane	*5.02*		mg/kg wet	*5.000*		*100*	*70-130*			
Surrogate: Toluene-d8	*4.97*		mg/kg wet	*5.000*		*99*	*70-130*			
8081B Organochlorine Pesticides										
Batch DF30503 - 3546										
Blank										
4,4´-DDD	ND	0.0025	mg/kg wet							
4,4´-DDD [2C]	ND	0.0025	mg/kg wet							
4,4´-DDE	ND	0.0025	mg/kg wet							
4,4´-DDE [2C]	ND	0.0025	mg/kg wet							
4,4´-DDT	ND	0.0025	mg/kg wet							
4,4´-DDT [2C]	ND	0.0025	mg/kg wet							
Aldrin	ND	0.0025	mg/kg wet							
Aldrin [2C]	ND	0.0025	mg/kg wet							
alpha-BHC	ND	0.0025	mg/kg wet							
alpha-BHC [2C]	ND	0.0025	mg/kg wet							
alpha-Chlordane	ND	0.0025	mg/kg wet							
alpha-Chlordane [2C]	ND	0.0025	mg/kg wet							
beta-BHC	ND	0.0025	mg/kg wet							
beta-BHC [2C]	ND	0.0025	mg/kg wet							
Chlordane (Total)	ND	0.0300	mg/kg wet							
Chlordane (Total) [2C]	ND	0.0300	mg/kg wet							
delta-BHC	ND	0.0025	mg/kg wet							
delta-BHC [2C]	ND	0.0025	mg/kg wet							
Dieldrin	ND	0.0025	mg/kg wet							
Dieldrin [2C]	ND	0.0025	mg/kg wet							
Endosulfan I	ND	0.0025	mg/kg wet							
Endosulfan I [2C]	ND	0.0025	mg/kg wet							
Endosulfan II	ND	0.0025	mg/kg wet							
Endosulfan II [2C]	ND	0.0025	mg/kg wet							
Endosulfan Sulfate	ND	0.0025	mg/kg wet							
Endosulfan Sulfate [2C]	ND	0.0025	mg/kg wet							
Endrin	ND	0.0025	mg/kg wet							
Endrin [2C]	ND	0.0025	mg/kg wet							
Endrin Aldehyde	ND	0.0025	mg/kg wet							
Endrin Aldehyde [2C]	ND	0.0025	mg/kg wet							
Endrin Ketone	ND	0.0025	mg/kg wet							
Endrin Ketone [2C]	ND	0.0025	mg/kg wet							
gamma-BHC (Lindane)	ND	0.0015	mg/kg wet							
gamma-BHC (Lindane) [2C]	ND	0.0015	mg/kg wet							
gamma-Chlordane	ND	0.0025	mg/kg wet							
gamma-Chlordane [2C]	ND	0.0025	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23F0094

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8081B Organochlorine Pesticides										
Batch DF30503 - 3546										
Heptachlor	ND	0.0025	mg/kg wet							
Heptachlor [2C]	ND	0.0025	mg/kg wet							
Heptachlor Epoxide	ND	0.0025	mg/kg wet							
Heptachlor Epoxide [2C]	ND	0.0025	mg/kg wet							
Hexachlorobenzene	ND	0.0025	mg/kg wet							
Hexachlorobenzene [2C]	ND	0.0025	mg/kg wet							
Methoxychlor	ND	0.0025	mg/kg wet							
Methoxychlor [2C]	ND	0.0025	mg/kg wet							
Toxaphene	ND	0.125	mg/kg wet							
Toxaphene [2C]	ND	0.125	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0125*		mg/kg wet	*0.01250*		*100*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0117*		mg/kg wet	*0.01250*		*93*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0120*		mg/kg wet	*0.01250*		*96*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0117*		mg/kg wet	*0.01250*		*93*	*30-150*			
LCS										
4,4´-DDD	0.0120	0.0025	mg/kg wet	0.01250		96	40-140			
4,4´-DDD [2C]	0.0119	0.0025	mg/kg wet	0.01250		95	40-140			
4,4´-DDE	0.0128	0.0025	mg/kg wet	0.01250		103	40-140			
4,4´-DDE [2C]	0.0125	0.0025	mg/kg wet	0.01250		100	40-140			
4,4´-DDT	0.0162	0.0025	mg/kg wet	0.01250		130	40-140			
4,4´-DDT [2C]	0.0147	0.0025	mg/kg wet	0.01250		118	40-140			
Aldrin	0.0124	0.0025	mg/kg wet	0.01250		99	40-140			
Aldrin [2C]	0.0122	0.0025	mg/kg wet	0.01250		97	40-140			
alpha-BHC	0.0118	0.0025	mg/kg wet	0.01250		94	40-140			
alpha-BHC [2C]	0.0117	0.0025	mg/kg wet	0.01250		94	40-140			
alpha-Chlordane	0.0117	0.0025	mg/kg wet	0.01250		94	40-140			
alpha-Chlordane [2C]	0.0119	0.0025	mg/kg wet	0.01250		95	40-140			
beta-BHC	0.0111	0.0025	mg/kg wet	0.01250		89	40-140			
beta-BHC [2C]	0.0105	0.0025	mg/kg wet	0.01250		84	40-140			
delta-BHC	0.0173	0.0025	mg/kg wet	0.01250		138	40-140			
delta-BHC [2C]	0.0120	0.0025	mg/kg wet	0.01250		96	40-140			
Dieldrin	0.0128	0.0025	mg/kg wet	0.01250		102	40-140			
Dieldrin [2C]	0.0133	0.0025	mg/kg wet	0.01250		106	40-140			
Endosulfan I	0.0109	0.0025	mg/kg wet	0.01250		88	40-140			
Endosulfan I [2C]	0.0119	0.0025	mg/kg wet	0.01250		95	40-140			
Endosulfan II	0.0130	0.0025	mg/kg wet	0.01250		104	40-140			
Endosulfan II [2C]	0.0127	0.0025	mg/kg wet	0.01250		102	40-140			
Endosulfan Sulfate	0.0128	0.0025	mg/kg wet	0.01250		102	40-140			
Endosulfan Sulfate [2C]	0.0126	0.0025	mg/kg wet	0.01250		101	40-140			
Endrin	0.0126	0.0025	mg/kg wet	0.01250		101	40-140			
Endrin [2C]	0.0126	0.0025	mg/kg wet	0.01250		100	40-140			
Endrin Aldehyde	0.0129	0.0025	mg/kg wet	0.01250		103	40-140			
Endrin Aldehyde [2C]	0.0132	0.0025	mg/kg wet	0.01250		105	40-140			
Endrin Ketone	0.0137	0.0025	mg/kg wet	0.01250		110	40-140			
Endrin Ketone [2C]	0.0130	0.0025	mg/kg wet	0.01250		104	40-140			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23F0094

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8081B Organochlorine Pesticides										
Batch DF30503 - 3546										
gamma-BHC (Lindane)	0.0117	0.0015	mg/kg wet	0.01250		94	40-140			
gamma-BHC (Lindane) [2C]	0.0123	0.0015	mg/kg wet	0.01250		98	40-140			
gamma-Chlordane	0.0113	0.0025	mg/kg wet	0.01250		90	40-140			
gamma-Chlordane [2C]	0.0121	0.0025	mg/kg wet	0.01250		97	40-140			
Heptachlor	0.0118	0.0025	mg/kg wet	0.01250		94	40-140			
Heptachlor [2C]	0.0120	0.0025	mg/kg wet	0.01250		96	40-140			
Heptachlor Epoxide	0.0118	0.0025	mg/kg wet	0.01250		95	40-140			
Heptachlor Epoxide [2C]	0.0119	0.0025	mg/kg wet	0.01250		95	40-140			
Hexachlorobenzene	0.0114	0.0025	mg/kg wet	0.01250		91	40-140			
Hexachlorobenzene [2C]	0.0115	0.0025	mg/kg wet	0.01250		92	40-140			
Methoxychlor	0.0129	0.0025	mg/kg wet	0.01250		103	40-140			
Methoxychlor [2C]	0.0122	0.0025	mg/kg wet	0.01250		97	40-140			
Surrogate: Decachlorobiphenyl	*0.0137*		mg/kg wet	*0.01250*		*110*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0125*		mg/kg wet	*0.01250*		*100*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0128*		mg/kg wet	*0.01250*		*103*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0124*		mg/kg wet	*0.01250*		*99*	*30-150*			
LCS Dup										
4,4´-DDD	0.0127	0.0025	mg/kg wet	0.01250		101	40-140	6	30	
4,4´-DDD [2C]	0.0124	0.0025	mg/kg wet	0.01250		100	40-140	5	30	
4,4´-DDE	0.0132	0.0025	mg/kg wet	0.01250		106	40-140	3	30	
4,4´-DDE [2C]	0.0130	0.0025	mg/kg wet	0.01250		104	40-140	3	30	
4,4´-DDT	0.0162	0.0025	mg/kg wet	0.01250		130	40-140	0.3	30	
4,4´-DDT [2C]	0.0154	0.0025	mg/kg wet	0.01250		123	40-140	4	30	
Aldrin	0.0122	0.0025	mg/kg wet	0.01250		97	40-140	2	30	
Aldrin [2C]	0.0123	0.0025	mg/kg wet	0.01250		98	40-140	0.8	30	
alpha-BHC	0.0118	0.0025	mg/kg wet	0.01250		94	40-140	0.1	30	
alpha-BHC [2C]	0.0117	0.0025	mg/kg wet	0.01250		94	40-140	0.3	30	
alpha-Chlordane	0.0121	0.0025	mg/kg wet	0.01250		97	40-140	3	30	
alpha-Chlordane [2C]	0.0122	0.0025	mg/kg wet	0.01250		97	40-140	2	30	
beta-BHC	0.0116	0.0025	mg/kg wet	0.01250		93	40-140	5	30	
beta-BHC [2C]	0.0110	0.0025	mg/kg wet	0.01250		88	40-140	5	30	
delta-BHC	0.0170	0.0025	mg/kg wet	0.01250		136	40-140	1	30	
delta-BHC [2C]	0.0124	0.0025	mg/kg wet	0.01250		99	40-140	4	30	
Dieldrin	0.0131	0.0025	mg/kg wet	0.01250		105	40-140	3	30	
Dieldrin [2C]	0.0136	0.0025	mg/kg wet	0.01250		109	40-140	2	30	
Endosulfan I	0.0113	0.0025	mg/kg wet	0.01250		90	40-140	3	30	
Endosulfan I [2C]	0.0121	0.0025	mg/kg wet	0.01250		97	40-140	2	30	
Endosulfan II	0.0133	0.0025	mg/kg wet	0.01250		107	40-140	3	30	
Endosulfan II [2C]	0.0133	0.0025	mg/kg wet	0.01250		106	40-140	4	30	
Endosulfan Sulfate	0.0134	0.0025	mg/kg wet	0.01250		107	40-140	5	30	
Endosulfan Sulfate [2C]	0.0131	0.0025	mg/kg wet	0.01250		105	40-140	4	30	
Endrin	0.0131	0.0025	mg/kg wet	0.01250		105	40-140	3	30	
Endrin [2C]	0.0129	0.0025	mg/kg wet	0.01250		103	40-140	3	30	
Endrin Aldehyde	0.0136	0.0025	mg/kg wet	0.01250		109	40-140	5	30	
Endrin Aldehyde [2C]	0.0139	0.0025	mg/kg wet	0.01250		112	40-140	6	30	

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23F0094

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8081B Organochlorine Pesticides										
Batch DF30503 - 3546										
Endrin Ketone	0.0144	0.0025	mg/kg wet	0.01250		115	40-140	5	30	
Endrin Ketone [2C]	0.0137	0.0025	mg/kg wet	0.01250		109	40-140	5	30	
gamma-BHC (Lindane)	0.0118	0.0015	mg/kg wet	0.01250		95	40-140	1	30	
gamma-BHC (Lindane) [2C]	0.0124	0.0015	mg/kg wet	0.01250		99	40-140	1	30	
gamma-Chlordane	0.0115	0.0025	mg/kg wet	0.01250		92	40-140	2	30	
gamma-Chlordane [2C]	0.0124	0.0025	mg/kg wet	0.01250		99	40-140	2	30	
Heptachlor	0.0116	0.0025	mg/kg wet	0.01250		93	40-140	1	30	
Heptachlor [2C]	0.0120	0.0025	mg/kg wet	0.01250		96	40-140	0.4	30	
Heptachlor Epoxide	0.0121	0.0025	mg/kg wet	0.01250		97	40-140	2	30	
Heptachlor Epoxide [2C]	0.0122	0.0025	mg/kg wet	0.01250		97	40-140	2	30	
Hexachlorobenzene	0.0113	0.0025	mg/kg wet	0.01250		90	40-140	1	30	
Hexachlorobenzene [2C]	0.0113	0.0025	mg/kg wet	0.01250		91	40-140	1	30	
Methoxychlor	0.0134	0.0025	mg/kg wet	0.01250		107	40-140	4	30	
Methoxychlor [2C]	0.0128	0.0025	mg/kg wet	0.01250		102	40-140	5	30	
Surrogate: Decachlorobiphenyl	*0.0137*		mg/kg wet	*0.01250*		*109*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0125*		mg/kg wet	*0.01250*		*100*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0122*		mg/kg wet	*0.01250*		*97*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0119*		mg/kg wet	*0.01250*		*95*	*30-150*			
Batch DF30705 - 3546										
Blank										
4,4´-DDD	ND	0.0025	mg/kg wet							
4,4´-DDD [2C]	ND	0.0025	mg/kg wet							
4,4´-DDE	ND	0.0025	mg/kg wet							
4,4´-DDE [2C]	ND	0.0025	mg/kg wet							
4,4´-DDT	ND	0.0025	mg/kg wet							
4,4´-DDT [2C]	ND	0.0025	mg/kg wet							
Aldrin	ND	0.0025	mg/kg wet							
Aldrin [2C]	ND	0.0025	mg/kg wet							
alpha-BHC	ND	0.0025	mg/kg wet							
alpha-BHC [2C]	ND	0.0025	mg/kg wet							
alpha-Chlordane	ND	0.0025	mg/kg wet							
alpha-Chlordane [2C]	ND	0.0025	mg/kg wet							
beta-BHC	ND	0.0025	mg/kg wet							
beta-BHC [2C]	ND	0.0025	mg/kg wet							
Chlordane (Total)	ND	0.0300	mg/kg wet							
Chlordane (Total) [2C]	ND	0.0300	mg/kg wet							
delta-BHC	ND	0.0025	mg/kg wet							
delta-BHC [2C]	ND	0.0025	mg/kg wet							
Dieldrin	ND	0.0025	mg/kg wet							
Dieldrin [2C]	ND	0.0025	mg/kg wet							
Endosulfan I	ND	0.0025	mg/kg wet							
Endosulfan I [2C]	ND	0.0025	mg/kg wet							
Endosulfan II	ND	0.0025	mg/kg wet							
Endosulfan II [2C]	ND	0.0025	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23F0094

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8081B Organochlorine Pesticides										
Batch DF30705 - 3546										
Endosulfan Sulfate	ND	0.0025	mg/kg wet							
Endosulfan Sulfate [2C]	ND	0.0025	mg/kg wet							
Endrin	ND	0.0025	mg/kg wet							
Endrin [2C]	ND	0.0025	mg/kg wet							
Endrin Aldehyde	ND	0.0025	mg/kg wet							
Endrin Aldehyde [2C]	ND	0.0025	mg/kg wet							
Endrin Ketone	ND	0.0025	mg/kg wet							
Endrin Ketone [2C]	ND	0.0025	mg/kg wet							
gamma-BHC (Lindane)	ND	0.0015	mg/kg wet							
gamma-BHC (Lindane) [2C]	ND	0.0015	mg/kg wet							
gamma-Chlordane	ND	0.0025	mg/kg wet							
gamma-Chlordane [2C]	ND	0.0025	mg/kg wet							
Heptachlor	ND	0.0025	mg/kg wet							
Heptachlor [2C]	ND	0.0025	mg/kg wet							
Heptachlor Epoxide	ND	0.0025	mg/kg wet							
Heptachlor Epoxide [2C]	ND	0.0025	mg/kg wet							
Hexachlorobenzene	ND	0.0025	mg/kg wet							
Hexachlorobenzene [2C]	ND	0.0025	mg/kg wet							
Methoxychlor	ND	0.0025	mg/kg wet							
Methoxychlor [2C]	ND	0.0025	mg/kg wet							
Toxaphene	ND	0.125	mg/kg wet							
Toxaphene [2C]	ND	0.125	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0120*		mg/kg wet	*0.01250*		*96*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0121*		mg/kg wet	*0.01250*		*97*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00798*		mg/kg wet	*0.01250*		*64*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00795*		mg/kg wet	*0.01250*		*64*	*30-150*			
LCS										
4,4´-DDD	0.0108	0.0025	mg/kg wet	0.01250		87	40-140			
4,4´-DDD [2C]	0.0104	0.0025	mg/kg wet	0.01250		83	40-140			
4,4´-DDE	0.0102	0.0025	mg/kg wet	0.01250		81	40-140			
4,4´-DDE [2C]	0.0098	0.0025	mg/kg wet	0.01250		79	40-140			
4,4´-DDT	0.0118	0.0025	mg/kg wet	0.01250		94	40-140			
4,4´-DDT [2C]	0.0115	0.0025	mg/kg wet	0.01250		92	40-140			
Aldrin	0.0067	0.0025	mg/kg wet	0.01250		53	40-140			
Aldrin [2C]	0.0067	0.0025	mg/kg wet	0.01250		53	40-140			
alpha-BHC	0.0063	0.0025	mg/kg wet	0.01250		50	40-140			
alpha-BHC [2C]	0.0063	0.0025	mg/kg wet	0.01250		50	40-140			
alpha-Chlordane	0.0084	0.0025	mg/kg wet	0.01250		67	40-140			
alpha-Chlordane [2C]	0.0084	0.0025	mg/kg wet	0.01250		68	40-140			
beta-BHC	0.0074	0.0025	mg/kg wet	0.01250		59	40-140			
beta-BHC [2C]	0.0075	0.0025	mg/kg wet	0.01250		60	40-140			
delta-BHC	0.0082	0.0025	mg/kg wet	0.01250		66	40-140			
delta-BHC [2C]	0.0083	0.0025	mg/kg wet	0.01250		66	40-140			
Dieldrin	0.0095	0.0025	mg/kg wet	0.01250		76	40-140			
Dieldrin [2C]	0.0097	0.0025	mg/kg wet	0.01250		78	40-140			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23F0094

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8081B Organochlorine Pesticides										
Batch DF30705 - 3546										
Endosulfan I	0.0080	0.0025	mg/kg wet	0.01250		64	40-140			
Endosulfan I [2C]	0.0081	0.0025	mg/kg wet	0.01250		65	40-140			
Endosulfan II	0.0113	0.0025	mg/kg wet	0.01250		90	40-140			
Endosulfan II [2C]	0.0111	0.0025	mg/kg wet	0.01250		88	40-140			
Endosulfan Sulfate	0.0113	0.0025	mg/kg wet	0.01250		90	40-140			
Endosulfan Sulfate [2C]	0.0112	0.0025	mg/kg wet	0.01250		89	40-140			
Endrin	0.0096	0.0025	mg/kg wet	0.01250		77	40-140			
Endrin [2C]	0.0095	0.0025	mg/kg wet	0.01250		76	40-140			
Endrin Aldehyde	0.0112	0.0025	mg/kg wet	0.01250		90	40-140			
Endrin Aldehyde [2C]	0.0119	0.0025	mg/kg wet	0.01250		95	40-140			
Endrin Ketone	0.0116	0.0025	mg/kg wet	0.01250		93	40-140			
Endrin Ketone [2C]	0.0114	0.0025	mg/kg wet	0.01250		91	40-140			
gamma-BHC (Lindane)	0.0067	0.0015	mg/kg wet	0.01250		54	40-140			
gamma-BHC (Lindane) [2C]	0.0067	0.0015	mg/kg wet	0.01250		53	40-140			
gamma-Chlordane	0.0082	0.0025	mg/kg wet	0.01250		65	40-140			
gamma-Chlordane [2C]	0.0083	0.0025	mg/kg wet	0.01250		66	40-140			
Heptachlor	0.0062	0.0025	mg/kg wet	0.01250		50	40-140			
Heptachlor [2C]	0.0065	0.0025	mg/kg wet	0.01250		52	40-140			
Heptachlor Epoxide	0.0077	0.0025	mg/kg wet	0.01250		62	40-140			
Heptachlor Epoxide [2C]	0.0077	0.0025	mg/kg wet	0.01250		61	40-140			
Hexachlorobenzene	0.0063	0.0025	mg/kg wet	0.01250		50	40-140			
Hexachlorobenzene [2C]	0.0062	0.0025	mg/kg wet	0.01250		50	40-140			
Methoxychlor	0.0101	0.0025	mg/kg wet	0.01250		81	40-140			
Methoxychlor [2C]	0.0099	0.0025	mg/kg wet	0.01250		79	40-140			
Surrogate: Decachlorobiphenyl	*0.0122*		mg/kg wet	*0.01250*		*98*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0118*		mg/kg wet	*0.01250*		*95*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00683*		mg/kg wet	*0.01250*		*55*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00673*		mg/kg wet	*0.01250*		*54*	*30-150*			
LCS Dup										
4,4´-DDD	0.0106	0.0025	mg/kg wet	0.01250		85	40-140	2	30	
4,4´-DDD [2C]	0.0103	0.0025	mg/kg wet	0.01250		83	40-140	0.5	30	
4,4´-DDE	0.0099	0.0025	mg/kg wet	0.01250		79	40-140	3	30	
4,4´-DDE [2C]	0.0096	0.0025	mg/kg wet	0.01250		77	40-140	2	30	
4,4´-DDT	0.0115	0.0025	mg/kg wet	0.01250		92	40-140	2	30	
4,4´-DDT [2C]	0.0113	0.0025	mg/kg wet	0.01250		90	40-140	2	30	
Aldrin	0.0062	0.0025	mg/kg wet	0.01250		49	40-140	8	30	
Aldrin [2C]	0.0062	0.0025	mg/kg wet	0.01250		49	40-140	8	30	
alpha-BHC	0.0058	0.0025	mg/kg wet	0.01250		47	40-140	8	30	
alpha-BHC [2C]	0.0058	0.0025	mg/kg wet	0.01250		46	40-140	8	30	
alpha-Chlordane	0.0080	0.0025	mg/kg wet	0.01250		64	40-140	4	30	
alpha-Chlordane [2C]	0.0081	0.0025	mg/kg wet	0.01250		65	40-140	4	30	
beta-BHC	0.0069	0.0025	mg/kg wet	0.01250		56	40-140	6	30	
beta-BHC [2C]	0.0070	0.0025	mg/kg wet	0.01250		56	40-140	6	30	
delta-BHC	0.0076	0.0025	mg/kg wet	0.01250		61	40-140	8	30	
delta-BHC [2C]	0.0076	0.0025	mg/kg wet	0.01250		61	40-140	8	30	

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23F0094

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8081B Organochlorine Pesticides										
Batch DF30705 - 3546										
Dieldrin	0.0092	0.0025	mg/kg wet	0.01250		73	40-140	4	30	
Dieldrin [2C]	0.0094	0.0025	mg/kg wet	0.01250		75	40-140	3	30	
Endosulfan I	0.0076	0.0025	mg/kg wet	0.01250		61	40-140	4	30	
Endosulfan I [2C]	0.0077	0.0025	mg/kg wet	0.01250		62	40-140	5	30	
Endosulfan II	0.0111	0.0025	mg/kg wet	0.01250		88	40-140	2	30	
Endosulfan II [2C]	0.0110	0.0025	mg/kg wet	0.01250		88	40-140	0.8	30	
Endosulfan Sulfate	0.0113	0.0025	mg/kg wet	0.01250		91	40-140	0.6	30	
Endosulfan Sulfate [2C]	0.0112	0.0025	mg/kg wet	0.01250		90	40-140	0.3	30	
Endrin	0.0093	0.0025	mg/kg wet	0.01250		74	40-140	4	30	
Endrin [2C]	0.0091	0.0025	mg/kg wet	0.01250		73	40-140	4	30	
Endrin Aldehyde	0.0112	0.0025	mg/kg wet	0.01250		90	40-140	0.2	30	
Endrin Aldehyde [2C]	0.0118	0.0025	mg/kg wet	0.01250		94	40-140	1	30	
Endrin Ketone	0.0117	0.0025	mg/kg wet	0.01250		93	40-140	0.7	30	
Endrin Ketone [2C]	0.0114	0.0025	mg/kg wet	0.01250		91	40-140	0.4	30	
gamma-BHC (Lindane)	0.0063	0.0015	mg/kg wet	0.01250		50	40-140	7	30	
gamma-BHC (Lindane) [2C]	0.0062	0.0015	mg/kg wet	0.01250		50	40-140	7	30	
gamma-Chlordane	0.0078	0.0025	mg/kg wet	0.01250		62	40-140	5	30	
gamma-Chlordane [2C]	0.0079	0.0025	mg/kg wet	0.01250		63	40-140	5	30	
Heptachlor	0.0058	0.0025	mg/kg wet	0.01250		46	40-140	7	30	
Heptachlor [2C]	0.0060	0.0025	mg/kg wet	0.01250		48	40-140	9	30	
Heptachlor Epoxide	0.0073	0.0025	mg/kg wet	0.01250		58	40-140	6	30	
Heptachlor Epoxide [2C]	0.0072	0.0025	mg/kg wet	0.01250		57	40-140	7	30	
Hexachlorobenzene	0.0059	0.0025	mg/kg wet	0.01250		47	40-140	7	30	
Hexachlorobenzene [2C]	0.0058	0.0025	mg/kg wet	0.01250		46	40-140	7	30	
Methoxychlor	0.0101	0.0025	mg/kg wet	0.01250		81	40-140	0.03	30	
Methoxychlor [2C]	0.0100	0.0025	mg/kg wet	0.01250		80	40-140	0.6	30	
Surrogate: Decachlorobiphenyl	*0.0119*		mg/kg wet	*0.01250*		*95*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0117*		mg/kg wet	*0.01250*		*94*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00617*		mg/kg wet	*0.01250*		*49*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00598*		mg/kg wet	*0.01250*		*48*	*30-150*			
Batch DF31245 - 3546										
Blank										
4,4´-DDD	ND	0.0025	mg/kg wet							
4,4´-DDD [2C]	ND	0.0025	mg/kg wet							
4,4´-DDE	ND	0.0025	mg/kg wet							
4,4´-DDE [2C]	ND	0.0025	mg/kg wet							
4,4´-DDT	ND	0.0025	mg/kg wet							
4,4´-DDT [2C]	ND	0.0025	mg/kg wet							
Aldrin	ND	0.0025	mg/kg wet							
Aldrin [2C]	ND	0.0025	mg/kg wet							
alpha-BHC	ND	0.0025	mg/kg wet							
alpha-BHC [2C]	ND	0.0025	mg/kg wet							
alpha-Chlordane	ND	0.0025	mg/kg wet							
alpha-Chlordane [2C]	ND	0.0025	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
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ESS Laboratory Work Order: 23F0094

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8081B Organochlorine Pesticides										
Batch DF31245 - 3546										
beta-BHC	ND	0.0025	mg/kg wet							
beta-BHC [2C]	ND	0.0025	mg/kg wet							
Chlordane (Total)	ND	0.0300	mg/kg wet							
Chlordane (Total) [2C]	ND	0.0300	mg/kg wet							
delta-BHC	ND	0.0025	mg/kg wet							
delta-BHC [2C]	ND	0.0025	mg/kg wet							
Dieldrin	ND	0.0025	mg/kg wet							
Dieldrin [2C]	ND	0.0025	mg/kg wet							
Endosulfan I	ND	0.0025	mg/kg wet							
Endosulfan I [2C]	ND	0.0025	mg/kg wet							
Endosulfan II	ND	0.0025	mg/kg wet							
Endosulfan II [2C]	ND	0.0025	mg/kg wet							
Endosulfan Sulfate	ND	0.0025	mg/kg wet							
Endosulfan Sulfate [2C]	ND	0.0025	mg/kg wet							
Endrin	ND	0.0025	mg/kg wet							
Endrin [2C]	ND	0.0025	mg/kg wet							
Endrin Aldehyde	ND	0.0025	mg/kg wet							
Endrin Aldehyde [2C]	ND	0.0025	mg/kg wet							
Endrin Ketone	ND	0.0025	mg/kg wet							
Endrin Ketone [2C]	ND	0.0025	mg/kg wet							
gamma-BHC (Lindane)	ND	0.0015	mg/kg wet							
gamma-BHC (Lindane) [2C]	ND	0.0015	mg/kg wet							
gamma-Chlordane	ND	0.0025	mg/kg wet							
gamma-Chlordane [2C]	ND	0.0025	mg/kg wet							
Heptachlor	ND	0.0025	mg/kg wet							
Heptachlor [2C]	ND	0.0025	mg/kg wet							
Heptachlor Epoxide	ND	0.0025	mg/kg wet							
Heptachlor Epoxide [2C]	ND	0.0025	mg/kg wet							
Hexachlorobenzene	ND	0.0025	mg/kg wet							
Hexachlorobenzene [2C]	ND	0.0025	mg/kg wet							
Methoxychlor	ND	0.0025	mg/kg wet							
Methoxychlor [2C]	ND	0.0025	mg/kg wet							
Toxaphene	ND	0.125	mg/kg wet							
Toxaphene [2C]	ND	0.125	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0105*		mg/kg wet	*0.01250*		*84*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0105*		mg/kg wet	*0.01250*		*84*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0113*		mg/kg wet	*0.01250*		*91*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0111*		mg/kg wet	*0.01250*		*89*	*30-150*			
LCS										
4,4´-DDD	0.0101	0.0025	mg/kg wet	0.01250		81	40-140			
4,4´-DDD [2C]	0.0098	0.0025	mg/kg wet	0.01250		78	40-140			
4,4´-DDE	0.0105	0.0025	mg/kg wet	0.01250		84	40-140			
4,4´-DDE [2C]	0.0104	0.0025	mg/kg wet	0.01250		83	40-140			
4,4´-DDT	0.0123	0.0025	mg/kg wet	0.01250		98	40-140			
4,4´-DDT [2C]	0.0116	0.0025	mg/kg wet	0.01250		93	40-140			

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
8081B Organochlorine Pesticides										
Batch DF31245 - 3546										
Aldrin	0.0106	0.0025	mg/kg wet	0.01250		85	40-140			
Aldrin [2C]	0.0105	0.0025	mg/kg wet	0.01250		84	40-140			
alpha-BHC	0.0107	0.0025	mg/kg wet	0.01250		85	40-140			
alpha-BHC [2C]	0.0107	0.0025	mg/kg wet	0.01250		85	40-140			
alpha-Chlordane	0.0101	0.0025	mg/kg wet	0.01250		81	40-140			
alpha-Chlordane [2C]	0.0101	0.0025	mg/kg wet	0.01250		81	40-140			
beta-BHC	0.0104	0.0025	mg/kg wet	0.01250		83	40-140			
beta-BHC [2C]	0.0105	0.0025	mg/kg wet	0.01250		84	40-140			
delta-BHC	0.0109	0.0025	mg/kg wet	0.01250		87	40-140			
delta-BHC [2C]	0.0107	0.0025	mg/kg wet	0.01250		85	40-140			
Dieldrin	0.0109	0.0025	mg/kg wet	0.01250		87	40-140			
Dieldrin [2C]	0.0111	0.0025	mg/kg wet	0.01250		89	40-140			
Endosulfan I	0.0099	0.0025	mg/kg wet	0.01250		79	40-140			
Endosulfan I [2C]	0.0100	0.0025	mg/kg wet	0.01250		80	40-140			
Endosulfan II	0.0109	0.0025	mg/kg wet	0.01250		87	40-140			
Endosulfan II [2C]	0.0107	0.0025	mg/kg wet	0.01250		85	40-140			
Endosulfan Sulfate	0.0101	0.0025	mg/kg wet	0.01250		80	40-140			
Endosulfan Sulfate [2C]	0.0100	0.0025	mg/kg wet	0.01250		80	40-140			
Endrin	0.0107	0.0025	mg/kg wet	0.01250		85	40-140			
Endrin [2C]	0.0106	0.0025	mg/kg wet	0.01250		85	40-140			
Endrin Aldehyde	0.0105	0.0025	mg/kg wet	0.01250		84	40-140			
Endrin Aldehyde [2C]	0.0105	0.0025	mg/kg wet	0.01250		84	40-140			
Endrin Ketone	0.0106	0.0025	mg/kg wet	0.01250		85	40-140			
Endrin Ketone [2C]	0.0103	0.0025	mg/kg wet	0.01250		82	40-140			
gamma-BHC (Lindane)	0.0109	0.0015	mg/kg wet	0.01250		87	40-140			
gamma-BHC (Lindane) [2C]	0.0109	0.0015	mg/kg wet	0.01250		87	40-140			
gamma-Chlordane	0.0101	0.0025	mg/kg wet	0.01250		81	40-140			
gamma-Chlordane [2C]	0.0103	0.0025	mg/kg wet	0.01250		83	40-140			
Heptachlor	0.0102	0.0025	mg/kg wet	0.01250		81	40-140			
Heptachlor [2C]	0.0105	0.0025	mg/kg wet	0.01250		84	40-140			
Heptachlor Epoxide	0.0103	0.0025	mg/kg wet	0.01250		83	40-140			
Heptachlor Epoxide [2C]	0.0104	0.0025	mg/kg wet	0.01250		83	40-140			
Hexachlorobenzene	0.0104	0.0025	mg/kg wet	0.01250		83	40-140			
Hexachlorobenzene [2C]	0.0102	0.0025	mg/kg wet	0.01250		82	40-140			
Methoxychlor	0.0100	0.0025	mg/kg wet	0.01250		80	40-140			
Methoxychlor [2C]	0.0096	0.0025	mg/kg wet	0.01250		77	40-140			
Surrogate: Decachlorobiphenyl	*0.00977*		mg/kg wet	*0.01250*		*78*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0101*		mg/kg wet	*0.01250*		*80*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0110*		mg/kg wet	*0.01250*		*88*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0109*		mg/kg wet	*0.01250*		*87*	*30-150*			
LCS Dup										
4,4´-DDD	0.0109	0.0025	mg/kg wet	0.01250		87	40-140	7	30	
4,4´-DDD [2C]	0.0103	0.0025	mg/kg wet	0.01250		82	40-140	5	30	
4,4´-DDE	0.0110	0.0025	mg/kg wet	0.01250		88	40-140	4	30	
4,4´-DDE [2C]	0.0109	0.0025	mg/kg wet	0.01250		87	40-140	5	30	

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
8081B Organochlorine Pesticides										
Batch DF31245 - 3546										
4,4´-DDT	0.0131	0.0025	mg/kg wet	0.01250		104	40-140	6	30	
4,4´-DDT [2C]	0.0123	0.0025	mg/kg wet	0.01250		98	40-140	5	30	
Aldrin	0.0108	0.0025	mg/kg wet	0.01250		87	40-140	2	30	
Aldrin [2C]	0.0109	0.0025	mg/kg wet	0.01250		87	40-140	4	30	
alpha-BHC	0.0108	0.0025	mg/kg wet	0.01250		87	40-140	2	30	
alpha-BHC [2C]	0.0110	0.0025	mg/kg wet	0.01250		88	40-140	3	30	
alpha-Chlordane	0.0104	0.0025	mg/kg wet	0.01250		84	40-140	3	30	
alpha-Chlordane [2C]	0.0105	0.0025	mg/kg wet	0.01250		84	40-140	4	30	
beta-BHC	0.0105	0.0025	mg/kg wet	0.01250		84	40-140	1	30	
beta-BHC [2C]	0.0108	0.0025	mg/kg wet	0.01250		87	40-140	3	30	
delta-BHC	0.0112	0.0025	mg/kg wet	0.01250		90	40-140	3	30	
delta-BHC [2C]	0.0111	0.0025	mg/kg wet	0.01250		89	40-140	4	30	
Dieldrin	0.0114	0.0025	mg/kg wet	0.01250		91	40-140	5	30	
Dieldrin [2C]	0.0116	0.0025	mg/kg wet	0.01250		93	40-140	4	30	
Endosulfan I	0.0102	0.0025	mg/kg wet	0.01250		82	40-140	3	30	
Endosulfan I [2C]	0.0104	0.0025	mg/kg wet	0.01250		83	40-140	4	30	
Endosulfan II	0.0116	0.0025	mg/kg wet	0.01250		93	40-140	7	30	
Endosulfan II [2C]	0.0112	0.0025	mg/kg wet	0.01250		89	40-140	5	30	
Endosulfan Sulfate	0.0110	0.0025	mg/kg wet	0.01250		88	40-140	9	30	
Endosulfan Sulfate [2C]	0.0106	0.0025	mg/kg wet	0.01250		85	40-140	6	30	
Endrin	0.0113	0.0025	mg/kg wet	0.01250		90	40-140	6	30	
Endrin [2C]	0.0110	0.0025	mg/kg wet	0.01250		88	40-140	4	30	
Endrin Aldehyde	0.0115	0.0025	mg/kg wet	0.01250		92	40-140	9	30	
Endrin Aldehyde [2C]	0.0114	0.0025	mg/kg wet	0.01250		91	40-140	8	30	
Endrin Ketone	0.0113	0.0025	mg/kg wet	0.01250		91	40-140	6	30	
Endrin Ketone [2C]	0.0108	0.0025	mg/kg wet	0.01250		87	40-140	5	30	
gamma-BHC (Lindane)	0.0111	0.0015	mg/kg wet	0.01250		88	40-140	2	30	
gamma-BHC (Lindane) [2C]	0.0113	0.0015	mg/kg wet	0.01250		90	40-140	3	30	
gamma-Chlordane	0.0105	0.0025	mg/kg wet	0.01250		84	40-140	3	30	
gamma-Chlordane [2C]	0.0107	0.0025	mg/kg wet	0.01250		86	40-140	4	30	
Heptachlor	0.0104	0.0025	mg/kg wet	0.01250		83	40-140	2	30	
Heptachlor [2C]	0.0108	0.0025	mg/kg wet	0.01250		87	40-140	3	30	
Heptachlor Epoxide	0.0107	0.0025	mg/kg wet	0.01250		85	40-140	3	30	
Heptachlor Epoxide [2C]	0.0107	0.0025	mg/kg wet	0.01250		86	40-140	3	30	
Hexachlorobenzene	0.0106	0.0025	mg/kg wet	0.01250		85	40-140	2	30	
Hexachlorobenzene [2C]	0.0105	0.0025	mg/kg wet	0.01250		84	40-140	3	30	
Methoxychlor	0.0108	0.0025	mg/kg wet	0.01250		87	40-140	8	30	
Methoxychlor [2C]	0.0101	0.0025	mg/kg wet	0.01250		81	40-140	5	30	
Surrogate: Decachlorobiphenyl	*0.0105*		mg/kg wet	*0.01250*		*84*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0106*		mg/kg wet	*0.01250*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0111*		mg/kg wet	*0.01250*		*89*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0110*		mg/kg wet	*0.01250*		*88*	*30-150*			
8082A Polychlorinated Biphenyls (PCB)										
Batch DF30502 - 3540C										

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23F0094

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF30502 - 3540C										
Blank										
Aroclor 1016	ND	0.02	mg/kg wet							
Aroclor 1016 [2C]	ND	0.02	mg/kg wet							
Aroclor 1221	ND	0.02	mg/kg wet							
Aroclor 1221 [2C]	ND	0.02	mg/kg wet							
Aroclor 1232	ND	0.02	mg/kg wet							
Aroclor 1232 [2C]	ND	0.02	mg/kg wet							
Aroclor 1242	ND	0.02	mg/kg wet							
Aroclor 1242 [2C]	ND	0.02	mg/kg wet							
Aroclor 1248	ND	0.02	mg/kg wet							
Aroclor 1248 [2C]	ND	0.02	mg/kg wet							
Aroclor 1254	ND	0.02	mg/kg wet							
Aroclor 1254 [2C]	ND	0.02	mg/kg wet							
Aroclor 1260	ND	0.02	mg/kg wet							
Aroclor 1260 [2C]	ND	0.02	mg/kg wet							
Aroclor 1262	ND	0.02	mg/kg wet							
Aroclor 1262 [2C]	ND	0.02	mg/kg wet							
Aroclor 1268	ND	0.02	mg/kg wet							
Aroclor 1268 [2C]	ND	0.02	mg/kg wet							
Surrogate: Decachlorobiphenyl	*ND*		mg/kg wet	*0.02500*		*73*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*ND*		mg/kg wet	*0.02500*		*79*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*ND*		mg/kg wet	*0.02500*		*67*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*ND*		mg/kg wet	*0.02500*		*72*	*30-150*			
LCS										
Aroclor 1016	0.4	0.02	mg/kg wet	0.5000		84	40-140			
Aroclor 1016 [2C]	0.4	0.02	mg/kg wet	0.5000		87	40-140			
Aroclor 1260	0.4	0.02	mg/kg wet	0.5000		89	40-140			
Aroclor 1260 [2C]	0.5	0.02	mg/kg wet	0.5000		93	40-140			
Surrogate: Decachlorobiphenyl	*0.0207*		mg/kg wet	*0.02500*		*83*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0223*		mg/kg wet	*0.02500*		*89*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0198*		mg/kg wet	*0.02500*		*79*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0200*		mg/kg wet	*0.02500*		*80*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.02	mg/kg wet	0.5000		84	40-140	0.1	30	
Aroclor 1016 [2C]	0.4	0.02	mg/kg wet	0.5000		85	40-140	2	30	
Aroclor 1260	0.4	0.02	mg/kg wet	0.5000		88	40-140	1	30	
Aroclor 1260 [2C]	0.4	0.02	mg/kg wet	0.5000		89	40-140	4	30	
Surrogate: Decachlorobiphenyl	*0.0199*		mg/kg wet	*0.02500*		*80*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0214*		mg/kg wet	*0.02500*		*86*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0195*		mg/kg wet	*0.02500*		*78*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0193*		mg/kg wet	*0.02500*		*77*	*30-150*			
Batch DF30729 - 3540C										

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23F0094

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF30729 - 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	*0.0185*		mg/kg wet	*0.02500*		*74*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0221*		mg/kg wet	*0.02500*		*88*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0185*		mg/kg wet	*0.02500*		*74*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0198*		mg/kg wet	*0.02500*		*79*	*30-150*			
LCS										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		84	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		88	40-140			
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		85	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		88	40-140			
Surrogate: Decachlorobiphenyl	*0.0200*		mg/kg wet	*0.02500*		*80*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0225*		mg/kg wet	*0.02500*		*90*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0208*		mg/kg wet	*0.02500*		*83*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0215*		mg/kg wet	*0.02500*		*86*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		83	40-140	2	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		87	40-140	2	30	
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		86	40-140	1	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		89	40-140	1	30	
Surrogate: Decachlorobiphenyl	*0.0198*		mg/kg wet	*0.02500*		*79*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0222*		mg/kg wet	*0.02500*		*89*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0196*		mg/kg wet	*0.02500*		*78*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0201*		mg/kg wet	*0.02500*		*81*	*30-150*			
Batch DF30754 - 3540C										

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23F0094

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF30754 - 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	*0.0205*		mg/kg wet	*0.02500*		*82*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0220*		mg/kg wet	*0.02500*		*88*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0200*		mg/kg wet	*0.02500*		*80*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0206*		mg/kg wet	*0.02500*		*82*	*30-150*			
LCS										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		104	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		97	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		105	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		107	40-140			
Surrogate: Decachlorobiphenyl	*0.0239*		mg/kg wet	*0.02500*		*96*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0261*		mg/kg wet	*0.02500*		*104*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0247*		mg/kg wet	*0.02500*		*99*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0243*		mg/kg wet	*0.02500*		*97*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		98	40-140	6	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		92	40-140	6	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		99	40-140	6	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		100	40-140	7	30	
Surrogate: Decachlorobiphenyl	*0.0223*		mg/kg wet	*0.02500*		*89*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0239*		mg/kg wet	*0.02500*		*96*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0231*		mg/kg wet	*0.02500*		*93*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0228*		mg/kg wet	*0.02500*		*91*	*30-150*			
Batch DF30906 - 3540C										

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23F0094

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF30906 - 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	*0.0180*		mg/kg wet	*0.02500*		*72*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0183*		mg/kg wet	*0.02500*		*73*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0159*		mg/kg wet	*0.02500*		*63*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0172*		mg/kg wet	*0.02500*		*69*	*30-150*			
LCS										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		82	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		86	40-140			
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		87	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		90	40-140			
Surrogate: Decachlorobiphenyl	*0.0199*		mg/kg wet	*0.02500*		*80*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0203*		mg/kg wet	*0.02500*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0191*		mg/kg wet	*0.02500*		*76*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0194*		mg/kg wet	*0.02500*		*78*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		82	40-140	0.09	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		85	40-140	0.2	30	
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		87	40-140	0.1	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		90	40-140	0.4	30	
Surrogate: Decachlorobiphenyl	*0.0200*		mg/kg wet	*0.02500*		*80*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0206*		mg/kg wet	*0.02500*		*82*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0190*		mg/kg wet	*0.02500*		*76*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0193*		mg/kg wet	*0.02500*		*77*	*30-150*			
8100M Total Petroleum Hydrocarbons										

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23F0094

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8100M Total Petroleum Hydrocarbons										
Batch DF30544 - 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 (C9-C36)	ND	10.0	mg/kg wet							
Triacontane (C30)	ND	0.2	mg/kg wet							
Surrogate: O-Terphenyl	*3.81*		mg/kg wet	*5.000*		*76*	*40-140*			
LCS										
Decane (C10)	1.9	0.2	mg/kg wet	2.500		75	40-140			
Docosane (C22)	2.0	0.2	mg/kg wet	2.500		80	40-140			
Dodecane (C12)	1.9	0.2	mg/kg wet	2.500		77	40-140			
Eicosane (C20)	1.9	0.2	mg/kg wet	2.500		78	40-140			
Hexacosane (C26)	2.1	0.2	mg/kg wet	2.500		84	40-140			
Hexadecane (C16)	2.0	0.2	mg/kg wet	2.500		79	40-140			
Hexatriacontane (C36)	2.5	0.2	mg/kg wet	2.500		100	40-140			
Nonadecane (C19)	2.1	0.2	mg/kg wet	2.500		84	40-140			
Nonane (C9)	1.7	0.2	mg/kg wet	2.500		67	30-140			
Octacosane (C28)	2.1	0.2	mg/kg wet	2.500		84	40-140			
Octadecane (C18)	2.0	0.2	mg/kg wet	2.500		79	40-140			
Tetracosane (C24)	1.9	0.2	mg/kg wet	2.500		74	40-140			
Tetradecane (C14)	1.9	0.2	mg/kg wet	2.500		77	40-140			
Total Petroleum Hydrocarbons (C9-C36)	28.8	10.0	mg/kg wet	35.00		82	40-140			
Triacontane (C30)	2.2	0.2	mg/kg wet	2.500		88	40-140			
Surrogate: O-Terphenyl	*3.88*		mg/kg wet	*5.000*		*78*	*40-140*			
LCS Dup										
Decane (C10)	2.0	0.2	mg/kg wet	2.500		78	40-140	3	25	
Docosane (C22)	2.1	0.2	mg/kg wet	2.500		84	40-140	6	25	
Dodecane (C12)	2.0	0.2	mg/kg wet	2.500		81	40-140	4	25	
Eicosane (C20)	2.1	0.2	mg/kg wet	2.500		82	40-140	6	25	
Hexacosane (C26)	2.2	0.2	mg/kg wet	2.500		88	40-140	5	25	
Hexadecane (C16)	2.1	0.2	mg/kg wet	2.500		83	40-140	4	25	
Hexatriacontane (C36)	2.6	0.2	mg/kg wet	2.500		103	40-140	3	25	
Nonadecane (C19)	2.1	0.2	mg/kg wet	2.500		86	40-140	2	25	

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23F0094

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8100M Total Petroleum Hydrocarbons										
Batch DF30544 - 3546										
Nonane (C9)	1.7	0.2	mg/kg wet	2.500		69	30-140	2	25	
Octacosane (C28)	2.2	0.2	mg/kg wet	2.500		88	40-140	4	25	
Octadecane (C18)	2.1	0.2	mg/kg wet	2.500		83	40-140	5	25	
Tetracosane (C24)	2.0	0.2	mg/kg wet	2.500		78	40-140	5	25	
Tetradecane (C14)	2.0	0.2	mg/kg wet	2.500		81	40-140	5	25	
Total Petroleum Hydrocarbons (C9-C36)	29.8	10.0	mg/kg wet	35.00		85	40-140	4	25	
Triacontane (C30)	2.3	0.2	mg/kg wet	2.500		92	40-140	4	25	
Surrogate: O-Terphenyl	*4.11*		mg/kg wet	*5.000*		*82*	*40-140*			
Batch DF30856 - 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 (C9-C36)	ND	10.0	mg/kg wet							
Triacontane (C30)	ND	0.2	mg/kg wet							
Surrogate: O-Terphenyl	*4.15*		mg/kg wet	*5.000*		*83*	*40-140*			
LCS										
Decane (C10)	1.8	0.2	mg/kg wet	2.500		70	40-140			
Docosane (C22)	2.0	0.2	mg/kg wet	2.500		79	40-140			
Dodecane (C12)	1.9	0.2	mg/kg wet	2.500		74	40-140			
Eicosane (C20)	1.9	0.2	mg/kg wet	2.500		78	40-140			
Hexacosane (C26)	2.1	0.2	mg/kg wet	2.500		82	40-140			
Hexadecane (C16)	1.9	0.2	mg/kg wet	2.500		78	40-140			
Hexatriacontane (C36)	2.5	0.2	mg/kg wet	2.500		99	40-140			
Nonadecane (C19)	2.0	0.2	mg/kg wet	2.500		78	40-140			
Nonane (C9)	1.5	0.2	mg/kg wet	2.500		61	30-140			
Octacosane (C28)	2.1	0.2	mg/kg wet	2.500		82	40-140			
Octadecane (C18)	1.9	0.2	mg/kg wet	2.500		77	40-140			
Tetracosane (C24)	1.8	0.2	mg/kg wet	2.500		73	40-140			
Tetradecane (C14)	1.9	0.2	mg/kg wet	2.500		75	40-140			
Total Petroleum Hydrocarbons (C9-C36)	28.3	10.0	mg/kg wet	35.00		81	40-140			
Triacontane (C30)	2.1	0.2	mg/kg wet	2.500		86	40-140			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23F0094

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8100M Total Petroleum Hydrocarbons										
Batch DF30856 - 3546										
Surrogate: O-Terphenyl	*3.93*		mg/kg wet	*5.000*		*79*	*40-140*			
LCS Dup										
Decane (C10)	1.8	0.2	mg/kg wet	2.500		70	40-140	0.04	25	
Docosane (C22)	1.9	0.2	mg/kg wet	2.500		78	40-140	2	25	
Dodecane (C12)	1.8	0.2	mg/kg wet	2.500		73	40-140	1	25	
Eicosane (C20)	1.9	0.2	mg/kg wet	2.500		76	40-140	3	25	
Hexacosane (C26)	2.0	0.2	mg/kg wet	2.500		81	40-140	2	25	
Hexadecane (C16)	1.9	0.2	mg/kg wet	2.500		76	40-140	2	25	
Hexatriacontane (C36)	2.4	0.2	mg/kg wet	2.500		98	40-140	2	25	
Nonadecane (C19)	1.9	0.2	mg/kg wet	2.500		75	40-140	4	25	
Nonane (C9)	1.6	0.2	mg/kg wet	2.500		62	30-140	1	25	
Octacosane (C28)	2.0	0.2	mg/kg wet	2.500		81	40-140	2	25	
Octadecane (C18)	1.9	0.2	mg/kg wet	2.500		75	40-140	3	25	
Tetracosane (C24)	1.8	0.2	mg/kg wet	2.500		71	40-140	2	25	
Tetradecane (C14)	1.9	0.2	mg/kg wet	2.500		74	40-140	1	25	
Total Petroleum Hydrocarbons (C9-C36)	27.8	10.0	mg/kg wet	35.00		79	40-140	2	25	
Triacontane (C30)	2.1	0.2	mg/kg wet	2.500		85	40-140	1	25	
Surrogate: O-Terphenyl	*3.78*		mg/kg wet	*5.000*		*76*	*40-140*			
8151A Chlorinated Herbicides										
Batch DF30545 - 3546										
Blank										
2,4,5-T	ND	0.010	mg/kg wet							
2,4,5-T [2C]	ND	0.010	mg/kg wet							
2,4,5-TP (Silvex)	ND	0.010	mg/kg wet							
2,4,5-TP (Silvex) [2C]	ND	0.010	mg/kg wet							
2,4-D	ND	0.047	mg/kg wet							
2,4-D [2C]	ND	0.047	mg/kg wet							
2,4-DB	ND	0.048	mg/kg wet							
2,4-DB [2C]	ND	0.048	mg/kg wet							
Dalapon	ND	0.046	mg/kg wet							
Dalapon [2C]	ND	0.046	mg/kg wet							
Dicamba	ND	0.009	mg/kg wet							
Dicamba [2C]	ND	0.009	mg/kg wet							
Dichlorprop	ND	0.047	mg/kg wet							
Dichlorprop [2C]	ND	0.047	mg/kg wet							
Dinoseb	ND	0.048	mg/kg wet							
Dinoseb [2C]	ND	0.048	mg/kg wet							
MCPA	ND	2.32	mg/kg wet							
MCPA [2C]	ND	2.32	mg/kg wet							
MCPP	ND	2.35	mg/kg wet							
MCPP [2C]	ND	2.35	mg/kg wet							
Surrogate: DCAA	*0.133*		mg/kg wet	*0.2000*		*67*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8151A Chlorinated Herbicides										
Batch DF30545 - 3546										
Surrogate: DCAA [2C]	*0.114*		mg/kg wet	*0.2000*		*57*	*30-150*			
LCS										
2,4,5-T	0.010	0.010	mg/kg wet	0.01900		50	40-140			
2,4,5-T [2C]	0.010	0.010	mg/kg wet	0.01900		50	40-140			
2,4,5-TP (Silvex)	0.010	0.010	mg/kg wet	0.01900		54	40-140			
2,4,5-TP (Silvex) [2C]	0.010	0.010	mg/kg wet	0.01900		52	40-140			
2,4-D	0.103	0.047	mg/kg wet	0.1880		55	40-140			
2,4-D [2C]	0.099	0.047	mg/kg wet	0.1880		53	40-140			
2,4-DB	0.109	0.048	mg/kg wet	0.1900		57	40-140			
2,4-DB [2C]	0.124	0.048	mg/kg wet	0.1900		65	40-140			
Dalapon	0.197	0.046	mg/kg wet	0.4550		43	40-140			
Dalapon [2C]	0.200	0.046	mg/kg wet	0.4550		44	40-140			
Dicamba	0.009	0.009	mg/kg wet	0.01880		46	40-140			
Dicamba [2C]	0.010	0.009	mg/kg wet	0.01880		52	40-140			
Dichlorprop	0.118	0.047	mg/kg wet	0.1880		63	40-140			
Dichlorprop [2C]	0.110	0.047	mg/kg wet	0.1880		58	40-140			
Dinoseb	0.011	0.048	mg/kg wet	0.09500		12	10-100			
Dinoseb [2C]	0.010	0.048	mg/kg wet	0.09500		11	10-100			
MCPA	12.5	2.32	mg/kg wet	18.60		67	40-140			
MCPA [2C]	12.6	2.32	mg/kg wet	18.60		68	40-140			
MCPP	11.2	2.35	mg/kg wet	18.80		60	40-140			
MCPP [2C]	11.2	2.35	mg/kg wet	18.80		60	40-140			
Surrogate: DCAA	*0.149*		mg/kg wet	*0.2000*		*75*	*30-150*			
Surrogate: DCAA [2C]	*0.123*		mg/kg wet	*0.2000*		*62*	*30-150*			
LCS Dup										
2,4,5-T	0.013	0.010	mg/kg wet	0.01900		70	40-140	33	30	D+
2,4,5-T [2C]	0.013	0.010	mg/kg wet	0.01900		66	40-140	28	30	
2,4,5-TP (Silvex)	0.014	0.010	mg/kg wet	0.01900		72	40-140	29	30	
2,4,5-TP (Silvex) [2C]	0.014	0.010	mg/kg wet	0.01900		72	40-140	32	30	D+
2,4-D	0.139	0.047	mg/kg wet	0.1880		74	40-140	30	30	
2,4-D [2C]	0.131	0.047	mg/kg wet	0.1880		70	40-140	27	30	
2,4-DB	0.148	0.048	mg/kg wet	0.1900		78	40-140	31	30	D+
2,4-DB [2C]	0.160	0.048	mg/kg wet	0.1900		84	40-140	25	30	
Dalapon	0.263	0.046	mg/kg wet	0.4550		58	40-140	28	30	
Dalapon [2C]	0.273	0.046	mg/kg wet	0.4550		60	40-140	31	30	D+
Dicamba	0.012	0.009	mg/kg wet	0.01880		64	40-140	33	30	D+
Dicamba [2C]	0.013	0.009	mg/kg wet	0.01880		68	40-140	27	30	
Dichlorprop	0.159	0.047	mg/kg wet	0.1880		85	40-140	30	30	
Dichlorprop [2C]	0.144	0.047	mg/kg wet	0.1880		76	40-140	27	30	
Dinoseb	0.014	0.048	mg/kg wet	0.09500		15	10-100	27	30	
Dinoseb [2C]	0.013	0.048	mg/kg wet	0.09500		14	10-100	23	30	
MCPA	17.1	2.32	mg/kg wet	18.60		92	40-140	30	30	
MCPA [2C]	16.1	2.32	mg/kg wet	18.60		87	40-140	25	30	

CERTIFICATE OF ANALYSIS

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ESS Laboratory Work Order: 23F0094

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8151A Chlorinated Herbicides										
Batch DF30545 - 3546										
MCPP	15.4	2.35	mg/kg wet	18.80		82	40-140	31	30	D+
MCPP [2C]	15.5	2.35	mg/kg wet	18.80		83	40-140	32	30	D+
Surrogate: DCAA	*0.180*		mg/kg wet	*0.2000*		*90*	*30-150*			
Surrogate: DCAA [2C]	*0.148*		mg/kg wet	*0.2000*		*74*	*30-150*			
Batch DF30864 - 3546										
Blank										
2,4,5-T	ND	0.010	mg/kg wet							
2,4,5-T [2C]	ND	0.010	mg/kg wet							
2,4,5-TP (Silvex)	ND	0.010	mg/kg wet							
2,4,5-TP (Silvex) [2C]	ND	0.010	mg/kg wet							
2,4-D	ND	0.047	mg/kg wet							
2,4-D [2C]	ND	0.047	mg/kg wet							
2,4-DB	ND	0.048	mg/kg wet							
2,4-DB [2C]	ND	0.048	mg/kg wet							
Dalapon	ND	0.046	mg/kg wet							
Dalapon [2C]	ND	0.046	mg/kg wet							
Dicamba	ND	0.009	mg/kg wet							
Dicamba [2C]	ND	0.009	mg/kg wet							
Dichlorprop	ND	0.047	mg/kg wet							
Dichlorprop [2C]	ND	0.047	mg/kg wet							
Dinoseb	ND	0.048	mg/kg wet							
Dinoseb [2C]	ND	0.048	mg/kg wet							
MCPA	ND	2.32	mg/kg wet							
MCPA [2C]	ND	2.32	mg/kg wet							
MCPP	ND	2.35	mg/kg wet							
MCPP [2C]	ND	2.35	mg/kg wet							
Surrogate: DCAA	*0.115*		mg/kg wet	*0.2000*		*57*	*30-150*			
Surrogate: DCAA [2C]	*0.113*		mg/kg wet	*0.2000*		*57*	*30-150*			
LCS										
2,4,5-T	0.010	0.010	mg/kg wet	0.01900		54	40-140			
2,4,5-T [2C]	0.010	0.010	mg/kg wet	0.01900		52	40-140			
2,4,5-TP (Silvex)	0.011	0.010	mg/kg wet	0.01900		58	40-140			
2,4,5-TP (Silvex) [2C]	0.011	0.010	mg/kg wet	0.01900		58	40-140			
2,4-D	0.101	0.047	mg/kg wet	0.1880		54	40-140			
2,4-D [2C]	0.102	0.047	mg/kg wet	0.1880		54	40-140			
2,4-DB	0.110	0.048	mg/kg wet	0.1900		58	40-140			
2,4-DB [2C]	0.107	0.048	mg/kg wet	0.1900		56	40-140			
Dalapon	0.218	0.046	mg/kg wet	0.4550		48	40-140			
Dalapon [2C]	0.210	0.046	mg/kg wet	0.4550		46	40-140			
Dicamba	0.011	0.009	mg/kg wet	0.01880		60	40-140			
Dicamba [2C]	0.010	0.009	mg/kg wet	0.01880		54	40-140			
Dichlorprop	0.122	0.047	mg/kg wet	0.1880		65	40-140			
Dichlorprop [2C]	0.116	0.047	mg/kg wet	0.1880		62	40-140			

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8151A Chlorinated Herbicides										
Batch DF30864 - 3546										
Dinoseb	0.011	0.048	mg/kg wet	0.09500		12	10-100			
Dinoseb [2C]	0.010	0.048	mg/kg wet	0.09500		10	10-100			
MCPA	11.6	2.32	mg/kg wet	18.60		63	40-140			
MCPA [2C]	13.3	2.32	mg/kg wet	18.60		71	40-140			
MCPP	11.3	2.35	mg/kg wet	18.80		60	40-140			
MCPP [2C]	10.8	2.35	mg/kg wet	18.80		57	40-140			
Surrogate: DCAA	*0.126*		mg/kg wet	*0.2000*		*63*	*30-150*			
Surrogate: DCAA [2C]	*0.126*		mg/kg wet	*0.2000*		*63*	*30-150*			
LCS Dup										
2,4,5-T	0.010	0.010	mg/kg wet	0.01900		54	40-140	0	30	
2,4,5-T [2C]	0.011	0.010	mg/kg wet	0.01900		56	40-140	7	30	
2,4,5-TP (Silvex)	0.011	0.010	mg/kg wet	0.01900		60	40-140	3	30	
2,4,5-TP (Silvex) [2C]	0.011	0.010	mg/kg wet	0.01900		60	40-140	3	30	
2,4-D	0.109	0.047	mg/kg wet	0.1880		58	40-140	8	30	
2,4-D [2C]	0.110	0.047	mg/kg wet	0.1880		59	40-140	8	30	
2,4-DB	0.117	0.048	mg/kg wet	0.1900		62	40-140	6	30	
2,4-DB [2C]	0.111	0.048	mg/kg wet	0.1900		58	40-140	3	30	
Dalapon	0.262	0.046	mg/kg wet	0.4550		58	40-140	18	30	
Dalapon [2C]	0.269	0.046	mg/kg wet	0.4550		59	40-140	25	30	
Dicamba	0.011	0.009	mg/kg wet	0.01880		60	40-140	0	30	
Dicamba [2C]	0.011	0.009	mg/kg wet	0.01880		56	40-140	4	30	
Dichlorprop	0.127	0.047	mg/kg wet	0.1880		68	40-140	4	30	
Dichlorprop [2C]	0.123	0.047	mg/kg wet	0.1880		65	40-140	5	30	
Dinoseb	0.010	0.048	mg/kg wet	0.09500		10	10-100	11	30	
Dinoseb [2C]	0.010	0.048	mg/kg wet	0.09500		10	10-100	4	30	
MCPA	13.3	2.32	mg/kg wet	18.60		72	40-140	13	30	
MCPA [2C]	14.4	2.32	mg/kg wet	18.60		77	40-140	8	30	
MCPP	12.6	2.35	mg/kg wet	18.80		67	40-140	11	30	
MCPP [2C]	11.5	2.35	mg/kg wet	18.80		61	40-140	6	30	
Surrogate: DCAA	*0.134*		mg/kg wet	*0.2000*		*67*	*30-150*			
Surrogate: DCAA [2C]	*0.132*		mg/kg wet	*0.2000*		*66*	*30-150*			
8270D Semi-Volatile Organic Compounds										
Batch DF30237 - 3546										
Blank										
1,1-Biphenyl	ND	0.025	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.250	mg/kg wet							
1,2-Dichlorobenzene	ND	0.250	mg/kg wet							
1,3-Dichlorobenzene	ND	0.250	mg/kg wet							
1,4-Dichlorobenzene	ND	0.250	mg/kg wet							
2,4,5-Trichlorophenol	ND	0.250	mg/kg wet							
2,4,6-Trichlorophenol	ND	0.250	mg/kg wet							
2,4-Dichlorophenol	ND	0.250	mg/kg wet							
2,4-Dimethylphenol	ND	0.250	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
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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 DF30237 - 3546										
2,4-Dinitrophenol	ND	1.00	mg/kg wet							
2,4-Dinitrotoluene	ND	0.250	mg/kg wet							
2,6-Dinitrotoluene	ND	0.250	mg/kg wet							
2-Chloronaphthalene	ND	0.250	mg/kg wet							
2-Chlorophenol	ND	0.250	mg/kg wet							
2-Methylnaphthalene	ND	0.250	mg/kg wet							
2-Methylphenol	ND	0.250	mg/kg wet							
2-Nitrophenol	ND	0.500	mg/kg wet							
3,3´-Dichlorobenzidine	ND	0.250	mg/kg wet							
3+4-Methylphenol	ND	0.250	mg/kg wet							
4-Bromophenyl-phenylether	ND	0.250	mg/kg wet							
4-Chloroaniline	ND	0.250	mg/kg wet							
4-Nitrophenol	ND	1.00	mg/kg wet							
Acenaphthene	ND	0.250	mg/kg wet							
Acenaphthylene	ND	0.250	mg/kg wet							
Acetophenone	ND	0.250	mg/kg wet							
Aniline	ND	0.250	mg/kg wet							
Anthracene	ND	0.250	mg/kg wet							
Azobenzene	ND	0.250	mg/kg wet							
Benzo(a)anthracene	ND	0.250	mg/kg wet							
Benzo(a)pyrene	ND	0.250	mg/kg wet							
Benzo(b)fluoranthene	ND	0.250	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.250	mg/kg wet							
Benzo(k)fluoranthene	ND	0.250	mg/kg wet							
bis(2-Chloroethoxy)methane	ND	0.250	mg/kg wet							
bis(2-Chloroethyl)ether	ND	0.250	mg/kg wet							
bis(2-chloroisopropyl)Ether	ND	0.250	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.250	mg/kg wet							
Butylbenzylphthalate	ND	0.250	mg/kg wet							
Chrysene	ND	0.250	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.250	mg/kg wet							
Dibenzofuran	ND	0.250	mg/kg wet							
Diethylphthalate	ND	0.250	mg/kg wet							
Dimethylphthalate	ND	0.250	mg/kg wet							
Di-n-butylphthalate	ND	0.250	mg/kg wet							
Di-n-octylphthalate	ND	0.500	mg/kg wet							
Fluoranthene	ND	0.250	mg/kg wet							
Fluorene	ND	0.250	mg/kg wet							
Hexachlorobenzene	ND	0.250	mg/kg wet							
Hexachlorobutadiene	ND	0.250	mg/kg wet							
Hexachloroethane	ND	0.250	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.250	mg/kg wet							
Isophorone	ND	0.250	mg/kg wet							
Naphthalene	ND	0.250	mg/kg wet							
Nitrobenzene	ND	0.250	mg/kg wet							
N-Nitrosodimethylamine	ND	0.250	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 DF30237 - 3546										
Pentachlorophenol	ND	1.00	mg/kg wet							
Phenanthrene	ND	0.250	mg/kg wet							
Phenol	ND	0.250	mg/kg wet							
Pyrene	ND	0.250	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*2.50*		mg/kg wet	*2.500*		*100*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*3.30*		mg/kg wet	*3.750*		*88*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.77*		mg/kg wet	*3.750*		*100*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.59*		mg/kg wet	*2.500*		*104*	*30-130*			
Surrogate: 2-Fluorophenol	*3.81*		mg/kg wet	*3.750*		*102*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.43*		mg/kg wet	*2.500*		*97*	*30-130*			
Surrogate: Phenol-d6	*3.75*		mg/kg wet	*3.750*		*100*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.85*		mg/kg wet	*2.500*		*114*	*30-130*			
LCS										
1,1-Biphenyl	2.30	0.025	mg/kg wet	2.500		92	40-140			
1,2,4-Trichlorobenzene	2.04	0.250	mg/kg wet	2.500		81	40-140			
1,2-Dichlorobenzene	2.27	0.250	mg/kg wet	2.500		91	40-140			
1,3-Dichlorobenzene	2.27	0.250	mg/kg wet	2.500		91	40-140			
1,4-Dichlorobenzene	2.30	0.250	mg/kg wet	2.500		92	40-140			
2,4,5-Trichlorophenol	2.55	0.250	mg/kg wet	2.500		102	30-130			
2,4,6-Trichlorophenol	2.43	0.250	mg/kg wet	2.500		97	30-130			
2,4-Dichlorophenol	2.09	0.250	mg/kg wet	2.500		83	30-130			
2,4-Dimethylphenol	2.05	0.250	mg/kg wet	2.500		82	30-130			
2,4-Dinitrophenol	1.83	1.00	mg/kg wet	2.500		73	30-130			
2,4-Dinitrotoluene	2.37	0.250	mg/kg wet	2.500		95	40-140			
2,6-Dinitrotoluene	2.30	0.250	mg/kg wet	2.500		92	40-140			
2-Chloronaphthalene	2.20	0.250	mg/kg wet	2.500		88	40-140			
2-Chlorophenol	2.31	0.250	mg/kg wet	2.500		92	30-130			
2-Methylnaphthalene	2.04	0.250	mg/kg wet	2.500		82	40-140			
2-Methylphenol	2.33	0.250	mg/kg wet	2.500		93	30-130			
2-Nitrophenol	1.93	0.500	mg/kg wet	2.500		77	30-130			
3,3´-Dichlorobenzidine	2.05	0.250	mg/kg wet	2.500		82	40-140			
3+4-Methylphenol	4.77	0.250	mg/kg wet	5.000		95	30-130			
4-Bromophenyl-phenylether	2.51	0.250	mg/kg wet	2.500		100	40-140			
4-Chloroaniline	1.93	0.250	mg/kg wet	2.500		77	40-140			
4-Nitrophenol	2.00	1.00	mg/kg wet	2.500		80	30-130			
Acenaphthene	2.35	0.250	mg/kg wet	2.500		94	40-140			
Acenaphthylene	2.37	0.250	mg/kg wet	2.500		95	40-140			
Acetophenone	2.23	0.250	mg/kg wet	2.500		89	40-140			
Aniline	1.86	0.250	mg/kg wet	2.500		74	40-140			
Anthracene	2.44	0.250	mg/kg wet	2.500		98	40-140			
Azobenzene	2.45	0.250	mg/kg wet	2.500		98	40-140			
Benzo(a)anthracene	2.48	0.250	mg/kg wet	2.500		99	40-140			
Benzo(a)pyrene	2.73	0.250	mg/kg wet	2.500		109	40-140			
Benzo(b)fluoranthene	2.38	0.250	mg/kg wet	2.500		95	40-140			
Benzo(g,h,i)perylene	2.36	0.250	mg/kg wet	2.500		94	40-140			
Benzo(k)fluoranthene	2.53	0.250	mg/kg wet	2.500		101	40-140			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23F0094

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DF30237 - 3546										
bis(2-Chloroethoxy)methane	1.93	0.250	mg/kg wet	2.500		77	40-140			
bis(2-Chloroethyl)ether	2.12	0.250	mg/kg wet	2.500		85	40-140			
bis(2-chloroisopropyl)Ether	2.04	0.250	mg/kg wet	2.500		82	40-140			
bis(2-Ethylhexyl)phthalate	2.41	0.250	mg/kg wet	2.500		97	40-140			
Butylbenzylphthalate	2.44	0.250	mg/kg wet	2.500		97	40-140			
Chrysene	2.52	0.250	mg/kg wet	2.500		101	40-140			
Dibenzo(a,h)Anthracene	2.47	0.250	mg/kg wet	2.500		99	40-140			
Dibenzofuran	2.37	0.250	mg/kg wet	2.500		95	40-140			
Diethylphthalate	2.51	0.250	mg/kg wet	2.500		101	40-140			
Dimethylphthalate	2.41	0.250	mg/kg wet	2.500		97	40-140			
Di-n-butylphthalate	2.63	0.250	mg/kg wet	2.500		105	40-140			
Di-n-octylphthalate	2.40	0.500	mg/kg wet	2.500		96	40-140			
Fluoranthene	2.51	0.250	mg/kg wet	2.500		100	40-140			
Fluorene	2.44	0.250	mg/kg wet	2.500		98	40-140			
Hexachlorobenzene	2.41	0.250	mg/kg wet	2.500		96	40-140			
Hexachlorobutadiene	2.05	0.250	mg/kg wet	2.500		82	40-140			
Hexachloroethane	2.26	0.250	mg/kg wet	2.500		90	40-140			
Indeno(1,2,3-cd)Pyrene	2.38	0.250	mg/kg wet	2.500		95	40-140			
Isophorone	1.91	0.250	mg/kg wet	2.500		76	40-140			
Naphthalene	1.95	0.250	mg/kg wet	2.500		78	40-140			
Nitrobenzene	2.04	0.250	mg/kg wet	2.500		82	40-140			
N-Nitrosodimethylamine	2.08	0.250	mg/kg wet	2.500		83	40-140			
Pentachlorophenol	2.27	1.00	mg/kg wet	2.500		91	30-130			
Phenanthrene	2.38	0.250	mg/kg wet	2.500		95	40-140			
Phenol	2.31	0.250	mg/kg wet	2.500		92	30-130			
Pyrene	2.63	0.250	mg/kg wet	2.500		105	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*2.41*		mg/kg wet	*2.500*		*96*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*3.78*		mg/kg wet	*3.750*		*101*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.66*		mg/kg wet	*3.750*		*98*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.49*		mg/kg wet	*2.500*		*100*	*30-130*			
Surrogate: 2-Fluorophenol	*3.69*		mg/kg wet	*3.750*		*99*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.18*		mg/kg wet	*2.500*		*87*	*30-130*			
Surrogate: Phenol-d6	*3.73*		mg/kg wet	*3.750*		*99*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.78*		mg/kg wet	*2.500*		*111*	*30-130*			
LCS Dup										
1,1-Biphenyl	2.34	0.025	mg/kg wet	2.500		94	40-140	2	30	
1,2,4-Trichlorobenzene	2.02	0.250	mg/kg wet	2.500		81	40-140	0.7	30	
1,2-Dichlorobenzene	2.21	0.250	mg/kg wet	2.500		88	40-140	3	30	
1,3-Dichlorobenzene	2.21	0.250	mg/kg wet	2.500		88	40-140	3	30	
1,4-Dichlorobenzene	2.22	0.250	mg/kg wet	2.500		89	40-140	4	30	
2,4,5-Trichlorophenol	2.57	0.250	mg/kg wet	2.500		103	30-130	0.7	30	
2,4,6-Trichlorophenol	2.46	0.250	mg/kg wet	2.500		98	30-130	1	30	
2,4-Dichlorophenol	2.05	0.250	mg/kg wet	2.500		82	30-130	2	30	
2,4-Dimethylphenol	2.04	0.250	mg/kg wet	2.500		82	30-130	0.5	30	
2,4-Dinitrophenol	1.88	1.00	mg/kg wet	2.500		75	30-130	2	30	
2,4-Dinitrotoluene	2.40	0.250	mg/kg wet	2.500		96	40-140	1	30	

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23F0094

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DF30237 - 3546										
2,6-Dinitrotoluene	2.35	0.250	mg/kg wet	2.500		94	40-140	2	30	
2-Chloronaphthalene	2.24	0.250	mg/kg wet	2.500		90	40-140	2	30	
2-Chlorophenol	2.28	0.250	mg/kg wet	2.500		91	30-130	1	30	
2-Methylnaphthalene	2.03	0.250	mg/kg wet	2.500		81	40-140	0.7	30	
2-Methylphenol	2.28	0.250	mg/kg wet	2.500		91	30-130	2	30	
2-Nitrophenol	1.95	0.500	mg/kg wet	2.500		78	30-130	0.9	30	
3,3´-Dichlorobenzidine	2.08	0.250	mg/kg wet	2.500		83	40-140	1	30	
3+4-Methylphenol	4.70	0.250	mg/kg wet	5.000		94	30-130	1	30	
4-Bromophenyl-phenylether	2.53	0.250	mg/kg wet	2.500		101	40-140	0.8	30	
4-Chloroaniline	1.94	0.250	mg/kg wet	2.500		78	40-140	0.8	30	
4-Nitrophenol	1.97	1.00	mg/kg wet	2.500		79	30-130	2	30	
Acenaphthene	2.33	0.250	mg/kg wet	2.500		93	40-140	1	30	
Acenaphthylene	2.37	0.250	mg/kg wet	2.500		95	40-140	0.09	30	
Acetophenone	2.23	0.250	mg/kg wet	2.500		89	40-140	0.2	30	
Aniline	1.84	0.250	mg/kg wet	2.500		74	40-140	1	30	
Anthracene	2.42	0.250	mg/kg wet	2.500		97	40-140	1	30	
Azobenzene	2.45	0.250	mg/kg wet	2.500		98	40-140	0.04	30	
Benzo(a)anthracene	2.44	0.250	mg/kg wet	2.500		98	40-140	1	30	
Benzo(a)pyrene	2.69	0.250	mg/kg wet	2.500		107	40-140	2	30	
Benzo(b)fluoranthene	2.32	0.250	mg/kg wet	2.500		93	40-140	3	30	
Benzo(g,h,i)perylene	2.41	0.250	mg/kg wet	2.500		96	40-140	2	30	
Benzo(k)fluoranthene	2.49	0.250	mg/kg wet	2.500		100	40-140	2	30	
bis(2-Chloroethoxy)methane	1.92	0.250	mg/kg wet	2.500		77	40-140	0.2	30	
bis(2-Chloroethyl)ether	2.09	0.250	mg/kg wet	2.500		84	40-140	2	30	
bis(2-chloroisopropyl)Ether	2.01	0.250	mg/kg wet	2.500		80	40-140	1	30	
bis(2-Ethylhexyl)phthalate	2.40	0.250	mg/kg wet	2.500		96	40-140	0.5	30	
Butylbenzylphthalate	2.41	0.250	mg/kg wet	2.500		97	40-140	1	30	
Chrysene	2.49	0.250	mg/kg wet	2.500		100	40-140	1	30	
Dibenzo(a,h)Anthracene	2.50	0.250	mg/kg wet	2.500		100	40-140	1	30	
Dibenzofuran	2.32	0.250	mg/kg wet	2.500		93	40-140	2	30	
Diethylphthalate	2.49	0.250	mg/kg wet	2.500		100	40-140	0.7	30	
Dimethylphthalate	2.41	0.250	mg/kg wet	2.500		97	40-140	0.04	30	
Di-n-butylphthalate	2.59	0.250	mg/kg wet	2.500		104	40-140	2	30	
Di-n-octylphthalate	2.32	0.500	mg/kg wet	2.500		93	40-140	4	30	
Fluoranthene	2.46	0.250	mg/kg wet	2.500		98	40-140	2	30	
Fluorene	2.44	0.250	mg/kg wet	2.500		98	40-140	0.09	30	
Hexachlorobenzene	2.38	0.250	mg/kg wet	2.500		95	40-140	1	30	
Hexachlorobutadiene	2.05	0.250	mg/kg wet	2.500		82	40-140	0.2	30	
Hexachloroethane	2.19	0.250	mg/kg wet	2.500		88	40-140	3	30	
Indeno(1,2,3-cd)Pyrene	2.44	0.250	mg/kg wet	2.500		98	40-140	3	30	
Isophorone	1.90	0.250	mg/kg wet	2.500		76	40-140	0.3	30	
Naphthalene	1.91	0.250	mg/kg wet	2.500		76	40-140	2	30	
Nitrobenzene	2.02	0.250	mg/kg wet	2.500		81	40-140	1	30	
N-Nitrosodimethylamine	2.06	0.250	mg/kg wet	2.500		82	40-140	1	30	
Pentachlorophenol	2.33	1.00	mg/kg wet	2.500		93	30-130	3	30	
Phenanthrene	2.36	0.250	mg/kg wet	2.500		94	40-140	1	30	

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23F0094

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DF30237 - 3546										
Phenol	2.28	0.250	mg/kg wet	2.500		91	30-130	1	30	
Pyrene	2.57	0.250	mg/kg wet	2.500		103	40-140	2	30	
Surrogate: 1,2-Dichlorobenzene-d4	*2.32*		mg/kg wet	*2.500*		*93*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*3.71*		mg/kg wet	*3.750*		*99*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.50*		mg/kg wet	*3.750*		*93*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.50*		mg/kg wet	*2.500*		*100*	*30-130*			
Surrogate: 2-Fluorophenol	*3.57*		mg/kg wet	*3.750*		*95*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.12*		mg/kg wet	*2.500*		*85*	*30-130*			
Surrogate: Phenol-d6	*3.57*		mg/kg wet	*3.750*		*95*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.66*		mg/kg wet	*2.500*		*106*	*30-130*			
Batch DF30942 - 3546										
Blank										
1,1-Biphenyl	ND	0.025	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.250	mg/kg wet							
1,2-Dichlorobenzene	ND	0.250	mg/kg wet							
1,3-Dichlorobenzene	ND	0.250	mg/kg wet							
1,4-Dichlorobenzene	ND	0.250	mg/kg wet							
2,4,5-Trichlorophenol	ND	0.250	mg/kg wet							
2,4,6-Trichlorophenol	ND	0.250	mg/kg wet							
2,4-Dichlorophenol	ND	0.250	mg/kg wet							
2,4-Dimethylphenol	ND	0.250	mg/kg wet							
2,4-Dinitrophenol	ND	1.00	mg/kg wet							
2,4-Dinitrotoluene	ND	0.250	mg/kg wet							
2,6-Dinitrotoluene	ND	0.250	mg/kg wet							
2-Chloronaphthalene	ND	0.250	mg/kg wet							
2-Chlorophenol	ND	0.250	mg/kg wet							
2-Methylnaphthalene	ND	0.250	mg/kg wet							
2-Methylphenol	ND	0.250	mg/kg wet							
2-Nitrophenol	ND	0.500	mg/kg wet							
3,3´-Dichlorobenzidine	ND	0.250	mg/kg wet							
3+4-Methylphenol	ND	0.250	mg/kg wet							
4-Bromophenyl-phenylether	ND	0.250	mg/kg wet							
4-Chloroaniline	ND	0.250	mg/kg wet							
4-Nitrophenol	ND	1.00	mg/kg wet							
Acenaphthene	ND	0.250	mg/kg wet							
Acenaphthylene	ND	0.250	mg/kg wet							
Acetophenone	ND	0.250	mg/kg wet							
Aniline	ND	0.250	mg/kg wet							
Anthracene	ND	0.250	mg/kg wet							
Azobenzene	ND	0.250	mg/kg wet							
Benzo(a)anthracene	ND	0.250	mg/kg wet							
Benzo(a)pyrene	ND	0.250	mg/kg wet							
Benzo(b)fluoranthene	ND	0.250	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.250	mg/kg wet							
Benzo(k)fluoranthene	ND	0.250	mg/kg wet							
bis(2-Chloroethoxy)methane	ND	0.250	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
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ESS Laboratory Work Order: 23F0094

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DF30942 - 3546										
bis(2-Chloroethyl)ether	ND	0.250	mg/kg wet							
bis(2-chloroisopropyl)Ether	ND	0.250	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.250	mg/kg wet							
Butylbenzylphthalate	ND	0.250	mg/kg wet							
Chrysene	ND	0.250	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.250	mg/kg wet							
Dibenzofuran	ND	0.250	mg/kg wet							
Diethylphthalate	ND	0.250	mg/kg wet							
Dimethylphthalate	ND	0.250	mg/kg wet							
Di-n-butylphthalate	ND	0.250	mg/kg wet							
Di-n-octylphthalate	ND	0.500	mg/kg wet							
Fluoranthene	ND	0.250	mg/kg wet							
Fluorene	ND	0.250	mg/kg wet							
Hexachlorobenzene	ND	0.250	mg/kg wet							
Hexachlorobutadiene	ND	0.250	mg/kg wet							
Hexachloroethane	ND	0.250	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.250	mg/kg wet							
Isophorone	ND	0.250	mg/kg wet							
Naphthalene	ND	0.250	mg/kg wet							
Nitrobenzene	ND	0.250	mg/kg wet							
N-Nitrosodimethylamine	ND	0.250	mg/kg wet							
Pentachlorophenol	ND	1.00	mg/kg wet							
Phenanthrene	ND	0.250	mg/kg wet							
Phenol	ND	0.250	mg/kg wet							
Pyrene	ND	0.250	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*2.58*		mg/kg wet	*2.500*		*103*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*3.88*		mg/kg wet	*3.750*		*103*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*4.01*		mg/kg wet	*3.750*		*107*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.72*		mg/kg wet	*2.500*		*109*	*30-130*			
Surrogate: 2-Fluorophenol	*3.98*		mg/kg wet	*3.750*		*106*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.84*		mg/kg wet	*2.500*		*114*	*30-130*			
Surrogate: Phenol-d6	*4.14*		mg/kg wet	*3.750*		*111*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.02*		mg/kg wet	*2.500*		*121*	*30-130*			
LCS										
1,1-Biphenyl	2.13	0.025	mg/kg wet	2.500		85	40-140			
1,2,4-Trichlorobenzene	1.81	0.250	mg/kg wet	2.500		72	40-140			
1,2-Dichlorobenzene	2.04	0.250	mg/kg wet	2.500		81	40-140			
1,3-Dichlorobenzene	1.99	0.250	mg/kg wet	2.500		80	40-140			
1,4-Dichlorobenzene	2.06	0.250	mg/kg wet	2.500		83	40-140			
2,4,5-Trichlorophenol	2.20	0.250	mg/kg wet	2.500		88	30-130			
2,4,6-Trichlorophenol	2.17	0.250	mg/kg wet	2.500		87	30-130			
2,4-Dichlorophenol	2.00	0.250	mg/kg wet	2.500		80	30-130			
2,4-Dimethylphenol	2.02	0.250	mg/kg wet	2.500		81	30-130			
2,4-Dinitrophenol	1.32	1.00	mg/kg wet	2.500		53	30-130			
2,4-Dinitrotoluene	2.33	0.250	mg/kg wet	2.500		93	40-140			
2,6-Dinitrotoluene	2.30	0.250	mg/kg wet	2.500		92	40-140			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23F0094

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DF30942 - 3546										
2-Chloronaphthalene	2.26	0.250	mg/kg wet	2.500		90	40-140			
2-Chlorophenol	2.16	0.250	mg/kg wet	2.500		86	30-130			
2-Methylnaphthalene	1.96	0.250	mg/kg wet	2.500		78	40-140			
2-Methylphenol	2.13	0.250	mg/kg wet	2.500		85	30-130			
2-Nitrophenol	1.87	0.500	mg/kg wet	2.500		75	30-130			
3,3´-Dichlorobenzidine	2.07	0.250	mg/kg wet	2.500		83	40-140			
3+4-Methylphenol	4.54	0.250	mg/kg wet	5.000		91	30-130			
4-Bromophenyl-phenylether	2.19	0.250	mg/kg wet	2.500		88	40-140			
4-Chloroaniline	2.00	0.250	mg/kg wet	2.500		80	40-140			
4-Nitrophenol	1.98	1.00	mg/kg wet	2.500		79	30-130			
Acenaphthene	2.19	0.250	mg/kg wet	2.500		87	40-140			
Acenaphthylene	2.33	0.250	mg/kg wet	2.500		93	40-140			
Acetophenone	2.09	0.250	mg/kg wet	2.500		84	40-140			
Aniline	2.10	0.250	mg/kg wet	2.500		84	40-140			
Anthracene	2.34	0.250	mg/kg wet	2.500		94	40-140			
Azobenzene	2.32	0.250	mg/kg wet	2.500		93	40-140			
Benzo(a)anthracene	2.47	0.250	mg/kg wet	2.500		99	40-140			
Benzo(a)pyrene	2.48	0.250	mg/kg wet	2.500		99	40-140			
Benzo(b)fluoranthene	2.27	0.250	mg/kg wet	2.500		91	40-140			
Benzo(g,h,i)perylene	2.35	0.250	mg/kg wet	2.500		94	40-140			
Benzo(k)fluoranthene	2.12	0.250	mg/kg wet	2.500		85	40-140			
bis(2-Chloroethoxy)methane	1.81	0.250	mg/kg wet	2.500		72	40-140			
bis(2-Chloroethyl)ether	1.88	0.250	mg/kg wet	2.500		75	40-140			
bis(2-chloroisopropyl)Ether	1.83	0.250	mg/kg wet	2.500		73	40-140			
bis(2-Ethylhexyl)phthalate	2.17	0.250	mg/kg wet	2.500		87	40-140			
Butylbenzylphthalate	2.17	0.250	mg/kg wet	2.500		87	40-140			
Chrysene	2.32	0.250	mg/kg wet	2.500		93	40-140			
Dibenzo(a,h)Anthracene	2.41	0.250	mg/kg wet	2.500		96	40-140			
Dibenzofuran	2.20	0.250	mg/kg wet	2.500		88	40-140			
Diethylphthalate	2.28	0.250	mg/kg wet	2.500		91	40-140			
Dimethylphthalate	2.24	0.250	mg/kg wet	2.500		89	40-140			
Di-n-butylphthalate	2.38	0.250	mg/kg wet	2.500		95	40-140			
Di-n-octylphthalate	2.21	0.500	mg/kg wet	2.500		88	40-140			
Fluoranthene	2.48	0.250	mg/kg wet	2.500		99	40-140			
Fluorene	2.29	0.250	mg/kg wet	2.500		92	40-140			
Hexachlorobenzene	2.16	0.250	mg/kg wet	2.500		86	40-140			
Hexachlorobutadiene	1.83	0.250	mg/kg wet	2.500		73	40-140			
Hexachloroethane	2.04	0.250	mg/kg wet	2.500		82	40-140			
Indeno(1,2,3-cd)Pyrene	2.33	0.250	mg/kg wet	2.500		93	40-140			
Isophorone	1.89	0.250	mg/kg wet	2.500		75	40-140			
Naphthalene	1.85	0.250	mg/kg wet	2.500		74	40-140			
Nitrobenzene	1.96	0.250	mg/kg wet	2.500		78	40-140			
N-Nitrosodimethylamine	1.98	0.250	mg/kg wet	2.500		79	40-140			
Pentachlorophenol	2.08	1.00	mg/kg wet	2.500		83	30-130			
Phenanthrene	2.19	0.250	mg/kg wet	2.500		88	40-140			
Phenol	2.16	0.250	mg/kg wet	2.500		87	30-130			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23F0094

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DF30942 - 3546										
Pyrene	2.42	0.250	mg/kg wet	2.500		97	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*2.34*		mg/kg wet	*2.500*		*93*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*3.72*		mg/kg wet	*3.750*		*99*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.59*		mg/kg wet	*3.750*		*96*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.48*		mg/kg wet	*2.500*		*99*	*30-130*			
Surrogate: 2-Fluorophenol	*3.56*		mg/kg wet	*3.750*		*95*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.27*		mg/kg wet	*2.500*		*91*	*30-130*			
Surrogate: Phenol-d6	*3.78*		mg/kg wet	*3.750*		*101*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.68*		mg/kg wet	*2.500*		*107*	*30-130*			
LCS Dup										
1,1-Biphenyl	2.44	0.025	mg/kg wet	2.500		97	40-140	14	30	
1,2,4-Trichlorobenzene	2.04	0.250	mg/kg wet	2.500		81	40-140	12	30	
1,2-Dichlorobenzene	2.33	0.250	mg/kg wet	2.500		93	40-140	13	30	
1,3-Dichlorobenzene	2.28	0.250	mg/kg wet	2.500		91	40-140	13	30	
1,4-Dichlorobenzene	2.35	0.250	mg/kg wet	2.500		94	40-140	13	30	
2,4,5-Trichlorophenol	2.47	0.250	mg/kg wet	2.500		99	30-130	12	30	
2,4,6-Trichlorophenol	2.45	0.250	mg/kg wet	2.500		98	30-130	12	30	
2,4-Dichlorophenol	2.24	0.250	mg/kg wet	2.500		90	30-130	11	30	
2,4-Dimethylphenol	2.30	0.250	mg/kg wet	2.500		92	30-130	13	30	
2,4-Dinitrophenol	1.57	1.00	mg/kg wet	2.500		63	30-130	17	30	
2,4-Dinitrotoluene	2.67	0.250	mg/kg wet	2.500		107	40-140	14	30	
2,6-Dinitrotoluene	2.57	0.250	mg/kg wet	2.500		103	40-140	11	30	
2-Chloronaphthalene	2.58	0.250	mg/kg wet	2.500		103	40-140	13	30	
2-Chlorophenol	2.47	0.250	mg/kg wet	2.500		99	30-130	13	30	
2-Methylnaphthalene	2.19	0.250	mg/kg wet	2.500		88	40-140	11	30	
2-Methylphenol	2.43	0.250	mg/kg wet	2.500		97	30-130	13	30	
2-Nitrophenol	2.14	0.500	mg/kg wet	2.500		86	30-130	13	30	
3,3´-Dichlorobenzidine	2.38	0.250	mg/kg wet	2.500		95	40-140	14	30	
3+4-Methylphenol	5.10	0.250	mg/kg wet	5.000		102	30-130	12	30	
4-Bromophenyl-phenylether	2.51	0.250	mg/kg wet	2.500		100	40-140	14	30	
4-Chloroaniline	2.28	0.250	mg/kg wet	2.500		91	40-140	13	30	
4-Nitrophenol	2.22	1.00	mg/kg wet	2.500		89	30-130	11	30	
Acenaphthene	2.47	0.250	mg/kg wet	2.500		99	40-140	12	30	
Acenaphthylene	2.67	0.250	mg/kg wet	2.500		107	40-140	14	30	
Acetophenone	2.34	0.250	mg/kg wet	2.500		94	40-140	11	30	
Aniline	2.39	0.250	mg/kg wet	2.500		95	40-140	13	30	
Anthracene	2.66	0.250	mg/kg wet	2.500		107	40-140	13	30	
Azobenzene	2.62	0.250	mg/kg wet	2.500		105	40-140	12	30	
Benzo(a)anthracene	2.84	0.250	mg/kg wet	2.500		113	40-140	14	30	
Benzo(a)pyrene	2.90	0.250	mg/kg wet	2.500		116	40-140	16	30	
Benzo(b)fluoranthene	2.69	0.250	mg/kg wet	2.500		108	40-140	17	30	
Benzo(g,h,i)perylene	2.74	0.250	mg/kg wet	2.500		109	40-140	15	30	
Benzo(k)fluoranthene	2.45	0.250	mg/kg wet	2.500		98	40-140	15	30	
bis(2-Chloroethoxy)methane	2.05	0.250	mg/kg wet	2.500		82	40-140	12	30	
bis(2-Chloroethyl)ether	2.15	0.250	mg/kg wet	2.500		86	40-140	14	30	
bis(2-chloroisopropyl)Ether	2.15	0.250	mg/kg wet	2.500		86	40-140	16	30	

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23F0094

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DF30942 - 3546										
bis(2-Ethylhexyl)phthalate	2.46	0.250	mg/kg wet	2.500		98	40-140	13	30	
Butylbenzylphthalate	2.46	0.250	mg/kg wet	2.500		98	40-140	12	30	
Chrysene	2.69	0.250	mg/kg wet	2.500		107	40-140	15	30	
Dibenzo(a,h)Anthracene	2.83	0.250	mg/kg wet	2.500		113	40-140	16	30	
Dibenzofuran	2.49	0.250	mg/kg wet	2.500		100	40-140	12	30	
Diethylphthalate	2.61	0.250	mg/kg wet	2.500		104	40-140	14	30	
Dimethylphthalate	2.56	0.250	mg/kg wet	2.500		103	40-140	14	30	
Di-n-butylphthalate	2.70	0.250	mg/kg wet	2.500		108	40-140	12	30	
Di-n-octylphthalate	2.57	0.500	mg/kg wet	2.500		103	40-140	15	30	
Fluoranthene	2.80	0.250	mg/kg wet	2.500		112	40-140	12	30	
Fluorene	2.60	0.250	mg/kg wet	2.500		104	40-140	12	30	
Hexachlorobenzene	2.47	0.250	mg/kg wet	2.500		99	40-140	13	30	
Hexachlorobutadiene	2.10	0.250	mg/kg wet	2.500		84	40-140	14	30	
Hexachloroethane	2.34	0.250	mg/kg wet	2.500		94	40-140	14	30	
Indeno(1,2,3-cd)Pyrene	2.73	0.250	mg/kg wet	2.500		109	40-140	16	30	
Isophorone	2.09	0.250	mg/kg wet	2.500		83	40-140	10	30	
Naphthalene	2.08	0.250	mg/kg wet	2.500		83	40-140	12	30	
Nitrobenzene	2.20	0.250	mg/kg wet	2.500		88	40-140	12	30	
N-Nitrosodimethylamine	2.24	0.250	mg/kg wet	2.500		90	40-140	13	30	
Pentachlorophenol	2.33	1.00	mg/kg wet	2.500		93	30-130	12	30	
Phenanthrene	2.50	0.250	mg/kg wet	2.500		100	40-140	13	30	
Phenol	2.46	0.250	mg/kg wet	2.500		98	30-130	13	30	
Pyrene	2.77	0.250	mg/kg wet	2.500		111	40-140	13	30	
Surrogate: 1,2-Dichlorobenzene-d4	*2.60*		mg/kg wet	*2.500*		*104*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.07*		mg/kg wet	*3.750*		*109*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*4.04*		mg/kg wet	*3.750*		*108*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.78*		mg/kg wet	*2.500*		*111*	*30-130*			
Surrogate: 2-Fluorophenol	*4.01*		mg/kg wet	*3.750*		*107*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.47*		mg/kg wet	*2.500*		*99*	*30-130*			
Surrogate: Phenol-d6	*4.14*		mg/kg wet	*3.750*		*111*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.00*		mg/kg wet	*2.500*		*120*	*30-130*			
Classical Chemistry										
Batch DF30535 - General Preparation										
Blank										
Conductivity	ND	5	umhos/cm							
LCS										
Conductivity	1320		umhos/cm	1411		94	90-110			
Batch DF30540 - General Preparation										
Blank										
Reactive Cyanide	ND	2.0	mg/kg							
Reactive Sulfide	ND	2.0	mg/kg							
LCS										
Reactive Cyanide	4.2	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: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23F0094

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Classical Chemistry										
Batch DF30546 - General Preparation										
Reference										
Flashpoint	80		°F	81.00		99	97.9-102.1			
Batch DF30845 - 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 DF30866 - General Preparation										
Reference										
Flashpoint	81		°F	81.00		100	97.9-102.1			
Batch DF30919 - General Preparation										
Blank										
Conductivity	ND	5	umhos/cm							
LCS										
Conductivity	1320		umhos/cm	1411		94	90-110			

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street
ESS Laboratory Work Order: 23F0094

Notes and Definitions

P	Percent difference between primary and confirmation results exceeds 40% (P).
>	Greater than.
B+	Blank Spike recovery is above upper control limit (B+).
CD-	Continuing Calibration %Diff/Drift is below control limit (CD-).
CD+	Continuing Calibration %Diff/Drift is above control limit (CD+).
D	Diluted.
D+	Relative percent difference for duplicate is outside of criteria (D+).
E	Reported above the quantitation limit; Estimated value (E).
EL	Elevated Method Reporting Limits due to sample matrix (EL).
#	Modified result
LC	Lower value is used due to matrix interferences (LC).
Z18	Temperature is not within 23 +/-2 ºC.
Q	Calibration required quadratic regression (Q).
S+	Surrogate recovery(ies) above upper control limit (S+).
SM	Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).
U	Analyte included in the analysis, but not detected
WL	Results obtained from a deionized water leach of the sample.
XH	Peaks found in the retention time window for MCPP did not confirm by GC/MS.
Z-09	ND
Z-10	Soil pH measured in water at 21.3 ºC.
Z-10a	Soil pH measured in water at 21.4 ºC.
IC	Internal Standard(s) outside of criteria. Sample was reanalyzed to confirm (IC).
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 Probable Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: Tetra Tech, Inc.
Client Project ID: Massport - Cypher Street

ESS Laboratory Work Order: 23F0094

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

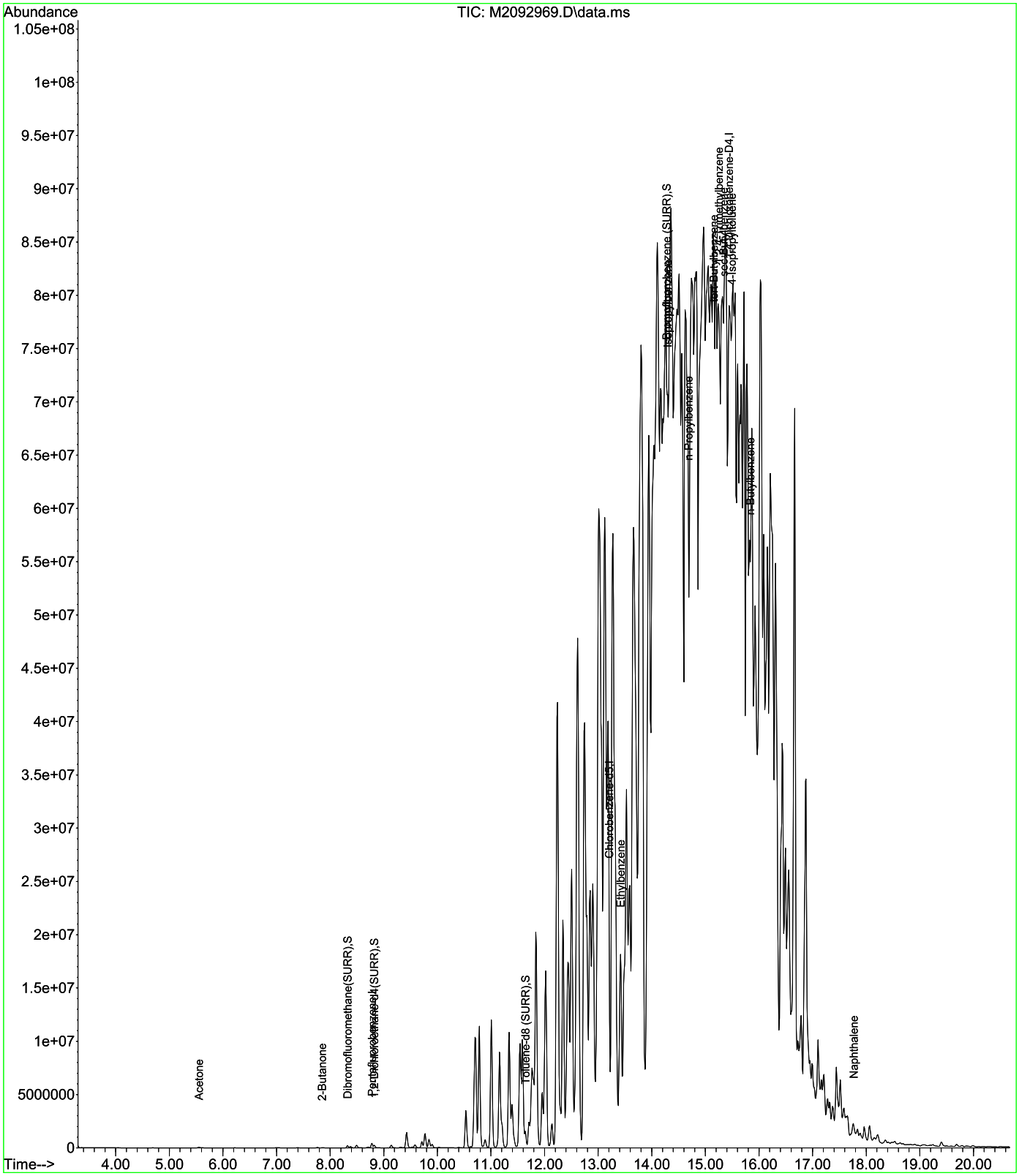
New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

Quantitation Report (QT Reviewed)

Data Path : Q:\VOA\MS2 MB\Mb0623\Mb060623\
Data File : M2092969.D
Acq On : 6 Jun 2023 8:29 pm
Operator : MEK
Sample : 23F0094-10
Misc :
InstName : VMS2
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Jun 07 08:37:31 2023
Quant Method : Q:\VOA\MS2 MB\MethodsMS2\LO060123.M
Quant Title : ELEMENT ID: 2304013
QLast Update : Tue Jun 06 08:47:09 2023
Response via : Initial Calibration



ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tetra Tech, Inc - ML

Shipped/Delivered Via: ESS Courier

ESS Project ID: 23F0094
Date Received: 6/2/2023
Project Due Date: 6/9/2023
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: 2.6 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/Acid Lot#:
    b. Low Level VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

Sample 12 added per ML.

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:

Resolution:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
1	437942	Yes	N/A	Yes	8 oz jar	NP	
1	437949	Yes	N/A	Yes	8 oz jar	NP	
2	437943	Yes	N/A	Yes	8 oz jar	NP	
2	437951	Yes	N/A	Yes	8 oz jar	NP	
3	437944	Yes	N/A	Yes	8 oz jar	NP	
4	437926	Yes	N/A	Yes	VOA Vial	DI Water	
4	437927	Yes	N/A	Yes	VOA Vial	DI Water	
4	437934	Yes	N/A	Yes	VOA Vial	MeOH	
4	437938	Yes	N/A	Yes	4 oz. Jar	NP	
5	437945	Yes	N/A	Yes	8 oz jar	NP	
5	437952	Yes	N/A	Yes	8 oz jar	NP	
6	437946	Yes	N/A	Yes	8 oz jar	NP	
6	437953	Yes	N/A	Yes	8 oz jar	NP	
7	437947	Yes	N/A	Yes	8 oz jar	NP	
7	437954	Yes	N/A	Yes	8 oz jar	NP	
8	437948	Yes	N/A	Yes	4 oz. Jar	NP	
8	438109	Yes	N/A	Yes	VOA Vial	MeOH	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tetra Tech, Inc - ML

ESS Project ID: 23F0094
Date Received: 6/2/2023

8	438110	Yes	N/A	Yes	VOA Vial	DI Water
8	438111	Yes	N/A	Yes	VOA Vial	DI Water
9	437928	Yes	N/A	Yes	VOA Vial	DI Water
9	437929	Yes	N/A	Yes	VOA Vial	DI Water
9	437935	Yes	N/A	Yes	VOA Vial	MeOH
9	437939	Yes	N/A	Yes	4 oz. Jar	NP
10	437930	Yes	N/A	Yes	VOA Vial	DI Water
10	437931	Yes	N/A	Yes	VOA Vial	DI Water
10	437936	Yes	N/A	Yes	VOA Vial	MeOH
10	437940	Yes	N/A	Yes	4 oz. Jar	NP
11	437941	Yes	N/A	Yes	8 oz jar	NP
12	439896	Yes	N/A	Yes	8 oz jar	NP
12	439897	Yes	N/A	Yes	8 oz jar	NP

2nd Review

Were all containers scanned into storage/lab? Initials TD

Are barcode labels on correct containers? Yes / No

Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA

Are all Hex Chrome stickers attached? Yes / No / NA

Are all QC stickers attached? Yes / No / NA

Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: [signature] Date & Time: 6/8/23 1305.

Reviewed By: [signature] Date & Time: 6/8/23 1332

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tetra Tech, Inc - ML

Shipped/Delivered Via: ESS Courier

ESS Project ID: 23F0094
Date Received: 6/2/2023
Project Due Date: 6/9/2023
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: 2.6 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/Acid Lot#:
    b. Low Level VOA vials frozen: Date: 6/2/23 Time: 1715 By: TO

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:

Resolution:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
1	437942	Yes	N/A	Yes	8 oz jar	NP	
1	437949	Yes	N/A	Yes	8 oz jar	NP	
2	437943	Yes	N/A	Yes	8 oz jar	NP	
2	437951	Yes	N/A	Yes	8 oz jar	NP	
3	437944	Yes	N/A	Yes	8 oz jar	NP	
4	437926	Yes	N/A	Yes	VOA Vial	DI Water	
4	437927	Yes	N/A	Yes	VOA Vial	DI Water	
4	437934	Yes	N/A	Yes	VOA Vial	MeOH	
4	437938	Yes	N/A	Yes	4 oz. Jar	NP	
5	437945	Yes	N/A	Yes	8 oz jar	NP	
5	437952	Yes	N/A	Yes	8 oz jar	NP	
6	437946	Yes	N/A	Yes	8 oz jar	NP	
6	437953	Yes	N/A	Yes	8 oz jar	NP	
7	437947	Yes	N/A	Yes	8 oz jar	NP	
7	437954	Yes	N/A	Yes	8 oz jar	NP	
8	437948	Yes	N/A	Yes	4 oz. Jar	NP	
8	438109	Yes	N/A	Yes	VOA Vial	MeOH	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tetra Tech, Inc - ML

ESS Project ID: 23F0094
Date Received: 6/2/2023

8	438110	Yes	N/A	Yes	VOA Vial	DI Water
8	438111	Yes	N/A	Yes	VOA Vial	DI Water
9	437928	Yes	N/A	Yes	VOA Vial	DI Water
9	437929	Yes	N/A	Yes	VOA Vial	DI Water
9	437935	Yes	N/A	Yes	VOA Vial	MeOH
9	437939	Yes	N/A	Yes	4 oz. Jar	NP
10	437930	Yes	N/A	Yes	VOA Vial	DI Water
10	437931	Yes	N/A	Yes	VOA Vial	DI Water
10	437936	Yes	N/A	Yes	VOA Vial	MeOH
10	437940	Yes	N/A	Yes	4 oz. Jar	NP
11	437941	Yes	N/A	Yes	8 oz jar	NP

2nd Review

Were all containers scanned into storage/lab?	Initials MC	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: [signature] Date & Time: 6/2/23 1650

Reviewed By: [signature] Date & Time: 6/2/23. 1715.

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02910
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 23F0094

Turn Time (Days) ☑ > 5 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: MA Criteria: RCS-1

Is this project for any of the following?:
☐ CT RCP ☑ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)
☐ Limit Checker ☐ State Forms ☐ EQuIS
☑ Excel ☐ State Upload ☐ Enviro Data
☐ CLP-Like Package ☑ Other (Specify) → Tetra Tech Excel format

CLIENT INFORMATION

Client: Tetra Tech
Address: 100 Nickerson Rd.
Marlborough, MA 01752
Phone: 508-782-4937 (Karl Seibert)
Email Distribution List: karl.seibert@tetratech.com
william.phelps@tetratech.com

PROJECT INFORMATION

Project Name: Massport - Cypher Street
Project Location: South Boston, Massachusetts
Project Number: 143-278997-23002
Project Manager: William Phelps, Karl Seibert
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	VOCs (8260) High	VOCs (8260) Low	RCRA 8 metals, SVOCs (8270), flashpoint	Reactivity, conductivity, pH	PCBs by Soxhlet Extraction	Total Solids	Pesticides/Herbicides	TPH	Total Number of Bottles
1	6/1/23	11:40pm	comp	soil	TT-121 (3-6')			X	X	X		X	X	2
2	6/1/23	11:55pm	comp		TT-121 (6-8')			X	X	X		X	X	2
3	6/2/23	11:55am	comp		TT-121C (0-3')								X	1
11	6/2/23	12:40pm	comp		TT-121C (3-6')								X	1
4	6/2/23	11:45am	grab		TT-121C (2')	X	X				X			4
5	6/1/23	1030	COMP	SOIL	TT-117 B/C (10-15)			X	X	X		X	X	2
6	5/31/23	1300	COMP	SOIL	TT-118 B/C (10-15)			X	X	X		X	X	2
7	6/2/23	1000	COMP	SOIL	~~TT-119A~~ FS TT-119A/C (10-15)			X	X	X		X	X	2
8	6/2/23	930	GRAB	SOIL	TT-120A (11')	X	X				X			4
9	6/2/23	1020	GRAB	SOIL	TT-119C (14')	X	X				X			4
Container Type:	AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial					V	V	AG	AG	AG	AG	AG	AG	
Container Volume:	1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*					7	7	10	10	10	8	10	10	
Preservation Code:	1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*					6	10	1	1	1	1	1	1	

Sampled by : K Seibert D Hermon

Chain needs to be filled out neatly and completely for on time delivery.

Laboratory Use Only
Cooler Temperature (°C): 2.6
on ice

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration
☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
Karl Seibert	6/2/23	1410	6/2/23 1410		6/2/23	1559	
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02910
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 23F0094

Turn Time (Days) ☑ > 5 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: MA Criteria: RCS-1

Is this project for any of the following?: ☐ CT RCP ☑ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)

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10	6/2/23	1:50pm	grab	Soil	TT-121C (7')	X	X				X			4
12	6/2/23	0745	GrAB	Soil	TT-120 (10-12)			X	X	X		X	X	
					ML - 6/8/23									
Container Type:	AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial					V	V	AG	AG	AG	AG	AG	AG	
Container Volume:	1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*					7	7	10	10	10	8	10	10	
Preservation Code:	1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*					6	10	1	1	1	1	1	1	

Sampled by : K Seibert D Homan

Chain needs to be filled out neatly and completely for on time delivery.

Laboratory Use Only
Cooler Temperature (°C): 2.6
on ice

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration
☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
Karl Seibert	6/2/23	1410	6/2/23 1410		6/2/23	1559	
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

Appendix D

Ambient Air Monitoring Plan

Ambient Air Monitoring and Dust Control Plan

New Cypher Street Improvements
Boston Convention and Exhibition Center
Parcel 2 – East of C Street
South Boston, Massachusetts
DEP RTN 3-316215

Submitted to:

Massachusetts Port Authority

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Attachment 1 Ambient Air Monitoring Schematic

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1.0 INTRODUCTION

This Ambient Air Monitoring and Dust Control Plan (the Plan) has been prepared by Tetra Tech as part of the Release Abatement Measure (RAM) Plan for soil management during anticipated excavation activities associated with roadway improvements at New Cypher Street in South Boston, Massachusetts (the Project).

The Project will include the disturbance of the ground surface and subsequent materials excavation, handling, management, and waste disposal. Due to the presence of oil and hazardous material (OHM) impacted media within the Project area, these actions require compliance with various environmental regulations and rules including but not limited to the Massachusetts Contingency Plan (MCP) under 310 CMR 40.0000 and the Toxic Substances Control Act (TSCA) under 15 U.S.C. §2601. These and other relevant regulatory requirements have been incorporated into the Project contract documents. To implement this Plan, the Contractor personnel shall be thoroughly familiar with the following relevant Project contract documents:

- Dust Control Specification (Division III Section G-010)
- Excavated Materials Management and Disposal Specification (Division III Section G-008)
- Supplemental TSCA Area Requirements (Division III Section G-009)

1.1 RELEVANT PROJECT DETAILS

The overall roadway reconstruction Project Area comprises sections of Richards and New Cypher Streets located between A and E Streets in South Boston and a separate segment of Fargo Street between E Street and Summer Street. The current Site conditions within the Project Area consist primarily of existing asphalt paved roadway and concrete sidewalk, although a proposed extension of New Cypher Street between D and E Street crosses currently undeveloped parcels of land. Proposed improvements in the Project Area include the full depth reconstruction of Richards, New Cypher and Fargo Streets along with milling and repaving of portions of the South Boston Bypass Road and E Street. Reconstruction work includes street widening to provide improved access and usability by pedestrian and bicycle traffic, new curbing and sidewalks, the installation of a redesigned drainage system, new signage, pavement markings, and limited project landscaping.

1.2 RELEVANT SITE CHARACTERISTICS

In general, all areas of the Project Area will likely contain some amount of urban fill in the subsurface below the roadway. The general area around the Project Area is made land, and the shallow fill material used throughout Boston contains anthropogenic debris, including coal, ash, and brick. Metals, most notably lead and arsenic, are often identified at concentrations above applicable MCP reportable concentration values in this material. A portion of the reconstruction of New Cypher Street includes work within the Disposal Site boundary for Release Tracking Number (RTN) 3-16215, for which the RAM Plan is being filed. The following presents a description of the Disposal Site specific to this RAM Plan.

BCEC Phase 2 – East of C Street (RTN 3-16215) comprises of all the Boston Convention and Exhibition Center (BCEC) Phase 2 property that is located east of historic C Street. This includes the Project Area on New Cypher Street. This area was determined to not be directly impacted by the Boston Junk / SAK operation. Oil and hazardous material (OHM) impacts include those typically encountered in urban fill in the surrounding area, including polycyclic aromatic hydrocarbons (PAHs) and metals, as well as

petroleum impacts from historic property use. An investigation was conducted on this property as one of the portions of the planned BCEC after the acquisition of the property by the Boston Redevelopment Authority (BRA) and subsequently the Massachusetts Convention Center Authority (MCCA). Tetra Tech completed a subsurface investigation in 2011, and along with historic data and observations, submitted a Class B-2 Response Action Outcome (RAO) including the recording of an Activity and Use Limitation (AUL) for the entire study area (Phase 2 property east of historic C Street). The Permanent Solution Statement for RTN 3-16215 and the AUL that supports it are attached to the RAM Plan.

The RAM Plan presents soil management, characterization and handling procedures for OHM impacts anticipated to be encountered during the construction of the New Cypher Extension.

2.0 SOURCES OF DUST AND ESTABLISHMENT OF ACTION LEVELS

It is anticipated that construction activities during the Project can be a source of fugitive dust. Dust generation can occur in various environmental conditions but can be especially problematic during the drier summer months where soil can quickly become dry and vulnerable to transport by wind. Dust from soil containing COCs may be generated by one or more of the following conditions or activities:

- Excavation activities below the pavement or other surface cover;
- Earthmoving activities involving disturbed soils or stockpiles of soil;
- Backfilling and compacting activities involving disturbed soils;
- Transport of soils in vehicles or equipment;
- Areas of disturbed soil and open space that may be exposed to wind;
- Movement of heavy equipment or other vehicles across disturbed soil areas; and/or
- Tracking of disturbed soil onto paved areas or open spaces that may be exposed to wind.

It should be noted that some construction activities generate dust which is not sourced from subsurface OHM-impacted soils. Such activities may include cutting, coring or grinding of pavement/concrete, mixing cement/concrete, building demolition, etc. A schematic showing an example of the conditions anticipated at a work site and the potential sources of dust is attached to this report in Attachment 1.

2.1 DUST ACTION LEVELS

To evaluate potential impacts from fugitive dust a risk-based evaluation was performed. Allowable off-site dust levels were determined using a risk-based approach as presented in guidance documents provided by MassDEP, "*Real-Time Air Monitoring at Construction and Remediation Sites to Estimate Risks of Contaminated Dust Migration*", October 1997. The off-site dust levels are also governed by the National Ambient Air Quality Standard s (NAAQS) and the Massachusetts Allowable Threshold Concentrations (ATCs). The on-site dust levels are governed by the Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PELs). The Project area is located as close as 300 feet from residential developments. To develop a generic dust action level for the Project, conservative exposure parameters were selected including:

- Selecting adult and child resident receptors for evaluation;
- Using a dust level of 0.150 milligrams per cubic meter (mg/m^3) as a 24-hour average although construction is anticipated to be performed for approximately 8-hours per workday; and
- Calculating risk based on particulate matter (PM)-10 particle size.

Based on this evaluation Tetra Tech has concluded that a condition of "No Significant Risk" of harm to human health can be maintained for downwind receptors, including residents, at a downwind dust level of at least 0.150 milligrams per cubic meter (mg/m^3). This value equals the 24-hour NAAQS standard of 0.150 mg/m^3.

To provide for a safety factor and to set the action level below the total dust concentration that may exceed the NAAQS standard, the risk-based downwind dust level of 0.150 mg/m^3 was decreased to 0.075 mg/m^3 at the fence line as the Project dust action level. As discussed below upwind and downwind monitoring will be performed. The action level will be compared to the difference between the upwind and downwind measurements to calculate the total dust generated from the Project. Also, it should be noted that the action level is to be applied at the downwind fence line, but the nearest downwind receptors are estimated to be located approximately 300 feet from the fence line. Therefore, the actual exposure point concentrations of dust at the receptor point will be lower than the concentration detected at the downwind fence line. This provides for another factor of safety in the use of this action level during the Project.

This dust action level of 0.075 mg/m^3 is a preliminary value based on risk assessment using the soil analytical data available at this time and assumptions regarding correlating soil EPCs to total dust concentrations. This action level will be reviewed and may be updated, as appropriate during the course of the Project if significant new information becomes available. Updates to the dust action levels will be communicated to the Project team, including the Contractor and will be documented in RAM Status Report and/or Completion Statement submittals.

3.0 AMBIENT AIR MONITORING PROCEDURES

At times during implementation of the Project when activities that may generate dust from OHM-impacted soils are anticipated, ambient air monitoring will be performed by Massport and/or their Engineer. There will be a minimum of three (3) monitoring points selected for each day of ambient air monitoring to monitoring conditions upwind from the Project, downwind from the project, and one mobile monitoring device to collect data over various areas of the Project and at locations along the fence line. Also, the Contractor will be responsible for monitoring dust levels within the work zone to monitor conditions that may result in potential dust generation as well as monitoring worker health and safety. A schematic showing example conditions at a work site with typical air monitoring locations is provided in Attachment 1.

The following ambient air monitoring procedures will be performed:

Procedure	Timing	Responsibility	Equipment
Measure and document wind direction	Continuous monitoring	Massport and/or their Engineer	Windsock or wind vane
Measure and document wind speed	Continuous monitoring	Massport and/or their Engineer	Anemometer
Document work activities being performed	At least once per day or following a change in activities.	Massport and/or their Engineer and Contractor	None

Select upwind, downwind and mobile monitoring locations	At least once per day or following a shift in wind direction greater than 15 degrees	Massport and/or their Engineer	None
Select and document work zone monitoring locations	At least once per day or following a shift in wind direction greater than 15 degrees	Contractor	None
Measure and document total dust concentrations in ambient air – upwind and downwind locations	Continuous monitoring during activities that may generate dust. The dust concentrations will be calculated as a 15-minute time weighted average (TWA) concentration	Massport and/or their Engineer	Visual observation Dust monitor – photometer capable of measuring to a minimum dust concentration of 0.01 mg/m^3
Utilize mobile dust monitoring equipment ot measure and document dust concentrations within the work zone and at various perimeter locations, as needed.	Continuous monitoring during activities that may generate dust.	Massport and/or their Engineer	Visual observation Dust monitor – photometer capable of measuring to a minimum dust concentration of 0.01 mg/m^3
Measure and document total dust concentrations in work zone	Continuous monitoring during activities that may generate dust	Contractor	Dust monitor – photometer capable of measuring to a minimum dust concentration of 0.01 mg/m^3
Sampling and laboratory analysis of ambient air may be performed if frequent excursions of the dust action level occur or to confirm assumptions in the risk assessment.	As needed and determined by the LSP	Massport and/or their Engineer	Air sampling pump with filter sampler or equivalent device. Air samples would require laboratory analysis for target COCs.

4.0 DUST CONTROL PLAN

The Contractor will be responsible for implementation of dust controls. The Contractor shall prepare a detailed Dust Control Plan describing the schedule, sequence, and procedures for the means and measures that will be implemented to comply with the Dust Control Specification (Division III Section G-010). The following summarizes the sequence of actions and the minimal dust control measures to be taken by the Contractor in response to adverse dust conditions at the Project.

4.1 PLANNED PROACTIVE DUST PREVENTION MEASURES

The Contractor shall implement the following planned proactive dust prevention measures prior to and during construction to limit potential dust generation:

4.1.1 Planning Work to Minimize the Generation of Dust

The existing surface cover material (e.g. pavement, concrete, natural vegetation, etc.) shall be preserved where possible to minimize the generation of dust. The areas of planned active earthwork or soil handling shall be minimized during the course of the Project. To the extent possible, the work shall be sequenced to avoid large areas of disturbed soil.

Stormwater erosion and sedimentation controls shall be constructed according to the Project contract documents and planned/installed as required during the work. Stormwater best management practices (BMPs) will be implemented to control erosion and sedimentation and maintained by the Contractor. Maintenance of these stormwater BMPs shall limit the spread of fine sediment which may be a source of dust upon drying.

4.1.2 Placement of Wind Screens

The Contractor shall place wind screens upgradient and/or downgradient from work areas as needed to reduce the impacts from wind on the generation of dust from work areas. At a minimum the Contractor shall install scrim on the Site control fencing (TSCA Area Only), to provide wind breaks to reduce wind at ground level. Site control fencing is specified under Section G-009.

4.1.3 Water spray

Prior to commencing work each day planned work areas or other areas that may be a potential source of dust shall be sprayed with water to wet the surface and minimize the generation of dust. On-going water sprays shall be performed during each workday, as needed to mitigate the generation of dust.

4.1.4 Wheel Wash and Equipment Decontamination Stations

The Contractor shall install, operate, maintain and remove a wheel wash and equipment decontamination station at each location where construction vehicles depart from the work site and have the potential to track soil or other materials onto public roadways. The removal of dirt/debris from vehicles prior to departing the work site will minimize the potential for generation of dust from tracked soil or other materials on nearby roadways.

4.1.5 Soil Covers

The Contractor shall cover disturbed soil areas and stockpiles not within the active work area. Acceptable covers may include steel roadway plates, polyethylene sheeting, geotextile fabric (Mirafi 140 N or equivalent), or stone.

4.1.6 Soil Hauling/Transport

While loading trucks the Contractor shall minimize free drop of material into the containers to prevent the generation of dust.

Material with higher water content shall be adequately dried prior to transport to avoid material leaking from the containers during transport.

Gross decontamination shall be performed prior to transport to remove soil or other materials from the truck bodies and wheels.

Vehicles moving around the work site shall reduce speed on unpaved surfaces or other areas where dust generation is possible.

During soil hauling activities, the loads shall be adequately covered to prevent dust generation.

The Contractor shall take measures to prevent debris from being spilled from trucks or tracked from the site onto local streets. The Contractor shall sweep streets adjacent to the site as necessary and/or as directed by the Engineer.

4.1.7 Street Sweeping

The Contractor shall sweep the streets at least daily, at the end of the workday, and more frequently if visible dust is observed in the street or as directed by the Massport or the Engineer.

4.2 RESPONSIVE DUST CONTROL MEASURES

Dust measurements will be collected continuously and monitored by Massport and/or their Engineer. If the dust action level is exceeded based on two consecutive 15-minute TWA concentrations measurements (a sustained period of 30 minutes) or if visible dust is observed at the fence line responsive dust control measures will be implemented by the Contractor.

4.2.1 Additional Water Spray

The frequency and/or application rate of water spray will be increased and concentrated at active work areas where excessive dust is generated.

4.2.2 Application of Soil Additives and Spray-on Chemical Soil Treatments

The Contractor may supplement water spray with the application of soil additive and spray-on chemical soil treatments (e.g. calcium chloride, magnesium chloride, sodium chloride, vegetable protein blends, surfactants, liquid polymers, etc.) to control dust.

4.2.3 Additional Soil Covers

The Contractor may add additional covers to active areas not actively undergoing construction.

4.2.4 Changes in Work Procedures/Location

To reduce dust generation from problematic areas, the Contractor shall change work procedures, reduce activity or change work locations, as needed. Based on their monitoring the Engineer may inform the Contractor of what activities they're performing that are generating excessive dust to assist Contractor in adjusting work procedures and/or locations.

4.2.5 Stop Work

If the above measures are unsuccessful and dust levels reach 0.150 mg/m^3 sustained over 30 minutes, the Contractor shall stop work until dust levels can be adequately controlled to below the action level.

Attachment 1

Ambient Air Monitoring Schematic

Construction Phase – Air Monitoring

Air Monitoring

- Continuous, Real Time Monitoring During Active Construction
- Graphical Depiction of Monitoring Zone
- One (1) monitor upwind, two (2) downwind at each work location

  (This graphic is a sample layout and not an actual work setup)

Attachment 2

Supporting Risk Assessment Calculations

Construction Worker - Soil: Table CW-2

Equations to Calculate Cancer Risk for Construction Worker

Vlookup Version v0315

Cancer Risk from Ingestion

$$ELCR_{ing} = LADD_{ing} * CSF_{oral}$$

$$LADD_{ing} = \frac{EPC * IR * RAF_{c\text{-}ing} * EF * ED_{ing} * EP * C1}{BW * AP_{lifetime}}$$

Cancer Risk from Dermal Absorption

$$ELCR_{derm} = LADD_{derm} * CSF_{oral}$$

$$LADD_{derm} = \frac{EPC * SA * AF * RAF_{c\text{-}derm} * EF * ED_{derm} * EP * C1}{BW * AP_{lifetime}}$$

Cancer Risk from Particulate Inhalation - Gastrointestinal Absorption

$$ELCR_{inh\text{-}GI} = LADD_{inh\text{-}GI} * CSF_{oral}$$

$$LADD_{inh\text{-}GI} = \frac{EPC * RCAF_{inh\text{-}gi} * PM_{10} * VR_{work} * RAF_{c\text{-}ing} * EF * ED_{inh} * EP * C2 * C3 * C4}{BW * AP_{lifetime}}$$

Cancer Risk from Particulate Inhalation - Pulmonary Absorption

$$ELCR_{inh} = LADD_{inh} * CSF_{inhalation}$$

$$LADD = \frac{EPC * RCAF_{inh} * PM_{10} * VR_{work} * RAF_{c\text{-}inh} * EF * ED_{inh} * EP * C2 * C3 * C4}{BW * AP_{lifetime}}$$

Parameter	Value	Units
CSF	OHM-specific	$(mg/kg\text{-}day)^{-1}$
LADD	age/OHM-specific	mg/kg-day
EPC	OHM-specific	mg/kg
IR	100	mg/day
$RAF_{c\text{-}ing}$	OHM-specific	dimensionless
$RAF_{c\text{-}derm}$	OHM-specific	dimensionless
$RAF_{c\text{-}inh}$	OHM-specific	dimensionless
EF	0.714	event/day
$ED_{ing\ \&\ derm}$	1	day/event
ED_{inh}	1.000	day/event
EP	547	days
C1	1.0E-06	kg/mg
C2	1.0E-09	kg/µg
C3	1440	min/days
C4	1.0E-03	m^3/L
BW	57.1	kg
$AP_{(lifetime)}$	25,550	days
VR_{work}	10	L/min
AF	0.29	mg/cm^2
SA	3473	cm^2/day
$RCAF_{inh\text{-}gi}$	1.5	dimensionless
$RCAF_{inh}$	0.5	dimensionless
PM_{10}	150	$\mu g/m^3$

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617-556-1165

Construction Worker - Soil: Table CW-3

Equations to Calculate Noncancer Risk for Construction Worker

Vlookup Version v0315

Noncancer Risk from Ingestion

$$HQ_{ing} = \frac{ADD_{ing}}{RfD_{oral\text{-}subchronic}}$$

$$ADD_{ing} = \frac{EPC * IR * RAF_{nc\text{-}ing} * EF * ED_{ing} * EP * C1}{BW * AP_{noncancer}}$$

Noncancer Risk from Dermal Absorption

$$HQ_{derm} = \frac{ADD_{derm}}{RfD_{oral\text{-}subchronic}}$$

$$ADD_{dermal} = \frac{EPC * SA * AF * RAF_{nc\text{-}derm} * EF * ED_{dermal} * EP * C1}{BW * AP_{noncancer}}$$

Noncancer Risk from Particulate Inhalation - Gastrointestinal Absorption

$$HQ_{inh\text{-}GI} = \frac{ADD_{inh\text{-}GI}}{RfD_{oral\text{-}subchronic}}$$

$$ADD_{inh\text{-}GI} = \frac{EPC * RCAF_{inh\text{-}gi} * PM_{10} * VR_{work} * RAF_{nc\text{-}ing} * EF * ED_{inh} * EP * C2 * C3 * C4}{BW * AP_{noncancer}}$$

Noncancer Risk from Particulate Inhalation - Pulmonary Absorption

$$HQ_{inh} = \frac{ADD}{RfD_{inhalation\text{-}subchronic}}$$

$$ADD_{inh} = \frac{EPC_{soil} * RCAF_{inh} * PM_{10} * VR_{work} * RAF_{nc\text{-}inh} * EF * ED_{inh} * EP * C2 * C3 * C4}{BW * AP_{noncancer}}$$

Parameter	Value	Units
RfD	OHM-specific	mg/kg-day
ADD	OHM-specific	mg/kg-day
EPC	OHM-specific	mg/kg
IR	100	mg/day
$RAF_{nc\text{-}ing}$	OHM-specific	dimensionless
$RAF_{nc\text{-}derm}$	OHM-specific	dimensionless
$RAF_{nc\text{-}inh}$	OHM-specific	dimensionless
EF	0.714	event/day
$ED_{ing\ \&\ derm}$	1	day/event
ED_{inh}	1.000	day/event
EP	547	days
C1	1.0E-06	kg/mg
C2	1.0E-09	kg/µg
C3	1440	min/days
C4	1.0E-03	m^3/L
BW	57.1	kg
$AP_{noncancer}$	547	days
VR_{work}	10	L/min
AF	0.29	mg/cm^2
SA	3473	cm^2/day
$RCAF_{inh\text{-}gi}$	1.5	dimensionless
$RCAF_{inh}$	0.5	dimensionless
PM10	150	$\mu g/m^3$

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Construction Worker - Soil: Table CW-4
Definitions and Exposure Factors

Vlookup Version v0315

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal, inh=inhalation)
HI - Hazard Index	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal, inh=inhalation)
CSF - Cancer Slope Factor	chemical specific	$(mg/kg\text{-}day)^{-1}$	see Table CW-5.
RfD - Reference Dose	chemical specific	mg/kg-day	see Table CW-5.
LADD - Lifetime Average Daily Dose	chemical specific	mg/kg-day	Pathway specific. See Table CW-2.
ADD - Average Daily Dose	chemical specific	mg/kg-day	Pathway specific. See Table CW-3.
EPC - Exposure Point Concentration	chemical specific	mg/kg	see Table CW-1.
IR - Soil Ingestion Rate	100	mg/day	MADEP. 2002. Technical Update: Calculation of an Enhanced Soil Ingestion Rate. (http://www.mass.gov/dep/ors/orspubs.htm).
RAF_c - Relative Absorption Factor for Cancer Effects	chemical specific	dimensionless	Pathway specific - see Table CW-5.
RAF_{nc} - Relative Absorption Factor for Noncancer Effects	chemical specific	dimensionless	Pathway specific - see Table CW-5.
EF - Exposure Frequency	0.714	event/day	5 events (days) / 7 events (days) in a week; MADEP 1995 Guidance for Disposal Site Risk Characterization pg B-38.
$ED_{ing,derm}$ - Exposure Duration for ingestion or dermal exposure	1	day/event	
ED_{inh} - Exposure Duration for inhalation exposure	1.0	day/event	Represents 24 hours / event.
EP - Exposure Period	547	days	18 months; Planned duration of project
BW - Body Weight	57.1	kg	MADEP. 1995. Guidance for Disposal Site Risk Characterization. 50th percentile for females, age 18-25. Appendix Table B-1.
$AP_{(lifetime)}$ - Averaging Period for lifetime	25,550	days	Represents 70 years
$AP_{(noncancer)}$ - Averaging Period for noncancer	547	days	18 months; Planned duration of project
AF - Adherence Factor	0.29	mg/cm^2	MA DEP. 2002 Technical Update: Weighted Skin-Soil Adherence Factors. (http://www.mass.gov/dep/ors/orspubs.htm)
VR_{work} - Ventilation Rate during work (heavy exertion)	10	L/min	MADEP. 1995. Average rate, adult, 18-75 years old, low activity, Table B-4
SA - Surface Area	3473	cm^2/day	MADEP. 1995. Guidance for Disposal Site Risk Characterization. 50th percentile for females. Appendix Table B-2.
$IFAF_{inh\text{-}gi}$ - Ingestion Fraction Adjustment Factor, gastrointestinal	1.5	dimensionless	MADEP 2007. Characterization of Risks Due to Inhalation of Particulates by Construction Workers
$IFAF_{inh}$ - Inhalation Fraction Adjustment Factor, inhalation	0.5	dimensionless	MADEP 2002. Characterization of Risks Due to Inhalation of Particulates by Construction Workers
PM10 - Concentration of PM_{10}	150	$\mu g/m^3$	Dust limit

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Construction Worker - Soil: Table CW-5
Chemical-Specific Data

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Oil or Hazardous Material	Oral CSF $(mg/kg\text{-}day)^{-1}$	$RAF_{c\text{-}ing}$	$RAF_{c\text{-}derm}$	$RAF_{c\text{-}inh}$	Inhalation CSF $(mg/kg\text{-}day)^{-1}$	Subchronic Oral RfD mg/kg-day	Subchronic $RAF_{nc\text{-}ing}$	Subchronic $RAF_{nc\text{-}derm}$	Subchronic $RAF_{nc\text{-}inh}$	Subchronic Inhalation RfD
ACETONE						2.7E+00	1	0.03	1	2.3E-01
BENZENE	5.5E-02	1	0.03	1	2.7E-02	1.0E-02	1	0.03	1	2.9E-03
METHYL ETHYL KETONE						6.0E-01	1	0.03	1	1.4E+00
ETHYLBENZENE						5.0E-02	1	0.03	1	2.6E+00
NAPHTHALENE						2.0E-01	0.3	0.1	1	8.6E-04
TOLUENE						8.0E-01	1	0.03	1	1.4E+00
XYLENES (Mixed Isomers)						4.0E-01	1	0.03	1	1.1E-01
ACENAPHTHENE						2.0E-01	0.3	0.1	1	1.4E-01
ACENAPHTHYLENE						3.0E-01	0.3	0.1	1	1.4E-01
ANTHRACENE						1.0E+00	0.3	0.1	1	1.4E-01
BENZO(a)ANTHRACENE	7.3E-01	0.3	0.02	1	7.3E-01	3.0E-01	0.3	0.02	1	1.4E-01
BENZO(a)PYRENE	7.3E+00	0.3	0.02	1	7.3E+00	3.0E-01	0.3	0.02	1	1.4E-01
BENZO(b)FLUORANTHENE	7.3E-01	0.3	0.02	1	7.3E-01	3.0E-01	0.3	0.02	1	1.4E-01
BENZO(g,h,i)PERYLENE						3.0E-01	0.3	0.1	1	1.4E-01
BENZO(k)FLUORANTHENE	7.3E-02	0.3	0.02	1	7.3E-02	3.0E-01	0.3	0.02	1	1.4E-01
CHRYSENE	7.3E-02	0.3	0.02	1	7.3E-02	3.0E-01	0.3	0.02	1	1.4E-01
DIBENZO(a,h)ANTHRACENE	7.3E+00	0.3	0.02	1	7.3E+00	3.0E-01	0.3	0.02	1	1.4E-01
FLUORANTHENE						1.0E-01	0.3	0.1	1	1.4E-01
FLUORENE						4.0E-01	0.3	0.1	1	1.4E-01
INDENO(1,2,3-cd)PYRENE	7.3E-01	0.3	0.02	1	7.3E-01	3.0E-01	0.3	0.02	1	1.4E-01
METHYLNAPHTHALENE, 2-						4.0E-03	0.3	0.1	1	1.4E-01
NAPHTHALENE						2.0E-01	0.3	0.1	1	8.6E-04
PHENANTHRENE						3.0E-01	0.3	0.1	1	1.4E-01
PYRENE						3.0E-01	0.3	0.1	1	1.4E-01
BIPHENYL, 1,1-	8.0E-03	1	0.1			5.0E-01	1	0.1	1	5.7E-04
BIS(2-ETHYLHEXYL)PHTHALATE	1.4E-02	1	0.1	1	4.6E-03	2.0E-02	1	0.1	1	2.0E-03
HEXACHLOROBENZENE	1.6E+00	1	0.1	1	1.6E+00	1.0E-05	1	0.1	1	1.1E-05
DIELDRIN	1.6E+01	1	0.1	1	1.6E+01	5.0E-05	1	0.1	1	5.1E-05
HEPTACHLOR	4.5E+00	1	0.1	1	4.6E+00	5.0E-04	1	0.1	1	2.9E-04
METHOXYCHLOR						5.0E-03	1	0.1	1	5.1E-03
DICHLORODIPHENYLDICHLOROETHYLEN	3.4E-01	1	0.03	1	3.4E-01	5.0E-04	1	0.03	1	5.1E-04
POLYCHLORINATED BIPHENYLS (PCBs)	2.0E+00	1	0.1	1	3.5E-01	5.0E-05	1	0.1	1	5.7E-06
ANTIMONY						4.0E-04	1	0.1	1	2.9E-03
ARSENIC	1.5E+00	0.5	0.03	1	1.1E+01	3.0E-04	0.5	0.03	1	5.7E-06
BARIUM						7.0E-02	1	0.1	1	1.4E-03
BERYLLIUM					8.4E+00	5.0E-03	1	0.1	1	5.7E-06
CADMIUM					6.3E+00	5.0E-04	0.5	0.01	1	5.7E-06
CHROMIUM (TOTAL)					4.2E+01	2.0E-02	1	0.1	1	8.6E-05
LEAD						7.5E-04	0.5	0.006	1	2.9E-04
MERCURY						3.0E-04	0.5	0.1	1	8.6E-05
NICKEL					1.7E+00	2.0E-02	1	0.2	1	2.9E-04
SELENIUM						5.0E-03	1	0.01	1	8.6E-04
SILVER						5.0E-03	1	0.3	1	4.0E-05
VANADIUM						9.0E-03	1	0.1	1	2.9E-04
ZINC						3.0E-01	1	0.1	1	4.0E-04
ALIPHATICS C9 to C18						1.0E+00	1	0.2	1	1.7E-01
ALIPHATICS C19 to C36						6.0E+00	1	0.2		
AROMATICS C11 to C22						3.0E-01	0.3	0.1	1	1.4E-01

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Construction Worker - Soil: Table CW-2

Equations to Calculate Cancer Risk for Construction Worker

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Cancer Risk from Ingestion

$$ELCR_{ing} = LADD_{ing} * CSF_{oral}$$

$$LADD_{ing} = \frac{EPC * IR * RAF_{c\text{-}ing} * EF * ED_{ing} * EP * C1}{BW * AP_{lifetime}}$$

Cancer Risk from Dermal Absorption

$$ELCR_{derm} = LADD_{derm} * CSF_{oral}$$

$$LADD_{derm} = \frac{EPC * SA * AF * RAF_{c\text{-}derm} * EF * ED_{derm} * EP * C1}{BW * AP_{lifetime}}$$

Cancer Risk from Particulate Inhalation - Gastrointestinal Absorption

$$ELCR_{inh\text{-}GI} = LADD_{inh\text{-}GI} * CSF_{oral}$$

$$LADD_{inh\text{-}GI} = \frac{EPC * RCAF_{inh\text{-}gi} * PM_{10} * VR_{work} * RAF_{c\text{-}ing} * EF * ED_{inh} * EP * C2 * C3 * C4}{BW * AP_{lifetime}}$$

Cancer Risk from Particulate Inhalation - Pulmonary Absorption

$$ELCR_{inh} = LADD_{inh} * CSF_{inhalation}$$

$$LADD = \frac{EPC * RCAF_{inh} * PM_{10} * VR_{work} * RAF_{c\text{-}inh} * EF * ED_{inh} * EP * C2 * C3 * C4}{BW * AP_{lifetime}}$$

Parameter	Value	Units
CSF	OHM-specific	$(mg/kg\text{-}day)^{-1}$
LADD	age/OHM-specific	mg/kg-day
EPC	OHM-specific	mg/kg
IR	100	mg/day
$RAF_{c\text{-}ing}$	OHM-specific	dimensionless
$RAF_{c\text{-}derm}$	OHM-specific	dimensionless
$RAF_{c\text{-}inh}$	OHM-specific	dimensionless
EF	0.714	event/day
$ED_{ing\ \&\ derm}$	1	day/event
ED_{inh}	1.000	day/event
EP	547	days
C1	1.0E-06	kg/mg
C2	1.0E-09	kg/µg
C3	1440	min/days
C4	1.0E-03	m^3/L
BW	10.8	kg
$AP_{(lifetime)}$	25,550	days
VR_{work}	1.52	L/min
AF	0.29	mg/cm^2
SA	3473	cm^2/day
$RCAF_{inh\text{-}gi}$	1.5	dimensionless
$RCAF_{inh}$	0.5	dimensionless
PM_{10}	150	$\mu g/m^3$

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Construction Worker - Soil: Table CW-3

Equations to Calculate Noncancer Risk for Construction Worker

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Noncancer Risk from Ingestion

$$HQ_{ing} = \frac{ADD_{ing}}{RfD_{oral\text{-}subchronic}}$$

$$ADD_{ing} = \frac{EPC * IR * RAF_{nc\text{-}ing} * EF * ED_{ing} * EP * C1}{BW * AP_{noncancer}}$$

Noncancer Risk from Dermal Absorption

$$HQ_{derm} = \frac{ADD_{derm}}{RfD_{oral\text{-}subchronic}}$$

$$ADD_{dermal} = \frac{EPC * SA * AF * RAF_{nc\text{-}derm} * EF * ED_{dermal} * EP * C1}{BW * AP_{noncancer}}$$

Noncancer Risk from Particulate Inhalation - Gastrointestinal Absorption

$$HQ_{inh\text{-}GI} = \frac{ADD_{inh\text{-}GI}}{RfD_{oral\text{-}subchronic}}$$

$$ADD_{inh\text{-}GI} = \frac{EPC * RCAF_{inh\text{-}gi} * PM_{10} * VR_{work} * RAF_{nc\text{-}ing} * EF * ED_{inh} * EP * C2 * C3 * C4}{BW * AP_{noncancer}}$$

Noncancer Risk from Particulate Inhalation - Pulmonary Absorption

$$HQ_{inh} = \frac{ADD}{RfD_{inhalation\text{-}subchronic}}$$

$$ADD_{inh} = \frac{EPC_{soil} * RCAF_{inh} * PM_{10} * VR_{work} * RAF_{nc\text{-}inh} * EF * ED_{inh} * EP * C2 * C3 * C4}{BW * AP_{noncancer}}$$

Parameter	Value	Units
RfD	OHM-specific	mg/kg-day
ADD	OHM-specific	mg/kg-day
EPC	OHM-specific	mg/kg
IR	100	mg/day
$RAF_{nc\text{-}ing}$	OHM-specific	dimensionless
$RAF_{nc\text{-}derm}$	OHM-specific	dimensionless
$RAF_{nc\text{-}inh}$	OHM-specific	dimensionless
EF	0.714	event/day
$ED_{ing\ \&\ derm}$	1	day/event
ED_{inh}	1.000	day/event
EP	547	days
C1	1.0E-06	kg/mg
C2	1.0E-09	kg/µg
C3	1440	min/days
C4	1.0E-03	m^3/L
BW	10.8	kg
$AP_{noncancer}$	547	days
VR_{work}	1.52	L/min
AF	0.29	mg/cm^2
SA	3473	cm^2/day
$RCAF_{inh\text{-}gi}$	1.5	dimensionless
$RCAF_{inh}$	0.5	dimensionless
PM10	150	$\mu g/m^3$

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Construction Worker - Soil: Table CW-4
Definitions and Exposure Factors

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Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal, inh=inhalation)
HI - Hazard Index	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal, inh=inhalation)
CSF - Cancer Slope Factor	chemical specific	$(mg/kg\text{-}day)^{-1}$	see Table CW-5.
RfD - Reference Dose	chemical specific	mg/kg-day	see Table CW-5.
LADD - Lifetime Average Daily Dose	chemical specific	mg/kg-day	Pathway specific. See Table CW-2.
ADD - Average Daily Dose	chemical specific	mg/kg-day	Pathway specific. See Table CW-3.
EPC - Exposure Point Concentration	chemical specific	mg/kg	see Table CW-1.
IR - Soil Ingestion Rate	100	mg/day	MADEP. 2002. Technical Update: Calculation of an Enhanced Soil Ingestion Rate. (http://www.mass.gov/dep/ors/orspubs.htm).
RAF_c - Relative Absorption Factor for Cancer Effects	chemical specific	dimensionless	Pathway specific - see Table CW-5.
RAF_{nc} - Relative Absorption Factor for Noncancer Effects	chemical specific	dimensionless	Pathway specific - see Table CW-5.
EF - Exposure Frequency	0.714	event/day	5 events (days) / 7 events (days) in a week; MADEP 1995 Guidance for Disposal Site Risk Characterization pg B-38.
$ED_{ing,derm}$ - Exposure Duration for ingestion or dermal exposure	1	day/event	
ED_{inh} - Exposure Duration for inhalation exposure	1	day/event	Represents 24 hours / event.
EP - Exposure Period	547	days	18 months; Planned duration of project
BW - Body Weight	10.8	kg	MADEP. 1995. Guidance for Disposal Site Risk Characterization. 50th percentile for females age 1-2 years old. Appendix Table B-1.
$AP_{(lifetime)}$ - Averaging Period for lifetime	25,550	days	Represents 70 years
$AP_{(noncancer)}$ - Averaging Period for noncancer	547	days	18 months; Planned duration of project
AF - Adherence Factor	0.29	mg/cm^2	MA DEP. 2002 Technical Update: Weighted Skin-Soil Adherence Factors. (http://www.mass.gov/dep/ors/orspubs.htm)
VR_{work} - Ventilation Rate during work (heavy exertion)	1.52	L/min	MADEP. 1995. Average rate, child, 1-2 years old, low activity, Table B-4
SA - Surface Area	3473	cm^2/day	MADEP. 1995. Guidance for Disposal Site Risk Characterization. 50th percentile for females. Appendix Table B-2.
$IFAF_{inh\text{-}gi}$ - Ingestion Fraction Adjustment Factor, gastrointestinal	1.5	dimensionless	MADEP 2007. Characterization of Risks Due to Inhalation of Particulates by Construction Workers
$IFAF_{inh}$ - Inhalation Fraction Adjustment Factor, inhalation	0.5	dimensionless	MADEP 2002. Characterization of Risks Due to Inhalation of Particulates by Construction Workers
PM10 - Concentration of PM_{10}	150	$\mu g/m^3$	Dust limit

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Construction Worker - Soil: Table CW-5
Chemical-Specific Data

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Oil or Hazardous Material	Oral CSF $(mg/kg\text{-}day)^{-1}$	$RAF_{c\text{-}ing}$	$RAF_{c\text{-}derm}$	$RAF_{c\text{-}inh}$	Inhalation CSF $(mg/kg\text{-}day)^{-1}$	Subchronic Oral RfD mg/kg-day	Subchronic $RAF_{nc\text{-}ing}$	Subchronic $RAF_{nc\text{-}derm}$	Subchronic $RAF_{nc\text{-}inh}$	Subchronic Inhalation RfD
ACETONE						2.7E+00	1	0.03	1	2.3E-01
BENZENE	5.5E-02	1	0.03	1	2.7E-02	1.0E-02	1	0.03	1	2.9E-03
METHYL ETHYL KETONE						6.0E-01	1	0.03	1	1.4E+00
ETHYLBENZENE						5.0E-02	1	0.03	1	2.6E+00
NAPHTHALENE						2.0E-01	0.3	0.1	1	8.6E-04
TOLUENE						8.0E-01	1	0.03	1	1.4E+00
XYLENES (Mixed Isomers)						4.0E-01	1	0.03	1	1.1E-01
ACENAPHTHENE						2.0E-01	0.3	0.1	1	1.4E-01
ACENAPHTHYLENE						3.0E-01	0.3	0.1	1	1.4E-01
ANTHRACENE						1.0E+00	0.3	0.1	1	1.4E-01
BENZO(a)ANTHRACENE	7.3E-01	0.3	0.02	1	7.3E-01	3.0E-01	0.3	0.02	1	1.4E-01
BENZO(a)PYRENE	7.3E+00	0.3	0.02	1	7.3E+00	3.0E-01	0.3	0.02	1	1.4E-01
BENZO(b)FLUORANTHENE	7.3E-01	0.3	0.02	1	7.3E-01	3.0E-01	0.3	0.02	1	1.4E-01
BENZO(g,h,i)PERYLENE						3.0E-01	0.3	0.1	1	1.4E-01
BENZO(k)FLUORANTHENE	7.3E-02	0.3	0.02	1	7.3E-02	3.0E-01	0.3	0.02	1	1.4E-01
CHRYSENE	7.3E-02	0.3	0.02	1	7.3E-02	3.0E-01	0.3	0.02	1	1.4E-01
DIBENZO(a,h)ANTHRACENE	7.3E+00	0.3	0.02	1	7.3E+00	3.0E-01	0.3	0.02	1	1.4E-01
FLUORANTHENE						1.0E-01	0.3	0.1	1	1.4E-01
FLUORENE						4.0E-01	0.3	0.1	1	1.4E-01
INDENO(1,2,3-cd)PYRENE	7.3E-01	0.3	0.02	1	7.3E-01	3.0E-01	0.3	0.02	1	1.4E-01
METHYLNAPHTHALENE, 2-						4.0E-03	0.3	0.1	1	1.4E-01
NAPHTHALENE						2.0E-01	0.3	0.1	1	8.6E-04
PHENANTHRENE						3.0E-01	0.3	0.1	1	1.4E-01
PYRENE						3.0E-01	0.3	0.1	1	1.4E-01
BIPHENYL, 1,1-	8.0E-03	1	0.1			5.0E-01	1	0.1	1	5.7E-04
BIS(2-ETHYLHEXYL)PHTHALATE	1.4E-02	1	0.1	1	4.6E-03	2.0E-02	1	0.1	1	2.0E-03
HEXACHLOROBENZENE	1.6E+00	1	0.1	1	1.6E+00	1.0E-05	1	0.1	1	1.1E-05
DIELDRIN	1.6E+01	1	0.1	1	1.6E+01	5.0E-05	1	0.1	1	5.1E-05
HEPTACHLOR	4.5E+00	1	0.1	1	4.6E+00	5.0E-04	1	0.1	1	2.9E-04
METHOXYCHLOR						5.0E-03	1	0.1	1	5.1E-03
DICHLORODIPHENYLDICHLOROETHYLEN	3.4E-01	1	0.03	1	3.4E-01	5.0E-04	1	0.03	1	5.1E-04
POLYCHLORINATED BIPHENYLS (PCBs)	2.0E+00	1	0.1	1	3.5E-01	5.0E-05	1	0.1	1	5.7E-06
ANTIMONY						4.0E-04	1	0.1	1	2.9E-03
ARSENIC	1.5E+00	0.5	0.03	1	1.1E+01	3.0E-04	0.5	0.03	1	5.7E-06
BARIUM						7.0E-02	1	0.1	1	1.4E-03
BERYLLIUM					8.4E+00	5.0E-03	1	0.1	1	5.7E-06
CADMIUM					6.3E+00	5.0E-04	0.5	0.01	1	5.7E-06
CHROMIUM (TOTAL)					4.2E+01	2.0E-02	1	0.1	1	8.6E-05
LEAD						7.5E-04	0.5	0.006	1	2.9E-04
MERCURY						3.0E-04	0.5	0.1	1	8.6E-05
NICKEL					1.7E+00	2.0E-02	1	0.2	1	2.9E-04
SELENIUM						5.0E-03	1	0.01	1	8.6E-04
SILVER						5.0E-03	1	0.3	1	4.0E-05
VANADIUM						9.0E-03	1	0.1	1	2.9E-04
ZINC						3.0E-01	1	0.1	1	4.0E-04
ALIPHATICS C9 to C18						1.0E+00	1	0.2	1	1.7E-01
ALIPHATICS C19 to C36						6.0E+00	1	0.2		
AROMATICS C11 to C22						3.0E-01	0.3	0.1	1	1.4E-01

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Nearby Adult Resident: Dust Exposure (150 µg/m³) - TSCA Area
Exposure Point Concentration (EPC) and Risk
Based on Construction Worker - Soil: Table CW-1

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Vlookup Version v0315

ELCR (all chemicals) = 3.6E-07
HI (all chemicals) = 2.7E-01

****Do not insert or delete any rows****
Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material (OHM)	EPC (mg/kg)	ELCR ingestion	ELCR dermal	ELCR inhalation GI	ELCR inhalation pulmonary	$ELCR_{total}$	Subchronic HQ_{ing}	Subchronic HQ_{derm}	Subchronic HQ_{inh-GI}	Subchronic HQ_{inh}	HQ_{total}	
ACETONE	5.2E-02								7.7E-10	3.0E-09	3.8E-09	
BENZENE	3.0E-03			1.4E-13	2.4E-14	1.7E-13			1.2E-08	1.4E-08	2.7E-08	
METHYL ETHYL KETONE	3.4E-02								2.3E-09	3.2E-10	2.6E-09	
ETHYLBENZENE	3.6E-03								2.9E-09	1.9E-11	2.9E-09	
NAPHTHALENE	5.7E-01								3.5E-08	9.0E-06	9.0E-06	
TOLUENE	3.6E-03								1.8E-10	3.4E-11	2.2E-10	
XYLENES (Mixed Isomers)	5.4E-03								5.4E-10	6.3E-10	1.2E-09	
ACENAPHTHENE	5.4E-01								3.3E-08	5.1E-08	8.4E-08	
ACENAPHTHYLENE	1.7E-01								7.1E-09	1.7E-08	2.4E-08	
ANTHRACENE	1.1E+00								1.4E-08	1.1E-07	1.2E-07	
BENZO(a)ANTHRACENE	2.3E+00			4.4E-10	4.9E-10	9.4E-10			9.5E-08	2.2E-07	3.2E-07	
BENZO(a)PYRENE	2.2E+00			4.1E-09	4.5E-09	8.6E-09			8.7E-08	2.0E-07	2.9E-07	
BENZO(b)FLUORANTHENE	2.0E+00			3.8E-10	4.2E-10	8.0E-10			8.1E-08	1.9E-07	2.7E-07	
BENZO(g,h,i)PERYLENE	1.2E+00								4.8E-08	1.1E-07	1.6E-07	
BENZO(k)FLUORANTHENE	1.3E+00			2.5E-11	2.8E-11	5.3E-11			5.3E-08	1.2E-07	1.8E-07	
CHRYSENE	2.2E+00			4.3E-11	4.7E-11	9.0E-11			9.1E-08	2.1E-07	3.0E-07	
DIBENZO(a,h)ANTHRACENE	3.2E-01			6.1E-10	6.8E-10	1.3E-09			1.3E-08	3.1E-08	4.4E-08	
FLUORANTHENE	4.7E+00								5.7E-07	4.5E-07	1.0E-06	
FLUORENE	5.0E-01								1.5E-08	4.7E-08	6.2E-08	
INDENO(1,2,3-cd)PYRENE	1.3E+00			2.5E-10	2.8E-10	5.3E-10			5.4E-08	1.3E-07	1.8E-07	
METHYLNAPHTHALENE, 2-	2.7E-01								8.3E-07	2.6E-08	8.5E-07	
NAPHTHALENE	4.2E-01								2.5E-08	6.6E-06	6.6E-06	
PHENANTHRENE	4.1E+00								1.7E-07	3.9E-07	5.5E-07	
PYRENE	4.8E+00								1.9E-07	4.5E-07	6.5E-07	
BIPHENYL, 1,1-	9.1E-02			6.3E-13		6.3E-13			7.4E-09	2.2E-06	2.2E-06	
BIS(2-ETHYLHEXYL)PHTHALATE	5.2E-01			6.3E-12	6.9E-13	7.0E-12			1.1E-06	3.5E-06	4.6E-06	
HEXACHLOROBENZENE	1.3E-02			1.8E-11	5.9E-12	2.3E-11			5.1E-05	1.5E-05	6.6E-05	
DIELDRIN	3.7E-02			5.1E-10	1.7E-10	6.8E-10			3.0E-05	9.6E-06	3.9E-05	
HEPTACHLOR	9.7E-03			3.8E-11	1.3E-11	5.1E-11			7.9E-07	4.6E-07	1.2E-06	
METHOXYCHLOR	2.9E-03								2.3E-08	7.6E-09	3.1E-08	
DICHLORODIPHENYLDICHLOROETHYLENE,P,P'- (DDE)	3.5E-03			1.0E-12	3.4E-13	1.4E-12			2.8E-07	9.1E-08	3.7E-07	
POLYCHLORINATED BIPHENYLS (PCBs)	1.3E+01			2.2E-08	1.3E-09	2.3E-08			1.0E-02	3.0E-02	4.0E-02	
ANTIMONY	3.6E+01								3.6E-03	1.7E-04	3.8E-03	
ARSENIC	1.1E+01			7.0E-09	3.2E-08	3.9E-08			7.2E-04	2.5E-02	2.6E-02	
BARIUM	1.2E+02								7.0E-05	1.1E-03	1.2E-03	
BERYLLIUM	2.0E-01				4.9E-10	4.9E-10			1.6E-06	4.7E-04	4.8E-04	
CADMIUM	1.7E+00				3.2E-09	3.2E-09			7.0E-05	4.1E-03	4.2E-03	
CHROMIUM (TOTAL)	2.3E+01				2.8E-07	2.8E-07			4.6E-05	3.6E-03	3.6E-03	**Note! Cr(VI) limit is 200 mg/kg due to contact dermititis.**
LEAD	2.2E+03								5.8E-02	1.0E-01	1.6E-01	
MERCURY	2.9E+00								2.0E-04	4.6E-04	6.6E-04	
NICKEL	2.0E+01				9.6E-09	9.6E-09			4.0E-05	9.3E-04	9.7E-04	
SELENIUM	2.7E+00								2.2E-05	4.3E-05	6.5E-05	
SILVER	6.4E-01								5.2E-06	2.2E-04	2.2E-04	
VANADIUM	3.5E+01								1.6E-04	1.6E-03	1.8E-03	
ZINC	7.2E+02								9.7E-05	2.4E-02	2.4E-02	
ALIPHATICS C9 to C18	3.4E+02								1.4E-05	2.7E-05	4.0E-05	
ALIPHATICS C19 to C36	3.4E+02								2.3E-06		2.3E-06	
AROMATICS C11 to C22	3.4E+02								1.4E-05	3.2E-05	4.5E-05	

MassDEP ORS
Contact: Lydia Thompson
Lydia.Thompson@state.ma.us
617-556-1165

Nearby Child Resident: Dust Exposure (150 µg/m³) - TSCA Area
Exposure Point Concentration (EPC) and Risk
Based on Construction Worker - Soil: Table CW-1

ShortForm Version 10-12
Vlookup Version v0315

ELCR (all chemicals) = 2.9E-07
HI (all chemicals) = 2.2E-01

****Do not insert or delete any rows****
Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material (OHM)	EPC (mg/kg)	ELCR ingestion	ELCR dermal	ELCR inhalation GI	ELCR inhalation pulmonary	$ELCR_{total}$	Subchronic HQ_{ing}	Subchronic HQ_{derm}	Subchronic HQ_{inh-GI}	Subchronic HQ_{inh}	HQ_{total}	
ACETONE	5.2E-02								6.2E-10	2.4E-09	3.1E-09	
BENZENE	3.0E-03			1.2E-13	1.9E-14	1.3E-13			9.8E-09	1.1E-08	2.1E-08	
METHYL ETHYL KETONE	3.4E-02								1.9E-09	2.6E-10	2.1E-09	
ETHYLBENZENE	3.6E-03								2.3E-09	1.5E-11	2.3E-09	
NAPHTHALENE	5.7E-01								2.8E-08	7.2E-06	7.3E-06	
TOLUENE	3.6E-03								1.5E-10	2.8E-11	1.8E-10	
XYLENES (Mixed Isomers)	5.4E-03								4.4E-10	5.1E-10	9.5E-10	
ACENAPHTHENE	5.4E-01								2.7E-08	4.1E-08	6.8E-08	
ACENAPHTHYLENE	1.7E-01								5.7E-09	1.3E-08	1.9E-08	
ANTHRACENE	1.1E+00								1.1E-08	8.5E-08	9.6E-08	
BENZO(a)ANTHRACENE	2.3E+00			3.6E-10	4.0E-10	7.5E-10			7.6E-08	1.8E-07	2.5E-07	
BENZO(a)PYRENE	2.2E+00			3.3E-09	3.6E-09	6.9E-09			7.0E-08	1.6E-07	2.3E-07	
BENZO(b)FLUORANTHENE	2.0E+00			3.0E-10	3.4E-10	6.4E-10			6.5E-08	1.5E-07	2.2E-07	
BENZO(g,h,i)PERYLENE	1.2E+00								3.9E-08	9.0E-08	1.3E-07	
BENZO(k)FLUORANTHENE	1.3E+00			2.0E-11	2.2E-11	4.2E-11			4.3E-08	1.0E-07	1.4E-07	
CHRYSENE	2.2E+00			3.4E-11	3.8E-11	7.2E-11			7.3E-08	1.7E-07	2.4E-07	
DIBENZO(a,h)ANTHRACENE	3.2E-01			4.9E-10	5.5E-10	1.0E-09			1.1E-08	2.5E-08	3.5E-08	
FLUORANTHENE	4.7E+00								4.6E-07	3.6E-07	8.2E-07	
FLUORENE	5.0E-01								1.2E-08	3.8E-08	5.0E-08	
INDENO(1,2,3-cd)PYRENE	1.3E+00			2.0E-10	2.3E-10	4.3E-10			4.3E-08	1.0E-07	1.4E-07	
METHYLNAPHTHALENE, 2-	2.7E-01								6.6E-07	2.1E-08	6.8E-07	
NAPHTHALENE	4.2E-01								2.0E-08	5.3E-06	5.3E-06	
PHENANTHRENE	4.1E+00								1.3E-07	3.1E-07	4.4E-07	
PYRENE	4.8E+00								1.6E-07	3.6E-07	5.2E-07	
BIPHENYL, 1,1-	9.1E-02			5.1E-13		5.1E-13			5.9E-09	1.7E-06	1.7E-06	
BIS(2-ETHYLHEXYL)PHTHALATE	5.2E-01			5.1E-12	5.5E-13	5.7E-12			8.5E-07	2.8E-06	3.7E-06	
HEXACHLOROBENZENE	1.3E-02			1.4E-11	4.7E-12	1.9E-11			4.1E-05	1.2E-05	5.3E-05	
DIELDRIN	3.7E-02			4.1E-10	1.4E-10	5.4E-10			2.4E-05	7.7E-06	3.2E-05	
HEPTACHLOR	9.7E-03			3.1E-11	1.0E-11	4.1E-11			6.3E-07	3.7E-07	1.0E-06	
METHOXYCHLOR	2.9E-03								1.9E-08	6.1E-09	2.5E-08	
DICHLORODIPHENYLDICHLOROETHYLENE,P,P'-	3.5E-03			8.2E-13	2.7E-13	1.1E-12			2.3E-07	7.3E-08	3.0E-07	
POLYCHLORINATED BIPHENYLS (PCBs)	1.3E+01			1.8E-08	1.0E-09	1.9E-08			8.3E-03	2.4E-02	3.2E-02	
ANTIMONY	3.6E+01								2.9E-03	1.4E-04	3.0E-03	
ARSENIC	1.1E+01			5.6E-09	2.6E-08	3.2E-08			5.8E-04	2.0E-02	2.1E-02	
BARIUM	1.2E+02								5.6E-05	9.2E-04	9.8E-04	
BERYLLIUM	2.0E-01				3.9E-10	3.9E-10			1.3E-06	3.8E-04	3.8E-04	
CADMIUM	1.7E+00				2.5E-09	2.5E-09			5.6E-05	3.3E-03	3.3E-03	
CHROMIUM (TOTAL)	2.3E+01				2.2E-07	2.2E-07			3.7E-05	2.9E-03	2.9E-03	**Note! Cr(VI) limit is 200 mg/kg due to contact dermititis.**
LEAD	2.2E+03								4.7E-02	8.2E-02	1.3E-01	
MERCURY	2.9E+00								1.6E-04	3.7E-04	5.3E-04	
NICKEL	2.0E+01				7.7E-09	7.7E-09			3.2E-05	7.5E-04	7.8E-04	
SELENIUM	2.7E+00								1.8E-05	3.5E-05	5.2E-05	
SILVER	6.4E-01								4.2E-06	1.7E-04	1.8E-04	
VANADIUM	3.5E+01								1.3E-04	1.3E-03	1.5E-03	
ZINC	7.2E+02								7.8E-05	2.0E-02	2.0E-02	
ALIPHATICS C9 to C18	3.4E+02								1.1E-05	2.1E-05	3.2E-05	
ALIPHATICS C19 to C36	3.4E+02								1.8E-06		1.8E-06	
AROMATICS C11 to C22	3.4E+02								1.1E-05	2.6E-05	3.7E-05	

MassDEP ORS
Contact: Lydia Thompson
Lydia.Thompson@state.ma.us
617-556-1165

Appendix E

Permits and Approvals

City of Boston
Environment

CITY of BOSTON
Conservation Commission

June 2, 2022

Stephen Farr
Nitsch Engineering
2 Center Plaza, Suite 430
Boston, MA 02108

CERTIFIED MAIL: 7021 2720 0000 1257 1317

RE: Notice of Intent for DEP File No. 006-1834 from Nitsch Engineering on behalf of the Massachusetts Department of Transportation for the proposed roadway improvements located at Cypher St, Richards St, E St, and Fargo St, South Boston, MA (LSCSF)

Dear Mr. Farr,

Pursuant to the Massachusetts Wetlands Protection Act, General Laws, Chapter 131, Section 40 and Boston Wetlands Ordinance, Boston City Code, Ordinances, Chapter 7-1.4, I have enclosed the Order of Conditions ("the Order") for the above referenced project. Please arrange to have the Order recorded at the Suffolk County Registry of Deeds in accordance with General Condition 9. Work on the project may not begin until the Boston Conservation Commission receives the completed Recording Information form.

In accordance with General Condition 12 of the Order, upon completion of the project a Request for a Certificate of Compliance (WPA Form 8A), must be filed with the Commission stating that the work has been satisfactorily completed. If the project filing included plans stamped by a registered professional engineer, architect, landscape architect or land surveyor a written statement by such professional must accompany the Certificate request confirming that the project has been completed in substantial compliance with the plans and the conditions of the Order.

Please make certain that all contractors and workers involved in the project review the permit conditions as required. Please also ensure that the prior to construction requirements listed in the Order are satisfied prior to the start of work.

If you should have any questions regarding the enclosed Order of Conditions you may contact Boston Conservation Commission Staff at cc@boston.gov or 617-635-3850.

For the Commission,

Nicholas Moreno, Executive Director
Boston Conservation Commission

Enclosure: WPA Form 5

cc: DEP NERO

Massachusetts Department of Environmental Protection

eDEP Transaction Copy

Here is the file you requested for your records.

To retain a copy of this file you must save and/or print.

Username:	**SMACARI**
Transaction ID:	**1377094**
Document:	**WPA Form 5 - OOC**
Size of File:	**135.05K**
Status of Transaction:	**In Process**
Date and Time Created:	**6/2/2022:1:37:34 PM**

Note: This file only includes forms that were part of your transaction as of the date and time indicated above. If you need a more current copy of your transaction, return to eDEP and select to "Download a Copy" from the Current Submittals page.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 - Order of Conditions
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
MassDEP File #:006-1834
eDEP Transaction #:1377094
City/Town:BOSTON

A. General Information

1. Conservation Commission BOSTON
2. Issuance a. ☑ OOC b. ☐ Amended OOC
3. Applicant Details

a. First Name	MELISSA	b. Last Name	LENKER
c. Organization	MASSDOT - HIGHWAY DIVISION		
d. Mailing Address	10 PARK PLAZA #4260		
e. City/Town	BOSTON	f. State MA	g. Zip Code 02116

4. Property Owner

a. First Name	b. Last Name	
c. Organization		
d. Mailing Address		
e. City/Town	f. State	g. Zip Code

5. Project Location

a.Street Address	RICHARDS ST. S. BOSTON CYPHER STREET, D ST., E ST., AND FARGO ST.		
b.City/Town	BOSTON	c. Zip Code	02108
d. Assessors Map/Plat#	N/A	e. Parcel/Lot#	N/A
f. Latitude	42.34234N	g. Longitude	71.04937W

6. Property recorded at the Registry of Deed for:

a. County	b. Certificate	c. Book	d. Page

7.Dates

a. Date NOI Filed : 11/9/2021 b. Date Public Hearing Closed: 5/18/2022 c. Date Of Issuance: 6/2/2022

8.Final Approved Plans and Other Documents

a. Plan Title:	b. Plan Prepared by:	c. Plan Signed/Stamped by:	d. Revised Final Date:	e. Scale:
BOSTON CYPHER STREET CONSTRUCTION PLANS	NITSCH ENGINEERING	STEPHEN FARR	11/30/2021	1=20

B. Findings

1.Findings pursuant to the Massachusetts Wetlands Protection Act
Following the review of the the above-referenced Notice of Intent and based on the information provided in this application and presented at the public hearing, this Commission finds that the areas in which work is proposed is significant to the following interests of the Wetlands Protection Act.

Check all that apply:

a. ☐ Public Water Supply	b. ☐ Land Containing Shellfish	c. ☑ Prevention of Pollution
d. ☐ Private Water Supply	e. ☐ Fisheries	f. ☐ Protection of Wildlife Habitat
g. ☐ Ground Water Supply	h. ☑ Storm Damage Prevention	i. ☑ Flood Control

2. Commission hereby finds the project, as proposed, is:

Approved subject to:

a. ☑ The following conditions which are necessary in accordance with the performance standards set forth in the wetlands regulations. This Commission orders that all work shall be performed in accordance with the Notice of Intent referenced above, the following General Conditions, and any other special conditions attached to this Order. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, these conditions shall control.

Denied because:

b. ☐ The proposed work cannot be conditioned to meet the performance standards set forth in the wetland regulations. Therefore, work on this project may not go forward unless and until a new Notice of Intent is submitted which provides measures which are adequate to protect interests of the Act, and a final Order of Conditions is issued. **A description of the performance standards which the proposed work cannot meet is attached to this Order.**

c. ☐ The information submitted by the applicant is not sufficient to describe the site, the work or the effect of the work on the interests identified in the Wetlands Protection Act. Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides sufficient information and includes measures which are adequate to protect the interests of the Act , and a final Order of Conditions is issued. **A description of the specific information which is lacking and why it is necessary is attached to this Order as per 310 CMR 10.05(6)(c).**

3. ☐ Buffer Zone Impacts:Shortest distance between limit of project disturbance and the wetland resource area specified in 310CMR10.02(1)(a). _____ a. linear feet

Inland Resource Area Impacts:(For Approvals Only):

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
4. ☐ Bank	a. linear feet	b. linear feet	c. linear feet	d. linear feet
5. ☐ Bordering Vegetated Wetland	a. square feet	b. square feet	c. square feet	d. square feet
6. ☐ Land under Waterbodies and Waterways	a. square feet	b. square feet	c. square feet	d. square feet
	e. c/y dredged	f. c/y dredged		
7. ☐ Bordering Land Subject to Flooding	a. square feet	b. square feet	c. square feet	d. square feet
Cubic Feet Flood Storage	e. cubic feet	f. cubic feet	g. cubic feet	h. cubic feet
8. ☐ Isolated Land Subject to Flooding	a. square feet	b. square feet		
Cubic Feet Flood Storage				

	c. cubic feet	d. cubic feet	e. cubic feet	f. cubic feet
9.☐ Riverfront Area	a. total sq. feet	b. total sq. feet		
Sq ft within 100 ft	c. square feet	d. square feet	e. square feet	f. square feet
Sq ft between 100-200 ft	g. square feet	h. square feet	i. square feet	j. square feet

Coastal Resource Area Impacts:

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
10.☐ Designated Port Areas	Indicate size under Land Under the Ocean, below			
11.☐ Land Under the Ocean	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
12.☐ Barrier Beaches	Indicate size under Coastal Beaches and/or Coastal Dunes below			
13.☐ Coastal Beaches	a. square feet	b. square feet	c. c/y nourishment	d. c/y nourishment
14.☐ Coastal Dunes	a. square feet	b. square feet	c. c/y nourishment	d. c/y nourishment
15.☐ Coastal Banks	a. linear feet	b. linear feet		
16.☐ Rocky Intertidal Shores	a. square feet	b. square feet		
17.☐ Salt Marshes	a. square feet	b. square feet	c. square feet	d. square feet
18.☐ Land Under Salt Ponds	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
19.☐ Land Containing Shellfish	a. square feet	b. square feet	c. square feet	d. square feet
20.☐ Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above			
	c. c/y dredged	d. c/y dredged		
21.☑ Land Subject to Coastal Storm Flowage	125840 a. square feet	125840 b. square feet		

22.

☐ Restoration/Enhancement (For Approvals Only)

If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.5.c & d or B.17.c & d above, please entered the additional amount here.

a. square feet of BVW

b. square feet of Salt Marsh

23.

☐ Streams Crossing(s)

If the project involves Stream Crossings, please enter the number of new stream crossings/number of replacement stream crossings.

a. number of new stream crossings

b. number of replacement stream crossings

C. General Conditions Under Massachusetts Wetlands Protection Act

The following conditions are only applicable to Approved projects

1. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this Order.
2. The Order does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or invasion of private rights.
3. This Order does not relieve the permittee or any other person of the necessity of complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.
4. The work authorized hereunder shall be completed within three years from the date of this Order unless either of the following apply:
   a. the work is a maintenance dredging project as provided for in the Act; or
   b. the time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance. If this Order is intended to be valid for more than three years, the extension date and the special circumstances warranting the extended time period are set forth as a special condition in this Order.
5. This Order may be extended by the issuing authority for one or more periods of up to three years each upon application to the issuing authority at least 30 days prior to the expiration date of the Order.
6. If this Order constitutes an Amended Order of Conditions, this Amended Order of Conditions does not exceed the issuance date of the original Final Order of Conditions.
7. Any fill used in connection with this project shall be clean fill. Any fill shall contain no trash, refuse, rubbish, or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles, or parts of any of the foregoing.
8. This Order is not final until all administrative appeal periods from this Order have elapsed, or if such an appeal has been taken, until all proceedings before the Department have been completed.
9. No work shall be undertaken until the Order has become final and then has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of the registered land, the Final Order shall also be noted on the Land Court Certificate of Title of the owner of the land upon which the proposed work is done. The recording information shall be submitted to the Conservation Commission on the form at the end of this Order, which form must be stamped by the Registry of Deeds, prior to the commencement of work..
10. A sign shall be displayed at the site not less then two square feet or more than three square feet in size bearing

the words,

" Massachusetts Department of Environmental Protection"
[or 'MassDEP"]
File Number :"006-1834"

11. Where the Department of Environmental Protection is requested to issue a Superseding Order, the Conservation Commission shall be a party to all agency proceedings and hearings before Mass DEP.
12. Upon completion of the work described herein, the applicant shall submit a Request for Certificate of Compliance (WPA Form 8A) to the Conservation Commission.
13. The work shall conform to the plans and special conditions referenced in this order.
14. Any change to the plans identified in Condition #13 above shall require the applicant to inquire of the Conservation Commission in writing whether the change is significant enough to require the filing of a new Notice of Intent.
15. The Agent or members of the Conservation Commission and the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order at reasonable hours to evaluate compliance with the conditions stated in this Order, and may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.
16. This Order of Conditions shall apply to any successor in interest or successor in control of the property subject to this Order and to any contractor or other person performing work conditioned by this Order.
17. Prior to the start of work, and if the project involves work adjacent to a Bordering Vegetated Wetland, the boundary of the wetland in the vicinity of the proposed work area shall be marked by wooden stakes or flagging. Once in place, the wetland boundary markers shall be maintained until a Certificate of Compliance has been issued by the Conservation Commission.
18. All sedimentation barriers shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediments be deposited in a wetland or water body. During construction, the applicant or his/her designee shall inspect the erosion controls on a daily basis and shall remove accumulated sediments as needed. The applicant shall immediately control any erosion problems that occur at the site and shall also immediately notify the Conservation Commission, which reserves the right to require additional erosion and/or damage prevention controls it may deem necessary. Sedimentation barriers shall serve as the limit of work unless another limit of work line has been approved by this Order.

NOTICE OF STORMWATER CONTROL AND MAINTENANCE REQUIREMENTS

19. The work associated with this Order(the "Project") is (1) ☑ is not (2)☐ subject to the Massachusetts Stormwater Standards. If the work is subject to Stormwater Standards, then the project is subject to the following conditions;

a) All work, including site preparation, land disturbance, construction and redevelopment, shall be implemented in accordance with the construction period pollution prevention and erosion and sedimentation control plan and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollutant Discharge Elimination System Construction General Permit as required by Stormwater Standard 8. Construction period erosion, sedimentation and pollution control measures and best management practices (BMPs) shall remain in place until the site is fully stabilized.

b) No stormwater runoff may be discharged to the post-construction stormwater BMPs unless and until a Registered Professional Engineer provides a Certification that: *i.* all construction period BMPs have been removed or will be removed by a date certain specified in the Certification. For any construction period BMPs intended to be converted to post construction operation for stormwater attenuation, recharge, and/or treatment, the conversion is allowed by the MassDEP Stormwater Handbook BMP specifications and that the BMP has been properly cleaned or prepared for post construction operation, including removal of all construction period sediment trapped in inlet and outlet control structures; *ii.*. as-built final construction

BMP plans are included, signed and stamped by a Registered Professional Engineer, certifying the site is fully stabilized; *iii.* any illicit discharges to the stormwater management system have been removed, as per the requirements of Stormwater Standard 10; *iv.* all post-construction stormwater BMPs are installed in accordance with the plans (including all planting plans) approved by the issuing authority, and have been inspected to ensure that they are not damaged and that they are in proper working condition; *v.* any vegetation associated with post-construction BMPs is suitably established to withstand erosion.

c) The landowner is responsible for BMP maintenance until the issuing authority is notified that another party has legally assumed responsibility for BMP maintenance. Prior to requesting a Certificate of Compliance, or Partial Certificate of Compliance, the responsible party (defined in General Condition 19(e)) shall execute and submit to the issuing authority an Operation and Maintenance Compliance Statement ("O&M Statement") for the Stormwater BMPs identifying the party responsible for implementing the stormwater BMP Operation and Maintenance Plan ("O&M Plan") and certifying the following: i.) the O&M Plan is complete and will be implemented upon receipt of the Certificate of Compliance, and ii.) the future responsible parties shall be notified in writing of their ongoing legal responsibility to operate and maintain the stormwater management BMPs and implement the Stormwater Pollution Prevention Plan.

d) Post-construction pollution prevention and source control shall be implemented in accordance with the long-term pollution prevention plan section of the approved Stormwater Report and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollutant Discharge Elimination System Multi-Sector General Permit.

e) Unless and until another party accepts responsibility, the landowner, or owner of any drainage easement, assumes responsibility for maintaining each BMP. To overcome this presumption, the landowner of the property must submit to the issuing authority a legally binding agreement of record, acceptable to the issuing authority, evidencing that another entity has accepted responsibility for maintaining the BMP, and that the proposed responsible party shall be treated as a permittee for purposes of implementing the requirements of Conditions 19(f) through 19(k) with respect to that BMP. Any failure of the proposed responsible party to implement the requirements of Conditions 19(f) through 19(k) with respect to that BMP shall be a violation of the Order of Conditions or Certificate of Compliance. In the case of stormwater BMPs that are serving more than one lot, the legally binding agreement shall also identify the lots that will be serviced by the stormwater BMPs. A plan and easement deed that grants the responsible party access to perform the required operation and maintenance must be submitted along with the legally binding agreement.

f) The responsible party shall operate and maintain all stormwater BMPs in accordance with the design plans, the O&M Plan, and the requirements of the Massachusetts Stormwater Handbook.

g) The responsible party shall:

1. Maintain an operation and maintenance log for the last three (3) consecutive calendar years of inspections, repairs, maintenance and/or replacement of the stormwater management system or any part thereof, and disposal (for disposal the log shall indicate the type of material and the disposal location);
2. Make the maintenance log available to MassDEP and the Conservation Commission ("Commission") upon request; and
3. Allow members and agents of the MassDEP and the Commission to enter and inspect the site to evaluate and ensure that the responsible party is in compliance with the requirements for each BMP established in the O&M Plan approved by the issuing authority.

h) All sediment or other contaminants removed from stormwater BMPs shall be disposed of in accordance with all applicable federal, state, and local laws and regulations.

i) Illicit discharges to the stormwater management system as defined in 310 CMR 10.04 are prohibited.

j) The stormwater management system approved in the Order of Conditions shall not be changed without the prior written approval of the issuing authority.

k) Areas designated as qualifying pervious areas for the purpose of the Low Impact Site Design Credit (as defined in the MassDEP Stormwater Handbook, Volume 3, Chapter 1, Low Impact Development Site Design Credits) shall not be altered without the prior written approval of the issuing authority.

l) Access for maintenance, repair, and/or replacement of BMPs shall not be withheld. Any fencing constructed around stormwater BMPs shall include access gates and shall be at least six inches above grade to allow for wildlife passage.

Special Conditions:

SEE ATTACHED CONDITIONS

D. Findings Under Municipal Wetlands Bylaw or Ordinance

1.Is a municipal wetlands bylaw or ordinance applicable? ☐ Yes ☑ No

2.The Conservation Commission hereby(check one that applies):

a. ☐ DENIES the proposed work which cannot be conditioned to meet the standards set forth in a municipal ordinance or bylaw specifically:

1. Municipal Ordinance or Bylaw _____ 2. Citation _____

Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides measures which are adequate to meet these standards, and a final Order or Conditions is issued. Which are necessary to comply with a municipal ordinance or bylaw:

b. ☐ APPROVES the proposed work, subject to the following additional conditions.

1. Municipal Ordinance or Bylaw _____ 2. Citation _____

3. The Commission orders that all work shall be performed in accordance with the following conditions and with the Notice of Intent referenced above. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, the conditions shall control.

The special conditions relating to municipal ordinance or bylaw are as follows:

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
006-1834
MassDEP File #
1377094
eDEP Transaction #
Boston
City/Town

E. Signatures

This Order is valid for three years, unless otherwise specified as a special condition pursuant to General Conditions #4, from the date of issuance.

6/2/2022
1. Date of Issuance

Please indicate the number of members who will sign this form. This Order must be signed by a majority of the Conservation Commission.

7
2. Number of Signers

The Order must be mailed by certified mail (return receipt requested) or hand delivered to the applicant. A copy also must be mailed or hand delivered at the same time to the appropriate Department of Environmental Protection Regional Office, if not filing electronically, and the property owner, if different from applicant.

Signature	DocuSigned by: Michael Parker EE8D326BBE9E4AF...	Printed Name	Michael Parker
Signature	DocuSigned by: Aldo Ghirin FDDBDA2E8ED0499...	Printed Name	Aldo Ghirin
Signature	DocuSigned by: Alice Richmond 1CA22302A9984AE...	Printed Name	Alice Richmond
Signature	DocuSigned by: Anne Herbst 5CC3D6B13BCB40E...	Printed Name	Anne Herbst
Signature		Printed Name	
Signature	DocuSigned by: John Sullivan 7C85A6896558 4E2...	Printed Name	John Sullivan
Signature	DocuSigned by: F5DC3C4FE1DE431...	Printed Name	Kannan Thiruvengadam
Signature	DocuSigned by: Mike Wilson CBCD0B4B3735419...	Printed Name	Mike Wilson
Signature		Printed Name	

☐ by hand delivery on

Date

☑ by certified mail, return receipt requested, on 6/2/2022

Date

(M.G.L. c. 131, § 40), and is inconsistent with the wetlands regulations (310 CMR 10.00). To the extent that the Order is based on a municipal ordinance or bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.

G. Recording Information

This Order of Conditions must be recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land subject to the Order. In the case of registered land, this Order shall also be noted on the Land Court Certificate of Title of the owner of the land subject to the Order of Conditions. The recording information on this page shall be submitted to the Conservation Commission listed below.

BOSTON
Conservation Commission

Detach on dotted line, have stamped by the Registry of Deeds and submit to the Conservation Commission.

To:

BOSTON
Conservation Commission

Please be advised that the Order of Conditions for the Project at:

RICHARDS ST. S. BOSTON CYPHER STREET, D ST., E ST., AND FARGO ST.
Project Location

006-1834
MassDEP File Number

Has been recorded at the Registry of Deeds of:

County | Book | Page

for:

Property Owner

and has been noted in the chain of title of the affected property in:

Book | Page

In accordance with the Order of Conditions issued on:

Date

If recorded land, the instrument number identifying this transaction is:

Instrument Number

If registered land, the document number identifying this transaction is:

Document Number

Signature of Applicant

Rev. 4/1/2010

May 18, 2022
Attachment – Special Conditions
Massachusetts Department of Transportation, Highway Division, Proposed construction improvements and extension of Cypher St, including widening, resurfacing, and restriping, Richards St, South Boston Bypass, Cypher St, D St, E St, and Fargo St
South Boston, Boson Harbor (LSCSF)
DEP File No. 006-1834

GENERAL SPECIAL CONDITIONS

21. The term "Applicant" as used in this Order of Conditions refers to the applicant, owner, any successor in interest or successor in control of the property, or assigns referenced in the Notice of Intent, supporting documents and this Order of Conditions. The Boston Conservation Commission (hereinafter "the Commission") must be notified in writing within 30 days of all transfers of title of any portion of property that take place prior to the issuance of the Certificate of Compliance (hereinafter "COC").

22. The Applicant must attach a copy of this Final Order of Conditions (hereinafter "the Order") to the contract documents associated with this project.

23. The property that is the subject of this Order and upon which the project is located will be referred hereinafter as "the subject property" or the "project site".

24. The Commission reserves the right to impose additional conditions or require the submittal of additional information as necessary to protect the interests of the Massachusetts Wetlands Protection Act (hereinafter "the Act").

25. It is the responsibility of the Applicant to complete all reviews required by any local, state, and federal agencies with jurisdiction over the activity that is the subject of this Order, and to procure all required permits or approvals. Any such permits or approvals shall be made available upon demand by the Commission or Commission Staff.

26. Any mitigation measures required by federal, state, or other local agencies that may impact wetland resource areas must be submitted to Commission Staff for review to determine what level of permitting or authorization will be necessary.

27. Any person performing work on the activity that is the subject of this Order is individually responsible for understanding and complying with the requirements of this Order, the Act, and the implementing regulations at 310 CMR 10.00, as applicable.

28. The Applicant is hereby instructed to review these conditions with all contractors and workers involved in on-site operations prior to the commencement of work on this project. Any contractors and workers arriving after construction commences must also be apprised of these conditions.

29. A copy of the Order, including all referenced documents and plans, and all other subsequent approvals and directives issued by the Commission, must be available for inspection at the project site.

30. A member of the Commission or its agent may enter and inspect the property and the activities that are the subjects of this Order at all reasonable times, with or without probable cause or prior notice, and until a Certificate of Compliance is issued, for the limited purpose of evaluating compliance with this Order, and the Act.

31. The Applicant must inform the Commission of any violation of this Order and any other project related spill or accident that may impact any wetland resource areas or 100-foot Buffer Zone (hereinafter "buffer zone") as soon as possible and at least by the end of the business day, and must take appropriate action to mitigate impacts from such a spill or accident. The Applicant or site supervisor must notify the City of any emergency by calling Commission Staff at 617-635-3850 from 9:00 AM - 5:00 PM, Monday - Friday and, at all other times, by calling the Mayor's Office's 24-hour Hotline at 617-635-4500. On the date of the issuance of this Order, the appropriate contact is Nicholas Moreno, Conservation Agent: cc@boston.gov

32. Anti-degradation provisions of the Massachusetts Surface Water Quality Standards protect all waters including wetlands. The contractor must take all steps necessary to assure that the proposed activities will be conducted in a manner which will avoid violations of said standards.

33. No work permitted by this Order shall commence, including the clearing of trees and shrubs or disturbance of soils, except that minimal disturbance of shrubs and herbaceous plants absolutely necessary in order to place erosion or sedimentation control devices where required, prior to fulfilling all of the prior to the commencement of work requirements included herein and receiving authorization from Commission Staff.

34. All work shall be halted on the project site if the Commission, Commission Staff, or the Department determines that any of the work is not in compliance with this Order.

35. The proposed activity is a limited project as described in 310 CMR 10.24 "General Provisions" and/or 310 CMR 10.53 "General Provisions" and must adhere to the conditions applicable thereto.

36. All project related correspondence and submittals to the Commission regarding this Order must indicate the DEP File number: 006-1834.

LIMIT OF WORK & EROSION CONTROLS

37. Construction activity will be confined within the limits of work as represented on the final plans. There may be no staging of construction materials, storage of construction equipment, clearing or disturbance to land beyond the limit of work.

38. All land-side areas disturbed during construction must be stabilized as soon as possible upon completion of construction. Loaming and seeding should occur within (5 - 30) days of final grading. Disturbed resource areas landward of the high water line and buffer zone mark should be secured by biodegradable erosion control mats while vegetation establishes. Barren areas should be stabilized with a temporary cover of rye or other grass if work on the project is interrupted for more than 30 days. If the season is not appropriate for plant growth, then exposed surfaces may be stabilized by straw, snow fence, or other U.S. Natural Resources Conservation Service - recommended methods. Where a slope is

steeper than 3:1, temporary stabilization shall be staked or otherwise affixed to the slope. The Applicant or their contractor will ensure a mature cover of vegetation is established on previously disturbed or exposed areas.

39. The contractor will conduct construction sequencing such that areas cleared of ground vegetation and earth materials are exposed for a minimum of time before they are covered, seeded, or otherwise stabilized to prevent erosion.

40. There may be no overnight stockpiling or storage of construction material including unconsolidated material, piles, debris, petroleum products or hydraulic fluids (or equipment containing these products or fluids) within the 100-year flood plain. Erosion and sediment control containment measures must be installed and maintained between wetland resource areas and any stored construction materials or staged construction equipment. Under no circumstances may the project contractor store, stage or locate unconsolidated material or construction equipment not directly associated with the project and subject site within resource areas or the buffer zone. At the request of the Applicant, Commission Staff may authorize construction lay-down areas the 100-year floodplain for storage of equipment *during the construction period only.*

41. Stockpiles of soils, aggregate, or any other unconsolidated construction materials permitted by this Order within the 100-year floodplain shall be covered with tarpaulins when not being worked with. Stockpiles in place for greater than twenty-four (24) hours shall be ringed with an entrenched hay bale barrier and covered by properly secured tarpaulins at the close of each workday. The areas of construction shall remain in a stable condition at the close of each construction day. Erosion controls shall be inspected daily, and maintained or reinforced if necessary. After any storm event, any accumulated silt adjacent to the barriers shall be removed.

42. All erosion and sedimentation controls shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediments be deposited in a wetland area. The Commission reserves the right to determine whether erosion and sediment control measures are no longer needed, at which time they shall be removed.

43. An adequate reserve of erosion control materials shall be on site at all times for emergency or routine replacement.

44. All existing and proposed catch basins and oil traps on the project site or on the streets adjacent to the project site shall be protected by silt sacks to prevent sediment from entering the drainage system. Silt sacks shall be maintained and regularly cleaned of sediments until all areas associated with the work permitted by this Order have been permanently stabilized and the Commission or Commission Staff has formally approved their removal.

SPILL MANAGEMENT

45. There may be no discharge or spillage of fuel, oil, or any other pollutant from this project into adjacent wetland resource areas or buffer zones associated with those resource areas. Any equipment used in any wetland resource area or buffer zone that uses fuel, oil or hydraulic fluid must be inspected daily for leakage. Any equipment that requires repair must be repaired outside of any wetland resource area or buffer zone. Any equipment that uses fuel, oil and/or hydraulic fluid must be staffed at all times while operational within wetland resource areas or buffer zones. Equipment must not be re-fueled within any wetland resource areas.

46. Any remediation, removal, or stockpiling of hazardous material, within an area subject to protection under Act shall comply with the following provisions:

    a. No hazardous material shall be introduced or discharged into or toward wetland resource areas.

    b. Shall be conducted only when approved and directed by the Department, Environmental Protection Agency (hereinafter "the EPA") or other applicable state or federal agency under which remedial activities are directed and shall be conducted in the manner specified in the Notice of Intent and appropriate agency directives.

    c. All hazardous materials, products and waste produced, stockpiled or removed must be handled, treated and disposed of in accordance with all local, state and federal laws regulating such materials and must be located outside of the buffer zone to wetland resource areas, unless specifically authorized by this Order and appropriate local, state, and federal licensing and permitting agencies.

    d. No hazardous materials shall be introduced or discharged into the sanitary or sewage systems.

PRIOR TO COMMENCEMENT OF WORK

47. Prior to the commencement of work, the Applicant must submit final plans signed and stamped by a professional engineer, land surveyor, or landscape architect, as applicable, to Commission Staff. Commission Staff will determine if there have been significant revisions made to the plans referenced in this Order that may require further Commission review.

48. Prior to the commencement of work on any section of this project, the Applicant must notify the Commission and, at the request of the Commission, may arrange an on-site conference of representatives of the Commission, the contractor, the project engineer and the Applicant to ensure that all the conditions of this Order are understood. The Commission must be notified at least 48 hours in advance of the date upon which construction activities on the site are to proceed. All appropriate construction impact mitigation measures must be in place prior to initiation of work on the project site.

49. Prior to the commencement of work, the Applicant and/or their contractor must provide to the Commission written notification of the name, title, address and telephone numbers of the

person or persons designated by the project proponent to be responsible for compliance with the Order on site. An emergency telephone number must be provided in the event that action is required during non-working hours.

50. Prior to the commencement of work, the project supervisor overseeing daily operations at the site must read this Order and sign a copy of each page, indicating that each condition has been read and understood. These signed pages must be submitted to Commission Staff.

51. Prior to the commencement of work, the Applicant or their contractor must submit a final erosion and sediment control plan for review and approval by Commission Staff. Final plans showing the points of discharge, wheel wash stations, sedimentation tanks and basins, oil separating equipment and other engineering structures should be provided to the Commission with a certified engineer's stamp and signature. To satisfy this condition the Applicant may submit a Storm Water Pollution Prevention Plan (SWPPP) required under the NPDES Construction General Permit for Storm Water Discharges for Construction Activities. The approved plan will be a condition of this Order by reference herein.

52. The contractor must submit a construction materials and equipment staging plan 30 days prior to the commencement of work for Commission Staff review and approval. Project related staging areas will be subject to all conditions herein. Staging areas located outside the project footprint, as indicated on the approved project plan of record, and within wetland resource areas and the buffer zone may be subject to further Commission review.

53. Prior to the commencement of work, the Applicant and/or their contractor shall develop a spill management plan for any hazardous materials that may be employed during work in the resource area and submit said plan to the Commission for Commission Staff review and approval. Specifically, the Applicant should prepare to effectively deal with spillage of fuel or hydraulic fluids from equipment and provide all appropriate notifications, including to the Commission. A quick-absorbent material, such as "Speedy Dry" or equivalent, must be stored in a dry readily available area at the work site for use in the event petroleum-based fluids are spilled or leaked. The spent material should be containerized and disposed of properly.

54. All project generated discharges, including stormwater, authorized by a NPDES permit, will be subject to the terms of the NPDES permit which is incorporated herein by reference pursuant to 310 CMR 10.03 (4). The Applicant must submit the NPDES permit and authorization to the Commission prior to the commencement of work.

55. Prior to the commencement of work, the Applicant must submit a construction and post-construction snow management plan for Commission Staff review and approval. Snow from landside areas may not be plowed or otherwise deposited into the waters of the Boston Harbor or adjacent coastal beaches or banks. Snow must be stockpiled on paved surfaces that direct melted snow water to catch basins. Deicing material (e.g. sodium, potassium, and calcium chloride) and sand must be stored and contained in areas that will not allow for their migration into wetland resource areas. Prior to April 1st, all sand and salt from winter application must be removed from the site.

56. The Applicant or their contractor must keep a daily log summarizing all construction and demolition activities of this project on every day that such activity occurs, noting debris removal from resource areas and evaluations of measures employed to reduce impacts to the wetland resources. The condition of all drainage, erosion controls and sedimentation structures must be noted in the daily log, as well as the performance of maintenance activities on such structures. The contractor must provide Commission Staff with a draft construction inspection form prior to commencement of work on the project site. This log must be kept at the work area and made available upon demand by Commission Staff.

DURING CONSTRUCTION

GENERAL

57. There shall be no additional alterations of areas under the Commission's jurisdiction without the required review(s) and permit(s). This condition shall survive the expiration of this Order, and shall be included as a continuing condition in perpetuity on the COC.

58. The Applicant shall notify Commission Staff immediately if any damage is caused as a direct result of this project to any wetland resource area or buffer zone. It shall be the responsibility of the Applicant to submit to the Commission for its review and approval a repair or restoration plan depicting the remedial steps proposed to restore the wetland resource areas or buffer zone to its previous condition. Sedimentation of any resource area shall be considered fill of that wetland resource area.

59. If any unforeseen problems occur during construction which may affect the interests of the Act, or regulations promulgated thereunder, the Commission shall immediately be notified, and an immediate meeting shall be held between the Commission or Commission Staff, the Applicant, and other concerned parties to determine the correct measures to be employed. The Applicant shall then act to correct the problems using the corrective measures agreed upon. Subsequent to resolution, the activity and resulting actions shall be documented in writing.

60. The Applicant must regularly remove and dispose of debris on all wetland resources areas on the project site. This is a perpetual **maintenance** condition that will not expire upon issuance of a COC.

61. The Applicant must maintain the project site free of trash and debris during any down time or hiatus in the project during the term of this Order.

62. The Applicant and/or their contractor must clean the work area at the end of each workday to prevent wind deposition of fugitive dust and accumulation of debris in the buffer zone or wetland resource areas. All stored excavate or fill must be contained with appropriate best management practices when not in use. Special attention should be given by the contractor to securing covers on stored excavate, fill, dumpsters and roll-off containers over the weekend or during down time.

63. Except when necessary for final fitting or precision cutting and during demolition, no timber or construction materials may be cut within the resource areas or buffer zone. All sawdust and debris must be collected and disposed of properly.

64. Disposal of all construction materials, demolition debris and excess fill must be done in accordance with applicable federal, state, and local laws. Proof of proper disposal must be provided in the form of copies of bills of lading, disposal receipts or manifests to Commission Staff upon request.

65. At no time during or after construction shall fill or other materials be placed, slump into or fall beyond the limit of grading as shown on the plan. The applicant shall be responsible for inspecting and maintaining all slopes and shall immediately notify the Commission if slumping, erosion or encroachment occurs.

66. On-site discharge of untreated, decanted water from construction dewatering to resource areas is prohibited. If on-site discharge becomes necessary, the Applicant must submit a plan indicating dewatering methodology, water quality monitoring measures, and staging location of dewatering equipment for Commission Staff review and approval. Any approved dewatering must treat decanted water according to additional conditions deemed necessary by Commission Staff.

67. Trucks entering and leaving the site must have their loads completely covered in compliance with M.G.L. Chapter 85 § 36. Vehicles that accumulate soil or any unconsolidated material on their tires due to exposed ground conditions at the site must be thoroughly washed to avoid tracking of material onto the public way.

68. The contractor must have designated washout areas for concrete equipment that will be comprised of impermeable material and sized to contain project concrete wastes and wash water. Washout areas may not be located in the vicinity of storm drain inlets, stormwater conveyance, surface waters or wetlands.

69. All equipment and unconsolidated materials must be removed from areas subject to the 1% annual chance flood (100-year flood, Zone A) in advance of significant rainfall that will exceed the volume of a 2-year storm event.

70. All equipment and unconsolidated materials must be removed from Land Subject to Coastal Storm Flowage (Special Flood Hazard Areas subject to inundation by the 1% annual chance flood) in advance of any forecasted flooding event.

STORMWATER MANAGEMENT

71. The Applicant will ensure the cleanliness of all catch basins on the project site or affected by project related activity. Catch basins will be protected with hay bales and/ or silt sacks during the construction period. The proponent must inspect and, as necessary, clean all catch basins at least weekly during construction and more frequently after a significant rain event. Upon completion of the project, the inspection and cleaning of catch basins on

the subject property must occur twice a year: once between March 1st and April 30th and once between November 1st and November 30th of each year, and more often if necessary. This is a perpetual **maintenance** condition that will not expire upon issuance of a COC.

72. The Applicant must provide the Commission with copies of the Operations and Maintenance Log for all stormwater Best Management Practices (hereinafter "BMPs") on the subject site yearly through the duration of construction. Copies must specify dates of inspections, repairs, replacement, maintenance and cleaning actions, and names of individuals or contractors conducting said maintenance.

73. The party identified in the 'Operation and Maintenance Plan' to maintain the stormwater management structures is legally responsible to implement the 'Operation and Maintenance Plan.' The legally responsible party shall maintain a written maintenance log. The written maintenance log shall be available for inspection by the Commission or the Department. Failure to implement the 'Operation and Maintenance Plan,' including maintaining the log, shall be deemed noncompliance with the Act.

74. Repair or replacement of stormwater infrastructure may not commence in advance of a forecasted rain event.

75. All sheet flow from areas where vehicles drive or park must be directed toward catch basins that meet BWSC Specifications.

76. Any new or reconstructed catch basins, or any new or replaced sections of sidewalk or pavement adjacent to surface drains on the project site, must have a permanent plaque within one foot of the structure that states "Don't Dump - Drains to Boston Harbor."

77. There may be no parking of contractor or laborer vehicles in any resource area or associated buffer zone without proper stormwater controls or best management practices installed.

78. Where relevant, all facilities and equipment will be continually operated and maintained so as to comply with these conditions and the Act. The Applicant will be responsible for maintaining all on-site drainage structures, outfalls, or other stormwater management infrastructure, assuring the lasting integrity of the surface cover on the site and site activities so as to prevent erosion, siltation, sedimentation, chemical contamination or other detrimental impact to the on-site and/or off-site wetland resource areas. This is a perpetual **maintenance** condition that will not expire upon issuance of a COC.

79. Sediment or other contaminants removed from stormwater management structures shall be disposed of in accordance with all applicable federal, state, and local laws and regulations

80. No stormwater runoff shall be directed to a post construction stormwater management structure until written approval is received from Commission Staff. All stormwater

management structures that include plants shall be fully vegetated before seeking written approval from Commission Staff to direct stormwater runoff to them.

PRIOR TO THE CERTIFICATE OF COMPLIANCE CONDITIONS

81. Upon completion of all work regulated by this Order and final soil stabilization, the Applicant shall submit a Request for a COC to the Commission. The request shall include detailed as-built plans depicting the post construction conditions of the project site, including any subsurface infrastructure, and a compliance statement. Both must be signed and stamped by a professional engineer, land surveyor, or landscape architect, as applicable, certifying that the work has been completed in accordance with the conditions of this Order and the final site plans referenced herein.

ADDITIONAL CONDITIONS

GENERAL

82. There may be no dumping of leaves, grass clippings, brush, fill or other debris into wetland resource areas. No mulch shall be placed into wetland resource areas. This is a perpetual condition that will not expire upon issuance of a COC.

Details

Print

NPDES FORM 6100-045	EPA	Notice of Intent (NOI) for NPDES Permit Coverage under the EPA Region 1 General Permit for Dewatering and Remediation Discharges (MAG910000, NHG910000, CTG910000, RIG910000, and VTG910000)	Form Approved. OMB No. 2040-0004 Exp. 03/31/2022

Permit Information

Master Permit Number MAG910000

NPDES ID: MAG912107

Public Availability of Information Submitted on and with General Permit Reports
EPA may make all the information submitted through this form (including all attachments) available to the public without further notice to you. Do not use this online form to submit personal information (e.g., non-business cell phone number or non-business email address), confidential business information (CBI), or if you intend to assert a CBI claim on any of the submitted information. Pursuant to 40 CFR 2.203(a), EPA is providing you with notice that all CBI claims must be asserted at the time of submission. EPA cannot accommodate a late CBI claim to cover previously submitted information because efforts to protect the information are not administratively practicable since it may already be disclosed to the public. Although we do not foresee a need for persons to assert a claim of CBI based on the types of information requested in this form, if persons wish to assert a CBI claim we direct submitters to contact the NPDES eReporting Help Desk (NPDESeReporting@epa.gov (mailto:NPDESereporting@epa.gov)) for further guidance.

Eligibility Information

State/territory where your site is discharging: MA

Does your site discharge to federally recognized Indian Country lands? No

Are you a Federal Operator? No

Is the proposed discharge to a Water of the United States, either directly, or indirectly such as via an MS4? Yes

Select all activities that this site is requesting coverage for:
Site Dewatering

Are you requesting coverage for any of the following wastewaters? Yes

- Groundwater
- Stormwater
- Potable Water
- Surface Water

Have discharges from your site been previously covered under a NPDES permit? No

Are you a new source discharger as defined in 40 CFR §122.2 (https://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=2c38bb6a9aadc6c054be9d65ce506fe7&mc=true&n=pt40.24.122&r=PART&ty=HTML#se40.24.122_12)?
No

Does your site discharge to Outstanding Resource Waters (ORWS) as defined in Massachusetts by 314 CMR 4.06, including Public Water Supplies 314 CMR 4.06(1)(d)1? No

Does your site discharge to Ocean Sanctuaries, as defined at 302 CMR 5.00? No

Does your site discharge to territorial seas, as defined by Section 502 of the CWA? No

Does your site discharge to a river designated as a Wild and Scenic River that is not in accordance with 16 U.S.C. 1271 et seq? See Part 1.4 for more information. No

Are there remediation or dewatering discharges from your site resulting from on-site response action conducted pursuant to §§104, 106, 120, 121 or 122 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)?
No

Does your site discharge to a Publicly Owned Treatment Works (POTW) which are permitted under Section 402 of the CWA? No

Does your site discharge dredge-related waters where the United States Army Corps of Engineers (ACE) authorizes the discharge of pollutants under a CWA §404 permit? No

Operator Information

Operator Formal Name: Massachusetts Port Authority

Operator Organization's Mailing Address:

Address Line 1: 1 Harborside Drive

Address Line 2:

City: Boston

ZIP/Postal Code: 02116

State: MA

County or Similar Division: Suffolk

Operator Point of Contact Information

First Name Middle Initial Last Name: Madeline Soule

Title: Environmental Manager

Phone: 617-568-3508

Ext.:

Email: msoule@massport.com

Is your site owned by a different entity? Yes

Site Owner Name: Massachusetts Convention Center

Owner Contact Information

First Name Middle Initial Last Name: John Donahue

Title: Chief of Operations

Phone: 781-821-0400 **Ext.:**

Email: JDonahue@signatureboston.com

Owner Address Information

Address Line 1: 415 Summer Street

Address Line 2: **City:** Boston

ZIP/Postal Code: 02210 **State:** MA

County or Similar Division: Suffolk

Does this site have additional operators (co-permittees) with active or pending requests for coverage under this general permit? No

NOI Preparer Information

First Name Middle Initial Last Name: William Phelps

Organization: Tetra Tech, Inc.

Phone: (508) 786-2389 **Ext.:**

Email: william.phelps@tetratech.com

Site Information

Site Information

Site Name: New Cypher Reconstruction

Address Line 1: New Cypher Street

Address Line 2: **City:** Boston

ZIP/Postal Code: 02116 **State:** MA

County or Similar Division: Suffolk

Latitude/Longitude for the Site

Latitude/Longitude: 42.34255°N, 71.049583°W

What is the ownership type of the site? Mixed Ownership (e.g. Public/Private)

Is a State Remediation Program applicable to your site? Yes

List all release tracking/license/permit numbers and activity use limitations:

Mass DEP MCP RTNs 3-16211 (AUL), 3-16215 (AUL), 3-32225 (AUL) 3-11115 (AUL), RTN 3-16244 (AUL), RTN 3-34314, RTN 3-0580 (AUL)

Site Description

Provide a written description of operation including site history/origin, the purpose of the activities conducted at the site, how the operation will generate wastewater, the pollutants present (i.e., detected in environmental samples at any concentration), and the distribution of these pollutants across the site (i.e., type of media/phase, spatial distribution). Must include a description of any pollutants present in soil or sediment, if that soil or sediment has not been removed from the site and will be disturbed during site activities.

The Site is the location of the former SAK Junk facility and is presently a portion New Cypher Street in South Boston, Massachusetts. The Site also includes an extension of New Cypher Street between D and E Street. All properties along the alignment are Disposal Sites regulated under the Massachusetts Contingency Plan (MCP) and activity and use limitations (AULs) have been recorded for each of the properties (specific MCP Release Tracking Numbers are noted above). In addition, the western portion of New Cypher Street (between the South Boston Bypass Road and C Street) is regulated by the USEPA under the Toxic Substance Control Act (TSCA), due to the presence of elevated PCB concentrations in soil. Pollutants present in the project area include soil impacts associated with historic releases related to the former scrap metal operations resulted in impacts to soils. In addition, historic urban fill is also present in throughout the work area. Compounds of concern identified in the soils include PCBs, metals (primarily lead and arsenic), petroleum hydrocarbons, volatile organic compounds (VOCs) and semi volatile organic compounds (SVOCs). PCBs have generally not been identified in groundwater within the TSCA-regulated portion of the project area. The fill thickness varies across the project area, but generally ranges from 5 to 10 feet. Native soils encountered beneath the fill include silty sand and clay with some areas of peat. The dewatering activities are required in association with the proposed reconstruction, widening and extension of New Cypher Street. More specifically, the installation of new stormwater catch basins, manholes and drainage lines at depths below the water table. These activities will require dewatering to facilitate the installation of the drainage infrastructure. We note that material below the urban fill is comprised of silty sand and clay, and that wells installed to permit the collection of the groundwater data discussed in this NOI did not fully recharge. These observations are likely to limit the rate of groundwater infiltration during construction. Impacted soils proximate to the work area limits remain, and roadway and associated utility construction related excavation will disturb these materials (and underlying native soils). For the work in the TSCA segment of the project area, utility excavations will be backfilled with clean fill. Soils that not suitable for reuse or that are otherwise surplus to the project will be sent off-site for disposal.

Discharge Information

Discharge Point 001: Catch Basin in Cypher Street

Is this discharge an emergency discharge? No

Discharge Point Daily Maximum Flow (MGD): 0.2

What was the State determination for your receiving water critical low flow (MGD)? No receiving water critical low flow authorized (i.e., no dilution factor)

Select all source waters that this site is requesting coverage for:

- Groundwater

Did this discharge point reach the receiving water directly to an on-site system owned by the owner/operator? No

Did this discharge point reach the receiving water indirectly to a municipal storm sewer system? Yes

What is the name of the municipality? Boston Water and Sewer Commission

Contact Name: Jodi Dobay

Email: beginj@bwsc.org

Approval must be obtained.

Describe how the discharge enters the receiving water, from the point of treatment to the receiving water. Make sure to identify any catch basins.

Treated discharge to catch basin at intersection of New Cypher Extension and E Street. Discharge via BWSC MS4 48 x 60" drainline to BWSC outfall 076 and the Reserved Channel.

Latitude and Longitude of the Site Discharge Point: 42.340469°N, 71.046308°W

Latitude and Longitude of the Receiving Water Discharge Point: 42.339607°N, 71.041979°W

Receiving Water

Waterbody Name:
Reserved Channel

Is this waterbody fresh water or salt water? Salt Water

Select your Waterbody classification: Class SB

What is the waterbody type? Estuary/Ocean

Is this receiving water a shellfishing area? No

What was the recorded pH of the receiving water sample? 7.11

What was the recorded temperature (°F) of the receiving water sample? 62

Have alternative pH effluent limits been approved? No

Wastewater Type Sampling Requirements

Groundwater Sample Results

Parameter	Present in Soil Only?	Value Qualifier	Maximum Influent Concentration	Test Method
Total Suspended Solids (mg/L)	false	=	1780	
Turbidity (NTU)	false	=	2930	
Total Nitrogen [as N] (mg/L)	false	=	7.24	
Total Dissolved Solids (mg/L)	false	=	6810	
Chloride, total recoverable (mg/L)	false	=	3890	
Copper Total Recoverable (µg/L)	false	=	41.7	
Hydrocarbons, total petroleum (mg/L)	false	<	4.7	1664A
Arsenic Total Recoverable (µg/L)	false	=	10.1	
Iron Total Recoverable (µg/L)	false	=	52.1	
Lead Total Recoverable (µg/L)	false	=	118	
Cyanide, total as [CN] (µg/L)	false	<	5	4500-CN B, C, D, E, or F

Is the receiving water listed as impaired on the 303(d) list (https://www.epa.gov/tmdl/region-1-impaired-waters-and-303d-lists-state)? Yes

Select the cause(s) of impairment.

- Cause Unknown (Contaminants in Fish and/or Shellfish)
- Dissolved Oxygen
- Enterococcus

- Fecal Coliform
- PCBs in Fish Tissue

Do you have any additional parameters listed in Appendix E or G in your discharge that are not listed in the sample table(s) above? Yes

Select all parameters from Appendix E or G in your discharge that are not listed in the sample table(s) above.

- Zinc Total Recoverable
- Chromium III
- Methyl-tert-Butyl Ether
- Naphthalene
- Total Group I Polycyclic Aromatic Hydrocarbons
- Total Group II Polycyclic Aromatic Hydrocarbons
- Mercury Total Recoverable

Technology, Water Quality, and Impaired Waters Limits (Appendix E and G)

Concentration Monitoring							
Parameter	**Unit of Measure**	**Limit 1**	**Statistical Base**	**Required Monitoring?**	**Limit 2**	**Statistical Base**	**Required Monitoring?**
Mercury Total Recoverable	µg/L		Monthly Average	false	0.739	Daily Maximum	false
Zinc Total Recoverable	µg/L		Monthly Average	false	420	Daily Maximum	false
Chromium III	µg/L		Monthly Average	false	323	Daily Maximum	false
Methyl-tert-Butyl Ether	µg/L		Monthly Average	false	70	Daily Maximum	false
Total Group I Polycyclic Aromatic Hydrocarbons	µg/L		Monthly Average	false	1	Daily Maximum	false
Total Group II Polycyclic Aromatic Hydrocarbons	µg/L		Monthly Average	false	100	Daily Maximum	false
Naphthalene	µg/L		Monthly Average	false	20	Daily Maximum	false

Do you have any other additional parameters to disclose as required under part 2.1.3 case by case limitations? No

Discharge Limitations Information

Concentration Limits

Discharge Point	Parameter Name (code)	Reason for Limit	Unit of Measure	Limit 1	Statistical Base	Required Monitoring?	Limit 2	Statistical Base	Required Monitoring?	Were you provided an Adjusted Limit Value by the state?	Select the Limit(s) that were adjusted by the state to enter the adjusted Limit Values
001	pH (00400)	Wastewater Limit	SU	6.5	Minimum	No	8.5	Maximum	No	No	
001	Total Suspended Solids (00530)	Wastewater Limit	mg/L				30	Daily Maximum	No	No	
001	Turbidity (00070)	Wastewater Limit	NTU				50	Daily Maximum	No	No	
001	Total Nitrogen [as N] (00600)	Wastewater Limit (Impaired)	mg/L		Monthly Average	Yes	10	Daily Maximum	No	No	
001	Total Dissolved Solids (70296)	Wastewater Limit	mg/L					Daily Maximum	Yes	No	
001	Chloride, total recoverable (00943)	Wastewater Limit	mg/L					Daily Maximum	Yes	No	
001	Copper Total Recoverable (01119)	Impaired Water Limit	µg/L	3.73493976	Monthly Average	No	5.78313253	Daily Maximum	No	No	
001	Hydrocarbons, total petroleum (82181)	Wastewater Limit	mg/L					Daily Maximum	Yes	No	
001	Arsenic Total Recoverable (00978)	Impaired Water Limit	µg/L	36	Monthly Average	No	69	Daily Maximum	No	No	

Discharge Point	Parameter Name (code)	Reason for Limit	Unit of Measure	Limit 1	Statistical Base	Required Monitoring?	Limit 2	Statistical Base	Required Monitoring?	Were you provided an Adjusted Limit Value by the state?	Select the Limit(s) that were adjusted by the state to enter the adjusted Limit Values
001	Iron Total Recoverable (00980)	Wastewater Limit	µg/L				5000	Daily Maximum	No	No	
001	Lead Total Recoverable (01114)	Impaired Water Limit	µg/L	8.51735016	Monthly Average	No	160	Daily Maximum	No	No	
001	Cyanide, total as [CN] (00720)	Water Quality Limit	µg/L	1	Monthly Average	No	1	Daily Maximum	No	No	
001	Mercury Total Recoverable (71901)	Technology, Water Quality, and Impaired Waters Limit (user entered)	µg/L				0.739	Daily Maximum	No	N/A	N/A
001	Zinc Total Recoverable (01094)	Technology, Water Quality, and Impaired Waters Limit (user entered)	µg/L				420	Daily Maximum	No	N/A	N/A
001	Chromium III (04262)	Technology, Water Quality, and Impaired Waters Limit (user entered)	µg/L				323	Daily Maximum	No	N/A	N/A
001	Methyl-tert-Butyl Ether (22417)	Technology, Water Quality, and Impaired Waters Limit (user entered)	µg/L				70	Daily Maximum	No	N/A	N/A
001	Total Group I Polycyclic Aromatic Hydrocarbons (51614)	Technology, Water Quality, and Impaired Waters Limit (user entered)	µg/L				1	Daily Maximum	No	N/A	N/A
001	Total Group II Polycyclic Aromatic Hydrocarbons (51615)	Technology, Water Quality, and Impaired Waters Limit (user entered)	µg/L				100	Daily Maximum	No	N/A	N/A
001	Naphthalene (34696)	Technology, Water Quality, and Impaired Waters Limit (user entered)	µg/L				20	Daily Maximum	No	N/A	N/A

Quantity Limits

Discharge Point	Parameter Name (code)	Reason for Limit	Unit of Measure	Limit 1	Statistical Base
001	Flow (50050)	Wastewater Limit	MGD	0.2	Daily Maximum

Additional Discharge Information Attachments ✱

Attachment is required if Alt pH is entered.

Attachment is required if state provided critical low flow (dilution factor) is selected.

If Indirect Discharge selected, please attach the indirect discharge analysis.

Name	Created Date	Size
Cypher_DRGP_Data_Summary_Table.pdf	06/28/2023 5:27 PM	116.47 KB
23F0365 Final Report.pdf	06/28/2023 5:28 PM	2.70 MB
23f0049 final report.pdf	06/28/2023 5:36 PM	1.37 MB

Treatment Information

Do you plan on applying treatment to your effluent prior to discharging? Yes

Row ID: 1

Indicate the type(s) of treatment that will be applied to your effluent prior to discharge: (select all that apply)

- Adsorption/Absorption
- Granulated Activated Carbon ("GAC")/Liquid Phase Carbon Adsorption
- Ion Exchange
- Precipitation/Coagulation/Flocculation
- Separation/Filtration

Provide a written description of all treatment system(s) or processes that will be applied to the effluent prior to discharge. May include coagulation, flocculation, GAC filtration, bag filtration, pH neutralization.

Identify each major treatment component: (select all that apply)

- Air Stripping Unit
- Bag Filter
- Chemical Feed Tank
- Chlorination
- Dechlorination
- Equalization Tank
- Fractionation Tanks
- Mechanical Filter
- Media Filter
- Other
- Oil/Water Separator

Other treatment component: ph neutrializaiton

Is this treatment plant a mobile unit? Yes

Please select the discharge point that this treatment is being applied to:

- 001

Do you plan on applying chemical(s) or additive(s) to the discharge(s)? Yes

Row ID: 1

Name of Chemical: Flocculants

Estimated maximum concentration (mg/L): 100

Select all parameters listed that are ingredients in this chemical:

- Turbidity

Method of Application: Manual application

Please select the discharge point that this chemical is being applied to:

- 001

Schematic of Flow

Attach a schematic of flow including the following: the direction of water flow from the point of generation to the receiving water, the source water(s) with estimated volume noted, process water(s) with estimated volume noted, any treatment systems or processes with design flow noted, discharge point(s) with estimated volume noted, sampling points if different than discharge points, receiving water(s). ✱

Safety Data Sheet (SDS)

Attach the Safety Data Sheet (SDS) and Chemical Abstracts Service (CAS) Registry number for each chemical/additive ✱

Name	Created Date	Size
sds-haloklear-bhr-p50-9-16-19.pdf	06/26/2023 7:30 AM	1.11 MB

Additional Information

Endangered Species Act

ESA eligibility for species under jurisdiction of USFWS

Indicate which criterion applies to the proposed discharge(s) under this general permit:

Criterion B: Formal or informal consultation with the FWS under section 7 of the ESA resulted in either a no jeopardy opinion (formal consultation) or a written concurrence by USFWS on a finding that the discharges and related activities are “not likely to adversely affect” listed species or critical habitat (informal consultation).

➥ **Has the operator completed consultation with FWS and attached documentation? Use the attachment section below.** Yes

ESA eligibility for species under jurisdiction of NOAA Fisheries

Is the discharge to: the Connecticut River between the Massachusetts/Connecticut state line and Turners Falls, MA; the Taunton River; the Merrimack River between Lawrence, MA and the Atlantic Ocean; the Piscataqua River including the Salmon Falls and Cocheco Rivers; or a marine water?

Yes

Indicate which criterion applies to the proposed discharge(s) under this general permit:

NMFS Criterion: A determination made by EPA is affirmed by the operator that the discharges and related activities will have “no effect” or are “not likely to adversely affect” any federally threatened or endangered listed species or critical habitat under the jurisdiction of NMFS and will not result in any take of listed species.

National Historic Preservation Act

Indicate which criterion applies to the proposed discharge(s) under this general permit:

Criterion B: Historic properties are present. Discharges and discharge related activities do not have the potential to cause effects on historic properties.

Has the documentation been attached? Use the attachment section below. Yes

Environmental Justice Executive Order(s)

Indicate which criterion applies to the proposed discharge(s) under this general permit: EJ Criterion B: One or more environmental justice indices are in proximity to the discharges or related activities.

Has the documentation been attached? Use the attachment section below. Yes

Has the Municipal Review been attached? Use the attachment section below to attach any discharge permit issued by a municipality or indicate if a permit will be issued upon approval from EPA; Attach any written determination by a Conservation Commission, i.e., Order of Conditions.

Yes

State Antidegradation Review

Has the State Antidegradation Review been attached? Use the attachment section below. No

SWPP/BMPP

Indicate which criterion applies to the proposed discharge(s) under this general permit:

New discharge: A BMPP meeting the requirements of this general permit will be developed and implemented upon initiation of discharge.

By selecting this certification statement, the signatory(ies) confirms that the BMPP will meet the minimum requirements specified in Part 2.5.1 of the RGP and addresses ALL BMPs specified in Part 2.5.2 of the RGP, which apply to ALL SITES.

Has notification been provided to the appropriate State? Yes

Has notification been provided to the municipality in which the discharge is located? Yes

Please use the space below to provide any other relevant information related to your site. You can add one or more additional attachments.

1. See attachments for supporting documentation on Endangered Species Act Review, NOAA Fisheries Review, National Preservation Act Review and Environmental Justice Review. A supporting narrative related to the documentation responses to the required questions is also attached. 2. State Antidegradation review was not required as discharge is not proposed to a Class A Water Body / Outstanding Resource Water. 3. A copy of the Order of Conditions issued by the City of Boston for the roadway project is included as an attachment to this NOI. 4. Preliminary communication regarding the proposed discharge was made with MassDEP as part of the preparation of this NOI. Detailed notification to MassDEP prior to the start of the work will be provided in the form of Release Abatement Measure (RAM) Plans submitted pursuant to the requirements of the Massachusetts Contingency Plan. A copy of the pertinent RAM Plan will also be provided to the USEPA - TSCA Division. 5.A permit application for dewatering discharge is being submitted to the Boston Water and Sewer Commission concurrently with this NOI. A copy of the application is included as an attachment to this NOI.

Name	Created Date	Size
Appendix_A_ESA_Determination_All.pdf	06/28/2023 5:11 PM	426.64 KB
Appendix_B_EFH_Documentation.pdf	06/28/2023 5:11 PM	184.28 KB
Appendix_C_NHP_Documentation.pdf	06/28/2023 5:11 PM	2.15 MB
Appendix_D_EJ_Documentation.pdf	06/28/2023 5:12 PM	1.28 MB
DEP File 006-1834 OOC (003).pdf	06/28/2023 5:13 PM	8.61 MB
BWSC_Drainage_Discharge_Plan.pdf	06/28/2023 5:14 PM	761.97 KB
BWSC_Discharge_Permit_Application_signed_ (002).pdf	07/14/2023 11:36 AM	164.84 KB
New_Cypher_DRGP_Supprorting_Narrative.pdf	06/28/2023 6:17 PM	108.41 KB
Treatment Schematic.p.pdf	06/28/2023 5:15 PM	106.34 KB

Certification Information

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. Signing an electronic document on behalf of another person is subject to criminal, civil, administrative, or other lawful action.

Certified By: Madeline T. Soule

Certifier Title: Ms

Certifier Email: msoule@massport.com

Certified On: 07/14/2023 12:21 PM ET

Appendix F Public Notifications

TETRA TECH

August 15, 2023

Dr. Bisola Ojikutu
Executive Director
Boston Public Health Commission
1010 Massachusetts Ave, 2nd Floor
Boston, MA 02118

Re: Public Notice
Submittal of Release Abatement Measure Plans
Cypher Street Improvements
Boston, Massachusetts
RTNs – 3-16211, 3-16215, 3-31115 and 3-32225

Dear Dr. Ojikutu:

On behalf of the Massachusetts Port Authority (Massport), Tetra Tech, Inc. is providing notice of the submittal of Release Abatement Measure (RAM) Plans for the above-referenced Disposal Sites pursuant to the Massachusetts Contingency Plan (MCP) under 310 CMR 40.1403(3). Although all of the submittals are related to the Cypher & E Street construction project, separate RAM Plans are being filed for each of the above-referenced Release Tracking Numbers (RTNs) as required under the MCP.

RAM Plans have been prepared to provide guidance for soil and groundwater management during excavation activities associated with roadway improvements to Cypher Street, Boston, Massachusetts (the Project). The areas subject to the above-referenced RAM Plans are comprise a section of Cypher Street between the South Boston Bypass Road and E Street. Proposed improvements in the Project Area include the construction of new roadway on Cypher Street, resurfacing of existing pavement and street widening to provide improved access and usability by pedestrian and bicycle traffic, new curbing and sidewalks, the installation of a redesigned drainage system, new signing, pavement markings, and loam and seeding disturbed areas. Additional work includes the construction of an extension of Cypher Street between D and E Streets. Excavation and restoration activities are anticipated to be completed within 8 to 12 months.

Information about each Disposal Site is available for review using the MassDEP Waste Site / Reportable Release File Viewer website at http://public.dep.state.ma.us/wsc_viewer/main.aspx under the above-referenced RTNs.

Marlborough Technology Park
100 Nickerson Road, Marlborough, MA 01752
Tel 508.786.2200 Fax 508.786.2201 tetratech.com

If you have any questions or would like additional information, please contact the undersigned at (508) 786-2200.

Very truly yours,

William C. Phelps
Senior Project Manager

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TETRA TECH

August 15, 2023

Honorable Michelle Wu
Mayor, City of Boston
1 City Hall Square, Suite M4
Boston, MA 02111

Re: Public Notice
Submittal of Release Abatement Measure Plans
Cypher Street Improvements
Boston, Massachusetts
RTNs – 3-16211, 3-16215, 3-31115 and 3-32225

Dear Mayor Wu:

On behalf of the Massachusetts Port Authority (Massport), Tetra Tech, Inc. is providing notice of the submittal of Release Abatement Measure (RAM) Plans for the above-referenced Disposal Sites pursuant to the Massachusetts Contingency Plan (MCP) under 310 CMR 40.1403(3). Although all of the submittals are related to the Cypher & E Street construction project, separate RAM Plans are being filed for each of the above-referenced Release Tracking Numbers (RTNs) as required under the MCP.

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Very truly yours,

William C. Phelps
Senior Project Manager

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