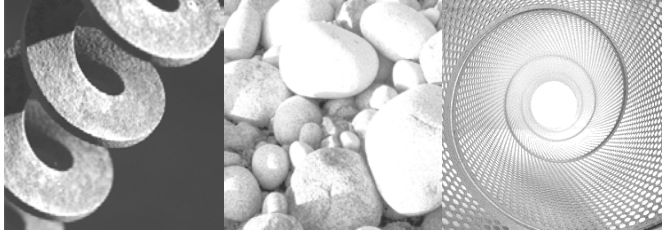

GEI Consultants

Consulting
Engineers and
Scientists

MassDEP RTN 3-15009 and RTN 3-36365

Supplemental Phase II Comprehensive Site Assessment, Phase III Remedial Action Plan Addendum, and Temporary Solution Statement

Parcel P-3: Tremont and Whittier Streets,
Boston (Roxbury), Massachusetts

Submitted to:
Massachusetts Department of Environmental Protection
205B Lowell Street
Wilmington, MA 01887

Submitted by:
GEI Consultants, Inc.
400 Unicorn Park Drive
Woburn, MA 01801

April 14, 2021

Project 2002082

Ryan S. Hoffman, P.G., LSP
Senior Project Manager

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

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Executive Summary

GEI Consultants, Inc. prepared this Supplemental Phase II Comprehensive Site Assessment (CSA), Phase III Remedial Action Plan (RAP) Addendum, and Temporary Solution Statement (the Report) on behalf of the Boston Planning & Development Agency (BPDA) for the property identified as Parcel P-3 (the Property) at Whittier and Tremont Streets in Roxbury, Massachusetts (the Site). Two Massachusetts Department of Environmental Protection (MassDEP) disposal sites are on the Property. The disposal site is identified as Release Tracking Numbers (RTNs) 3-15009, originally notified to MassDEP in 1997 and RTN 3-36365 notified to MassDEP on July 16, 2020. RTN 3-36365 is being linked to RTN 3-15009 creating a combined disposal site (the Site).

The Site is approximately 7.7 acres. From the late 1800s to about the 1960s, the Site was occupied by not only residential properties, but also industrial, commercial, and manufacturing businesses that used and stored oil and hazardous materials (OHM).

In 1996-1997, the Boston Redevelopment Authority (BRA), predecessor to the BPDA, engaged Weston & Sampson (W&S) to conduct subsurface investigations on the eastern portions of the Site. The investigation identified total petroleum hydrocarbons (TPH), polycyclic aromatic hydrocarbons (PAHs), and lead in excess of the applicable Massachusetts Contingency Plan (MCP: 310 CMR 40.0000) Reportable Concentrations for residential areas (RCS-1). The BRA reported the release to MassDEP on April 11, 1997 and the Site was assigned RTN 3-15009. The Site was classified as Tier II on April 10, 1998.

In 2002, W&S conducted Phase II investigations at the Property. The detected contaminants were predominantly total petroleum hydrocarbons (TPH), polycyclic aromatic hydrocarbons (PAHs), and lead. As a result of this investigation, W&S identified the RTN 3-15009 disposal site as the eastern portion of the Property, except for the old Whittier Street Heath Center (WSHC) and its parking lot. In their Phase III Remedial Action Plan (RAP), W&S proposed excavating a "hot spot" of lead-contaminated soil on the southwest portion of the Site and placing an Activity and Use Limitation (AUL) on the remainder of the Site to restrict residential development. The lead hot spot was not excavated and an AUL was not prepared for the RTN 3-15009 disposal site. The next regulatory deadline for RTN 3-15009 was a Phase IV Remedial Implementation Plan (RIP) by 2003; which was never completed.

In 2017, on behalf of the then-designated developer, P-3 Partners, GEI conducted a subsurface investigation for due diligence, including test pit excavation, soil boring and monitoring well installation, and soil and groundwater sampling. The investigation was conducted within the boundaries of RTN 3-15009 but also on the western portion of the

Property. Based on the results of the investigation, concentrations of chlorinated volatile organic compounds (VOCs) including trichloroethene (TCE), cis-1,2-dichloroethene (DCE), and vinyl chloride in groundwater on the western portion of the Property exceeded the applicable MCP RCGW-2 standard. In addition, the concentrations of lead and PAHs in soil on the western portion of the Property exceeded the applicable MCP RCS-1 standard. This constituted a new MassDEP reportable condition for the property owner (BPDA).

The new groundwater and soil exceedances were reported to MassDEP by BPDA on July 16, 2020 and RTN 3-36365 was issued. This Report links RTN 3-36365 to the RTN 3-15009, enlarging the historic disposal site to incorporate both.

The soil contamination at the Property is VOCs, volatile and extractable petroleum hydrocarbons (VPH and EPH), PAHs, and metals. The groundwater contamination is chlorinated VOCs, PAHs, and metals. The source of the contamination observed in the soil is likely contaminants common in urban fill and possibly historic releases from former industrial use of the Site. Sources of groundwater contamination include historic industrial use of the Site, and possible upgradient sources of VOC contamination.

Based on the data collected at the Site as part of subsurface investigations, we concluded that a condition of No Significant Risk does not exist at the Site from exposure to soil and groundwater. However, a condition of No Substantial Hazard to human health exists at the Site. A Phase III study for the identification, evaluation, and selection of remedial alternatives was necessary.

We identified and evaluated remedial action alternatives (RAA) that are reasonably likely to achieve a Permanent or Temporary Solution and are feasible considering the expertise exists to effectively implement them.

Based on our evaluation, we recommend RAA1 for the Site, which is Site Maintenance.

- RAA1 will achieve a Temporary Solution and is more cost-effective than other RAAs that could potentially achieve a Permanent Solution.
- RAA1 is most compatible with both current operations as well as future redevelopment plans for the Site. Selecting this RAA will allow the BPDA to plan future use of the Site and to incorporate a potential future remediation of the Site into their development plans.

The selection of a Temporary Solution is appropriate for the Site based on the following requirements of the MCP [310 CMR 40.1050]:

- The source of contamination been characterized and is not a threat for migration.

- No Substantial Hazard exists at the Site.
- A Phase III evaluation of remedial alternatives has been completed.

This Report includes the Temporary Solution Statement. The Temporary Solution will remain in place while additional steps are implemented to achieve a Permanent Solution. The definitive and enterprising steps toward achieving a Permanent Solution at the Site are:

- Perform semi-annual inspections of the Site to document that no changes to the Site conditions and no unauthorized excavations have occurred.
- Evaluate the feasibility of removing the large, artificial mound of soil on the northeastern portion of the Site and re-grade the Site to make it less susceptible to illegal dumping. While this will not result in a condition of No Significant Risk and a Permanent Solution, it will position the Site to be more attractive for future development plans and ultimately a Permanent Solution. If performed, this soil management work would occur under a Release Abatement Measure (RAM) Plan.
- Within five years, the BPDA plans to decide on the redevelopment plans for the Property and Site. After the decision is made a Phase III RAP Addendum and Phase IV Remedy Implementation Plan (RIP), or a RAM Plan will be submitted to implement a remedy that will result in a Permanent Solution.

1. Introduction

GEI Consultants, Inc. prepared this Supplemental Phase II Comprehensive Site Assessment (CSA), Phase III Remedial Action Plan (RAP) Addendum, and Temporary Solution Statement (the Report) on behalf of the Boston Planning & Development Agency (BPDA) for the property identified as Parcel P-3 (the Property) and at Whittier and Tremont Streets in Roxbury, Massachusetts (the Site; Figs. 1 and 2). Two Massachusetts Department of Environmental Protection (MassDEP) disposal sites are on the Property; Release Tracking Numbers (RTNs) 3-15009, originally notified to MassDEP in 1997 and RTN 3-36365 notified to MassDEP on July 16, 2020. RTN 3-36365 is being linked to RTN 3-15009 creating a combined disposal site (the Site). This Report fulfills the requirements of the Massachusetts Contingency Plan (MCP; 310 CMR 40.0835, 40.0861, and 40.1050).

1.1 Purpose

The purpose of this Report is to:

- Combine the new disposal site (RTN 3-36365) on the western portion of the Property with the existing disposal site RTN 3-15009 on the eastern portion of the Property.
- Submit a Supplemental Phase II CSA and Phase III RAP Addendum for the disposal site RTN 3-15009, inclusive of RTN 3-36365.
- Return disposal site RTN 3-15009 to compliance by preparing a Temporary Solution Statement (TSS) Report.

1.2 Scope

The scope of this Temporary Solution included:

- Reviewing state site databases and municipal records.
- Reviewing the previously reports prepared for this Site by GEI and others.
- Summarizing subsurface investigation previously performed by GEI including installing soil borings and monitoring wells and collecting soil and groundwater samples.
- Conducting a Substantial Hazard Evaluation to evaluate the risk of harm posed to human health, public safety, welfare, and the environment.
- Evaluating remedial alternatives for the Site.
- Preparing this report.

1.3 Submittals

The Tier Classification Transmittal Forms (BWSC107 and BWSC107B), Comprehensive Response Action Transmittal Form (BWSC108), and the Temporary Solution Statement Form (BWSC104) were submitted electronically to MassDEP, and copies are in Appendix A.

The Tier Classification Transmittal Forms (BWSC107 and BWSC107B) submits:

- A notice linking RTN (3-36365) to the Tier Classified Site (3-15009) and
- An extension of the Tier Classification of RTN 3-15009 so that future response actions may occur.

The Comprehensive Response Action Transmittal Form (BWSC108) submits a Supplemental Phase II CSA and Phase III RAP Addendum.

The Temporary Solution Statement Form (BWSC104) submits a TSS Report returning disposal site RTN 3-15009 to compliance.

1.4 Public Involvement

As required by 310 CMR 40.1403, letters were distributed to the Chief Municipal Officer (Boston Mayor) and Board of Health (Boston Public Health Commission) notifying them of the availability of the Report. Copies of the notification letters are in Appendix B.

1.4.1 PIP Activities

Disposal site RTN 3-15009 was designated a Public Involvement Plan (PIP) site in 2005. In accordance with the requirements of the PIP, a public comment period was opened following the submission on January 8, 2021 of the draft Supplemental Phase II CSA, Phase III RAP Addendum, and Temporary Solution Statement. An initial public meeting was hosted virtually on January 11, 2021 to present the findings of the report. Copies of the meeting notification letters and PIP meeting minutes were previously submitted to MassDEP. The initial 20-day public comment period was set for February 1, 2021 but the public requested an extension. BPDA granted additional time and the comment period closed on February 26, 2021. Comments received and the BPDA's responses to the comments are in Appendix B, and were incorporated into this final report as appropriate.

1.5 Background

In 1996-1997, the Boston Redevelopment Authority (BRA), predecessor to the BPDA, engaged Weston & Sampson (W&S) to conduct subsurface investigations on the eastern portions of the Site. The investigation identified total petroleum hydrocarbons (TPH),

polycyclic aromatic hydrocarbons (PAHs), and lead in soil in excess of the applicable MCP Reportable Concentrations for residential areas (RCS-1). The BRA reported the release to the MassDEP on April 11, 1997 and the Site was assigned RTN 3-15009. The Site was classified as Tier II on April 10, 1998.

In 2002, W&S conducted Phase II investigations at the Site. W&S collected soil and groundwater samples for analysis of volatile petroleum hydrocarbons (VPH) including target volatile organic compounds (VOCs), extractable petroleum hydrocarbons (EPH) including target PAHs, polychlorinated biphenyls (PCBs), and Resource Conservation and Recovery Act (RCRA) 8 metals. The detected contaminants were predominantly TPH, PAHs, and lead. As a result of this investigation, W&S identified the RTN 3-15009 disposal site as the eastern portion of the Property, except for the old Whittier Street Health Center (WSHC) and its parking lot (Fig. 2).

W&S prepared a combined Method 1 and 3 Risk Characterization for the RTN 3-15009 disposal site that indicated that a condition of No Significant Risk (NSR) did not exist. In their Phase III RAP, W&S proposed excavating a "hot spot" of lead-contaminated soil on the southeast portion of the Site and placing an Activity and Use Limitation (AUL) on the remainder of the Site to restrict residential development.

The lead hot spot was not excavated and an AUL was not prepared for the RTN 3-15009 disposal site. The next regulatory deadline for RTN 3-15009 was a Phase IV Remedial Implementation Plan (RIP) by 2003; which was never completed. On October 22, 2007, MassDEP issued a Notice of Noncompliance (NON-NE-07-3A146) to the BRA for failing to submit the Phase IV RIP, and a Response Action Outcome (RAO) Submittal.

In 2017, on behalf of the then-designated developer, P-3 Partners, GEI conducted a subsurface investigation for due diligence, including test pit excavation, soil boring and monitoring well installation, and soil and groundwater sampling. The investigation was conducted with the boundaries of RTN 3-15009 but also on the western portion of the Property. Based on the results of the investigation, concentrations of chlorinated VOCs including trichloroethene (TCE), cis-1,2-dichloroethene (DCE), and vinyl chloride in groundwater on the western portion of the Property exceeded the applicable MCP RCGW-2 standard. This constituted a new MassDEP reportable condition for the property owner (BPDA). The BPDA withdrew the developer designation from P-3 Partners in November 2019.

The new groundwater and soil exceedances were reported to MassDEP by BPDA on July 16, 2020 and RTN 3-36365 was issued. This Report links RTN 3-36365 to RTN 3-15009, enlarging the historic disposal site to incorporate both disposal sites and the former Whittier Street Health Center lot (Fig. 2).

1.6 Conceptual Site Model

We developed a conceptual site model based on the history and use of the Site and on the data collected during subsurface investigations.

1.6.1 Site History and Description

The Site was generally industrial in the late 19th and early 20th century; a health center was constructed on the eastern portion in 1933. After that, portions were used for a junk yard, a tavern, and a paved parking lot.

The Site is approximately 334,546 square feet or 7.7 acres. On the southeast portion of the Site (Fig. 2, east of Vernon street and south of an undeveloped road, formerly Hampshire Street) is the lead hot spot described by W&S and the former WSHC, a vacant, four-story brick building located. The building is surrounded by pavement, which is in poor condition and is fenced.

On the northeast portion of the Site (Fig. 2, east of Vernon Street and north of Hampshire Street) is a large artificial, mound of approximately 5 to 10 feet above the surrounding pavement, except for the northeast corner which is landscaped and at normal grade. The mound is mixed soil and debris including metal, concrete, and brick debris, tires, and trash. This area is entirely unpaved and is surrounded by a fence.

The western portion of the Site (Fig. 2, west of Vernon Street) is primarily paved asphalt parking lots, which are in good condition. There are also some landscaped areas and a small community garden (Whittier Community Garden) with raised planter beds.

The nearest surface water body is the Back Bay Fens, approximately 0.5 mile northwest. Surface water runoff is likely directed to the catch basins located on the Property.

The site geology is generally 3 to 17.5 feet of fill overlying approximately 5 to 10 feet of organic soil, overlying glacial outwash (up to 71.5 feet thick) which overlies highly weathered to slightly weathered Roxbury Conglomerate bedrock. Depth to groundwater measured from ground surface ranges from approximately 8 to 13 feet deep and groundwater flows from south to north toward the Back Bay Fens.

1.6.2 Potential Contaminant Sources and Contaminants of Concern

The source of the contamination in the soil is likely contaminants common in urban fill and potentially historic releases from former industrial use of the Site. Sources of groundwater contamination include historic industrial use of the Site, and possible upgradient sources of contamination.

The primary contaminants in soil are lead, petroleum hydrocarbons and PAHs. The primary contaminants in groundwater are TCE, cis-1,2-DCE, and vinyl chloride.

1.6.3 Response Actions Conducted to Date

No response actions have been conducted at the Site. In 2002, W&S proposed excavating a "hot spot" of lead-contaminated soil and placing an AUL on the remainder of the Site to restrict residential development, but these actions were not performed.

1.6.4 Receptors and Potential Exposure Pathways

Potential exposure pathways at the Site based on the distribution of Site contaminants include:

- Ingestion and dermal contact with soil and inhalation of soil-derived fugitive dust by a future commercial worker, resident, trespasser, visitor, landscaper, utility worker, and construction worker if the Site is redeveloped. Under current conditions much of the eastern portion of the Site is unpaved, except for around the former WSHC, but it is fenced, and the western portion is paved or landscaped; therefore, the potential for soil exposure is limited.
- Dermal contact with groundwater by a future construction worker on the western portion of the Site.
- Inhalation of air in an excavation by a future construction worker on the western portion of the Site.
- Inhalation of indoor air by potential future building occupants on the western portion of the Site.

1.6.5 Ecological Exposure Potential

About half of the ground surface at the Site is exposed soil with weed growth and about half is paved or landscaped. There are no known environmental receptors at the Site. The Back Bay Fens is approximately 0.5 mile northwest of the Site and impacts to surface water and sediment are unlikely.

2. General Disposal Site Information

In accordance with 310 CMR 40.0835(4)(a,b), the following general Site information is provided.

2.1 Site Location and Description

The Site is at the intersection of Tremont Street and Whittier Street in Boston, Massachusetts (Fig. 1). The Site is vacant and owned by the BPDA. The latitude and longitude of the Site are 42°19'59.88"N and 71° 5'21.33"W, and UTM coordinates for the Site are 4,688,888mN and 327,826mE. The City of Boston Assessor's database identifies the Site as parcel #902980100.

The Site is approximately 334,546 square feet or 7.7 acres. The Site is bounded by Tremont Street to the north, Whittier Street to the east, Downing Street to the south, and an unnamed road to the west that accesses the parking lots behind the Madison Park High School. Additionally, Vernon Street bisects the eastern and western portions of the Site. In the eastern portion of the Site, an undeveloped road, formerly Hampshire Street, bisects the Site north of the former WSHC building (Fig. 2).

The former WSHC, a vacant, four-story brick building, is on the southeast portion of the Site (Fig. 2, east of Vernon street and south of Hampshire Street). The building is surrounded by pavement, which is in poor condition and a fence. A large artificial mound, approximately 5 to 10 feet above the surrounding pavement, except for the northeast corner, which is landscaped and at normal grade, is on the northeast portion of the Site (Fig. 2, east of Vernon Street and north of Hampshire Street). The mound is mixed soil and debris including metal, concrete, and brick debris, tires, and trash. This area is entirely unpaved and is surrounded by a fence.

The western portion of the Site (Fig. 2, west of Vernon Street) is primarily paved asphalt parking lots, which are in good condition. In this area there are also some landscaped areas and a small community garden (Whittier Community Garden) with raised planter beds.

2.2 Site Vicinity

The current use of the abutting properties are primarily residential apartments, vacant buildings, school buildings, a church, a police department, a health center, and commercial companies. The address, assessor's parcel identification number, owner, and use of each of the abutting properties are in Table 1.

2.3 Natural Resource Areas and Surrounding Land Use

Based on our review of the MassGIS Natural Resources Map for the Site (Fig. 3) and City of Boston assessor's maps, the environmental setting and potential sensitive receptors at the Site and in its vicinity include:

- Residential Population: The Site is in an urban area of Boston. We estimate that there are more than 1,000 residents within 0.5-mile of the Site.
- On-site Workers: There are fewer than 10 workers at the Site.
- Institutions: There are no institutions, as defined by the MCP, within 500 feet of the Site boundary. However, Madison Park High School is approximately 100 feet southwest and upgradient of the Site and the current WSHC is approximately 100 feet northwest and upgradient of the Site.
- Drinking Water Supplies: There are no known drinking water supplies (Zone II areas, Interim Wellhead Protection Areas, Zone A areas, Potentially Productive Aquifers [PPA], or private wells) or Sole Source Aquifers within 500 feet of the Site.
- Surface Waters and Wetlands: There are no surface water bodies or wetlands within 0.5 mile of the Site. The Back Bay Fens is approximately 0.5 mile to the northwest.
- Fish Habitat: The Back Bay Fens, approximately 0.5 mile from the site, is presumed fish habitat.
- Area of Critical Environmental Concern (ACEC): According to the MassGIS map, the Site is not located in an ACEC.
- Threatened or Endangered Species: According to the MassGIS map, there are no Natural Heritage and Endangered Species Program Estimated Habitats for Rare Wetlands Wildlife within 500 feet of the Site. According to the Massachusetts Natural Heritage Atlas, there are no priority habitats of rare species, estimated habitats of rare wildlife, or certified vernal pools within 0.5 mile of the Site.
- Protected Open Space: According to the MassGIS map, there is one public park, associated with Roxbury Community College, approximately 300 feet south of the Site.

2.4 Utilities

The Site has aboveground electrical lines leading to it, as well as inactive public water and sewer lines. The 48-inch brick Boston Water and Sewer Commission sewer interceptor (Stony Brook Interceptor) is at the Site and whose alignment is generally coincident with Hampshire Street (paper street only). Existing utilities are on engineering drawings in Appendix D.

2.5 Disposal Site Map

A Disposal Site Map, including the Site boundaries is shown on Fig. 2. The original RTN 3-15009 disposal Site boundary is shown as well as the newly enlarged RTN 3-15009 disposal Site boundary that incorporates the new RTN 3-36365 and the former WSHC.

3. Disposal Site History

In accordance with 310 CMR 40.0835(4)(c), the following is a summary of the ownership and operations history, release history, OHM use and storage history, waste management history, environmental permits and compliance history, and the potentially responsible party (PRP) for the Site.

3.1 Ownership and Operation History

Historical use of the Property was obtained from Sanborn Fire Insurance Maps (Sanborn Maps) from 1888 to 2002, aerial photographs taken periodically from 1938 to 2012, and City of Boston Inspectional Services Department records. Sanborn Maps, aerial photographs, and historic city records are in Appendix C. Additional site history was provided in the 2002 W&S Phase II CSA.

According to the 1888 Sanborn Map, many residential, industrial, and commercial manufacturing companies occupied the Property. Located on the northern portion of the Property south of Tremont Street were Tremont Foundry Machine Co., Eastern Electric Cable Co., St. John's Episcopal Church, and various stores and residential buildings. In the central portion of the Property, there were one to two-story residential and commercial buildings, along with the Roxbury Carpet Co. which was located adjacent to Vernon Street to the west. According to the Sanborn Map, coal and dye materials were stored in the four-story warehouse occupied by Roxbury Carpet Co. South of Roxbury Carpet Co., A.J. Tower, an "oil clothing manufactory," occupied three to four-story warehouse buildings.

By 1919, Tremont Foundry Machine Co. and Eastern Electric Cable Co. were replaced by smaller manufacturing and machine shops. A scrap iron yard and marketplace were on the northern portion of the Property. The Roxbury Carpet Co. had 4,500-gallon, 20,000-gallon, and 1,000-gallon tanks of unspecified contents along with many transformers. A.J. Tower Oil Clothing Manufactory also had a 500-gallon gasoline and a 4,500-gallon pressurized tank. The remaining developments on the Property remain largely unchanged as residential. Culvert Street to the east of the Property was changed to Whittier Street.

According to the 1950 Sanborn Map from 1950, many of the residences and stores were demolished in the southeastern portion of the Property and the four-story WSHC was constructed in 1933. It housed clinics, offices, a solarium, and a basement. Roxbury Carpet Co. no longer operated on the Property. An additional five oil tanks were in the eastern portion of A.J. Tower Co. and two laundry business were developed in the northern portion of the Property.

By 1988, all the structures on the Property were demolished and the Property remained vacant apart from the former WSHC located at 20 Whittier Street and a 1-story store located at 1182-1184 Tremont Street. According to permits provided by the City of Boston Inspectional Services Department, 1182-1184 Tremont Street was occupied by a restaurant known as Connolly's Tavern. Additionally, a playground was built west of the health center on the Property.

By 1998, Connolly's Tavern was demolished, and the Property remains largely unchanged and undeveloped apart from vacant WSHC located at 20 Whittier Street.

3.2 Release History

The BRA, predecessor to the BPDA, engaged W&S to conduct subsurface investigations on the eastern portion of the Property in 1996 and 1997. The investigation identified TPH, PAHs, and lead in excess of the RCS-1 standards. The BRA reported the release to the MassDEP on April 11, 1997 and the Site was assigned RTN 3-15009. The Site was classified as Tier II on April 10, 1998.

In 2002, W&S conducted Phase II investigations at the Site. W&S collected soil and groundwater samples for analysis of VPH, EPH, PCBs, and RCRA 8 metals. The detected contaminants were predominantly TPH, PAHs, and lead. As a result of this investigation, W&S identified the RTN 3-15009 disposal site as the eastern portion of the Property except for the former WSHC and its parking lot (Fig. 2).

W&S also conducted a combined Method 1 and 3 Risk Characterization for the RTN 3-15009 disposal site. The risk characterization indicated that a condition of NSR did not exist at the Site. In their Phase III RAP, W&S proposed excavating a hot spot of lead-contaminated soil on the southeast portion of the RTN 3-15009 disposal site and placing an AUL on the northern portion of the disposal site to restrict residential development.

The lead hot spot was not excavated and the AUL was not prepared. The next regulatory deadline for the RTN 3-150009 disposal site was a Phase IV RIP by 2003; which was not completed.

In 2017, on behalf of the then-designated developer, P-3 Partners, GEI conducted a subsurface investigation. Based on the results of our investigation, concentrations of chlorinated VOCs including TCE, cis-1,2-DCE, and vinyl chloride in groundwater on the western portion of the Property exceeded the applicable MCP RCGW-2 standard. This constituted a new MassDEP reportable condition for the property owner (BPDA).

In addition, the concentration of lead and PAHs in soil samples collected from one test pit and one soil boring were greater than the RCS-1 standard. The test pit was within the boundary of the RTN 3-15009 disposal site, but the boring was in the western portion of the Property which had not been reported to MassDEP. However, the lead and PAHs concentrations are consistent with the coal and coal ash observed in the upper 8 to 10 feet of soil.

The new groundwater and soil exceedances were reported to MassDEP by BPDA on July 16, 2020 and the release was assigned RTN 3-36365. This Report links RTN 3-36365 to the RTN 3-15009, enlarging the historic disposal site to incorporate both (Fig. 2).

3.3 Oil and/or Hazardous Material Use and Storage History

No direct history of the use and storage of OHM was available. OHM use and storage information and related response actions was obtained from previous reports and historic documents. A list of historic storage tanks is in Table 2.

During W&S's 1997 site reconnaissance and records review, W&S identified permits for seven historic storage tanks that were located on the Site. These historic storage tanks included a 3,000-gallon fuel oil underground storage tank (UST), or possible aboveground storage tank (AST) in the basement of the former WSHC (Table 2). No permits were identified for the abandonment or removal of these storage tanks. Other tanks, which may not have been permitted, have also been identified (Table 2). In addition, W&S observed solid waste including fill, construction, and demolition debris, across the Site.

On behalf of P-3 Partners, in 2016 GEI performed an ASTM Phase I Environmental Site Assessment and we observed a fill and vent pipe for a fuel storage tank along the site of the former WSHC building. Site reconnaissance conducted inside the former WSHC building identified the boiler room in a sub-basement; however, the boiler room was filled with water and the presence of the fuel storage tank could not be verified. Other items observed inside the building include old transformers and miscellaneous debris.

3.4 Waste Management History

A large, artificial, mound of mixed soil and debris (brick, concrete, etc.) is on the northeast corner of the Site. The source of this mound is unknown, but it is likely from unauthorized dumping of construction debris and excavated soil from another construction site. The mound has been on the Site for at least 25 years. W&S sampled the mound as part of their Phase I ISI investigation and the results of the testing are in Section 4.

We did not identify any other current waste management practices relevant to the Site, and there are no known records or reports of on-site historical waste management.

3.5 Environmental Permits and Compliance History

W&S, on behalf of the BRA, submitted the Phase II CSA and Phase III RAP to MassDEP in 2002. The Phase IV RIP and Permanent or Temporary Solution report (a Class A or C Response Action Outcome) were due for RTN 3-15009 by April 2003. These reports were not submitted. The last MCP Report submitted to MassDEP was the 2002 Phase II CSA.

In accordance with the requirements of the Massachusetts Environmental Policy Act (MEPA), a former development project proponent (P-3 Partners) filed an Environmental Notification Form (ENF) and Draft Environmental Impact Report (DEIR). However, P-3 Partners is no longer affiliated with the project or Property.

3.6 Potentially Responsible Parties

The BPDA is the Potentially Responsible Party (PRP) for the Site, including both RTN 3-15009 and 3-36365.

4. Investigations and Response Actions

In accordance with 310 CMR 40.0835(4)(d), the following is a summary of previous subsurface investigations.

4.1 Previous Investigations

4.1.1 Phase I Initial Site Investigation/Tier Classification (1996-1998)

The BRA retained W&S to perform a Phase I Initial Site Investigation at the Property in 1996. During their site reconnaissance and records review, permits for seven historic storage tanks were identified. These historic storage tanks included a 3,000-gallon fuel oil UST in the basement of the former WSHC (Table 2). No permits were identified for the abandonment or removal of these storage tanks. In addition, W&S observed dumping of solid waste including fill, construction, and demolition debris throughout the site.

Between November 1996 to March 1997, W&S excavated 7 test pits, advanced 31 soil borings, and installed 12 monitoring wells throughout the eastern portion of the Site. Fig. 2 shows the locations of W&S's explorations. They submitted soil and groundwater samples to AMRO Environmental Laboratories Corporation (AMRO) of Merrimack, New Hampshire, for an analysis of TPH, VOCs, PAHs, and RCRA 8 metals. W&S's soil and groundwater data are summarized in Tables 4 and 5, respectively.

Soil samples collected from the fill mound on the northeastern portion of the Site contained TPH, PAHs, and lead in excess of RCS-1 standards. Some PAHs exceeded RCS-1 standards below the pavement southwest of the former WSHC.

The BRA reported the release to MassDEP on April 11, 1997. MassDEP assigned RTN 3-15009. W&S classified the Site as Tier II on April 10, 1998 and submitted the Phase I ISI Report/Tier Classification to MassDEP. The Numerical Ranking System (NRS) for the disposal site was 143. The disposal site was limited to the eastern portion of the Property (Fig. 2).

4.1.2 Phase II Comprehensive Site Assessment and Phase III Remedial Action Plan (2002)

BRA retained W&S to perform a Phase II CSA and prepare a Phase III Remedial Action Plan (RAP) for the Site. This was limited to the eastern portion of the Property. W&S conducted additional subsurface investigations, including advancing soil borings, installing monitoring wells, and collecting soil and groundwater samples for analysis of VPH with targets,

EPH with targets, PCBs, and RCRA 8 metals. Fig. 2 shows the locations of W&S's explorations. W&S's soil and groundwater data are summarized in Tables 4 and 5, respectively.

Contaminants in the urban fill and soil mound were predominantly TPH, PAHs, and lead east of Vernon Street (Fig. 2). One soil sample (B211) collected east of Vernon Street also exceeded the Toxicity Characteristic Leaching Procedure (TCLP) hazardous waste threshold for lead. As a result of the chemical testing at the Property, W&S identified the RTN 3-15009 disposal site as the area north and west of the former WCHC, bounded to west by Vernon Street (Fig. 2). The former WSHC and its parking lot were not included in the RTN 3-15009 site boundary, nor was the portion of Property west of Vernon Street.

W&S prepared a combined Method 1 and 3 Risk Characterization for the RTN 3-15009 disposal site. The risk characterization indicated that a condition of NSR did not exist, due to the lead contamination in the soil west of the former WSHC. W&S proposed excavating the lead-contaminated soil and placing an AUL on the northern portion of the disposal site, to restrict residential development.

The lead hot spot was not excavated and the AUL was not prepared. The next regulatory deadline for the site was a Phase IV RIP by 2003; which was never completed.

4.2 GEI Subsurface Investigations 2013-2017

4.2.1 Geotechnical Soil Borings, 2013 and 2016

GEI observed Northern Drill Service, Inc. (Northern) of Northborough, Massachusetts drill two borings (B101 and B102) between July 25, 2013 and July 27, 2013. The borings were advanced using wash-rotary techniques with driven casing and drilling mud. The boring locations are shown in Fig. 4.

GEI observed New England Boring Contractors of Derry, New Hampshire drill ten borings (B201 through B210) between June 28, 2016 and July 19, 2016. The borings were advanced using wash-rotary techniques with driven casing and drilling mud. The boring locations are shown in Fig. 4.

Standard Penetration Tests (SPTs) were performed and split spoon samples were generally collected at 5-foot intervals. All SPTs were performed using a safety hammer with a rope and cathead. Recovered split-spoon soil samples were placed in jars and sent to our laboratory for verification of field classification. Individual sample descriptions are in the boring logs in Appendix E.

Rock core samples were collected using an NX-size, double-tube core barrel with a diamond bit yielding 2-inch-diameter rock core samples. Core runs were a maximum of 5 feet long. Sample descriptions are in the boring logs in Appendix E. GEI also performed nine grain size analyses on granular soil samples and five moisture content analyses on fine-grained soil samples collected from the borings to verify field descriptions.

4.2.2 Phase II Environmental Site Assessment, 2017

In February 2017, GEI prepared an ASTM Phase II ESA, to evaluate potential releases of OHM associated with the industrial history of the Site, particularly on the western portion (west of Vernon Street; Fig. 4).

4.2.2.1 Field Investigation and Soil Sampling

GEI observed Northern excavate seven test pits (TP101, TP103 to TP108) (Fig. 4). The test pits were excavated to depths ranging from 2 to 10 feet deep and logged for soil type, debris, and buried structures. Test pits logs are in Appendix E.

The fill contained abundant concrete and brick in a fine to coarse sandy matrix. We observed several pipes and historic structures during excavations. A buried concrete pipe was observed in TP-103, a competent brick layer was observed in TP-104, and a concrete foundation was observed 5.0 ft northeast of TP-104. TP-105, on the northeastern side of the Property, contained a layer of degraded concrete approximately 8 feet deep. Steel and copper pipes were observed in TP-106 and TP-107.

GEI also observed Northern advance seven soil borings (B301 through B303 and B305 through B308) (Fig. 4). The borings were advanced through the water table using hollow stem augers (HSA) to a depth of 20 to 30 feet below ground surface and completed as groundwater monitoring wells. Boring logs and monitoring well installation logs are in Appendix E.

The soil samples from each split spoon were screened for VOCs using a photoionization detector (PID), with a 10.6 eV bulb. The SPTs were conducted continuously from the ground surface to the groundwater table and at 5-foot intervals from the groundwater table to the bottom of each boring.

Soil samples for chemical analysis were collected from both the test pits and the borings. The samples were collected to characterize shallow soils and deeper soils near historic industrial operations. Soil samples were collected for laboratory analysis based upon field test data and visual/olfactory evidence of OHM. In general, one soil sample was collected from each boring and test pit.

Soil samples from test pits were generally collected from 0 to 3 feet and submitted to Alpha Analytical of Westborough, Massachusetts for analysis of PCBs and either RCRA 8 metals or MCP 14 metals. Soil samples from borings were collected from the interval with the highest PID reading, or from the water table, and generally analyzed for VOCs, VPH, and EPH.

Additional soil samples were collected for pre-characterization from TP-105 and B308. One soil sample was characterized from TP-105 within the upper fill and two soil samples were characterized from B308, one sample from within upper fill and one sample from within the underlying glacial outwash.

4.2.2.2 Well Installation and Groundwater Sampling

Northern completed the seven borings as monitoring wells using 2-inch diameter PVC and 10 feet of slotted well screen. The monitoring wells were advanced through the fill layer and screened across the estimated water table.

The monitoring wells were backfilled from the bottom to above the screened sections using clean sand and sealed above that with bentonite chips. They were finished with 4-inch steel road boxes mounted flush with the ground surface and surrounded by a concrete pad. Monitoring well installation logs are in Appendix E.

We developed the seven newly installed monitoring wells after the completion of drilling and one existing monitoring well B205(OW) by purging them with a submersible pump. A well was considered developed when 10 well volumes were removed, when water removed from the well was relatively free of fine-grained material, or after the well ran dry.

Between March 2 and March 5, 2017, we collected groundwater samples, and surveyed the vertical elevations of the eight monitoring wells. We surveyed the vertical elevations of the monitoring wells relative to an onsite benchmark. The benchmark used was the top of the fire hydrant located adjacent to B(MW)305.

Table 3 summarizes the monitoring well construction and the groundwater level measurements. Based on groundwater measurements, groundwater flows south to north across the Site. The groundwater gradient appears to be steeper on the southern side of the Property, between B(MW)306 and B(MW)307, and shallower to the east (Fig. 5).

Each well was sampled with a peristaltic pump, using low-flow methods. The groundwater samples were submitted to Alpha for chemical testing of VOCs, EPH, and VPH. One sample, from B(MW)307, was tested for groundwater discharge permit requirements.

4.2.2.3 Chemical Testing Results: Soil

The chemical testing results for soil associated with the western portion of the Site are summarized in Table 6 and the laboratory data report is in Appendix F. The chemical testing results for soil associated with the eastern portion of the Site (original RTN 3-15009) were summarized in the 2002 W&S Phase II CSA and are also presented in Table 4 of this Report.

Results indicated the presence of the following at concentrations above the laboratory reporting limit:

- VOCs: Benzene, TCE.
- PAHs: Acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, dibenzofuran, di-n-butyl phthalate, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, 2-methylnaphthalene, naphthalene, phenanthrene, and pyrene.
- EPH: C_{11}–C_{12} aromatics, C_{19}–C_{36} aliphatics, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, fluoranthene, indeno(1,2,3-cd)pyrene, phenanthrene, and pyrene.
- PCBs: Aroclor 1254
- Pesticides: Endosulfan II.
- Total Petroleum Hydrocarbons.
- Metals: Arsenic, barium, beryllium, chromium, lead, mercury, nickel, vanadium, and zinc.

Based on the soil chemical testing results, we identified lead and four PAHs above the RCS-1 reporting standard: benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, and dibenzo(a,h)anthracene.

4.2.2.4 Chemical Testing Results: Groundwater

The chemical testing results for groundwater associated with the western portion of the Site are summarized in Table 5 and the laboratory data report is in Appendix F. The chemical testing results for groundwater associated with the eastern portion of the Site (original RTN 3-15009) were summarized in 2002 W&S Phase II CSA and are also presented in Table 5 of this Report.

Results indicated the presence of the following in wells B(MW)302, B(MW)305, B(MW)306, B(MW)307, and B(MW)308 at concentrations above the laboratory reporting limit:

- VOCs: Tetrachloroethene (PCE), TCE, cis-1,2- DCE, 1,-2-dichloroethene, ethyl ether, 1,4-dioxane, p-isopropyltoluene, vinyl chloride.
- PAHs: Acenaphthene, fluoranthene, fluorene, 2-methylnaphthalene, phenanthrene, and pyrene.
- EPH: Acenaphthene, anthracene, fluoranthene, fluorene, 2-methylnaphthalene, naphthalene, phenanthrene, and pyrene.
- Metals: Cadmium, copper, and nickel.

Based on the groundwater chemical testing results, we identified three chlorinated VOCs at or above the RCGW-2 standard: TCE, cis-1,2-DCE, and vinyl chloride. Exceedances of RCGW-2 for TCE were detected in B(MW)302, B(MW)306, and B(MW)308. Additionally, B(MW)306 also contained vinyl chloride and cis,1,2-DCE above the RCGW-2.

5. Site Hydrogeology Characteristics

In accordance with 310 CMR40.0835(4)(d), the following is a summary of the geologic, hydrologic, and topographic conditions at the Site.

5.1 Topography

The Site is in an area that is naturally level; however, a large, artificial, mound of mixed soil and debris (brick, concrete, etc.) is on the northeast corner of the Site. Based on the United States Geological Survey (USGS) Topographic Quadrangle (7.5 x 15 Minute Series), the surface elevation is approximately 40 feet above National Geodetic Vertical Datum (NGVD). Surface water runoff is likely directed to the catch basins located on the Property.

5.2 Geology

The soil layers encountered in the borings are described below, starting at the ground surface. This description incorporates the results of both the geotechnical and environmental drilling programs. The soil conditions are known only at the boring locations. Conditions between borings may differ significantly from those shown in the subsurface profiles and described below.

- Asphalt/Concrete – A 6-inch-thick layer of asphalt or concrete was encountered at the ground surface at borings B302(MW) and B305(MW). However, most of the site is unpaved.
- Topsoil – A 6 to 12-inch layer of brown soil with roots and sand was present in the test pits in the landscaped areas and in B301(MW), B303(MW), B306(MW) and B308(MW).
- Fill – A 3- to 17.5-foot-thick layer of miscellaneous fill was encountered in all of the borings. The fill generally consisted of fine to coarse sand with varying amounts of gravel to widely graded gravel with varying amounts of silt, sand, and clay. Brick, concrete, coal ash, and asphalt fragments were very common throughout the fill; however, odors or staining associated with OHM were not observed. PID readings ranged from 0.0 to 55.0 parts per million.
- Organic Soil – A 5 to 10-foot-thick layer of organic soil was encountered beneath the fill, approximately 9 to 12 feet deep, in B302(MW) and B303(MW). The organic soil consisted of black organic silt with layers of peat or brown to gray peat with silt lenses.

- Glacial Outwash – A layer of glacial outwash consisting of sand and gravel was encountered in all of the borings, overlain either by the fill or by the peat. The layer thickness varied from 25 to 65 feet in the most recent borings. Up to 71.5 feet of glacial outwash was encountered in B102. The glacial outwash tended to be thinner on the southwest portion of the site and thicker in the northeast portion of the site. The glacial outwash generally consisted of widely graded to narrowly graded sand with silt and gravel. The silt and gravel content varied across the site.
- Weathered Bedrock/Bedrock – Highly weathered to slightly weathered Roxbury Conglomerate was encountered below the glacial till. The Roxbury Conglomerate is a sedimentary rock with clasts (rounded to subrounded gravel to boulder size rocks) set in a finer-grained (sand and silt size particles) sedimentary matrix. In most of the borings, the upper 5 to 15 feet of bedrock was moderately to highly weathered. The weathering appeared to affect the sand matrix more than the clasts resulting in recoveries of rounded to subrounded gravel missing the sand and silt matrix that was washed away due to the coring process. Typically, the degree of weathering decreased with depth which resulted in better recoveries with depth. Recoveries and Rock Quality Designations (RQDs) ranged from 17% to 100% and from 0% to 69%, respectively.

Boring logs and monitoring well installation logs are in Appendix F.

5.3 Hydrogeology

A groundwater contour map is in Fig. 5. Depth to groundwater measured from ground surface on March 5, 2017 ranged from approximately 8 to 13 feet deep. Based on the results of GEI's groundwater elevation survey, groundwater flows from south to north toward the Back Bay Fens (Fig. 5).

6. Nature and Extent of Contamination

6.1 Nature of Contamination

6.1.1 Soil

The nature of soil contamination is VOCs, VPH, EPH (including PAHs), and metals, particularly lead. Low levels of PCBs and one pesticide were also present.
The contamination is generally consistent with urban fill soils containing debris with coal and coal ash. The soil chemical testing results are summarized in Tables 4 and 6. Minimum and maximum concentrations detected in the soil samples are in Table 7.

The following contaminants in soil exceed the applicable MCP Method 1 S-1 cleanup standards: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, TPH, lead.

The results of GEI's soil investigation are generally consistent with the findings in the 2002 W&S Phase II CSA.

6.1.2 Groundwater

The nature of groundwater contamination is VOCs, EPH, PAHs, and metals. In particular, PCE, TCE cis-1,2-DCE, and vinyl chloride were detected in one or more of the wells (B(MW)302, B(MW)305, B(MW)306, B(MW)307, and B(MW)308) above laboratory reporting limits. The groundwater chemical testing results are summarized in Table 5. Minimum and maximum concentrations detected in the groundwater samples are in Table 8.

The following contaminants in groundwater exceed the applicable MCP Method 1 GW-2 cleanup standards: TCE, cis-1,2-DCE, and vinyl chloride.

The results of GEI's groundwater investigation are generally consistent with the findings in the 2002 W&S Phase II CSA, except for GEI's additional identification of chlorinated VOCs in groundwater.

6.2 Source of Contamination

The source of the contamination in the soil is likely contaminants common in urban fill and potentially historic releases from former industrial use of the Site. Sources of groundwater contamination include historic industrial use of the Site, and possible upgradient sources.

6.3 Extent of Contamination

6.3.1 Soil

Visual and olfactory evidence of contamination in soil generally was fill containing coal, coal ash, clinkers, glass, brick, and metal fragments. Visual evidence of contaminated soil is summarized in the boring logs in Appendix F.

All the soil borings and test pits contained fill material consistent with the identification of PAHs, EPH, and metals consistent with coal and coal ash, or urban fill. This material was 3 to 17 feet thick across the Site and can be described as ubiquitous.

6.3.2 Groundwater

Groundwater contamination above laboratory reporting limits was identified in B(MW)302, B(MW)305, B(MW)306, B(MW)307, and B(MW)308. VOCs, PAHs, and metals were identified in B(MW)307, and VOCs in B(MW)302, B(MW)305, B(MW)306, B(MW)307, and B(MW)308.

The extent of groundwater contamination was determined by examining the contaminant concentrations and the direction of groundwater flow. B(MW)306, the well with the greatest number of VOCs in excess of the Method 1 GW-2 standard, is one of the most upgradient wells (Fig. 5). B(MW)308 is immediately downgradient of B(MW)306. The other well with VOC contamination, B(MW)302, is also located on an upgradient edge of the property, and relatively distant from known sources of on-site contamination, including the former junk and scrap metal yard. These occurrences suggest that VOC contamination is migrating onto the Site from elsewhere. B(MW)307, located near the center of the Site, did not contain VOCs greater than the Method 1 standards, but did contains PAHs and metals that can be attributed to urban fill or the historic industrial use of the Site. The most downgradient well, B(MW)205 did not contain groundwater contamination above laboratory detection limits.

7. Fate and Transport, Migration Pathways, and Exposure Potential

In accordance with 310 CMR 40.0835(4)(e.g.), the following is a summary of environmental fate and transport characteristics, migration pathways, and exposure potential.

7.1 Environmental Fate and Transport Characteristics

The characteristics affecting fate and transport of organic contaminants include specific gravity, vapor pressure, solubility, partitioning coefficients, and biodegradability.

VOCs were identified in soil and groundwater at the Site. The dominant fate and transport mechanisms for VOC compounds are groundwater flow, volatilization, and biodegradation. Some VOC compounds exhibit relatively high vapor pressure or solubility and have the potential to volatilize into the soil vapor or dissolve into the groundwater.

EPH and PAHs were detected in soil and groundwater. The dominant fate and transport processes for EPH, including PAHs, include diffusion, groundwater flow, adsorption to soil particles, volatilization to the soil vapor, and biodegradation. EPH and PAH compounds generally exhibit low vapor pressures, low solubility, and high organic compound/water partitioning coefficients (K_{oc}). These characteristics indicate that they are less likely to volatilize into the soil vapor or dissolve into the groundwater. These compounds exhibit strong binding characteristics, resulting in relative immobility in soils. A high K_{oc} value also precludes substantial influx into plants from soil-bound PAHs.

Metals were detected in soil and groundwater. Metals detected in soil consist primarily of Arsenic, barium, beryllium, chromium, lead, mercury, nickel, vanadium, and zinc. Metals detected in groundwater consist primarily of cadmium, copper, and nickel. The potential migration of metals in groundwater is limited by their low solubility and their tendency to adsorb to soil particles or precipitate out of groundwater.

7.2 Migration Pathways and Exposure Potential

Contaminants in soil and groundwater appear to be associated with historic industrial use of the Site and possibly migration onto the Site from upgradient sources.

The depth to groundwater ranges from approximately 8 to 13 feet and flows generally north, toward the Back Bay Fens, which are more than 0.5 mile away. Groundwater is not used for

drinking at or within 500 feet of the Site. None of the groundwater contaminants exceeds the Method 1 GW-3 standards.

Vapor intrusion may be a significant exposure pathway under future conditions because the Property may be developed for commercial and residential use. Chlorinated VOCs have been detected in groundwater contamination in excess of the GW2 standards in three wells.

The exposure potential posed by OHM in soil and groundwater also includes dermal contact and incidental ingestion of soil, inhalation of soil-derived fugitive dust, and dermal contact with groundwater. The Site is only partially paved so the potential human receptors include trespassers and utility workers.

There is no surface water or sediment within 500 feet of the Site; therefore, it is not likely that either media has been affected.

There are no sensitive environmental receptors or natural resource areas at or within 500 feet of the Site. Therefore, there is minimal exposure potential for these receptors.

8. Risk Characterization

We used a Method 1 Risk Characterization to evaluate the risk of harm to human health, public welfare, safety, and the environment posed by the western portion of the Site. A Method 1 Risk Characterization is appropriate because the contamination is limited to soil and groundwater and contaminants known to bioaccumulate are not present within 2 feet of the ground surface.

We also performed a Substantial Hazard Evaluation to support a Temporary Solution.

8.1 Conceptual Site Model and Site Boundary

The CSM developed for the Site is in Section 1.6.

8.2 Current and Reasonably Foreseeable Site Activity and Use

The Site is currently owned by the BPDA. The former WSHC is a vacant, four-story brick building located in the southeast portion of the Site. Vernon Street bisects the eastern and western portions of the Property. In the eastern portion of the Property, an undeveloped road, formerly Hampshire Street, bisects the Site north of the former WSHC building. A large, artificial, mound of mixed soil and debris is located on the northeastern portion of the Site.

The Site may be redeveloped in the future for commercial and/or multi-family residential uses.

8.3 Human Receptors and Exposure Pathways

Receptors include future residents, current and future commercial worker, current and future trespasser, future construction worker, or current and future emergency utility worker. Potential pathways for human exposure to contaminants detected at the western portion of the Site include inhalation, dermal contact, and incidental ingestion of contaminants.

The following assumptions were used for the risk characterization:

- There are no current or foreseeable limitations on activities and uses.
- There are no current or foreseeable uses of groundwater as drinking water.

8.3.1 Hot Spots

Hot spots must be considered distinct exposure points. The MCP (310 CMR 40.0006) defines a hot spot as a "discrete area" where concentrations are "substantially higher than those present in the surrounding area":

- If the concentration is 10 to 100 times greater than the average concentration in the surrounding area, then a hot spot is present unless the potential exposure to receptors is no greater than in the surrounding area; or
- If the concentration is 100 times greater than in the surrounding area, then a hot spot is present.

GEI conducted a discrete exposure area analysis for soil. There are elevated lead concentrations in the vicinity of Hampshire Street, at soil sample locations B-202 and B-211 collected from 5 to 7 feet below ground surface. Since there is an active utility along Hampshire Street, there is evidence of greater exposure potential to subsurface soil during a utility repair at this portion of the Site. Accordingly, based on this analysis, GEI has identified soil located at 5 to 7 feet below ground surface in the vicinity of sample locations B-202 and B-211 as a soil hot spot. This is the same hot spot identified by W&S in 2002.

GEI did not identify any other hot spots at the Site.

8.4 Environmental Receptors and Exposure Pathways

The Site is in an urban area and would not likely represent a potentially significant habitat. There are no known wetlands, vernal pools, ponds, lakes, or reservoirs within 500 feet of the Site. The Site is not located in an ACEC. There are no significant natural resource areas within the Site boundary. There are no sensitive environmental receptors or natural resource areas at or within 500 feet of the Site. This includes both biota and species of concern, threatened species, and endangered species; therefore, there is minimal exposure potential for environmental receptors.

8.5 Identification of Groundwater and Soil Categories

8.5.1 Applicable Groundwater Categories

Under the MCP there are three categories for groundwater (GW-1, GW-2, and GW-3) which correspond to the following three distinct types of exposures:

- GW-1 applies to groundwater assumed to be a current or future source of drinking water.

- GW-2 applies to groundwater considered to be a potential source of vapors that could migrate through the soil and concentrate in the indoor air of existing, occupied buildings.
- GW-3 applies to groundwater that is assumed to discharge to surface water. All groundwater in Massachusetts is classified as GW-3.

The Site is not located within a MassDEP-approved WPA (Zone II Area), MassDEP Interim WPA, or PPA, and there are no public water supplies within 500 feet of the Site. There are no known private drinking water wells within 500 feet of the Site. Therefore, groundwater is not categorized as GW-1. The depth to groundwater at the Site is approximately 8 to 13 feet deep, but there are no occupied buildings at the Site. However, since occupied buildings are possible in the foreseeable future, these were conservatively considered as a potential exposure pathway. Accordingly, groundwater is categorized as GW-2. All groundwater in the Commonwealth is classified as GW-3. Based on this information, the applicable groundwater categories for the Site are GW-2 and GW-3.

8.5.2 Applicable Soil Categories

Soil can be classified into one of three categories (S-1, S-2, or S-3). Category S-1 soil represents the highest potential exposure because it assumes the unrestricted use of the soil (i.e., residential or daycare), whereas category S-3 soil represents the lowest potential for exposure.

Potential human receptors include trespassers and utility workers under current uses, and residents (including children), commercial workers, trespassers, and construction and utility workers under future uses. The potential pathways to exposure from contaminated soil include inhalation, dermal contact, and incidental ingestion of contaminants.

The Site is in a residential neighborhood and susceptible to trespassers, and a portion of the Site includes a parking lot. Under current conditions, trespasser activities (a potential child) are considered low frequency and high intensity, and in accordance with the soil category selection matrix provided in 310 CMR 40.0933(9), soil is accessible (0 to 3 feet) and is category S-1. Under current conditions, parking lot activities (an adult) are considered high frequency and low intensity, and in accordance with the soil category selection matrix provided in 310 CMR 40.0933(9), soil is accessible (0 to 3 feet) and is category S-2.

Because the future use of the Site has not been restricted, soil at the Site has been considered category S-1 for the risk characterization. The MCP requires that all soil at a site be evaluated as S-1 soil unless an AUL is placed on the site. An AUL is a deed restriction designed to prevent activities on a site that may cause a potential risk to human health, public welfare, or the environment. An AUL is not assumed for this Site. Soil at the Site is

characterized as S-1 for future use. Category S-1 considers soil to a depth of 15 feet deep as accessible to potential receptors. Beyond 15 feet deep, soil is considered inaccessible under the MCP.

8.6 Chemical Data Used in the Risk Characterization

Analytical data are available for Site surface and subsurface soil (generally collected between 0 to 13 feet, but some samples are from 15 to 24 feet). Analytical data included in the risk characterization are in Tables 4 and 6 (soil) and Table 5 (groundwater). Data deeper than 15 feet, which are also included in Tables 4 and 6, were not considered in the risk characterization since those soils are considered inaccessible under the MCP. Tables 7 and 8 present summary statistics for soil and groundwater data, respectively included in the risk characterization.

8.6.1 Contaminants of Concern

In accordance with the MassDEP's "Guidance for Disposal Site Risk Characterization," all chemicals detected at the Site should be considered COCs and should be carried through the risk assessment process unless one of the following conditions is true:

- The chemicals are present at a low frequency of detection and in low concentrations.
- The chemicals are present at levels that are consistent with "background" concentrations for the area, and there is no evidence that their presence is related to activities at the Site.
- The chemicals are field or laboratory contaminants.

Some compounds were excluded from the risk characterization:

- Three compounds detected at the Site (dibenzofuran and di-n-butyl phthalate in soil and ethyl ether in groundwater) were excluded from the risk characterization based on being present at a low frequency of detection and at low concentrations, and they are likely to pose de minimis risk and were not quantitatively evaluated.

- Seven petroleum compounds that do not have a Method 1 standard (n-, sec-, and tert-butylbenzene, n-isopropylbenzene, isopropylbenzene, and 1,2,4-trimethylbenzene in soil; and p-isopropyltoluene in groundwater) but are included as part of the VPH C_9-C_{10} aromatic fraction were also excluded from the risk characterization based on being present at a low frequency of detection and at low concentrations. These compounds are likely to pose de minimis risk and were not quantitatively evaluated.

- Endosulfan II in soil was excluded from the risk characterization based on being present at a low frequency of detection and at a low concentration. Endosulfan II was below the RCS-1 standard (by more than an order of magnitude) and it poses de minimis risk.

Contaminants of concern (COCs) in soil include VOCs, EPH, PAHs, PCBs, pesticides, and metals. COCs in groundwater include VOCs, PAHs, and metals.

8.7 Exposure Points

Identification of exposure points is described in 310 CMR 40.0924. An exposure point refers to a location of potential contact between a human receptor and contaminated media.

8.7.1 Identification of EPCs

GEI calculated EPCs for each COC at each exposure point. Soil EPCs were set equal to the 90% Chebychev Upper Confidence Limit (UCL), in consideration of information MassDEP has provided for the pending, proposed 2019 MCP amendments. These soil EPCs are considered a conservative estimate of the true mean. Chemical data included soil samples collected from depths generally ranging from 0 to 13 feet. GEI concluded that samples collected from across the Site represent the spatial distribution of contamination. Therefore, the soil EPCs are unlikely to substantially underestimate the true mean concentrations. The calculated soil EPCs are in Table 7.

GEI also identified the average concentrations at B-202 and B-211 as the lead hot spot EPCs.

For groundwater EPCs, we used the maximum concentration of each detected COC in all monitoring wells. Groundwater EPCs are in Table 8.

8.7.2 Comparison of EPCs to MCP Standards

Some EPCs for contaminants considered COCs as part of this risk characterization are above the applicable Method 1 S-1/GW-2 and S-1/GW-3 Standards for Site-wide soil (benzo(a)pyrene, lead) and the lead hot spot in soil (PAHs and lead), and Method 1 GW-2 Standards but not GW-3 Standards for groundwater (TCE, cis-1,2-DCE, vinyl chloride). Therefore, in accordance with 310 CMR 40.0973(7), a condition of NSR to health, public welfare, and the environment does not exist.

The lead EPC in the lead hot spot (10,000 mg/kg) also exceeds the MCP upper concentration limit (6,000 mg/kg) as defined in 310 CMR 40.0996.

8.8 Characterization of Risk to Safety

All risk characterizations must also characterize any potential risks to safety (310 CMR 40.0941(2)). The purpose of this characterization is to identify risks that may currently or in the foreseeable future pose a threat of physical harm or bodily injury to people. The risks evaluated in this assessment include threat of fire or explosion, and the presence of corrosive, reactive or flammable uncontained materials.

No potential risks to safety associated with soil contamination were identified at the western portion of the Site. No rusted or corroded drums or containers, open pits, lagoons, or other dangerous structures have been identified as being present at the western portion of the Site. None of the data revealed compounds present at levels that may volatilize to flammable limits or above Lower Explosive Limit (LEL) concentrations.

The Site does not pose a threat of physical harm or bodily injury and does not present dangerous or nuisance conditions. The Site poses a condition of NSR to safety.

8.9 Substantial Hazard Evaluation

We conducted a Substantial Hazard Evaluation (SHE) because a Temporary Solution is being considered as one of the Remedial Action Alternatives (refer to Section 9). The Substantial Hazard Evaluation is summarized below.

The Substantial Hazard Evaluation focuses on the potential exposures to human and environmental receptors over a short period of time, considering the current use of the property and the surrounding environment.

8.9.1 Human Health Substantial Hazard Evaluation

Under current Site use, potential current receptors include trespassers, workers using the parking lot, and emergency utility workers making a hypothetical emergency repair of the utility along Hampshire Street.

The MCP requires that a SHE exposure period be set at a duration of 5 years, plus time since reporting. Since the Site was assigned an RTN by MassDEP in April 1997, the SHE exposure period would be approximately 28.5 years at the time of this SHE, which exceeds the default GEI NSR exposure for commercial workers (25 years) and the MassDEP NSR exposure for a trespasser and emergency utility worker (7 years and 1 day, respectively). Since the intent of a SHE is a short-term exposure evaluation, the default GEI and MassDEP exposure periods were retained.

The SHE focuses on exposure under current conditions. The commercial worker and trespasser exposure scenarios relied on soil EPCs for soil located from 0 to 3 feet, which is considered currently accessible under the MCP. GEI also conservatively assumed that no pavement exists at the Site for this SHE. Soil EPCs for the emergency utility worker scenario are conservatively based on maximum concentrations throughout the Site, to be protective of exposure to deeper soils during a hypothetical excavation. Utility workers were also assumed to have dermal exposure with groundwater during an excavation, and maximum groundwater EPCs were used for the evaluation.

Tables G-1 through G-15 summarize the exposure assumptions, toxicity information, and quantitative risk estimates for the human health SHE. The current trespasser (non-cancer sub-chronic Hazard Index (HI) = 0.2, chronic HI = 0.08, and Estimated Lifetime Cancer Risk [ELCR] = 2E-6), commercial worker (non-cancer sub-chronic HI = 0.2, chronic HI = 0.1, and ELCR = 6E-6, and emergency utility worker (sub-chronic HI = 0.01, ELCR = 4E-09) are below MCP non-cancer (HI = 1) and cancer (ELCR = $1E^{-5}$) risk limits. Therefore, in accordance with the MCP (310 CMR 40.0956(1)(a), a condition of No Substantial Hazard to human health exists at the Site.

8.9.2 Ecological Substantial Hazard Evaluation

The focus of the Ecological Substantial Hazard Evaluation shall be on any environmental resource areas, such as wetlands, aquatic and terrestrial habitats, and fisheries, which exist at the Site.

In accordance with the MCP (310 CMR 40.0956(2)), a condition of No Substantial Hazard to the environment would exist if steps have been taken to eliminate or mitigate the following conditions, where applicable, affecting an environmental resource at the site:

(a) Evidence of stressed biota attributable to the release at the disposal site, including, without limitation, fish and wildlife kills or abiotic conditions;

(b) The visible presence of oil, tar or other separate phase hazardous material in soil within three feet of the ground surface over an area equal to or greater than two acres, or over an area equal to or greater than 1,000 square feet in sediment within one foot of sediment surface;

(c) Continuing discharge of contaminated groundwater to surface water where levels of the oil or hazardous material attributable to the release already exceed Massachusetts Surface Water standards;

(d) Continuing discharge of contaminated groundwater to surface water where surface water and/or sediment concentrations of oil or hazardous material attributable to the release already pose a significant risk;

(e) Migration of oil or hazardous material to additional environmental media, or resource area where resultant exposures would have the potential to pose a significant risk of harm in the future; and

(f) Ecological risk or harm such that recovery would be substantially more difficult or would require more time if conditions were to remain unremediated for even a short period of time.

There are no known species of concern, threatened species, or endangered species near the Site. The Site is in an urban area and does not represent a potentially significant habitat. As a result, the Site does not contain a suitable habitat for terrestrial organisms.

The closest surface water body is the Muddy River, located approximately 5,000 feet to the northwest. Concentrations of COCs in groundwater at the Site are not expected to pose a significant risk of harm to aquatic organisms in the Muddy River.

The incomplete exposure pathways for environmental receptors indicate a condition of No Substantial Hazard to the environment exists at the Site.

8.10 Method 1 Risk Characterization Conclusions

The conclusions of the Method 1 Risk Characterization are as follows:

- A condition of NSR of harm to human health, public welfare and the environment from exposure to soil and groundwater does not exist because the EPCs for some contaminants in soil and groundwater are above applicable Method 1 standards.
- A condition of NSR of harm to safety exists.
- There is no Imminent Hazard or Substantial Hazard condition.
- A Phase III RAP is required to evaluate remedial alternatives that are reasonably likely to achieve a level of NSR (Section 9).

9. Phase III Remedial Action Plan Addendum

In accordance with the MCP (310 CMR 40.0850), this section summarizes the identification, evaluation, and selection of the Comprehensive Remedial Action Alternative (RAA).

9.1 Previous Remedial Action Plan

In 2002, on behalf of the BPDA, W&S submitted a Phase III RAP for RTN 3-15009 that recommended an RAA to achieve a Permanent Solution for the eastern portion of the Site. In the RAP, several RAAs were evaluated to address the following identified risks: risk to human health due to petroleum hydrocarbons, PAHs, and lead in soil on the eastern portion of the Site and risk to public welfare due to the presence of lead hot spots in soil on the eastern portion of the Site. The Phase III RAP identified removal of the lead hot spot and implementation of an AUL to restrict residential development as the selected RAA for the eastern portion of the Site.

As previously described in the current Report (see Section 1.3), additional soil and groundwater contamination was identified on the western portion of the Property, which was reported to MassDEP on July 16, 2020 (RTN 3-36365). The RTN 3-15009 disposal Site has been enlarged to incorporate the conditions associated with RTN 3-36365. This current Report includes a Phase III RAP Addendum to evaluate feasible alternatives to address the contamination on the entire Site.

9.2 Purpose

The MCP requires the identification and evaluation of RAAs that are reasonably likely to achieve a Permanent or Temporary Solution considering the OHM present, media contaminated, and site characteristics. An evaluation of RAAs is required because significant risk has been identified to human health, public welfare and the environment from exposure to soil and groundwater at the Site.

9.3 Remedial Action Alternative Objectives

The ultimate remedial objective for the entire Site is to attain a condition of NSR through the implementation of a Permanent Solution. This objective can be achieved by eliminating the exposure pathway to human receptors to the contaminants at the Site. If attaining a Permanent Solution is not feasible, then a Temporary Solution can be implemented since there is no Substantial Hazard at the Site.

9.4 Site-Specific Considerations for Potential Alternatives

The following conditions unique to the Site were considered in evaluating potential technologies that can be implemented at the Site.

- The Site is abutted by apartments, a high school community center, and a health center.
- A large, artificial, mound of mixed soil and debris is located on the northeastern portion of the Site.
- A major sewer line runs beneath the Site.
- The property may be redeveloped in the near future requiring major earthwork and construction activities.

9.5 Identification and Screening of Remedial Technologies

The goal of the initial screening is to identify remedial action technologies that are reasonably likely to be feasible considering the OHM present, media contaminated, and site characteristics. Remedial action technologies are reasonably likely to be feasible according to the MCP if:

- The technologies to be employed are reasonably likely to achieve a Permanent or Temporary Solution.
- The individuals with the expertise needed to effectively implement available solutions would be available, regardless of arrangements for securing their services.

To identify potentially feasible remedial technologies, GEI reviewed the Federal Remediation Technologies Roundtable (FRTR) database, reviewed vendor information, and considered our experiences at similar sites. A description of each primary technology considered for remediation is in Tables 9 and 10. The rationale for either retaining or eliminating a technology from further consideration is in Table 11.

The following are identified as the primary technologies/approaches that could be feasible in attaining a Temporary or Permanent Solution based on our initial screening of remedial technologies (Table 11).

- Institutional Controls
- Capping
- Excavation and off-site disposal
- Excavation and on-site disposal
- Vapor mitigation system

Several treatment options (including thermal treatment, biological treatments, chemical oxidation, monitored natural evaluation, phytoremediation, soil vapor extraction, soil washing, and solvent extraction) were eliminated from further consideration primarily due to the limited effectiveness and reliability of these technologies for metals. Some of these treatment options were also eliminated due to the heterogeneity of the soil and conditions at the Site such as the presence of utilities.

9.6 Description of Remedial Technologies Retained for Detailed Evaluation

9.6.1 Institutional Controls

Institutional controls are restrictions imposed on access to property or on the uses of a property, including natural resources and structures. Legal instruments, such as an AUL, impose such restrictions. Institutional controls may be used for environmental or health protection concerns, for example, prohibiting residential use, maintaining a cap, and specifying health and safety requirements during excavation and soil management. Under the MCP, a remedy using containment or isolation technologies (such as a cap) would require institutional controls.

The implementation of institutional controls would allow contaminated soil to remain in place. However, the exposure pathways to human or environmental receptors would be restricted. This alternative would create no additional risks to the community, workers, or the environment. Institutional controls are cost-effective, easily implemented, and may be used effectively in conjunction with other technologies. Long-term monitoring may be combined with institutional controls to assess the natural degradation and attenuation of contaminants.

9.6.2 Capping

Capping minimizes or eliminates the direct dermal contact, ingestion, and fugitive air emissions exposure risks by limiting the accessibility to the contaminated soil. Capping is likely to consist of placement of a physical barrier, such as a geotextile fabric and clean soil. Warning tape, with printed text such as "Warning: Contaminated Soil – Do Not Excavate," or a physical barrier such as a geogrid may be installed beneath the cap to prevent inadvertent excavation. This warning barrier would provide clear notice that excavation at the Site shall not be conducted by workers that are not familiar with health and safety controls and soil management procedures as specified by the AUL.

A more robust cap could be constructed to satisfy the requirements for an Engineered Barrier since the EPC for the lead hot spot exceeds the Upper Concentration Limits. The Engineered Barrier would include the necessary layers.

During the period of construction, there would be some short-term risk posed by potential dermal contact and potential migration of contaminants via storm water runoff. These short-term risks would be managed by requiring the contractor to implement and maintain the appropriate control measures.

The cap would require periodic maintenance to maintain its integrity. An engineered barrier would require a Financial Assurance Mechanism.

9.6.3 Excavation and a Combination of Off-Site and On-Site Disposal

Excavation and a combination of off-site disposal and on-site disposal would reduce or eliminate Site risks by removing contaminant mass. Therefore, excavation can potentially meet all remedial objectives for the Site.

The process would require the following key elements:

- Excavation of contaminated soil.
- Off-site disposal of contaminated soil.
- Reuse of excavated soil.
- Backfilling and restoration of excavation areas.

The removal of contaminated soil would be performed using standard excavation equipment. Emissions of fugitive dust, volatile compounds, and odors would require control measures during excavation. Some excavation dewatering may be expected because the contaminants are in fill which extends below the water table.

Excavated soil would be disposed of off-site in a secure landfill or other suitable location. Some excavated soil could be reused on site.

9.6.4 Vapor Mitigation System

Based on the CVOC concentrations in groundwater, vapor intrusion is a potential exposure pathway to future occupants of any future buildings. If a building is constructed at the Site, there is a need for a vapor mitigation system to address the potential for vapor intrusion into the building. A vapor mitigation system may include sub-slab venting and a vapor barrier, or the building waterproofing (if installed) may be a suitable alternative. If the vapor mitigation system includes sub-slab venting and a vapor barrier, the system will likely function as a passive system, but would have the potential to be retrofitted with a blower to operate as an active system.

9.7 Development of Remedial Action Alternatives (RAAs)

Based on our initial screening of remedial technologies identified in Section 9.4, we combined the retained technologies to develop the following RAAs:

- RAA 1: Site Maintenance
- RAA 2: Hot Spot Excavation, Capping, and Institutional Controls
- RAA 3: Excavation, Disposal, and Vapor Mitigation System

A summary of the RAAs is presented in Table 12. A description of each RAA is presented below.

9.7.1 RAA1: Site Maintenance

RAA1 is Site Maintenance along with semi-annual inspections of the Site to document that conditions have not changed.

Site Maintenance is applicable, and the Site is eligible for a Temporary Solution, as per 310 CMR 40.1050, because:

- No Substantial Hazard exists (refer to Section 8.10)
- The source of contamination has been characterized and is not a threat for migration, and
- A Phase III Evaluation has been completed.

A Temporary Solution applies to sites where response actions to achieve a Permanent Solution are feasible and are to be conducted. Remediation to achieve a Permanent Solution would be incorporated into future development plans for the Site.

9.7.2 RAA2: Hot Spot Excavation, Capping, and Institutional Controls

RAA2 is:

- Removal of surface debris and vegetation.
- Removal of pavement (in poor condition) on eastern portion of the Site
- Excavation of lead hot spot.
- Disposal of contaminated soil in landfill.
- Grading of the Site to facilitate drainage.
- Installation of a geotextile filter fabric to prevent soil from migrating to the surface.
- Installation of a marking layer (orange snow fence) and warning tape to prevent unwanted excavation activities.

- Placement of 24 inches of gravel borrow.
- Placement of 12 inches of topsoil and finishing with hydroseeding.
- Implementation of an AUL.

The purpose of excavation is to remove the lead spot from the Site to eliminate exposure pathways and avoid the need for an Engineered Barrier. The purpose of the cap is to isolate contaminants to eliminate exposure pathways. This alternative will result in a Permanent Solution with Conditions.

RAA2 would include retaining the paved parking lots on the western portion of the Site.

9.7.3 RAA3: Excavation, Disposal, and Vapor Mitigation System

RAA3 is:

- Excavation of contaminated soil across the Site, including the lead hot spot.
- Disposal of contaminated soil in landfill(s).
- Installation of vapor mitigation system (after building construction).
- Implementation of an AUL.

The purpose of excavation is to remove contaminant mass from the Site to eliminate exposure pathways. This alternative would be implemented in conjunction with a future redevelopment of the Site where soil excavation is necessary for building construction and a vapor mitigation system would be installed. This alternative will likely result in a Permanent Solution with Conditions to maintain the vapor mitigation system.

RAA3 assumes the BPDA has a clear plan for future use of the Site to incorporate a potential future remediation of the Site into their development plans.

9.8 Evaluation of Remedial Action Alternatives

A comparative, qualitative evaluation of the RAAs was performed in accordance with the following detailed evaluation criteria specified in 310 CMR 40.0858:

- Effectiveness in achieving a Permanent or Temporary Solution
- Short-term and long-term reliability
- Difficulty in implementation
- Cost
- Risk
- Benefits

- Timeliness
- Effect on non-pecuniary interests

The detailed evaluation of the alternatives is presented in Table 13. The evaluation consists of ranking the alternatives against the eight evaluation criteria required by 310 CMR 40.0858. As shown in Table 13, the overall scores for the retained alternatives are as follows (a lower score is preferred):

Remedial Action Alternative	Score
RAA1: Site Maintenance	14
RAA2: Hot Spot Excavation, Capping, and Institutional Controls	15
RAA3: Excavation, Disposal, and Vapor Mitigation System	16

A comparison of the RAAs for each of the eight criteria, based on the evaluation from Table 13, is summarized below:

9.8.1 Effectiveness

RAA2 and RAA3 are more effective than RAA1 because they result in containment or removal of contamination and they both result in a Permanent Solution. Regarding soil, RAA2 is less effective than RAA3 because, although it attains a Permanent Solution, the contamination remains at the Site and so would be restricted with an AUL. RAA3 would also require an AUL to maintain the vapor mitigation system. RAA1 is the least effective because it does not reduce contaminant mass at the Site and results in a Temporary Solution.

9.8.2 Short-Term and Long-Term Reliability

All RAAs are expected to be reliable and successful. RAA1 and RAA2 would require site inspections to verify that conditions at the Site have remained unchanged, and RAA3 would require maintenance and monitoring due to the vapor mitigation system. There is some uncertainty for whether the vapor mitigation system can operate passively.

9.8.3 Implementability

RAA1 is the easiest to implement because it would maintain existing conditions to achieve a Temporary Solution and is fully compatible with current site use. The remaining RAAs would be more difficult to implement. RAA3 requires Property redevelopment plans and a designated developer, neither of which are currently identified.

9.8.4 Costs

RAA1 is the most cost-effective and costs increasing with each successive RAA, with RAA3 having the highest relative cost. RAA1 requires the least consumption of energy resources, where as RAA2 and RAA3 would both result in moderate (RAA2) or high (RAA3) energy consumption during the intermediate period of construction due to on-site equipment use and trucking activities.

9.8.5 Risks

All RAAs are approximately equal in risk with the minor short-term risks posed by construction operations (for RAA3) offset by the risk of the contamination left in place (for RAA1 and RAA2).

9.8.6 Benefits

RAA3 have more favorable benefits because this alternative would reduce the contamination and provide for the beneficial reuse of the Site. However, RAA1 and RAA2 are fully compatible with current site use.

9.8.7 Timeliness

All RAAs are expected to eliminate any uncontrolled sources. RAA2 and RAA3 are timelier to contain or reduce contamination at the Site and achieve a condition of No Significant Risk. RAA1 would not achieve a condition of No Significant Risk but would achieve a condition of No Substantial Hazard.

9.8.8 Effect on Non-Pecuniary Interests

RAA1 is more favorable in the short-term because there would be no disruption to the community. RAA2 and RAA3 would cause some disruption in the short-term. RAA3 is more favorable over the long-term because the result of the remediation would be an improvement to the area.

9.9 Selected Remedial Action Alternative

RAA1 is the recommended remedy for the Site because:

- RAA1 will achieve a Temporary Solution and is more cost-effective than other RAAs that could potentially achieve a Permanent Solution.
- RAA1 is most compatible with both current operations as well as future redevelopment plans for the Site which are possible but not likely in the near term.

By selecting RAA1, the BPDA can incorporate remediation into future Site development plans.

The selection of a Temporary Solution is appropriate for the Site based on the following requirements of the MCP [310 CMR 40.1050]:

- No Substantial Hazard exists (refer to Section 8.10)
- The source of contamination been characterized and is not a threat for migration.
- A Phase III evaluation of remedial alternatives has been completed.

10. Representativeness Evaluation and Data Usability Assessment

The purpose of a Representativeness Evaluation and Data Usability Assessment (REDUA) is to evaluate the extent to which a data set meets specific site characterization and data usability objectives. The Data Usability Assessment must document that the data relied upon are scientifically valid and defensible, and of a sufficient level of precision, accuracy, and completeness to support the Temporary Solution. The Representativeness Evaluation must document the adequacy of the spatial and temporal data sets used to support the Temporary Solution. This REDUA also meets the requirements of MassDEP's Policy No. "WSC-07-350: MCP Representative Evaluations and Data Usability Assessments," dated September 2007 (MassDEP 2007).

10.1 Conceptual Site Model

The CSM developed for the Site is in Section 1.6.

10.2 Field and Screening Data

W&S and GEI collected field and screening data during sample collection activities associated with subsurface investigations. Field screening of soil samples was observing visual and olfactory conditions. In addition, GEI measured total VOCs using a PID and the MassDEP jar-headspace method. GEI documented these conditions in the field at the time of sample collection. Results of these field and screening data appeared generally consistent with the laboratory data used to support the respective Risk Characterizations and therefore this Temporary Solution Statement.

10.2.1 Sampling Rationale

W&S and GEI generally selected soil samples for laboratory analyses either based on visual and olfactory observations, field screening measurements, or available information regarding historical Site use. In accordance with MassDEP Policy #WSC-07-350 "MCP Representativeness Evaluations and Data Usability Assessments," it is GEI's opinion that soil sampling and laboratory analyses efforts were sufficient to delineate the disposal site boundary, identify background, calculate EPCs, assess "Hot Spots," identify exposure pathways and receptors, and demonstrate source elimination and control.

10.2.2 Sample Number, Spatial Distribution, and Sample Handling

The locations of all soil samples and monitoring wells are shown in Figs. 2 and 4. Samples collected, sample dates, sample depth intervals, sample testing methods, and chemical testing results are in Tables 4 and 5 (W&S) or in Tables 5 and 6 (GEI). Given the size of the Site and the nature of contamination, it is our opinion that the available data are adequate to define the Site and to be representative of Site conditions at the time of sampling.

Sample collection, preservation, and handling techniques were appropriate, as further described in Section 10.3.2.

10.2.3 Temporal Distribution

Based on the nature and extent of contamination present in soil, temporal sampling is not warranted for the Site.

Groundwater samples were collected from monitoring wells in 2017. Although seasonal effects were not evaluated, several monitoring wells contain contaminants above cleanup standards, requiring future remedial activities.

10.2.4 Data Completeness

The spatial distribution of samples was adequate to meet the data quality objectives.
Data quality objectives included evaluating whether QA/QC targets were met by the laboratory (i.e., by using CAM protocols or comparable protocols prior to CAM). Comprehensive sets of field and analytical data for this Site are available and consist of data with no data gaps related to sample distribution or data quality. We did not identify data gaps related to sample distribution or data quality; therefore, the data set is considered complete.

10.2.5 Data Inconsistency and Uncertainty

GEI did not encounter or disregard any inconsistencies or uncertainties (e.g., Site assessment data inconsistent with historical information, field screening data/observations inconsistent with analytical data, use of data with analytical deficiencies) in the data used to support the Temporary Solution Statement.

10.2.6 Data Considered Unrepresentative

No data was considered unrepresentative of Site conditions.

10.3 Data Usability Assessment

The Data Usability Assessment has an analytical and a field component.

10.3.1 Analytical Data Usability Criteria

Soil and groundwater chemical testing data collected by W&S and used to support this Temporary Solution Statement were generated prior to the MassDEP Compendium of Analytical Methods (CAM) and the promulgation of associated MCP Wave 2 revisions (310 CMR 40.1056). However, these data included laboratory quality assurance and quality control parameters, as described in the 2002 W&S Phase II CSA, that are consistent with those identified in the MassDEP CAM. These data were collected in accordance with accepted geohydrological practices, were consistent with field observations, were representative of the conditions for the area of concern from which they were collected and are of a level of precision and accuracy necessary for the preparation of this Temporary Solution Statement.

GEI's soil and groundwater chemical testing data used to support this Temporary Solution Statement were generated pursuant to the MassDEP CAM and 310 CMR 40.1056 and meet the criteria for "Presumptive Certainty" as identified in WSC #10-320: "Compendium of Quality Assurance and Quality Control Requirements and Performance Standards for Selected Analytical Methods," dated July 1, 2010 (MassDEP, 2010). We reviewed data generated during our sampling efforts internally according to our Standard Operating Procedure and using the MassDEP Policy WSC #10-320 (MassDEP, 2010) and Region I, Environmental Protection Agency-Northeast (EPA-NE) "Data Validation Functional Guidelines for Evaluating Environmental Analyses," December 1996 Revision (EPA, 1996) as guidance. The internal data review included an assessment of the data reported by the laboratory for extraction efficiency (surrogate recovery), analytical accuracy (laboratory control spikes, etc.), and analytical precision (laboratory duplicates, laboratory control spike duplicates, field duplicates, etc.). Based on the internal GEI data review, we have identified the following:

- Duplicate precision was outside control limits for four soil samples collected in February 2017 for EPH fractions or pesticides, and the laboratory report indicates that the results are estimated. The EPH fractions were not detected above laboratory reporting limits (two orders of magnitude below the Method 1 cleanup standards) and pesticides were detected but at two to four orders of magnitude below the Method 1 cleanup standards.
- Matrix spike recovery were outside control limits for one groundwater sample collected in March 2017 for total cyanide, and the laboratory report indicates that the result is likely biased on the low side. The cyanide was not detected above the laboratory reporting limit (half an order of magnitude below the Method 1 cleanup standard).

These data are consistent with field observations, are representative of conditions that exist at the Site, and are of a level of precision and accuracy commensurate with the preparation of this Temporary Solution Statement.

10.3.2 Field Data Usability Criteria

MassDEP Policy WSC #07-350 (MassDEP, 2007) requires an evaluation documenting that parties provided the laboratory with a sufficient volume of sample, in an appropriate container, properly preserved and within a time that will not compromise analytical holding times for the analytes specified.

Laboratory analytical reports, including Chain-of-Custody forms for environmental samples collected from the Site by W&S were provided in previous regulatory reports submitted to MassDEP and by GEI are provided in the current Report. The laboratory analytical reports and Chain-of-Custody forms document that the proper sampling containers/preservatives were used, that samples were received intact and at an acceptable temperature, and that samples were received within acceptable holding times.

Accordingly, the analytical data used to support this Temporary Solution Statement meet the field requirements.

10.3.3 Rejected Data

No data associated were rejected.

10.3.4 Conclusions

In summary, the data set used to support this Temporary Solution Statement is scientifically valid and defensible and is of sufficient accuracy, precision and completeness. In addition, the data set is representative of the spatial distribution of sampling points.

11. Temporary Solution Statement

A condition of No Substantial Hazard exists at the Site, and the Site is eligible for a Temporary Solution without the implementation of an AUL. A Temporary Solution is appropriate for the Site because response actions to achieve a Permanent Solution are feasible and are to be conducted in the future, but a Temporary Solution is currently more cost effective.

11.1 Temporary Solution Performance Standard

In accordance with 310 CMR 40.1003, a Temporary Solution is appropriate based on the following Site conditions:

- **Source Elimination or Control.** There are no unpermitted releases of OHM at the Site, and the sources of OHM at the Site are controlled.
- **Migration Control.** VOCs have been detected above Method 1 Standards in groundwater. Sources of groundwater contamination include historic industrial use of the Site, and possible upgradient sources of contamination. The highest VOC concentrations in groundwater have been measured at the western, upgradient, edge of the Site (wells B(MW)306 and B(MW)308). VOC concentrations in groundwater generally decrease in downgradient wells in the central and eastern portions of the Site. Accordingly, there is limited potential for off-site, downgradient migration of residual VOC contamination.
- **NAPL.** NAPL is not nor has it been visibly present at the Site. No detected concentrations of COCs would indicate the presence of NAPL.

11.2 Temporary Solution Statement

Based on the information presented in this report and consistent with the criteria listed in 310 CMR 40.1050[1](e)(2), a Temporary Solution Statement is appropriate for the Site, but a Permanent Solution is feasible in the future.

11.3 Definitive and Enterprising Steps Taken to Achieve a Permanent Solution (310 CMR 40.1050[5])

The Temporary Solution will remain in place while additional steps are implemented to achieve a Permanent Solution. The definitive and enterprising steps toward achieving a Permanent Solution at the Site are:

- Perform semi-annual inspections of the Site to document that no changes to Site conditions and no unauthorized excavations have occurred.
- Evaluate the feasibility of removing the large, artificial mound of soil on the northeastern portion of the Site and re-grade the Site to make it less susceptible to illegal dumping. While this will not result in a condition of No Significant Risk and a Permanent Solution, it will position the Site to be more attractive for future development plans and ultimately a Permanent Solution. If performed, this soil management work would occur under a RAM Plan.
- Within five years, the BPDA plans to make a decision on the redevelopment plans for the Property and Site. After the decision is made a Phase III RAP Addendum and Phase IV RIP, or a RAM Plan will be submitted to implement a remedy that will result in a Permanent Solution.

12. Limitations

This report was prepared for the use of BPDA, exclusively. Our conclusions are based on the information reported in this document. Additional information not available to GEI at the time this report was prepared may result in a modification of the findings of this investigation. This report has been prepared in accordance with generally accepted engineering and hydrogeological practices. No warranty, expressed or implied, is made.

13. References

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Tables

Figures

Appendix A

MassDEP Transmittal Forms

Appendix B

Public Notice Documents and Response to Comments on Draft Report

Appendix C

Historical Records

Appendix D

Existing Site Drawings

Appendix E

GEI Boring and Well Installation Logs

Appendix F

Laboratory Data Reports

Appendix G

Substantial Hazard Evaluation

Table 5. Chemical Testing Results - Groundwater (Weston & Sampson and GEI)
Supplemental Phase II CSA, Phase III RAP Addendum, and Temporary Solution Statement
Parcel P-3, Tremont Street & Whittier Streets
Boston, Massachusetts

						Well ID:	WS-1	WS-2		WS-3		WS-4	WS-5		WS-6	WS-7		WS-8
						Sample ID:	WS-1	WS-2	WS-2	WS-3	WS-3	WS-4	WS-5	WS-5	WS-6	WS-7	WS-7	WS-8
						Sample Date:	12/12/1996	12/12/1996	9/10/2001	12/12/1996	2/6/2001	12/12/1996	12/12/1996	2/6/2001	12/12/1996	12/12/1996	2/6/2001	12/12/1996
						Screen Interval (ft. below ground surface)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
						Sampled By:	W&S	W&S	W&S	W&S	W&S	W&S	W&S	W&S	W&S	W&S	W&S	W&S
Analyte	**Method**	**Units**	**MCP RCGW-2**	**Method 1 GW-2**	**Method 1 GW-3**													
MCP Volatile Organic Compounds (VOCs)	8260C	ug/l					NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethene			50	50	30000													
Vinyl chloride			2	2	50000													
Trichloroethene			5	5	5000													
cis-1,2-Dichloroethene			20	20	50000													
1,2-Dichloroethene (total)			20	20	50000													
Ethyl ether			10	NS	NS													
1,4-Dioxane			NS	6000	50000													
Volatile Organic Compounds (VOCs) by GC/MS	8260C	ug/l							NT		NT			NT			NT	
Chloroform			50	50	20000		< 2.0	< 2.0		< 2.0		< 2.0	< 2.0		9.1	< 2.0		< 2.0
p-Isopropyltoluene			100	NS	NS		< 2.0	< 2.0		< 2.0		< 2.0	< 2.0		< 2.0	< 2.0		< 2.0
Tetrachloroethene			50	50	30000		< 2.0	< 2.0		< 2.0		< 2.0	< 2.0		< 2.0	< 2.0		< 2.0
Trichloroethene			5	5	5000		< 2.0	< 2.0		< 2.0		< 2.0	2.2		< 2.0	< 2.0		< 2.0
Volatile Organic Compounds (VOCs) by GC/MS-SIM	8260C BY SIM	ug/l					NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,4-Dioxane			NS	6000	50000													
Volatile Petroleum Hydrocarbons (VPH)	VPH-04-1.1	ug/l					NT	NT		NT		NT	NT		NT	NT		NT
C9-C10 Aromatics			4000	4000	50000				< 25		< 25			< 25			< 25	
C5-C8 Aliphatics, Adjusted			3000	3000	50000				< 100		< 100			< 100			< 100	
C9-C12 Aliphatics, Adjusted			5000	5000	50000				< 25		< 25			< 25			< 25	
Semivolatile Organic Compounds (SVOCs) by GC/MS-SIM	8100 or 8270D BY SIM	ug/l					NT		NT	NT	NT	NT		NT	NT	NT	NT	
Acenaphthene			6000	NS	10000			ND					ND					ND
Fluoranthene			200	NS	200			ND					ND					ND
Anthracene			30	NS	30			ND					ND					ND
Fluorene			40	NS	40			ND					ND					ND
Phenanthrene			10000	NS	10000			ND					ND					ND
Pyrene			20	NS	20			ND					ND					ND
1-Methylnaphthalene			NS	NS	NS			ND					ND					ND
Extractable Petroleum Hydrocarbons (EPH)	EPH-04-1.1	ug/l					NT	NT		NT		NT	NT		NT	NT		NT
C9-C18 Aliphatics			5000	5000	50000				< 100		< 100			< 100			< 100	
C19-C36 Aliphatics			50000	NS	50000				140		< 100			< 100			< 100	
C11-C22 Aromatics, Adjusted			5000	50000	5000				< 100		< 100			< 100			< 100	
Naphthalene			700	700	20000				< 1.0		< 0.10			< 0.10			< 0.10	
2-Methylnaphthalene			2000	2000	20000				< 1.0		< 0.10			< 0.10			< 0.10	
Acenaphthene			6000	NS	10000				< 1.0		< 0.10			< 0.10			< 0.10	
Fluorene			40	NS	40				< 1.0		< 0.10			< 0.10			< 0.10	
Phenanthrene			10000	NS	10000				< 1.0		< 0.10			< 0.10			< 0.10	
Anthracene			30	NS	30				< 1.0		< 0.10			< 0.10			< 0.10	
Fluoranthene			200	NS	200				< 1.0		< 0.10			< 0.10			< 0.10	
Pyrene			20	NS	20				< 1.0		< 0.10			< 0.10			< 0.10	
Microextractables by GC		ug/l					NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2-Dibromoethane			2	2	50000													
Polychlorinated Biphenyls (PCBs) by GC	608	ug/l					NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Total PCBs			5	5	10													
Total Metals		ug/l					NT		NT	NT		NT			NT	NT		
Antimony, Total	6020A		8000	NS	8000			NT			NT		NT	NT			NT	NT
Arsenic, Total	6020A		900	NS	900			< 0.01			NT		< 0.01	NT			NT	< 0.02
Barium, Total	6020A		50000	NS	50000			< 0.05			NT		0.11	NT			NT	0.15
Cadmium, Total	6020A		4	NS	4			< 0.005			NT		< 0.005	NT			NT	< 0.005
Chromium, Total	6020A		300	NS	300			< 0.03			NT		< 0.03	NT			NT	< 0.03
Chromium, Hexavalent	6020A		300	NS	300			NT			NT		NT	NT			NT	NT
Copper, Total	6020A		NS	NS	NS			NT			NT		NT	NT			NT	NT
Iron, Total	200.7		NS	NS	NS			NT			NT		NT	NT			NT	NT
Lead, Total	6020A		10	NS	10			< 0.005			< 5.0		< 0.005	< 5.0			< 5.0	< 0.010
Mercury, Total	245.1		20	NS	20			< 0.0002			NT		< 0.0002	NT			NT	< 0.0002
Nickel, Total	6020A		200	NS	200			NT			NT		NT	NT			NT	NT
Selenium, Total	6020A		100	NS	100			< 0.025			NT		< 0.025	NT			NT	< 0.025
Silver, Total	6020A		7	NS	7			< 0.007			NT		< 0.007	NT			NT	< 0.007
Zinc, Total	6020A		900	NS	900			NT			NT		NT	NT			NT	NT
General Chemistry		ug/l							NT		NT			NT			NT	
Solids, Total Suspended	2540D		NS	NS	NS		NT	NT		NT		NT	NT		NT	NT		NT
Cyanide, Total	4500CN-CE		30	NS	30		NT	NT		NT		NT	NT		NT	NT		NT
Chlorine, Total Residual	4500CL-D		NS	NS	NS		NT	NT		NT		NT	NT		NT	NT		NT
TPH	8100M or 1664A		NS	NS	NS		ND	ND		ND		ND	ND		ND	ND		ND
Phenolics, Total	420.1		NS	NS	NS		NT	NT		NT		NT	NT		NT	NT		NT
Anions by Ion Chromatography		ug/l																
Chloride	300.0		NS	NS	NS		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT

General Notes:

1. Only analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
2. "<" = Analyte not detected at a concentration above the laboratory reporting limit.
3. Method 1 standards are cited from the Massachusetts Contingency Plan 310 CMR 40.0000 (MCP), with revisions effective June 20, 2014.
4. µg/L = micrograms per liter
5. Values in bold exceed Method 1 standards.
6. NS = No Method 1 standard established.
7. µg/L = micrograms per liter
8. ND = Analyte(s) not detected
9. W&S results: VOCs by 8260, PAHs by 8100, TPH by 8100M; GEI results: VOCs by 8260C, PAHs by 8270-SIM, TPH by 1664A

Qualifiers:

F- The result has a low bias due to matrix spike recovery below lower control limits.

Table 5. Chemical Testing Results - Groundwater (Weston & Sampson and GEI)
Supplemental Phase II CSA, Phase III RAP Addendum, and Temporary Solution Statement
Parcel P-3, Tremont Street & Whittier Streets
Boston, Massachusetts

						Well ID:	WS-9		WS-10		WS-11	WS-12			WS-13	B205 (OW)	B(MW)301	B(MW)302
						Sample ID:	WS-9	WS-9	WS-10	WS-10	WS-11	WS-12	WS-12	WS-12	WS-13	B205 (OW)	B(MW)301	B(MW)302
						Sample Date:	12/12/1996	2/6/2001	12/12/1996	2/6/2001	12/12/1996	12/12/1996	12/12/1996	2/6/2001	9/10/2001	3/2/2017	3/5/2017	3/3/2017
						Screen Interval (ft. below ground surface)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown (DUP)	Unknown	Unknown	28.9 - 38.9	11 - 21	16 - 26
						Sampled By:	W&S	W&S	W&S	W&S	W&S	W&S	W&S	W&S	W&S	GEI	GEI	GEI
Analyte	**Method**	**Units**	**MCP RCGW-2**	**Method 1 GW-2**	**Method 1 GW-3**													
MCP Volatile Organic Compounds (VOCs)	8260C	ug/l					NT	NT	NT	NT	NT	NT	NT	NT	NT			
Tetrachloroethene			50	50	30000											< 1	< 1	19
Vinyl chloride			2	2	50000											< 1	< 1	< 1
Trichloroethene			5	5	5000											< 1	< 1	**5**
cis-1,2-Dichloroethene			20	20	50000											< 1	< 1	7.2
1,2-Dichloroethene (total)			20	20	50000											< 1	< 1	7.2
Ethyl ether			10	NS	NS											< 2	< 2	< 2
1,4-Dioxane			NS	6000	50000											NT	< 250	NT
Volatile Organic Compounds (VOCs) by GC/MS	8260C	ug/l						NT		NT				NT	NT	NT	NT	NT
Chloroform			50	50	20000		< 2.0		< 5.8		< 2.0	< 2.0	< 2.0					
p-Isopropyltoluene			100	NS	NS		< 2.0		< 2.0		< 2.0	2.8	2.6					
Tetrachloroethene			50	50	30000		< 2.0		< 2.0		< 2.0	< 2.0	< 2.0					
Trichloroethene			5	5	5000		< 2.0		< 2.0		< 2.0	< 2.0	< 2.0					
Volatile Organic Compounds (VOCs) by GC/MS-SIM	8260C BY SIM	ug/l					NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,4-Dioxane			NS	6000	50000													
Volatile Petroleum Hydrocarbons (VPH)	VPH-04-1.1	ug/l					NT		NT		NT	NT	NT		NT			
C9-C10 Aromatics			4000	4000	50000			< 25		< 25				< 25		< 50	< 50	< 50
C5-C8 Aliphatics, Adjusted			3000	3000	50000			< 100		< 100				< 100		< 50	< 50	< 50
C9-C12 Aliphatics, Adjusted			5000	5000	50000			< 25		< 25				< 25		< 50	< 50	< 50
Semivolatile Organic Compounds (SVOCs) by GC/MS-SIM	8100 or 8270D BY SIM	ug/l						NT	NT	NT	NT			NT	NT	NT	NT	NT
Acenaphthene			6000	NS	10000		ND					ND	ND					
Fluoranthene			200	NS	200		ND					ND	ND					
Anthracene			30	NS	30		ND					ND	ND					
Fluorene			40	NS	40		ND					ND	ND					
Phenanthrene			10000	NS	10000		ND					ND	ND					
Pyrene			20	NS	20		ND					ND	ND					
1-Methylnaphthalene			NS	NS	NS		ND					ND	ND					
Extractable Petroleum Hydrocarbons (EPH)	EPH-04-1.1	ug/l					NT		NT		NT	NT	NT		NT			
C9-C18 Aliphatics			5000	5000	50000			< 100		< 100				< 100		< 100	< 100	< 100
C19-C36 Aliphatics			50000	NS	50000			< 100		< 100				< 100		< 100	< 100	< 100
C11-C22 Aromatics, Adjusted			5000	50000	5000			< 100		< 100				160		< 100	< 100	< 100
Naphthalene			700	700	20000			< 0.10		< 0.10				< 0.10		< 0.4	< 0.412	< 0.4
2-Methylnaphthalene			2000	2000	20000			< 0.10		< 0.10				< 0.10		< 0.4	< 0.412	< 0.4
Acenaphthene			6000	NS	10000			< 0.10		< 0.10				< 0.10		< 0.4	< 0.412	< 0.4
Fluorene			40	NS	40			< 0.10		< 0.10				< 0.10		< 0.4	< 0.412	< 0.4
Phenanthrene			10000	NS	10000			< 0.10		< 0.10				< 0.10		< 0.4	< 0.412	< 0.4
Anthracene			30	NS	30			< 0.10		< 0.10				< 0.10		< 0.4	< 0.412	< 0.4
Fluoranthene			200	NS	200			< 0.10		< 0.10				< 0.10		< 0.4	< 0.412	< 0.4
Pyrene			20	NS	20			< 0.10		< 0.10				< 0.10		< 0.4	< 0.412	< 0.4
Microextractables by GC		ug/l					NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2-Dibromoethane			2	2	50000													
Polychlorinated Biphenyls (PCBs) by GC	608	ug/l					NT	NT	NT	NT	NT	NT	NT	NT	NT			
Total PCBs			5	5	10													
Total Metals		ug/l							NT				NT			NT	NT	NT
Antimony, Total	6020A		8000	NS	8000		NT	NT		NT	NT	NT		NT	NT			
Arsenic, Total	6020A		900	NS	900		< 0.01	NT		NT	< 0.01	< 0.01		NT	NT			
Barium, Total	6020A		50000	NS	50000		0.11	NT		NT	< 0.05	0.12		NT	NT			
Cadmium, Total	6020A		4	NS	4		< 0.005	NT		NT	< 0.005	< 0.005		NT	NT			
Chromium, Total	6020A		300	NS	300		< 0.03	NT		NT	< 0.03	< 0.03		NT	NT			
Chromium, Hexavalent	6020A		300	NS	300		NT	NT		NT	NT	NT		NT	NT			
Copper, Total	6020A		NS	NS	NS		NT	NT		NT	NT	NT		NT	NT			
Iron, Total	200.7		NS	NS	NS		NT	NT		NT	NT	NT		NT	NT			
Lead, Total	6020A		10	NS	10		< 0.010	< 5.0		< 5.0	< 0.010	< 0.005		< 5.0	< 12			
Mercury, Total	245.1		20	NS	20		< 0.0002	NT		NT	< 0.0002	< 0.0002		NT	NT			
Nickel, Total	6020A		200	NS	200		NT	NT		NT	NT	NT		NT	NT			
Selenium, Total	6020A		100	NS	100		< 0.025	NT		NT	< 0.005	< 0.025		NT	NT			
Silver, Total	6020A		7	NS	7		< 0.007	NT		NT	< 0.007	< 0.007		NT	NT			
Zinc, Total	6020A		900	NS	900		NT	NT		NT	NT	NT		NT	NT			
General Chemistry		ug/l						NT		NT				NT	NT	NT	NT	NT
Solids, Total Suspended	2540D		NS	NS	NS		NT		NT		NT	NT	NT					
Cyanide, Total	4500CN-CE		30	NS	30		NT		NT		NT	NT	NT					
Chlorine, Total Residual	4500CL-D		NS	NS	NS		NT		NT		NT	NT	NT					
TPH	8100M or 1664A		NS	NS	NS		ND		ND		ND	ND	ND					
Phenolics, Total	420.1		NS	NS	NS		NT		NT		NT	NT	NT					
Anions by Ion Chromatography		ug/l														NT	NT	NT
Chloride	300.0		NS	NS	NS		NT	NT	NT	NT	NT	NT	NT	NT	NT			

General Notes:
1. Only analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
2. "<" = Analyte not detected at a concentration above the laboratory reporting limit.
3. Method 1 standards are cited from the Massachusetts Contingency Plan 310 CMR 40.0000 (MCP), with revisions effective June 20, 2014.
4. µg/L = micrograms per liter
5. Values in bold exceed Method 1 standards.
6. NS = No Method 1 standard established.
7. µg/L = micrograms per liter
8. ND = Analyte(s) not detected
9. W&S results: VOCs by 8260, PAHs by 8100, TPH by 8100M; GEI results: VOCs by 8260C, PAHs by 8270-SIM, TPH by 1664A

Qualifiers:
F- The result has a low bias due to matrix spike recovery below lower control limits.

Table 5. Chemical Testing Results - Groundwater (Weston & Sampson and GEI)
Supplemental Phase II CSA, Phase III RAP Addendum, and Temporary Solution Statement
Parcel P-3, Tremont Street & Whittier Streets
Boston, Massachusetts

						Well ID:	B(MW)303	B(MW)305	B(MW)306	B(MW)307	B(MW)308
						Sample ID:	B(MW)303	B(MW)305	B(MW)306	B(MW)307	B(MW)308
						Sample Date:	3/3/2017	3/3/2017	3/5/2017	3/3/2017	3/3/2017
						Screen Interval (ft. below ground surface)	18 - 28	11 - 21	10 - 20	11 - 21	11 - 21
						Sampled By:	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**	**MCP RCGW-2**	**Method 1 GW-2**	**Method 1 GW-3**						
MCP Volatile Organic Compounds (VOCs)	8260C	ug/l							NT		
Tetrachloroethene			50	50	30000	< 1	1.5	3.2		1	
Vinyl chloride			2	2	50000	< 1	< 1	**6.3**		< 1	
Trichloroethene			5	5	5000	< 1	1.8	**93**		**36**	
cis-1,2-Dichloroethene			20	20	50000	< 1	< 1	**64**		6.2	
1,2-Dichloroethene (total)			20	20	50000	< 1	< 1	64		6.2	
Ethyl ether			10	NS	NS	< 2	< 2	< 2		2.4	
1,4-Dioxane			NS	6000	50000	< 250	NT	< 250		< 250	
Volatile Organic Compounds (VOCs) by GC/MS	8260C	ug/l				NT	NT	NT		NT	
Chloroform			50	50	20000				< 0.75		
p-Isopropyltoluene			100	NS	NS				0.55		
Tetrachloroethene			50	50	30000				0.92		
Trichloroethene			5	5	5000				1.3		
Volatile Organic Compounds (VOCs) by GC/MS-SIM	8260C BY SIM	ug/l				NT	NT	NT		NT	
1,4-Dioxane			NS	6000	50000				< 3		
Volatile Petroleum Hydrocarbons (VPH)	VPH-04-1.1	ug/l									
C9-C10 Aromatics			4000	4000	50000	< 50	< 50	< 50	< 50	< 50	
C5-C8 Aliphatics, Adjusted			3000	3000	50000	< 50	< 50	< 50	< 50	< 50	
C9-C12 Aliphatics, Adjusted			5000	5000	50000	< 50	< 50	< 50	< 50	< 50	
Semivolatile Organic Compounds (SVOCs) by GC/MS-SIM	8100 or 8270D BY SIM	ug/l				NT	NT	NT		NT	
Acenaphthene			6000	NS	10000				1.6		
Fluoranthene			200	NS	200				1.2		
Anthracene			30	NS	30				0.89		
Fluorene			40	NS	40				1.5		
Phenanthrene			10000	NS	10000				4.3		
Pyrene			20	NS	20				0.76		
1-Methylnaphthalene			NS	NS	NS				0.4		
Extractable Petroleum Hydrocarbons (EPH)	EPH-04-1.1	ug/l									
C9-C18 Aliphatics			5000	5000	50000	< 100	< 100	< 100	< 100	< 100	
C19-C36 Aliphatics			50000	NS	50000	< 100	< 100	< 100	< 100	< 100	
C11-C22 Aromatics, Adjusted			5000	50000	5000	< 100	< 100	< 100	< 100	< 100	
Naphthalene			700	700	20000	< 0.4	0.708	< 0.417	1.45	0.502	
2-Methylnaphthalene			2000	2000	20000	< 0.4	< 0.4	< 0.417	0.652	< 0.4	
Acenaphthene			6000	NS	10000	< 0.4	< 0.4	< 0.417	2.25	< 0.4	
Fluorene			40	NS	40	< 0.4	< 0.4	< 0.417	2.1	< 0.4	
Phenanthrene			10000	NS	10000	< 0.4	0.84	< 0.417	5.53	< 0.4	
Anthracene			30	NS	30	< 0.4	< 0.4	< 0.417	0.994	< 0.4	
Fluoranthene			200	NS	200	< 0.4	< 0.4	< 0.417	1.57	< 0.4	
Pyrene			20	NS	20	< 0.4	< 0.4	< 0.417	0.942	< 0.4	
Microextractables by GC		ug/l				NT	NT	NT		NT	
1,2-Dibromoethane			2	2	50000				< 0.01		
Polychlorinated Biphenyls (PCBs) by GC	608	ug/l									
Total PCBs			5	5	10				ND		
Total Metals		ug/l				NT	NT	NT		NT	
Antimony, Total	6020A		8000	NS	8000				< 4		
Arsenic, Total	6020A		900	NS	900				< 0.5		
Barium, Total	6020A		50000	NS	50000				NT		
Cadmium, Total	6020A		4	NS	4				0.41		
Chromium, Total	6020A		300	NS	300				< 1		
Chromium, Hexavalent	6020A		300	NS	300				< 10		
Copper, Total	6020A		NS	NS	NS				1.49		
Iron, Total	200.7		NS	NS	NS				< 50		
Lead, Total	6020A		10	NS	10				< 0.5		
Mercury, Total	245.1		20	NS	20				< 0.2		
Nickel, Total	6020A		200	NS	200				2.45		
Selenium, Total	6020A		100	NS	100				< 5		
Silver, Total	6020A		7	NS	7				< 0.4		
Zinc, Total	6020A		900	NS	900				< 10		
General Chemistry		ug/l				NT	NT	NT		NT	
Solids, Total Suspended	2540D		NS	NS	NS				< 5000		
Cyanide, Total	4500CN-CE		30	NS	30				< 5 F-		
Chlorine, Total Residual	4500CL-D		NS	NS	NS				< 20		
TPH	8100M or 1664A		NS	NS	NS				< 4000		
Phenolics, Total	420.1		NS	NS	NS				< 30		
Anions by Ion Chromatography		ug/l				NT	NT	NT		NT	
Chloride	300.0		NS	NS	NS				1,200,000		

General Notes:
1. Only analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
2. "<" = Analyte not detected at a concentration above the laboratory reporting limit.
3. Method 1 standards are cited from the Massachusetts Contingency Plan 310 CMR 40.0000 (MCP), with revisions effective June 20, 2014.
4. µg/L = micrograms per liter
5. Values in bold exceed Method 1 standards.
6. NS = No Method 1 standard established.
7. µg/L = micrograms per liter
8. ND = Analyte(s) not detected
9. W&S results: VOCs by 8260, PAHs by 8100, TPH by 8100M; GEI results: VOCs by 8260C, PAHs by 8270-SIM, TPH by 1664A

Qualifiers:
F- The result has a low bias due to matrix spike recovery below lower control limits.

Table 6. Chemical Testing Results - Soil (GEI)
Supplemental Phase II CSA, Phase III RAP Addendum, and Temporary Solution Statement
Parcel P-3, Tremont Street & Whittier Streets
Boston, Massachusetts

						Sample ID:	TP-101(0-3')	TP-103(0-3')	TP-104(0-3')	TP-105(10')	TP-105(0-10')	TP-106(0-2')	TP-107(0-3')	TP-108(8')	TP-108(0-8')	B301-S7(10-15")	B301-COMP (0-3')	B302-S4 (0-8")	B303-S9 (0-5")
						Sample Date:	2/26/2017	2/26/2017	2/26/2017	2/26/2017	2/26/2017	2/26/2017	2/26/2017	2/26/2017	2/26/2017	3/2/2017	3/2/2017	2/27/2017	2/28/2017
						Sample Depth (ft)	0 - 3	0 - 3	0 - 3	10	0 - 10	0 - 2	0 - 3	8	0 - 8	12.75	0 - 3	6.0	20
						Sampled By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**	**MCP RCS-1**	**Method 1 S-1/GW-2**	**Method 1 S-1/GW-3**														
Volatile Organics Compounds (VOCs)	8260C	mg/kg				NT	NT	NT		NT	NT	NT	NT	NT	NT		NT		
Benzene			2	40	40				< 0.064							< 0.03		< 0.05	< 0.053
Trichloroethene			0.3	0.3	30				< 0.064							< 0.03		< 0.05	< 0.053
Volatile Petroleum Hydrocarbons (VPH)	VPH-04-1.1	mg/kg				NT	NT	NT	NT	NT	NT	NT	NT		NT		NT		
C9-C10 Aromatics			100	100	100									< 2.69		< 2.28		< 2.62	< 2.77
C5-C8 Aliphatics, Adjusted			100	100	100									< 2.69		< 2.28		< 2.62	< 2.77
C9-C12 Aliphatics, Adjusted			1000	1000	1000									< 2.69		< 2.28		< 2.62	< 2.77
Semivolatile Organic Compounds (SVOCs)	8270D	mg/kg				NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT
Acenaphthene			4	1000	1000						1.1								
Acenaphthylene			1	600	10						< 0.31								
Anthracene			1000	1000	1000						2.3								
Benzo(a)anthracene			7	7	7						5.5								
Benzo(a)pyrene			2	2	2						**5.1**								
Benzo(b)fluoranthene			7	7	7						6.3								
Benzo(g,h,i)perylene			1000	1000	1000						2.5								
Benzo(k)fluoranthene			70	70	70						2.2								
Chrysene			70	70	70						5								
Dibenzo(a,h)anthracene			0.7	0.7	0.7						0.66								
Dibenzofuran			100	NS	NS						0.74								
Di-n-butylphthalate			50	NS	NS						< 0.38								
Fluoranthene			1000	1000	1000						11								
Fluorene			1000	1000	1000						0.98								
Indeno(1,2,3-cd)pyrene			7	7	7						2.9								
2-Methylnaphthalene			0.7	80	300						< 0.46								
Naphthalene			4	20	500						0.66								
Phenanthrene			10	500	500						9.8								
Pyrene			1000	1000	1000						9.6								
Extractable Petroleum Hydrocarbons (EPH)	EPH-04-1.1	mg/kg				NT	NT	NT	NT	NT	NT	NT	NT		NT		NT		
C9-C18 Aliphatics			1000	1000	1000									< 7.74		< 7.38		< 8.14 G	< 7.81 G
C11-C22 Aromatics, Adjusted			1000	1000	1000									40.8		< 7.38		< 8.14	< 7.81
C19-C36 Aliphatics			3000	3000	3000									20.2		< 7.38		< 8.14 G	< 7.81 G
Anthracene			1000	1000	1000									0.465		< 0.369		< 0.407	< 0.39
Benzo(a)anthracene			7	7	7									1.37		< 0.369		< 0.407	< 0.39
Benzo(a)pyrene			2	2	2									1.41		< 0.369		< 0.407	< 0.39
Benzo(b)fluoranthene			7	7	7									1.11		< 0.369		< 0.407	< 0.39
Benzo(g,h,i)perylene			1000	1000	1000									0.902		< 0.369		< 0.407	< 0.39
Benzo(k)fluoranthene			70	70	70									1.27		< 0.369		< 0.407	< 0.39
Chrysene			70	70	70									1.64		< 0.369		< 0.407	< 0.39
Fluoranthene			1000	1000	1000									3.33		< 0.369		< 0.407	< 0.39
Indeno(1,2,3-cd)Pyrene			7	7	7									1.04		< 0.369		< 0.407	< 0.39
Phenanthrene			10	500	500									2.01		< 0.369		< 0.407	< 0.39
Pyrene			1000	1000	1000									2.79		< 0.369		< 0.407	< 0.39
Chlorinated Herbicides	8151A	mg/kg	NS	NS	NS	NT	NT	NT	NT	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT
Organochlorine Pesticides	8081B	mg/kg														NT	NT		
Endosulfan II			0.5	300	1					0.0257 G									
Total Petroleum Hydrocarbons (TPH)		mg/kg				NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT
TPH			1000	1000	1000					330									
Polychlorinated Biphenyls (PCBs)	8082A	mg/kg							NT					NT		NT		NT	NT
Aroclor 1254			1	1	1	< 0.0374	< 0.0355	< 0.039		0.0759	< 0.038	< 0.0377			< 0.0383		< 0.038		
PCBs, Total			1	1	1	< 0.0374	< 0.0355	< 0.039		0.0759	< 0.038	< 0.0377			< 0.0383		< 0.038		
Total Metals		mg/kg														NT	NT	NT	NT
Antimony, Total	6010C		20	20	20	< 2.3	NT	NT	NT	< 2.3	NT	< 2.2	NT	NT					
Arsenic, Total	6010C		20	20	20	5.1	5.2	7.1		12	4.3	8.2		5					
Barium, Total	6010C		1000	1000	1000	54	34	47		79	24	98		42					
Beryllium, Total	6010C		90	90	90	0.36	NT	NT		0.33	NT	0.36		NT					
Cadmium, Total	6010C		70	70	70	< 0.46	< 0.43	< 0.47		< 0.45	< 0.45	< 0.45		< 0.46					
Chromium, Total	6010C		100	100	100	11	13	15		12	6.8	17		12					
Lead, Total	6010C		200	200	200	130	38	97		**270**	52	**290**		80					
Mercury, Total	7471B		20	20	20	0.417	0.326	0.42		0.532	0.262	1.25		0.46					
Nickel, Total	6010C		600	600	600	8.3	NT	NT		24	NT	11		NT					
Selenium, Total	6010C		400	400	400	< 2.3	< 2.2	< 2.3		< 2.3	< 2.2	< 2.2		< 2.3					
Silver, Total	6010C		100	100	100	< 0.46	< 0.43	< 0.47		< 0.45	< 0.45	< 0.45		< 0.46					
Thallium, Total	6010C		8	8	8	< 2.3	NT	NT		< 2.3	NT	< 2.2		NT					
Vanadium, Total	6010C		400	400	400	21	NT	NT		23	NT	21		NT					
Zinc, Total	6010C		1000	1000	1000	100	NT	NT		190	NT	110		NT					
TCLP Metals by EPA 1311		mg/L					NT	NT	NT		NT		NT	NT	NT	NT	NT	NT	NT
Lead, Total	6010C		5	NS	NS	< 0.5				< 0.5		< 0.5							
General Chemistry																			
Solids, Total	2540G	%	NS	NS	NS	84.4	91.7	84.7	80	85.3	87.3	86.7	81.8	85.5	89.4	86.2	78.8	80.9	
Specific Conductance (25° C)	9050A	umhos/cm	NS	NS	NS	NT	NT	NT	NT	110	NT	NT	NT	NT	NT	NT	NT	NT	
pH (H)	9045D	SU	NS	NS	NS	NT	NT	NT	NT	8.1	NT	NT	NT	NT	NT	NT	NT	NT	
Cyanide, Reactive	1,7.3	mg/kg	NS	NS	NS	NT	NT	NT	NT	< 10	NT	NT	NT	NT	NT	NT	NT	NT	
Sulfide, Reactive	1,7.3	mg/kg	NS	NS	NS	NT	NT	NT	NT	< 10	NT	NT	NT	NT	NT	NT	NT	NT	
Oxidation/Reduction Potential	1498	mv	NS	NS	NS	NT	NT	NT	NT	190	NT	NT	NT	NT	NT	NT	NT	NT	
Paint Filter Liquid	9095B	NA	NS	NS	NS	NT	NT	NT	NT	Negative	NT	NT	NT	NT	NT	NT	NT	NT	
Ignitability	1030	NA	NS	NS	NS	NT	NT	NT	NT	NI	NT	NT	NT	NT	NT	NT	NT	NT	

General Notes:

1. In general, only analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
2. < = less than reported detection limits
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective June 20, 2014.
4. Method 1 Standards (e.g., S-1/GW-2) and UCLs, where identified, are cited from the MCP.
5. ND = None detected above laboratory detection limit.
6. mg/kg = milligrams per kilogram.
7. Values in bold exceed Method 1 standards.
8. NI = Not Ignitable.
9. TCLP = Total Characteristic Leaching Procedure.

Qualifiers:

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

Table 6. Chemical Testing Results - Soil (GEI)
Supplemental Phase II CSA, Phase III RAP Addendum, and Temporary Solution Statement
Parcel P-3, Tremont Street & Whittier Streets
Boston, Massachusetts

						Sample ID:	B305-S7(9-13")	B306-S7(8-14")	B307-S7 (6-18")	B308-S2 (0-18")	B308-S7 (0-10")	B308-COMP (0-8")	B308-COMP (8-22")
						Sample Date:	3/2/2017	3/3/2017	2/27/2017	3/1/2017	3/1/2017	3/1/2017	3/1/2017
						Sample Depth (ft)	13	12-14	12.5	3	12	0 - 8	8 - 22
						Sampled By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**	**MCP RCS-1**	**Method 1 S-1/GW-2**	**Method 1 S-1/GW-3**								
Volatile Organics Compounds (VOCs)	8260C	mg/kg										NT	NT
Benzene			2	40	40	< 0.037	<0.049	< 0.053	0.049	< 0.04		
Trichloroethene			0.3	0.3	30	< 0.037	0.063	< 0.053	< 0.048	0.25		
Volatile Petroleum Hydrocarbons (VPH)	VPH-04-1.1	mg/kg							NT	NT	NT	NT
C9-C10 Aromatics			100	100	100	< 2.06	<2.40	< 2.82				
C5-C8 Aliphatics, Adjusted			100	100	100	< 2.06	<2.40	< 2.82				
C9-C12 Aliphatics, Adjusted			1000	1000	1000	< 2.06	<2.40	< 2.82				
Semivolatile Organic Compounds (SVOCs)	8270D	mg/kg				NT	NT	NT	NT	NT		
Acenaphthene			4	1000	1000						3.9	< 0.15
Acenaphthylene			1	600	10						0.23	< 0.15
Anthracene			1000	1000	1000						11	< 0.11
Benzo(a)anthracene			7	7	7						**16**	0.2
Benzo(a)pyrene			2	2	2						**15**	0.17
Benzo(b)fluoranthene			7	7	7						**19**	0.2
Benzo(g,h,i)perylene			1000	1000	1000						7.6	< 0.15
Benzo(k)fluoranthene			70	70	70						4.1	< 0.11
Chrysene			70	70	70						15	0.18
Dibenzo(a,h)anthracene			0.7	0.7	0.7						**2.0**	< 0.11
Dibenzofuran			100	NS	NS						2.6	< 0.18
Di-n-butylphthalate			50	NS	NS						0.36	0.21
Fluoranthene			1000	1000	1000						40	0.41
Fluorene			1000	1000	1000						5.6	< 0.18
Indeno(1,2,3-cd)pyrene			7	7	7						8.8	< 0.15
2-Methylnaphthalene			0.7	80	300						0.74	< 0.22
Naphthalene			4	20	500						0.55	< 0.18
Phenanthrene			10	500	500						37	0.34
Pyrene			1000	1000	1000						32	0.36
Extractable Petroleum Hydrocarbons (EPH)	EPH-04-1.1	mg/kg							NT	NT	NT	NT
C9-C18 Aliphatics			1000	1000	1000	< 6.9	<7.28	< 8.21 G				
C11-C22 Aromatics, Adjusted			1000	1000	1000	< 6.9	<7.28	< 8.21				
C19-C36 Aliphatics			3000	3000	3000	< 6.9	<7.28	< 8.21 G				
Anthracene			1000	1000	1000	< 0.345	<0.364	< 0.41				
Benzo(a)anthracene			7	7	7	< 0.345	<0.364	< 0.41				
Benzo(a)pyrene			2	2	2	< 0.345	<0.364	< 0.41				
Benzo(b)fluoranthene			7	7	7	< 0.345	<0.364	< 0.41				
Benzo(g,h,i)perylene			1000	1000	1000	< 0.345	<0.364	< 0.41				
Benzo(k)fluoranthene			70	70	70	< 0.345	<0.364	< 0.41				
Chrysene			70	70	70	< 0.345	<0.364	< 0.41				
Fluoranthene			1000	1000	1000	< 0.345	<0.364	< 0.41				
Indeno(1,2,3-cd)Pyrene			7	7	7	< 0.345	<0.364	< 0.41				
Phenanthrene			10	500	500	< 0.345	<0.364	< 0.41				
Pyrene			1000	1000	1000	< 0.345	<0.364	< 0.41				
Chlorinated Herbicides	8151A	mg/kg	NS	NS	NS	NT	NT	NT	NT	NT	ND	ND
Organochlorine Pesticides	8081B	mg/kg				NT	NT					
Endosulfan II			0.5	300	1						< 0.00921	< 0.00854
Total Petroleum Hydrocarbons (TPH)		mg/kg				NT	NT	NT	NT	NT		
TPH			1000	1000	1000						313	< 36.6
Polychlorinated Biphenyls (PCBs)	8082A	mg/kg				NT	NT	NT	NT	NT		
Aroclor 1254			1	1	1						< 0.0384	< 0.0355
PCBs, Total			1	1	1						< 0.0384	< 0.0355
Total Metals		mg/kg				NT	NT	NT	NT	NT		
Antimony, Total	6010C		20	20	20						< 2.3	< 2.2
Arsenic, Total	6010C		20	20	20						3.3	3
Barium, Total	6010C		1000	1000	1000						48	25
Beryllium, Total	6010C		90	90	90						< 0.23	< 0.22
Cadmium, Total	6010C		70	70	70						< 0.45	< 0.44
Chromium, Total	6010C		100	100	100						9.1	16
Lead, Total	6010C		200	200	200						56	12
Mercury, Total	7471B		20	20	20						0.207	< 0.072
Nickel, Total	6010C		600	600	600						6.3	10
Selenium, Total	6010C		400	400	400						< 2.3	< 2.2
Silver, Total	6010C		100	100	100						< 0.45	< 0.44
Thallium, Total	6010C		8	8	8						< 2.3	< 2.2
Vanadium, Total	6010C		400	400	400						11	19
Zinc, Total	6010C		1000	1000	1000						50	38
TCLP Metals by EPA 1311		mg/L				NT	NT	NT	NT	NT	NT	NT
Lead, Total	6010C		5	NS	NS							
General Chemistry												
Solids, Total	2540G	%	NS	NS	NS	92.3	87.2	80.7	91.7	93.3	85.9	89.7
Specific Conductance (25° C)	9050A	umhos/cm	NS	NS	NS	NT	NT	NT	NT	NT	300	91
pH (H)	9045D	SU	NS	NS	NS	NT	NT	NT	NT	NT	8.2	8.4
Cyanide, Reactive	1,7.3	mg/kg	NS	NS	NS	NT	NT	NT	NT	NT	< 10	< 10
Sulfide, Reactive	1,7.3	mg/kg	NS	NS	NS	NT	NT	NT	NT	NT	< 10	< 10
Oxidation/Reduction Potential	1498	mv	NS	NS	NS	NT	NT	NT	NT	NT	140	130
Paint Filter Liquid	9095B	NA	NS	NS	NS	NT	NT	NT	NT	NT	Negative	Negative
Ignitability	1030	NA	NS	NS	NS	NT	NT	NT	NT	NT	NI	NI

General Notes:

1. In general, only analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
2. < = less than reported detection limits
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective June 20, 2014.
4. Method 1 Standards (e.g., S-1/GW-2) and UCLs, where identified, are cited from the MCP.
5. ND = None detected above laboratory detection limit.
6. mg/kg = milligrams per kilogram.
7. Values in bold exceed Method 1 standards.
8. NI = Not Ignitable.
9. TCLP = Total Characteristic Leaching Procedure.

Qualifiers:

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

Table 7. Minimum and Maximum Concentrations - Soil
Supplemental Phase II CSA, Phase III RAP Addendum, and Temporary Solution Statement
Parcel P-3, Tremont Street & Whittier Streets
Boston, Massachusetts

Analyte		Method	Units	MCP RCS-1	Method 1 S-1/GW-2	Method 1 S-1/GW-3	Number of Detections	Number of Samples	Detection Frequency (%)	Minimum Detected Value (mg/kg)	Minimum Detect Location	Maximum Detected Value (mg/kg)	Maximum Detect Location	Contaminant of Concern?	Exposure Point Concentration (Upper Concentration Limit using 90% KM Chebychev) (mg/kg)				Lead Hot Spot Exposure Point Concentration (Average) (mg/kg)
															0-3 feet	EPC footnote	0-15 feet	EPC footnote	Samples B202, B211 5-7 feet
Volatile Organics Compounds (VOCs)		8260C	mg/kg																
Benzene	71-43-2			2	40	40	1	15	7%	0.049	B308-S2 (0-18")	0.049	B308-S2 (0-18")	Yes	0.05	1,2	0.05	2	NT
Trichloroethene	79-01-6			0.3	0.3	30	2	15	13%	0.063	B306-S7(8-14")	0.25	B308-S7 (0-10")	Yes	<0.048	1,2	0.25	2	NT
Xylenes, Total	1330-20-7			100	100	500	1	14	7%	0.032	WS-12	0.032	WS-12	Yes	<0.097	1,2	0.032	2	NT
n-Butylbenzene	104-51-8			#N/A	NS	NS	1	14	7%	0.47	WS-12	0.47	WS-12	No	--	--	--	--	--
sec-Butylbenzene	135-98-8			#N/A	NS	NS	1	14	7%	0.27	WS-12	0.27	WS-12	No	--	--	--	--	--
tert-Butylbenzene	98-06-6			#N/A	NS	NS	1	14	7%	0.036	WS-12	0.036	WS-12	No	--	--	--	--	--
Isopropylbenzene	98-82-8			#N/A	NS	NS	1	14	7%	0.33	WS-12	0.33	WS-12	No	--	--	--	--	--
Naphthalene	91-20-3			4	20	500	1	14	7%	0.16	WS-12	0.16	WS-12	Yes	<0.19	1,2	0.16	2	NT
n-Propylbenzene	103-65-1			#N/A	NS	NS	1	14	7%	0.76	WS-12	0.76	WS-12	No	--	--	--	--	--
1,2,4-Trimethylbenzene	95-63-6			#N/A	NS	NS	1	14	7%	0.07	WS-12	0.07	WS-12	No	--	--	--	--	--
Semivolatile Organic Compounds (SVOCs)		8270D	mg/kg																
Acenaphthene	83-32-9			4	1000	1000	47	52	90%	0.057	B108-S3	20	B112-S3	Yes	0.99	4	2.6	4	NT
Acenaphthylene	208-96-8			1	600	10	30	52	58%	0.04	B110-S1	0.96	B102-S2	Yes	0.21	4	0.27	4	NT
Anthracene	120-12-7			1000	1000	1000	49	52	94%	0.03	B103-S3	13	B114-S2	Yes	2.03	4	2.9	4	NT
Benzo(a)anthracene	56-55-3			7	7	7	50	52	96%	0.064	B103-S3	39	B112-S3	Yes	4.6	4	7.2	4	NT
Benzo(a)pyrene	50-32-8			2	2	2	50	52	96%	0.046	B103-S3	35	B112-S3	Yes	4.3	4	6.6	4	NT
Benzo(b)fluoranthene	205-99-2			7	7	7	50	52	96%	0.05	B103-S3	29	B112-S3	Yes	3.3	4	5.6	4	NT
Benzo(g,h,i)perylene	191-24-2			1000	1000	1000	46	52	88%	0.11	B108-S3	16	B114-S2	Yes	2.3	4	2.9	4	NT
Benzo(k)fluoranthene	207-08-9			70	70	70	49	52	94%	0.039	B103-S3	29	B112-S3	Yes	3.5	4	5.2	4	NT
Chrysene	218-01-9			70	70	70	50	52	96%	0.094	B103-S3	40	B112-S3	Yes	4.8	4	7.3	4	NT
Dibenzo(a,h)anthracene	53-70-3			0.7	0.7	0.7	43	52	83%	0.014	B105-S3	5.7	B114-S2	Yes	0.82	4	1.1	4	NT
Dibenzofuran	132-64-9			100	NS	NS	2	52	4%	0.74	TP-105(0-10')	2.6	B308-COMP (0-8")	No	--	--	--	--	--
Di-n-butylphthalate	84-74-2			50	NS	NS	2	52	4%	0.21	B308-COMP (8-22")	0.36	B308-COMP (0-8")	No	--	--	--	--	--
Fluoranthene	206-44-0			1000	1000	1000	51	52	98%	0.042	B101-S3	96	B112-S3	Yes	10	4	17	4	NT
Fluorene	86-73-7			1000	1000	1000	46	52	88%	0.086	B111-S1	17	B112-S3	Yes	0.98	4	2.3	4	NT
Indeno(1,2,3-cd)pyrene	193-39-5			7	7	7	46	52	88%	0.12	B108-S3	15	B114-S2	Yes	2.1	4	2.8	4	NT
2-Methylnaphthalene	91-57-6			0.7	80	300	34	52	65%	0.032	B103-S3	23	WS-12	Yes	0.34	4	2.05	4	NT
Naphthalene	91-20-3			4	20	500	43	52	83%	0.048	B103-S3	14	B112-S3	Yes	0.61	4	1.5	4	NT
Phenanthrene	85-01-8			10	500	500	51	52	98%	0.06	B101-S3	110	B112-S3	Yes	9.1	4	17	4	NT
Pyrene	129-00-0			1000	1000	1000	51	52	98%	0.038	B101-S3	80	B112-S3	Yes	9.2	4	14	4	NT
Extractable Petroleum Hydrocarbons (EPH)		EPH-04-1.1	mg/kg																
C11-C22 Aromatics, Adjusted	C11-C22			1000	1000	1000	11	22	50%	40.8	TP-108(8')	520	B202(S)	Yes	190	3	182	4	520
C19-C36 Aliphatics	C19-C36			3000	3000	3000	3	22	14%	20.2	TP-108(8')	65	SP-1	Yes	55	1,2	55	2	<53
Acenaphthene	83-32-9			4	1000	1000	12	22	55%	0.35	SS-4	6.3	B201(D)	Yes	1.6	3	1.7	4	5
Acenaphthylene	208-96-8			1	600	10	6	22	27%	0.27	B201(D)	1.3	B202(S)	Yes	0.67	3	0.60	4	1.3
Anthracene	120-12-7			1000	1000	1000	15	22	68%	0.46	B207(S)	11	B202(S)	Yes	3.7	3	3.7	4	11
Benzo(a)anthracene	56-55-3			7	7	7	16	22	73%	1	B204(S)	19	B202(S)	Yes	9.4	3	7.5	4	19
Benzo(a)pyrene	50-32-8			2	2	2	16	22	73%	0.9	B204(S)	15	B202(S)	Yes	**8.7**	3	6.5	4	15
Benzo(b)fluoranthene	205-99-2			7	7	7	16	22	73%	1.1	B204(S)	19	B201(D)	Yes	12	3	8.2	4	17
Benzo(g,h,i)perylene	191-24-2			1000	1000	1000	16	22	73%	0.55	B204(S)	8.4	B201(D)	Yes	6.1	3	4.1	4	8.4
Benzo(k)fluoranthene	207-08-9			70	70	70	15	22	68%	0.33	B207(S)	5.9	B202(S)	Yes	4.4	3	3.0	4	5.9
Chrysene	218-01-9			70	70	70	16	22	73%	0.99	B204(S)	18	B202(S)	Yes	9.1	3	7.1	4	18
Dibenzo(a,h)anthracene	53-70-3			0.7	0.7	0.7	12	22	55%	0.042	SS-4	2.6	B201(D)	Yes	1.6	3	1.2	4	2.6
Fluoranthene	206-44-0			1000	1000	1000	16	22	73%	0.96	B203(S)	41	B201(D)	Yes	20	3	16	4	41
Fluorene	86-73-7			1000	1000	1000	12	22	55%	0.32	SP-1	5	B202(S)	Yes	1.4	3	1.7	4	5
Indeno(1,2,3-cd)Pyrene	193-39-5			7	7	7	16	22	73%	0.59	B204(S)	9.7	B201(D)	Yes	7.0	3	4.7	4	9.2
2-Methylnaphthalene	91-57-6			0.7	80	300	5	22	23%	0.31	SP-3	2.6	B202(S)	Yes	0.31	1,2	2.6	2	2.6
Naphthalene	91-20-3			4	20	500	7	22	32%	0.29	SP-3	4	B202(S)	Yes	0.69	3	1.2	4	4
Phenanthrene	85-01-8			10	500	500	16	22	73%	1.6	B206(S)	48	B202(S)	Yes	18	3	16	4	48
Pyrene	129-00-0			1000	1000	1000	16	22	73%	2	B204(S)	40	B202(S)	Yes	16	3	14	4	40
Chlorinated Herbicides		8151A	mg/kg	NS	NS	NS	0	0	0%	NA	NA	NA	NA	No	--	--	--	--	--
Organochlorine Pesticides		8081B	mg/kg																
Endosulfan II	33213-65-9			NS	NS	NS	1	3	33%	0.026	TP-105(0-10')	0.026	TP-105(0-10')	No	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)			mg/kg																
TPH	TPH			1000	1000	1000	49	57	86%	110	B108-S3	8400	WS-12	Yes	377	4	1239	4	NT
Polychlorinated Biphenyls (PCBs)		8082A	mg/kg																
PCBs, Total	1336-36-3			1	1	1	5	71	7%	0.03	B104-S1	0.0759	TP-105(0-10')	Yes	0.068	2	0.046	4	NT
Total Metals			mg/kg																
Arsenic, Total	7440-38-2	6010C		20	20	20	18	81	22%	2.6	B105-S3	20	SP-2	Yes	14	4	10	4	NT
Barium, Total	7440-39-3	6010C		1000	1000	1000	15	81	19%	24	TP-106(0-2')	98	TP-107(0-3')	Yes	78	4	70	4	NT
Beryllium, Total	7440-41-7	6010C		90	90	90	3	81	4%	0.33	TP-105(0-10')	0.36	TP-101(0-3')	Yes	0.36	1,2	0.36	1,2	NT
Cadmium, Total	7440-43-9	6010C		70	70	70	1	81	1%	2.4	B105-S1	2.4	B105-S1	Yes	2.4	2	2.4	2	NT
Chromium, Total	7440-47-3	6010C		100	100	100	18	81	22%	6.8	TP-106(0-2')	54	WS-2	Yes	26	4	28	4	NT
Lead, Total	7439-92-1	6010C		200	200	200	81	81	100%	10	B205(S)	13000	B211	Yes	336	4	1163	4	10000
Mercury, Total	7439-97-6	7471B		20	20	20	15	81	19%	0.16	SP-3	1.25	TP-107(0-3')	Yes	0.808	4	0.58	4	NT
Nickel, Total	7440-02-0	6010C		600	600	600	5	81	6%	6.3	B308-COMP (0-8")	24	TP-105(0-10')	Yes	11	1,2	24	1	NT
Vanadium, Total	7440-62-2	6010C		400	400	400	5	81	6%	11	B308-COMP (0-8")	23	TP-105(0-10')	Yes	21	1,2	23	1	NT
Zinc, Total	7440-66-6	6010C		1000	1000	1000	5	81	6%	38	B308-COMP (8-22")	190	TP-105(0-10')	Yes	110	1,2	190	1	NT

General Notes:

1. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective June 20, 2014.
2. Method 1 Standards (e.g., S-1/GW-2) and UCLs, where identified, are cited from the MCP.
3. ND = None detected above laboratory detection limit. NT = Not tested.
4. #N/A = No standard has been promulgated for this analyte.
5. mg/kg = milligrams per kilogram.
6. Values in bold exceed Method 1 standards.
7. Summary statistics include data from both Weston & Sampson and GEI (0 to 15 feet deep).

EPC Footnotes:

1 MDC used (small sample size, n < 6)
2 MDC used (too few detected values, n ≤ 3)
3 MDC used, MDC<UCL
4 UCL = 90% Chebychev from ProUCL

Table 8. Minimum and Maximum Concentrations - Groundwater
Supplemental Phase II CSA, Phase III RAP Addendum, and Temporary Solution Statement
Parcel P-3, Tremont Street & Whittier Streets
Boston, Massachusetts

Analyte	Method	Units	Method 1 GW-2	Method 1 GW-3	Number of Detections	Number of Samples	Detection Frequency (%)	Minimum Detected Value (ug/l)	Minimum Detect Location	Maximum Detected Value (ug/l)	Maximum Detect Location	Contaminant of Concern?	Exposure Point Concentration
MCP Volatile Organic Compounds (VOCs)	8260C	ug/l											
Tetrachloroethene			50	30000	4	7	57%	1	B(MW)308	19	B(MW)302	Yes	19
Vinyl chloride			2	50000	1	7	14%	6	B(MW)306	6.3	B(MW)306	Yes	**6.3**
Trichloroethene			5	5000	4	7	57%	2	B(MW)305	93	B(MW)306	Yes	**93**
cis-1,2-Dichloroethene			20	50000	3	7	43%	6	B(MW)308	64	B(MW)306	Yes	**64**
1,2-Dichloroethene (total)			20	50000	3	7	43%	6	B(MW)308	64	B(MW)306	Yes	**64**
Ethyl ether			NS	NS	1	7	14%	2	B(MW)308	2.4	B(MW)308	Yes	2.4
1,4-Dioxane			6000	50000	0	7	0%	NA	NA	NA	NA	No	NA
Volatile Organic Compounds (VOCs) by GC/MS	8260C	ug/l											
Chloroform			50	20000	1	14	7%	9	WS-6	9.1	WS-6	Yes	9.1
p-Isopropyltoluene			NS	NS	3	14	21%	1	B(MW)307	2.8	WS-12	No	2.8
Tetrachloroethene			50	30000	1	14	7%	1	B(MW)307	0.92	B(MW)307	Yes	0.92
Trichloroethene			5	5000	2	14	14%	1	B(MW)307	2.2	WS-5	Yes	2.2
Volatile Organic Compounds (VOCs) by GC/MS-SIM	8260C BY SIM	ug/l											
1,4-Dioxane			6000	50000	0	1	0%	NA	NA	NA	NA	No	NA
Volatile Petroleum Hydrocarbons (VPH)	VPH-04-1.1	ug/l											
C9-C10 Aromatics			4000	50000	0	15	0%	NA	NA	NA	NA	No	NA
C5-C8 Aliphatics, Adjusted			3000	50000	0	15	0%	NA	NA	NA	NA	No	NA
C9-C12 Aliphatics, Adjusted			5000	50000	0	15	0%	NA	NA	NA	NA	No	NA
Semivolatile Organic Compounds (SVOCs) by GC/MS-SIM	8100 or 8270D BY SIM	ug/l											
Acenaphthene			NA	10000	1	7	14%	2	B(MW)307	1.6	B(MW)307	Yes	1.6
Fluoranthene			NA	200	1	7	14%	1	B(MW)307	1.2	B(MW)307	Yes	1.2
Anthracene			NA	30	1	7	14%	1	B(MW)307	0.89	B(MW)307	Yes	0.89
Fluorene			NA	40	1	7	14%	2	B(MW)307	1.5	B(MW)307	Yes	1.5
Phenanthrene			NA	10000	1	7	14%	4	B(MW)307	4.3	B(MW)307	Yes	4.3
Pyrene			NA	20	1	7	14%	1	B(MW)307	0.76	B(MW)307	Yes	0.76
1-Methylnaphthalene			NA	NS	1	7	14%	0	B(MW)307	0.4	B(MW)307	No	0.4
Extractable Petroleum Hydrocarbons (EPH)	EPH-04-1.1	ug/l											
C9-C18 Aliphatics			5000	50000	0	15	0%	NA	NA	NA	NA	No	NA
C19-C36 Aliphatics			NS	50000	1	15	7%	140	WS-2	140	WS-2	Yes	140
C11-C22 Aromatics, Adjusted			50000	5000	1	15	7%	160	WS-12	160	WS-12	Yes	160
Naphthalene			700	20000	3	15	20%	1	B(MW)308	1.45	B(MW)307	Yes	1.45
2-Methylnaphthalene			2000	20000	1	15	7%	1	B(MW)307	0.652	B(MW)307	Yes	0.652
Acenaphthene			NA	10000	1	15	7%	2	B(MW)307	2.25	B(MW)307	Yes	2.25
Fluorene			NA	40	1	15	7%	2	B(MW)307	2.1	B(MW)307	Yes	2.1
Phenanthrene			NA	10000	2	15	13%	1	B(MW)305	5.53	B(MW)307	Yes	5.53
Anthracene			NA	30	1	15	7%	1	B(MW)307	0.994	B(MW)307	Yes	0.994
Fluoranthene			NA	200	1	15	7%	2	B(MW)307	1.57	B(MW)307	Yes	1.57
Pyrene			NA	20	1	15	7%	1	B(MW)307	0.942	B(MW)307	Yes	0.942
Microextractables by GC		ug/l											
1,2-Dibromoethane			2	50000	0	1	0%	NA	NA	NA	NA	No	NA
Polychlorinated Biphenyls (PCBs) by GC	608	ug/l											
Total PCBs			5	10	0	1	0%	NA	NA	NA	NA	No	NA
Total Metals		ug/l											
Antimony, Total	6020A		NA	8000	0	14	0%	NA	NA	NA	NA	No	NA
Arsenic, Total	6020A		NA	900	0	14	0%	NA	NA	NA	NA	No	NA
Barium, Total	6020A		NA	50000	4	14	29%	0	WS-5	0.15	WS-8	Yes	0.15
Cadmium, Total	6020A		NA	4	1	14	7%	0	B(MW)307	0.41	B(MW)307	Yes	0.41
Chromium, Total	6020A		NA	300	0	14	0%	NA	NA	NA	NA	No	NA
Chromium, Hexavalent	6020A		NA	300	0	14	0%	NA	NA	NA	NA	No	NA
Copper, Total	6020A		NS	NS	1	14	7%	1	B(MW)307	1.49	B(MW)307	No	1.49
Iron, Total	200.7		NS	NS	0	14	0%	NA	NA	NA	NA	No	NA
Lead, Total	6020A		NA	10	0	14	0%	NA	NA	NA	NA	No	NA
Mercury, Total	245.1		NA	20	0	14	0%	NA	NA	NA	NA	No	NA
Nickel, Total	6020A		NA	200	1	14	7%	2	B(MW)307	2.45	B(MW)307	Yes	2.45
Selenium, Total	6020A		NA	100	0	14	0%	NA	NA	NA	NA	No	NA
Silver, Total	6020A		NA	7	0	14	0%	NA	NA	NA	NA	No	NA
Zinc, Total	6020A		NA	900	0	14	0%	NA	NA	NA	NA	No	NA
General Chemistry		ug/l											
Solids, Total Suspended	2540D		NS	NS	0	14	0%	NA	NA	NA	NA	No	NA
Cyanide, Total	4500CN-CE		NS	30	0	14	0%	NA	NA	NA	NA	No	NA
Chlorine, Total Residual	4500CL-D		NS	NS	0	14	0%	NA	NA	NA	NA	No	NA
TPH	8100M or 1664A		NS	NS	0	14	0%	NA	NA	NA	NA	No	NA
Phenolics, Total	420.1		NS	NS	0	14	0%	NA	NA	NA	NA	No	NA
Anions by Ion Chromatography		ug/l											
Chloride	300.0		NS	NS	1	22	5%	1200000	B(MW)307	1200000	B(MW)307	No	NA

General Notes:

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2. Method 1 Standards (e.g., S-1/GW-2) and UCLs, where identified, are cited from the MCP.
3. ND = None detected above laboratory detection limit.
4. NS = No standard has been promulgated for this analyte.
5. NA = Not applicable.
6. mg/kg = milligrams per kilogram.
7. Values in bold exceed Method 1 standards.
8. Summary statistics include data from both Weston & Sampson and GEI (0 to 15 feet deep).

Table 9. In-Situ Remedial Technologies
Supplemental Phase II CSA, Phase III RAP Addendum, and Temporary Solution Statement
Parcel P-3, Tremont and Whittier Streets
Boston, Massachusetts

Technology	Description
Cap/Engineered Barrier	A cap is constructed to limit exposure to the contaminated soil via direct contact, ingestion, and inhalation pathways. An engineered barrier is a cap that specifically addresses soil with contaminant concentrations greater than Upper Concentration Limits (UCLs).
Chemical Oxidation	Chemical oxidation chemically converts potentially hazardous contaminants to non-hazardous or less toxic compounds that are more stable, less mobile, and/or inert. Oxidizing agents most commonly used are ozone, hydrogen peroxide, hypochlorites, chlorine, and chlorine dioxide.
Enhanced Bioremediation	Activity of naturally occurring microbes is stimulated by circulating water-based solutions through contaminated soils to enhance biological degradation of organic contaminants. Nutrients, oxygen, or other amendments may be used to enhance degradation and contaminant desorption from subsurface materials.
Institutional Controls	Restrictions imposed on access to the property or on uses of the property by legal means. Such restrictions may include, among others, fencing, guards, and deed restrictions that limit accessibility/exposure to the contaminants.
Multi-Phase Extraction (MPE)	MPE is applied through extraction wells to create a pressure/concentration gradient that induces soil contamination to diffuse to gas and dissolved phases. The process includes a system for separating and treating liquids and off-gases.
Natural Attenuation	Natural subsurface processes—such as dilution, volatilization, biodegradation, adsorption, and chemical reactions with subsurface materials—are monitored for the reduction of contaminant concentrations.
Phytoremediation	Phytoremediation is a technique that uses plants for the remediation of contaminants in soil, sediment, and groundwater through degradation, stabilization or contaminant removal.
Soil Vapor Extraction (SVE)	SVE includes applying a vapor flow through the soil to extract volatile contaminants in the gas phase where they can be treated through carbon adsorption or oxidation.
Soil Washing	Water, or water containing an additive to enhance contaminant solubility, is applied to the soil or injected into the groundwater to raise the water table into the contaminated soil zone. Contaminants are leached into the groundwater, which is then extracted and treated.
Stabilization/ Solidification	Contaminants are physically bound or enclosed within a stabilized mass (solidification), or chemical reactions are induced between the stabilizing agent and contaminants to reduce their mobility (stabilization).
Thermally-Enhanced Soil Vapor Extraction	Steam/hot air injection or electric/radio frequency heating is used to increase the mobility of volatile organic compounds above the water table and facilitate extraction. The process includes a system for treating off-gases.
Vapor Mitigation System	Indoor vapors arising from subsurface contamination are mitigated with engineering controls, such as sub-slab ventilation piping, vapor barriers, and in some cases appropriate waterproofing products.
Vitrification	Contaminated soils and sludges are melted at high temperature to form a glass and crystalline structure with very low leaching characteristics.

Table 10. Ex-Situ Remedial Technologies
Supplemental Phase II CSA, Phase III RAP Addendum, and Temporary Solution Statement
Parcel P-3, Tremont and Whittier Streets
Boston, Massachusetts

Technology	Description
Asphalt Batching	Contaminated soils are screened or crushed to a uniform size then blended with chemically engineered asphalt emulsions in a pugmill. The resulting material is stockpiled, cured and then used in place of standard asphalt for a variety of applications.
Bioslurry Reactors	An aqueous slurry is created by combining soil or sludge with water and other additives. The slurry is mixed to keep solids suspended and microorganisms in contact with the soil contaminants. Upon completion of the process, the slurry is dewatered and the treated soil is recycled or disposed of.
Chemical Oxidation	Chemical oxidation chemically converts potentially hazardous contaminants to non-hazardous or less toxic compounds that are more stable, less mobile, and/or inert. Oxidizing agents most commonly used are ozone, hydrogen peroxide, hypochlorites, chlorine, and chlorine dioxide.
Disposal (Landfilling)	Contaminated material is transported off-site for disposal at a permitted facility. Depending on the degree of contamination relative to landfill acceptance criteria, remediation waste may be reused as daily cover material at a local municipal landfill, or may require direct disposal in a hazardous waste or similar landfill.
Excavation	Soils are excavated and stockpiled or loaded directly for transport to be managed by an ex-situ technology or disposed of directly.
Incineration	High temperatures, 870 to 1,200 C (1,600- 2,200 F), are used to volatilize and combust (in the presence of oxygen) organic constituents in hazardous wastes.
Soil Washing	Contaminants sorbed onto fine soil particles are separated from bulk soil in an aqueous-based system on the basis of particle size. The wash water may be augmented with a basic leaching agent, surfactant, pH adjustment, or chelating agent to help remove organic compounds and heavy metals.
Solid-Phase Biological Treatment	Excavated soils are mixed with soil amendments and placed in aboveground enclosures. Processes include prepared treatment beds, bio-treatment cells, soil piles, and composting. For composting, contaminated soil is mixed with bulking agents and organic amendments such as wood chips, animal and vegetative wastes, which are added to enhance the porosity and organic content of the mixture to be decomposed.
Solvent Extraction	Waste and solvent are mixed in an extractor and the organic contaminants migrate into the solvent. The solvent and waste are then placed in a separator, where the treated waste and solvent are separated.
Stabilization/ Solidification	Contaminants are physically bound or enclosed within a stabilized mass (solidification), or chemical reactions are induced between the stabilizing agent and contaminants to reduce their mobility (stabilization).
Thermal Desorption	Wastes are heated to 93-315 C (200-600 F) for low-temperature desorption or 315-538 C (600-1,000 F) for high-temperature desorption to volatilize water and organic contaminants. A carrier gas or vacuum system transports volatilized water and organic compounds to the gas treatment system.

Table 11. Initial Screening of Remedial Technologies
Supplemental Phase II CSA, Phase III RAP Addendum, and Temporary Solution Statement
Parcel P-3, Tremont Street & Whittier Streets
Boston, Massachusetts

General Response Action	Remedial Technology Category	Remedial Technology	Initial Screening Criteria		Initial Screening Outcome/ Comments
			Likelihood to Achieve Permanent or Temporary Solution	Expertise to Implement is Available	
Site Maintenance	Institutional controls	Activity and Use Limitation	Yes	Yes	Retained
Mitigation	Vapor mitigation system	Engineering control	Yes	Yes	Retained
Monitoring	Natural attenuation	Standard sampling and laboratory analysis	No	Yes	Not retained/contaminants will not attenuate
Containment	Capping	Engineered cap/barrier	Yes	Yes	Retained
		Soil cap	Yes	Yes	Retained
Treatment (In-Situ)	Biological treatments	Enhanced bioremediation	No	Yes	Not retained/not effective for metals
		Phytoremediation	No	Yes	Not retained/contamination extends beyond 2 feet below ground surface and limited growing season
	Chemical treatments	Chemical oxidation	No	Yes	Not retained/not effective for metals
	Physical treatments	Stabilization/solidification	No	Yes	Not retained/not consistent with potential future property redevelopment
		Soil washing	No	Yes	Not retained/heterogeneous fill material not suitable for this technology
		Multi-Phase Extraction	No	Yes	Not retained/not effective for metals
		Soil vapor extraction	No	Yes	Not retained/not effective for metals
	Thermal treatment	Thermally enhanced soil vapor extraction	No	Yes	Not retained/not effective for metals
		Vitrification	No	Yes	Not retained/utility lines on property
Treatment (Ex-Situ)	Biological treatment	Bioslurry reactors	No	Yes	Not retained/not effective for metals
		Solid-Phase biological treatment	No	Yes	Not retained/not effective for metals
	Chemical treatment	Chemical oxidation	No	Yes	Not retained/not effective for metals

Table 11. Initial Screening of Remedial Technologies
Supplemental Phase II CSA, Phase III RAP Addendum, and Temporary Solution Statement
Parcel P-3, Tremont Street & Whittier Streets
Boston, Massachusetts

General Response Action	Remedial Technology Category	Remedial Technology	Initial Screening Criteria		Initial Screening Outcome/ Comments
			Likelihood to Achieve Permanent or Temporary Solution	Expertise to Implement is Available	
Treatment (Ex-Situ)	Physical treatment	Soil washing	No	Yes	Not retained/heterogeneous fill material not suitable for this technology
		Stabilization/solidification	No	Yes	Not retained/not consistent with potential future property redevelopment
		Solvent extraction	No	Yes	Not retained/not effective for metals
		Asphalt-batching	No	No	Not retained/not effective for metals
	Thermal treatment	Incineration (off-site)	No	Yes	Not retained/not effective for metals
		Thermal desorption	No	Yes	Not retained/not effective for metals
Soil Removal	Excavation	Excavation	Yes	Yes	Retained
Disposal	Off-site disposal	Hazardous landfill	Yes	Yes	Retained
		Non-hazardous landfill	Yes	Yes	Retained
		Municipal Solid Waste (MSW) landfill	No	Yes	Not retained/not cost effective with other disposal options are feasible
	On-site disposal	Backfilling	Yes	Yes	Retained

General Notes:

1. Remedial technologies are considered as components of Remedial Action Alternatives (RAAs) and not as individual entities when evaluated against initial screening criteria. The potential for a remedial technology to achieve a Permanent or Temporary Solution is considered for the remedial technology as a component of an RAA, and not on a standalone basis.
2. Each remedial technology was evaluated using the initial screening criteria described above. If a technology could not satisfactorily meet both criteria, it was eliminated from further consideration.

Table 12. Summary of Remedial Action Alternatives
Supplemental Phase II CSA, Phase III RAP Addendum, and Temporary Solution Statement
Parcel P-3, Tremont and Whittier Streets
Boston, Massachusetts

RAA Number/Remedial Action Alternative		Summary of RAA Components
RAA 1	Site Maintenance	▪ Semi-annual inspections ▪ Achieve Temporary Solution
RAA 2	Hot Spot Excavation, Capping and Institutional Controls	▪ Remove surface debris ▪ Strip vegetation layer or on eastern portion of the Site remove pavement ▪ Excavate lead hot spot ▪ Dispose of in a landfill ▪ Grade site ▪ Place geotextile and marking layer, and 24 inches of gravel borrow ▪ Place 12 inches of topsoil, and seed ▪ Implement AUL ▪ Achieve Permanent Solution
RAA 3	Excavation, Disposal, and Vapor Mitigation System	▪ Excavate contaminated soil across Site, including lead hot spot ▪ Dispose of in a landfill ▪ Install vapor mitigation system as part of a future redevelopment (assumes passive system) ▪ Implement AUL ▪ Achieve Permanent Solution

General Notes:

1. RAA: Remedial Action Alternative
2. AUL: Activity and Use Limitation

Table 13. Detailed Evaluation of Remedial Action Alternatives
Supplemental Phase II CSA, Phase III RAP Addendum, and Temporary Solution Statement
Parcel P-3, Tremont Street & Whittier Streets
Boston, Massachusetts

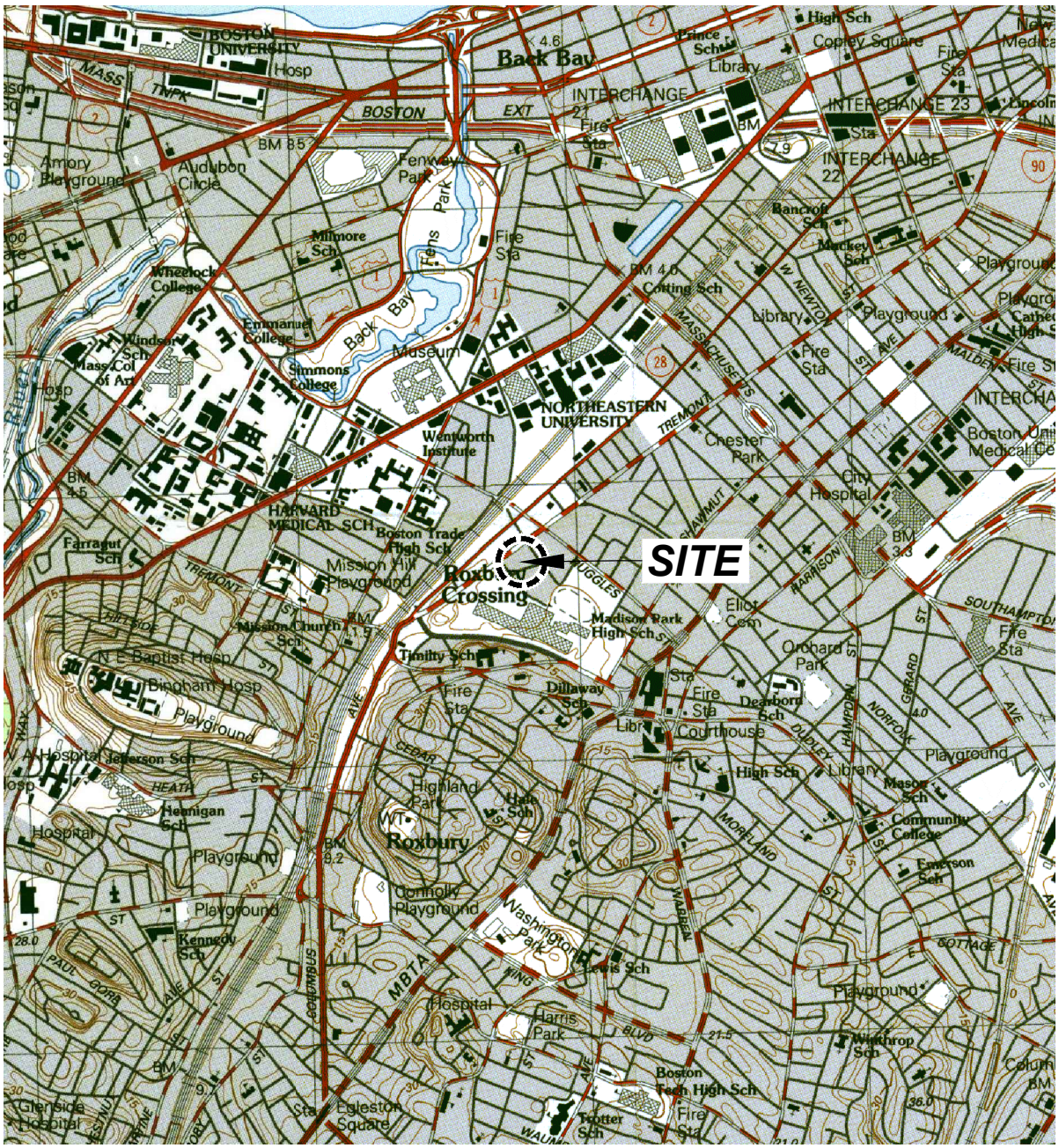
	Detailed Evaluation Criteria	RAA1 Site Maintenance	RAA2 Hot Spot Excavation, Capping, and Institutional Controls	RAA3 Excavation, Disposal, and Vapor Mitigation System
Effectiveness	**The comparative effectiveness of the alternatives in terms of:** **(a) Achieving a Permanent or Temporary Solution under 310 CMR 40.1000.**	Temporary Solution	Permanent Solution with Conditions	Permanent Solution with Conditions
	Ranking:	**3**	**2**	**2**
	(b) Re-using, recycling, destroying, detoxifying, or treating oil or hazardous material (OHM) at the disposal site.	No	Some OHM mass in soil would be reduced but not necessarily in groundwater.	OHM mass in soil would be reduced but not necessarily in groundwater. Vapor mitigation would eliminate intrusion of OHM in vapor into a building.
	Ranking:	**3**	**3**	**2**
	(c) Reducing levels of untreated OHM at the site to concentrations that achieve or approach background.	No	No	No
	Ranking:	**2**	**2**	**1**
	Total Ranking for Effectiveness:	**3**	**2**	**2**
Short-Term and Long-Term Reliability	**The comparative short-term and long-term reliability of alternatives, including:** **(a) The degree of certainty that the alternative will be successful.**	Very high degree of certainty for success.	High degree of certainty for success.	High degree of certainty for success although it may require a very large volume of soil removed off-site.
	Ranking:	**1**	**2**	**2**
	(b) The effectiveness of any measures required to manage residues or remaining wastes or control emissions or discharges to the environment.	Site inspections to monitor conditions site conditions are unchanged.	Physical cap and institutional controls are effective at managing remaining wastes.	Minimal remaining wastes after completion; however, vapor mitigation system is required.
	Ranking:	**1**	**2**	**2**
	Total Ranking for Reliability:	**1**	**2**	**2**
Implementability	**The comparative difficulty in implementing each alternative in terms of:** **(a) Technical complexity of the alternative.**	Very simple	Simple	More complex
	Ranking:	**1**	**2**	**3**
	(b) Where applicable, the integration of the alternative with existing facility operations and other current or potential remedial actions.	Compatible with existing operations and future plans.	Compatible with existing operations but less compatible with future plans.	Less compatible with existing operations but more compatible with future plans.
	Ranking:	**1**	**2**	**2**
	(c) Any necessary monitoring, operations, maintenance or site access requirements or limitations.	Site inspections	Site inspections and cap maintenance	Maintain vapor mitigation system
	Ranking:	**1**	**2**	**2**
	(d) The availability of necessary services, material, equipment, or specialists.	Services, material, and equipment are available.	Services, material, and equipment are available.	Services, material, and equipment are available.
	Ranking:	**1**	**1**	**1**
	(e) The availability, capacity, and location of necessary off-site treatment, storage and disposal facilities.	Not required	Generally available, although some degree of uncertainty regarding landfill capacitary.	Generally available, although some degree of uncertainty regarding landfill capacitary.
	Ranking:	**1**	**2**	**2**
	(f) Whether or not the alternative meets regulatory requirements for any likely approvals, permits or licenses required by the Massachusetts Department of Environmental Protection (MassDEP), or other state, federal or local agencies.	No approvals, permits, or licenses required.	No approvals, permits, or licenses required.	Some approvals required (e.g., U.S. EPA RGP, City of Boston building permit).
	Ranking:	**1**	**1**	**2**
	Total Ranking for Implementability:	**1**	**2**	**2**
Costs	**The comparative costs of the alternatives, including:** **(a) Costs of implementing the alternative, including without limitation: design, construction, equipment, site preparation, labor, permits, disposal, operation, maintenance, and monitoring costs.**	Low	Medium	High
	Ranking:	**1**	**2**	**3**
	(b) Costs of environmental restoration, potential damages to natural resources, including consideration of impacts to surface waters, wetlands, wildlife, fish, and shellfish habitat.	None	None	None
	Ranking:	**1**	**1**	**1**
	(c) The relative consumption of energy resources in the operation of the alternatives, and externalities associated with the use of those resources.	None	Moderate energy consumption for equipment on-site for intermediate period of construction and moderate amounts of trucking (on-site backfill).	High energy consumption for equipment on-site for an intermediate period of construction and high amounts of trucking (off-site disposal and on-site backfill).
	Ranking:	**1**	**2**	**3**
	Total Ranking for Costs:	**1**	**2**	**2**
Risks	**The comparative risks of the alternatives including without limitation:** **(a) The short-term on-site and off-site risks posed during implementation of the alternative associated with any excavation, transport, disposal, containment, construction, operation, or maintenance activities, or discharges to the environment from remedial systems.**	None. No remedial system installed.	Poses minimal risks to human health and ecological receptors from construction operations. Poses limited potential risks to construction workers than RAA1 due to limited excavation activities. Minimal risks are posed by off-site transportation of contaminated soil. Risks can be effectively managed by standard construction practices, including air monitoring.	Poses greater potential risks to construction workers than RAA2 due to expanded excavation activities. Minimal risks are posed by off-site transportation of contaminated soil. Risks can be effectively managed by standard construction practices, including air monitoring.
	Ranking:	**1**	**2**	**3**
	(b) On-site and off-site risks posed over the period of time required for the alternative to attain applicable remedial standards, including risks associated with ongoing transport, disposal, containment, operation or maintenance activities, or discharges from remedial systems.	None. No remedial system installed.	Poses minimal risks due to ongoing containment by the cap.	Poses minimal risks due to ongoing monitoring and maintenance of vapor mitigation system.
	Ranking:	**1**	**2**	**2**
	(c) The potential risk of harm to health, safety, public welfare, or the environment posed to human or environmental receptors by any OHM remaining at the disposal site after the completion of the remedial action.	No Substantial Hazard, but some degree of risk due to remaining OHM.	No Significant Risk, but some additional precautions necessary according to the institutional controls.	No Significant Risk, but some additional precautions necessary according to the institutional controls.
	Ranking:	**3**	**2**	**2**
	Total Ranking for Risks:	**2**	**2**	**2**

Table 13. Detailed Evaluation of Remedial Action Alternatives
Supplemental Phase II CSA, Phase III RAP Addendum, and Temporary Solution Statement
Parcel P-3, Tremont Street & Whittier Streets
Boston, Massachusetts

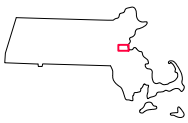
	Detailed Evaluation Criteria	RAA1 Site Maintenance	RAA2 Hot Spot Excavation, Capping, and Institutional Controls	RAA3 Excavation, Disposal, and Vapor Mitigation System
Benefits	**The comparative benefits of the alternatives including without limitation:** **(a) The benefit of restoring natural resources.**	Does not restore natural resources.	Does not restore natural resources.	Restores natural resources.
	Ranking:	**2**	**2**	**1**
	(b) Providing for the productive re-use of the site.	Does not provide for productive use of the site.	May provide for productive use of the site.	Provides for productive use of the site.
	Ranking:	**3**	**2**	**1**
	(c) The avoided costs of relocating people, businesses, or providing alternative water supplies.	Does not require relocation of people, businesses, or alternative water supplies.	Does not require relocation of people, businesses, or alternative water supplies.	Does not require relocation of people, businesses, or alternative water supplies.
	Ranking:	**1**	**1**	**1**
	(d) The avoided lost value of the site.	The property value could decrease because contamination is left in place.	The property value could decrease because contamination is left in place.	The property value could increase because contamination is removed.
	Ranking:	**2**	**2**	**1**
	Total Ranking for Benefits:	**2**	**2**	**1**
Timeliness	**The comparative timeliness of the alternatives in terms of eliminating any uncontrolled sources of OHM and achieving of a level of No Significant Risk (NSR) as described in 310 CMR 40.0900.**	Would not achieve a condition of NSR.	Would achieve a condition of NSR in the intermediate-term.	Would achieve a condition of NSR in the long-term, after a developer is designated and redevelopment plan is approved.
	Ranking:	**3**	**2**	**3**
Non-Pecuniary Interests	**The relative effect of the alternatives upon non-pecuniary interests, such as aesthetic values.**	Alternative does not disrupt the community but potentially affects aesthetic values.	Short-term impacts on aesthetic values from construction activities. Some disruption (noise, dust) to the neighborhood from trucking activities. However, the caps would provide a site improvement that would be permanent.	Short-term impacts on aesthetic values from construction activities. Some disruption (noise, dust) to the neighborhood from trucking activities. However, the contamination would be removed and the site improvement would be permanent.
	Ranking:	**2**	**2**	**2**
	Total Score:	**14**	**15**	**16**

Notes:
1. The scoring system was based on assigning a relative ranking of 1.0 to 3.0 for each RAA for each subcriteria, with the lower score preferred. Some or all of the RAAs may be assigned the same rank. The ranks were then averaged to produce a criteria score, and the criteria scores were, in turn, summed to produce an overall score for each alternative.
2. AUL = Activity and Use Limitation.
3. EPA = Environmental Protection Agency.
4. NSR = No Significant Risk.
5. OHM = Oil and Hazardous Material.
6. RAA = Remedial Action Alternative.
7. RGP = Remediation General Permit.

Figures



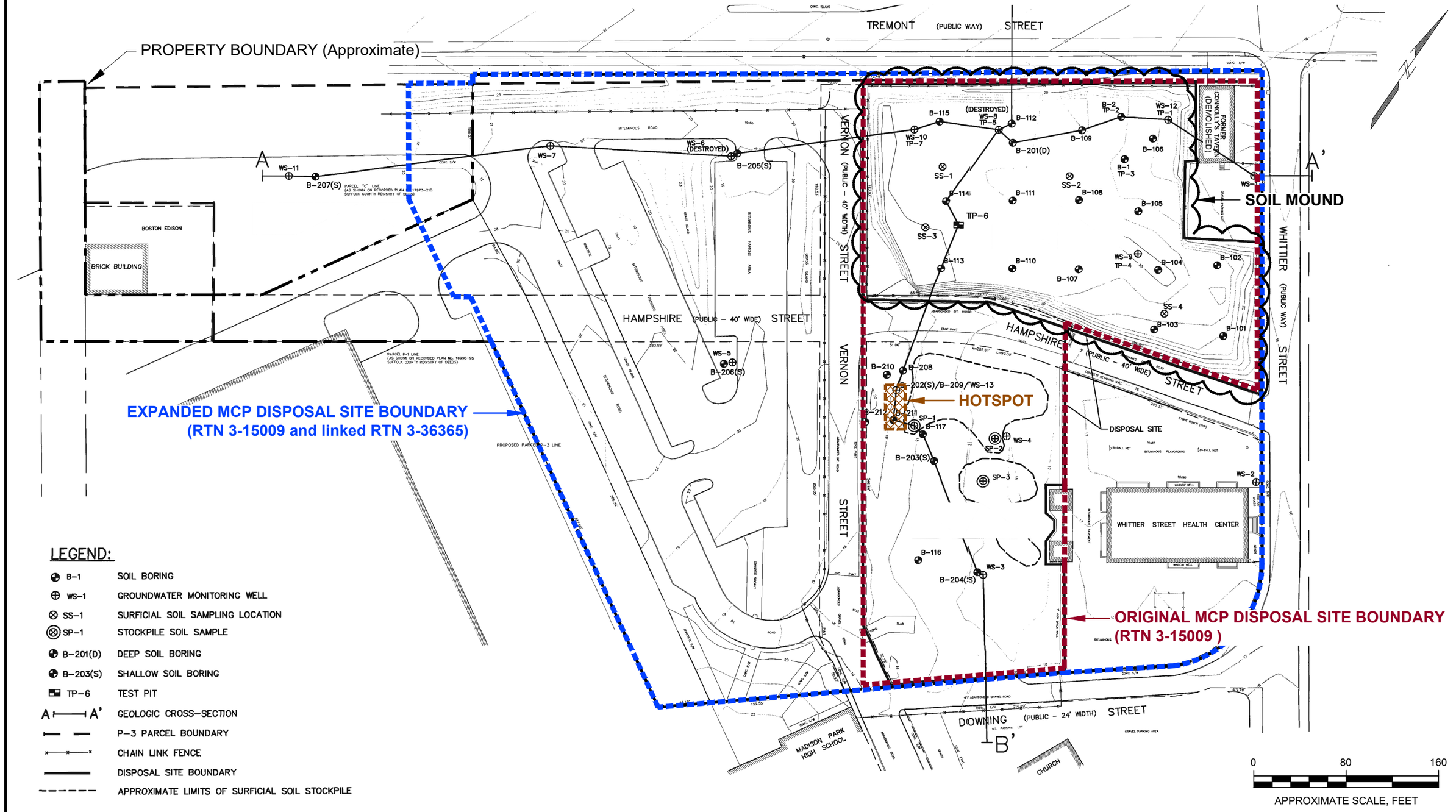
This Image provided by MassGIS is from U.S.G.S. Topographic
7.5 X 15 Minute Series
Boston South, MA Quadrangle, 1987.
Datum is National Geodetic Vertical Datum of 1929 (NGVD29).
Contour Interval is 3 Meters.



MASSACHUSETTS
QUADRANGLE LOCATION

Supplemental Phase II CSA, Phase III RAP Addendum, and Temporary Solution Statement Parcel P-3, Tremont & Whittier Streets Boston (Roxbury), Massachusetts	GEI Consultants	SITE LOCATION MAP
Boston Planning & Redevelopment Agency Boston, Massachusetts	Project 2002082	April 2021 Fig. 1

B:\Working\BOSTON PLANNING & DEV AGENCY (AKA BRA)\2002082 BPDA Parcel P3\00_CAD\Figures\Ph II CSA & TSS\2002082-01



LEGEND:

B-1	SOIL BORING
WS-1	GROUNDWATER MONITORING WELL
SS-1	SURFICIAL SOIL SAMPLING LOCATION
SP-1	STOCKPILE SOIL SAMPLE
B-201(D)	DEEP SOIL BORING
B-203(S)	SHALLOW SOIL BORING
TP-6	TEST PIT
A — A'	GEOLOGIC CROSS-SECTION
— —	P-3 PARCEL BOUNDARY
	CHAIN LINK FENCE
	DISPOSAL SITE BOUNDARY
	APPROXIMATE LIMITS OF SURFICIAL SOIL STOCKPILE

NOTE:

1. BASE PLAN FROM FIGURE TITLED *"FIG. 2 ROXBURY, MASSACHUSETTS, BRA PARCEL P-3, SITE PLAN,"* PREPARED BY WESTON & SAMPSON ENGINEERS, INC. AND DATED MARCH 2002.

Supplemental Phase II CSA, Phase III RAP Addendum, and Temporary Solution Statement
Parcel P-3, Tremont & Whittier Streets
Boston (Roxbury), Massachusetts

Boston Planning & Redevelopment Agency
Boston, Massachusetts

GEI Consultants

MCP SITE INVESTIGATION PLAN

Project 2002082 | April 2021 | Fig. 2

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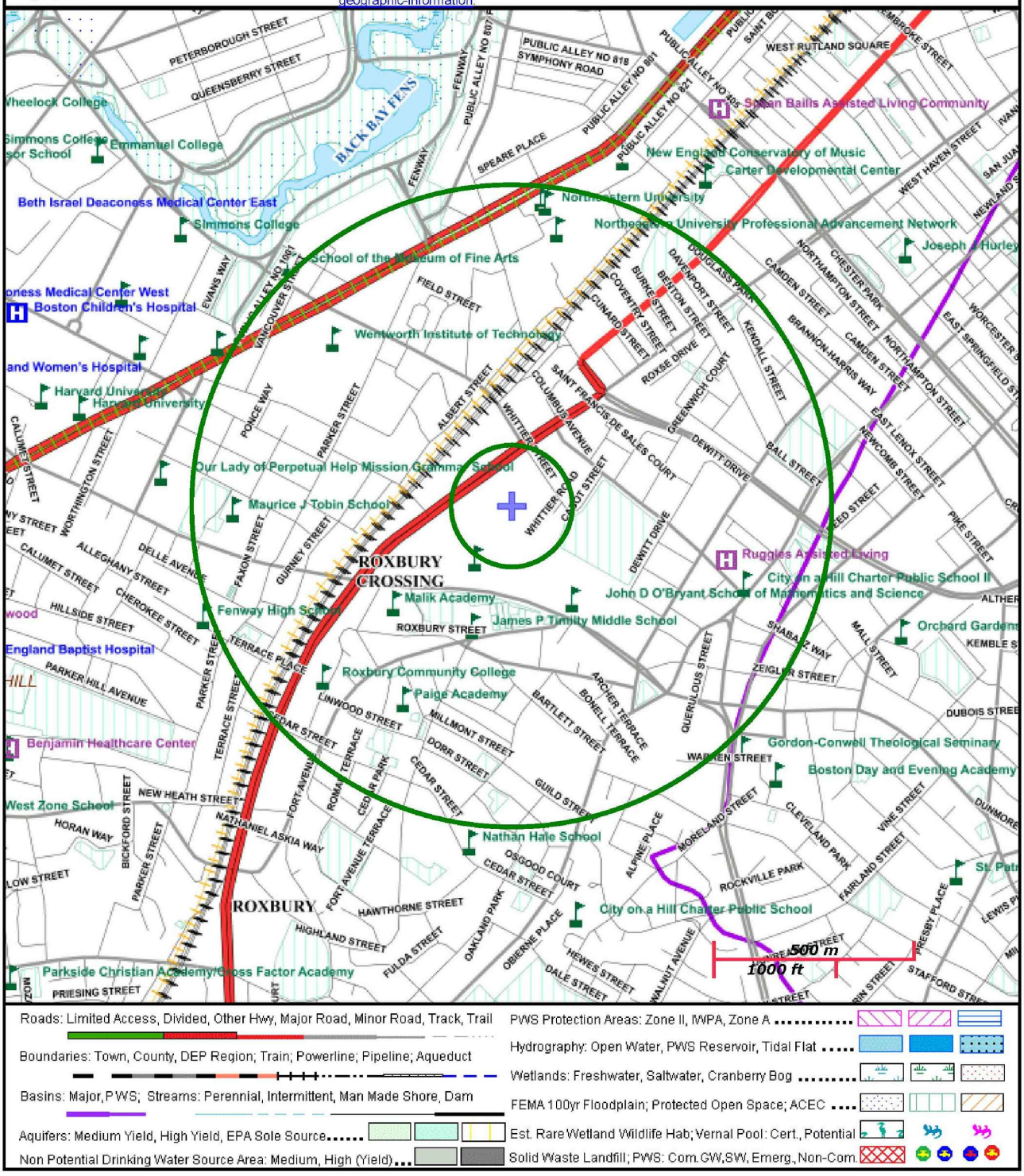
MassDEP - Bureau of Waste Site Cleanup

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

Site Information:
PARCEL P-3
TREMONT AND WHITTIER STREETS BOSTON, MA
3-000015009
NAD83 UTM Meters:
4688877mN , 327828mE (Zone: 19)
July 20, 2020

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

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



Supplemental Phase II CSA, Phase III RAP Addendum, and Temporary Solution Statement
Parcel P-3, Tremont & Whittier Streets
Boston (Roxbury), Massachusetts

Boston Planning & Redevelopment Agency
Boston, Massachusetts

GEI Consultants

MASSGIS SITE SCORING MAP

Project 2002082 | April 2021 | Fig. 3

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CALLED NORTH

TRUE NORTH

BOSTON POLICE HEADQUARTERS

TREMONT STREET

LINDEN PARK STREET

EDISON BUILDING BRICK

VERNON STREET

HAMPSHIRE STREET

DOWNING STREET

WHITTIER STREET

ABOT STREET

B101

B201

B(MW)305

B(MW)301

TP-101

B203 (OW)

TP-108

B(MW)307

TP-106

B204

TP-107

B(MW)306

B(MW)308

B206

TP-103

TP-104

B(MW)303

B209

B209A

B210 (OW)

B(MW)302

B208

B207

B202

B102

SOIL MOUND

TP-105

B205 (OW)

HOTSPOT

EXPANDED MCP DISPOSAL SITE BOUNDARY
(RTN 3-15009 and linked RTN 3-36365)

ORIGINAL MCP DISPOSAL SITE BOUNDARY
(RTN 3-15009)

0 100 200

SCALE, FEET

LEGEND:

- MONITORING WELL, GEI MARCH 2017
- TEST PIT, GEI MARCH 2017
- B201 BORING, GEI JULY 2016
- B101 BORING, GEI 2013

NOTES:

1. PRELIMINARY BASE PLAN PREPARED BY BSC GROUP AND TRANSMITTED TO GEI ON JULY 12, 2013.
2. ELEVATIONS REFERENCE BOSTON CITY BASE DATUM WHICH IS 5.65 FT BELOW NGVD 1929. EL. 0.0 BCB = EL. -5.65 NGVD 1929.

Supplemental Phase II CSA, Phase III RAP Addendum, and Temporary Solution Statement
Parcel P-3, Tremont & Whittier Streets
Boston (Roxbury), Massachusetts

Boston Planning & Redevelopment Agency
Boston, Massachusetts

GEI Consultants

Project 2002082

April 2021

Fig. 4

TEST PIT AND MONITORING WELL LOCATION PLAN

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CALLED NORTH

TRUE NORTH

BOSTON POLICE HEADQUARTERS

TREMONT STREET

LINDEN PARK STREET

EDISON BUILDING BRICK

VERNON STREET

HAMPSHIRE STREET

DOWNING STREET

WHITTIER STREET

B101

B201

B202

B102

B203 (OW)

B204

B205 (OW)
85.52

B206

B207

B208

B209

B209A

B210 (OW)

B(MW)305
85.62

B(MW)301
85.48

B(MW)306
85.82

B(MW)307
85.36

B(MW)308
85.57

B(MW)303
85.55

B(MW)302
85.68

TP-101

TP-103

TP-104

TP-105

TP-106

TP-107

TP-108

SOIL MOUND

HOTSPOT

85.8

85.7

85.6

85.4

85.5

85.6

85.7

EXPANDED MCP DISPOSAL SITE BOUNDARY
(RTN 3-15009 and linked RTN 3-36365)

ORIGINAL MCP DISPOSAL SITE BOUNDARY
(RTN 3-15009)

LEGEND:

85.48 GROUNDWATER ELEVATION MEASURED ON MARCH 5, 2017

85.4 GROUNDWATER ELEVATION CONTOUR, FEET
DASHED WHERE INFERRED

MONITORING WELL, GEI MARCH 2017

TEST PIT, GEI MARCH 2017

B201 BORING, GEI JULY 2016

B101 BORING, GEI 2013

NOTES:

1. GROUNDWATER ELEVATION BASED ON ASSUMED BENCHMARK ELEVATION OF 100.00 FEET AT TOP OF FIRE HYDRANT NEAR B(MW)305.
2. PRELIMINARY BASE PLAN PREPARED BY BSC GROUP AND TRANSMITTED TO GEI ON JULY 12, 2013.
3. ELEVATIONS REFERENCE BOSTON CITY BASE DATUM WHICH IS 5.65 FT BELOW NGVD 1929. EL. 0.0 BCB = EL. -5.65 NGVD 1929.

0 100 200

SCALE, FEET

Supplemental Phase II CSA, Phase III RAP Addendum, and Temporary Solution Statement
Parcel P-3, Tremont & Whittier Streets
Boston (Roxbury), Massachusetts

Boston Planning & Redevelopment Agency
Boston, Massachusetts

GEI Consultants

GROUNDWATER ELEVATION CONTOUR PLAN (3/05/2017)

Project 2002082 | April 2021 | Fig. 5

B:\Working\BOSTON PLANNING & DEV AGENCY (AKA BRA)\2002082 BPDA Parcel P3\00_CAD\Figures\Ph II CSA & TSS\2002082-05

Appendix A

MassDEP Transmittal Forms

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC 104 12

PERMANENT AND TEMPORARY SOLUTION STATEMENT
Pursuant to 310 CMR 40.1000 (Subpart J)

Release Tracking Number
3 - 15009

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

A. SITE LOCATION:

1. Site Name/Location Aid: UTMS 4688700MN 327800 ME

2. Street Address: PARCEL P-3 TREMONT & WHITTIER STS

3. City/Town: ROXBURY 4. ZIP Code: 021190000

5. Coordinates: a. Latitude: N 42.33333 b. Longitude: W 71.08917

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

☐ a. Tier I ☐ b. Tier ID ☑ c. Tier II

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

1. List Submittal Date of the Permanent or Temporary Solution Statement, or RAO Statement (if previously submitted): _____ mm/dd/yyyy

☑ 2. Submit a **Permanent or Temporary Solution Statement**

☑ a. Check here if this Permanent or Temporary Solution Statement covers additional Release Tracking Numbers (RTNs). RTNs that have been previously linked to a Tier Classified Primary RTN do not need to be listed here.

b. Provide the additional Release Tracking Number(s) covered by this Permanent or Temporary Solution Statement. 3 - 36365 -

☐ 3. Submit a **Revised Permanent or Temporary Solution Statement** (or revised RAO Statement)

☐ a. Check here if this Revised Permanent or Temporary Solution Statement covers additional Release Tracking Numbers (RTNs), not listed on the Permanent or Temporary Solution Statement or previously submitted Revised Permanent or Temporary Solution Statements. RTNs that have been previously linked to a Tier Classified Primary RTN do not need to be listed here.

b. Provide the additional Release Tracking Number(s) covered by this Permanent or Temporary Solution Statement. - -

☐ 4. Submit a **Permanent or Temporary Solution Partial Statement**

Check above box, if any Response Actions remain to be taken to address conditions associated with this disposal site having the Primary RTN listed in the header section of this transmittal form. This Permanent or Temporary Solution Statement will record only a Permanent or Temporary Solution-Partial Statement for that RTN. A final Permanent or Temporary Solution Statement will need to be submitted that references all Permanent or Temporary Solution-Partial Statements and, if applicable, covers any remaining conditions not covered by the Permanent or Temporary Solution-Partial Statements.

Also, specify if you are an Eligible Person or Tenant pursuant to M.G.L. c. 21 s.2, and have no further obligation to conduct response actions on the remaining portion(s) of the disposal site:

☐ a. Eligible Person ☐ b. Eligible Tenant

☐ 5. Submit a **Revised Permanent or Temporary Solution Partial Statement** (or revised RAO-Partial Statement)

☐ 6. Submit an optional **Phase I Completion Statement** supporting the Permanent or Temporary Solution Statement

☐ 7. Submit a **Periodic Review Opinion evaluating the status of a Temporary Solution,** as specified in 310 CMR 40.1051 (Section F is optional)

☐ 8. Submit a **Retraction** of a previously submitted **Permanent or Temporary Solution Statement** (or RAO Statement) (Sections E & F are not required)

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

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

- [x] 1. Assessment and/or Monitoring Only
- [ ] 2. Temporary Covers or Caps
- [ ] 3. Deployment of Absorbent or Containment Materials
- [ ] 4. Treatment of Water Supplies
- [ ] 5. Structure Venting System/HVAC Modification System
- [ ] 6. Engineered Barrier
- [ ] 7. Product or NAPL Recovery
- [x] 8. Fencing and Sign Posting
- [ ] 9. Groundwater Treatment Systems
- [ ] 10. Soil Vapor Extraction
- [ ] 11. Remedial Additives
- [ ] 12. Air Sparging
- [ ] 13. Active Exposure Pathway Mitigation System
- [ ] 14. Passive Exposure Pathway Mitigation System
- [ ] 15. Monitored Natural Attenuation
- [ ] 16. In-Situ Chemical Oxidation
- [ ] 17. Removal of Contaminated Soils
  - [ ] a. Re-use, Recycling or Treatment
    - [ ] i. On Site — Estimated volume in cubic yards _____
    - [ ] ii. Off Site — Estimated volume in cubic yards _____

iia. Facility Name: _____ Town: _____ State: _____

iib. Facility Name: _____ Town: _____ State: _____

iii. Describe:

- [ ] b. Landfill _____
  - [ ] i. Cover — Estimated volume in cubic yards _____

    Facility Name: _____ Town: _____ State: _____
  - [ ] ii. Disposal — Estimated volume in cubic yards _____

    Facility Name: _____ Town: _____ State: _____
- [ ] 18. Removal of Drums, Tanks or Containers:

  a. Describe Quantity and Amount:

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

  c. Facility Name: _____ Town: _____ State: _____
- [ ] 19. Removal of Other Contaminated Media:

  a. Specify Type and Volume:

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

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

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

☐ 20. Other Response Actions:

Describe: _____

☐ 21. Use of Innovative Technologies:

Describe: _____

D. SITE USE:

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

☑ a. Yes ☐ b. No ☐ c. Don't know

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

☑ a. Yes ☐ b. No ☐ c. Don't know

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

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

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

☐ a. Yes ☐ b. No ☑ c. Don't know

5. Check all applicable categories that apply to the person making this submittal: ☑ a. Redevelopment Agency or Authority

☐ b. Community Development Corporation ☐ c. Economic Development and Industrial Corporation

☐ d. Private Developer ☐ e. Fiduciary ☐ f. Secured Lender ☐ g. Municipality

☐ h. Potential Buyer (non-owner) ☐ i. Other, describe: _____

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

E. PERMANENT OR TEMPORARY SOLUTION CATEGORY:

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

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

☐ a. A threat of release has been eliminated.

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

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

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

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

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

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

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

☐ 1. Yes ☐ 2. No

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

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

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

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

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

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

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

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

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

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

☐ i. Yes ☑ ii. No

F. PERMANENT AND TEMPORARY SOLUTION INFORMATION:

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

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

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

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

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

☑ b. S-1/GW-2 ☐ e. S-2/GW-2 ☐ h. S-3/GW-2

☑ c. S-1/GW-3 ☐ f. S-2/GW-3 ☐ i. S-3/GW-3

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

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

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

☐ 4. Check here if the risk assessment includes any changes to the groundwater category pursuant to 310 CMR 40.0932(5)(a) through (e). Check all conditions that apply:

- ☐ a. An InterimWellhead Protection Area does not apply based on a hydrogeologic evaluation (310 CMR 40.0932(5)(a))
- ☐ b. Groundwater was determined not to be in a Potentially Productive Aquifer or is not feasible to be developed as a drinking water supply (310 CMR 40.0932(5)(b))
- ☐ c. A Non-Potential DrinkingWater Source Area determination was made (310 CMR 40.0932(5)(c))
- ☐ d. Existing private wells were permanently closed (310 CMR 40.0932(5)(d))
- ☐ e. Groundwater is located within a Zone A, but is not hydrogeologically connected to a drinking water supply (310 CMR 40.0932(5)(e))

☐ 5. Check here if the Permanent or Temporary Solution supports a finding of No Significant Risk for petroleum in a GW-1 area pursuant to 310 CMR 40.0924(2)(b)3.

6. Specify whether remediation was conducted:

- ☐ a. Check here if soil remediation was conducted.
- ☐ b. Check here if groundwater remediation was conducted.
- ☐ c. Check here if other remediation was conducted.

Specify: _____

7. Specify whether the analytical data used to support the Permanent or Temporary Solution used the Compendium of Analytical Methods (CAM):

- ☐ a. CAM used to support all analytical data.
- ☑ b. CAM used to support some of the analytical data.
- ☐ c. CAM not used.

☑ 8. Check here to indicate that the Permanent or Temporary Solution Statement includes a Data Usability Assessment and Data Representativeness Evaluation pursuant to 310 CMR 40.1056.

9. Estimate the number of acres this Permanent or Temporary Solution Statement applies to: 7.7

G. LSP SIGNATURE AND STAMP:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and 309 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 either a* ***Permanent or Temporary Solution Statement, Phase I Completion Statement and/or Periodic Review Opinion*** *is being provided,* the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal.

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

1. LSP#: 9719

2. First Name: ILEEN S 3. Last Name: GLADSTONE

4. Telephone: 7817214012 5. Ext.: 6. Email: igladstone@geiconsultants.com

7. Signature:

8. Date: mm/dd/yyyy 9. LSP Stamp:

H. PERSON MAKING SUBMITTAL:

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

2. Name of Organization: BOSTON PLANNING & DEVELOPMENT AGENCY

3. Contact First Name: WILLIAM 4. Last Name: EPPERSON

5. Street: 22 DRYDOCK AVENUE 6. Title: DEPUTY DIR. CAPITAL CONSTRUCTION

7. City/Town: BOSTON 8. State: MA 9. ZIP Code: 022100000

10. Telephone: 6179186202 11. Ext.: 12. Email: william.j.epperson@boston.gov

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

☐ Check here to change relationship

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

☐ e. Other RP or PRP Specify: _____

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

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

☐ 4. Any Other Person Making Submittal Specify Relationship: _____

J. REQUIRED ATTACHMENT AND SUBMITTALS:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

K. CERTIFICATION OF PERSON MAKING SUBMITTAL:

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

2. By: _____ (Signature) 3. Title: DEPUTY DIR. CAPITAL CONSTRUCTION

4. For: BOSTON PLANNING & DEVELOPMENT AGENCY (Name of person or entity recorded in Section H) 5. Date: _____ mm/dd/yyyy

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

7. Street: _____

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

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

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

Date Stamp (DEP USE ONLY:)

Supplemental Phase II Comprehensive Site Assessment, Phase III Remedial Action Plan, and Temporary Solution Statement
Parcel P-3
Boston (Roxbury), Massachusetts
MassDEP RTNs 3-15009 and 3-36365

Attachment to Temporary Solution Statement Transmittal Form BWSC104

Section J, Question 1. Required Attachment and Submittals

The response actions described in this Supplemental Phase II Comprehensive Site Assessment, Phase III Remedial Action Plan, and Temporary Solution Statement are subject to the provisions of Notice of Non-Compliance (NON-NE-07-3A146) issued by MassDEP to the Boston Redevelopment Authority (now BPDA) on October 22, 2007.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

TIER CLASSIFICATION TRANSMITTAL FORM
Pursuant to 310 CMR 40.0500 (Subpart E)

BWSC 107

Release Tracking Number
3 - 15009

A. DISPOSAL SITE LOCATION:

1. Disposal Site Name: UTMS 4688700MN 327800 ME

2. Street Address: PARCEL P-3 TREMONT & WHITTIER STS

3. City/Town: ROXBURY 4. ZIP Code: 021190000

5. Coordinates: Latitude: N 42.33333 Longitude: W 71.08917

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

☐ 1. Submit a new **Tier Classification Submittal**, including a **Tier Classification Compliance History** (BWSC107B). Check the tier classification category:

☐ a. Tier I ☐ b. Tier II

c. Check all Tier I criteria that apply, pursuant to 310 CMR 40.0520(2):

☐ i. Groundwater is located within an Interim Wellhead Protection Area, Zone II, or within 500 feet of a Private Water Supply Well, and there is evidence of groundwater contamination by an Oil or Hazardous Material at the time of Tier Classification at concentrations equal to or exceeding the applicable RCGW-1 Reportable Concentration set forth in 310 CMR 40.0360.

☐ ii. An Imminent Hazard is present at the time of Tier Classification.

☐ iii. One or more remedial actions are required as part of an Immediate Response Action pursuant to 310 CMR 40.0414(2).

☐ iv. One or more response actions are required as part of an Immediate Response Action to eliminate or mitigate a Critical Exposure Pathway pursuant to 310 CMR 40.0414(3).

☐ d. Check here if including an **Eligible Person, Eligible Tenant, or Other Person Certification** (BWSC107D)

☐ 2. Submit a **Phase I Completion Statement** as per 310 CMR 40.0480.

If previously submitted, provide date _____
mm/dd/yyyy

☐ 3. Submit a **Phase II Scope of Work** as per 310 CMR 40.0834.

If previously submitted, provide date _____
mm/dd/yyyy

☐ 4. Submit a **Phase II Conceptual Scope of Work supporting a Tier Classification Submittal.**

☑ 5. Submit a **Tier Classification Extension Submittal** for Response Actions at a Tier Classified Site including the **Tier Classification Compliance History** (BWSC107B).

☐ 6. Submit a Tier Classification Transfer Submittal for a change in person(s) undertaking Response Actions at a Tier Classified Site including the **Tier Classification Compliance History** (BWSC107B) and the **Tier Classification Transferor Certification** (BWSC107C).

Proposed effective date of transfer : _____
mm/dd/yyyy

B. THIS FORM IS BEING USED TO: (cont.)

☐ 7. Submit a **Revised Tier Classification Submittal.**
Check the revised Tier Classification Category. If the Tier Classification Category is not changing, indicate the current classification.

☐ a. Tier I ☐ b. Tier II

c. Check all Tier I criteria that apply, pursuant to 310 CMR 40.0520(2):

☐ i. Groundwater is located within an Interim Wellhead Protection Area, Zone II, or within 500 feet of a Private Water Supply Well, and there is evidence of groundwater contamination by an Oil or Hazardous Material at the time of Tier Classification at concentrations equal to or exceeding the applicable RCGW-1 Reportable Concentration set forth in 310 CMR 40.0360.

☐ ii. An Imminent Hazard is present at the time of Tier Classification.

☐ iii. One or more remedial actions are required as part of an Immediate Response Action pursuant to 310 CMR 40.0414(2).

☐ iv. One or more response actions are required as part of an Immediate Response Action to eliminate or mitigate a Critical Exposure Pathway pursuant to 310 CMR 40.0414(3).

☐ d. Check here if including an **Eligible Person, Eligible Tenant, or Other Person Certification** (BWSC107D)

☑ 8. Provide a **Notice that an additional Release Tracking Number(s) is (are) being linked to this Tier Classified Site** (Primary RTN). Future response actions addressing the Release or Threat of Release notification condition associated with additional Release Tracking Numbers (RTNs) will be conducted as part of the Response Actions planned or ongoing at the Primary Site listed above. For a previously Tier Classified Primary Site, if there is a reasonable likelihood that the addition of the new secondary RTN(s) would change the classification of the site, a **Revised Tier Classification Submittal** must also be made.

Provide Release Tracking Number(s): a. 3 - 36365 b. [ ] - [ ]

All future Response Actions must occur according to the deadlines applicable to the Primary RTN. Use only the Primary RTN when making future submittals for this site unless specifically relating to response actions started before the linking occurred.

C. 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 of this form indicates that a* ***Tier Classification Submittal*** *is being submitted,* this Tier Classification Submittal has been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *if Section B of this form indicates that a* ***Phase I Completion Statement*** *is being submitted,* the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *if Section B of this form indicates that a* ***Phase II Scope of Work*** *is being submitted,* the response action(s) that is (are) the subject of this submittal (i) has (have) been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *if Section B of this form indicates that a* ***Tier Classification Extension Submittal*** *or a* ***Tier Classification Transfer Submittal*** *is being submitted,* the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal.

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

1. LSP#: 9719

2. First Name: ILEEN S 3. Last Name: GLADSTONE

4. Telephone: 781-721-4012 5. Ext.: 6. Email: IGLADSTONE@GEICONSULTANTS.COM

7. Signature:

8. Date: mm/dd/yyyy

9. LSP Stamp:

D. PERSON MAKING SUBMITTAL:

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

2. Name of Organization: BOSTON PLANNING & DEVELOPMENT AGENCY

3. Contact First Name: WILLIAM 4. Last Name: EPPERSON

5. Street: 22 DRYDOCK AVENUE 6. Title: DEPUTY DIR. CAPITAL CONSTRUCTION

7. City/Town: BOSTON 8. State: MA 9. ZIP Code: 022100000

10. Telephone: 617-918-6202 11. Ext.: 12. Email: william.j.epperson@boston.gov

E. RELATIONSHIP OF PERSON MAKING SUBMITTAL TO DISPOSAL SITE:

☐ Check here to change relationship

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

☐ e. Other RP or PRP Specify:

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

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

☐ 4. Any Other Person Making Submittal Specify Relationship:

F. REQUIRED ATTACHMENT AND SUBMITTALS:

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

☑ 2. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the submittal of any Phase Reports to DEP.

☐ 3. Check here to certify that a copy of the Legal Notice of a Tier Classification or Re-classification Submittal is attached, and a cover letter and a copy of the notice is sent to the Chief Municipal Officer and the Local Board of Health pursuant to 310 CMR 40.0510(3) and 40.1403.

☐ 4. Check here to certify that the owner of a Public Water Supply has been provided written notice pursuant to 310 CMR 40.0510(3).

☑ 5. For a Tier Classification Extension Submittal, check here to certify that a statement summarizing why a Permanent or Temporary Solution has not been achieved at the Disposal Site is attached.

☐ 6. For a Tier Classification Transfer Submittal, check here to certify that a statement summarizing the reasons for the proposed change in person(s) undertaking the Response Actions is attached. All Response Actions must be completed by the deadline applicable to the person who first filed a Tier Classification Submittal for the Disposal Site.

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

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

G. CERTIFICATION OF PERSON MAKING SUBMITTAL:

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

If submitting a Tier II Classification, Extension or Transfer, I also attest under the pains and penalties of perjury that (i) I/the person(s) or entity(ies) on whose behalf this submittal is made has/have personally examined and am/is familiar with the requirements of M.G.L. c. 21E and 310 CMR 40.0000; (ii) based upon my inquiry of the/those Licensed Site Professional(s) employed or engaged to render Professional Services for the disposal site which is the subject of this Transmittal Form and of the person(s) or entity(ies) on whose behalf this submittal is made, and my/that person's(s') or entity's(ies') understanding as to the estimated costs of necessary response actions, that/those person(s) or entity(ies) has/have the technical, financial and legal ability to proceed with response actions for such site in accordance with M.G.L. c. 21E, 310 CMR 40.0000 and other applicable requirements; and (iii) that I am fully authorized to make this attestation on behalf of the person(s) or entity(ies) legally responsible for this submittal. I/the person(s) or entity(ies) on whose behalf this submittal is made is aware of the requirements in 310 CMR 40.0172 for notifying the Department in the event that I/the person(s) or entity(ies) on whose behalf this submittal is made learn(s) that it/they is/are unable to proceed with the necessary response actions.

2. By: _____ (Signature) 3. Title: DEPUTY DIR. CAPITAL CONSTRUCTION

4. For: BOSTON PLANNING & DEVELOPMENT AGENCY (Name of person or entity recorded in Section D) 5. Date: _____ (mm/dd/yyyy)

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

7. Street: _____

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

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

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

Date Stamp (DEP USE ONLY):

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

TIER CLASSIFICATION COMPLIANCE HISTORY
Pursuant to 310 CMR 40.0540 (Subpart E)

BWSC 107B

Release Tracking Number
3 - 15009

A. DISPOSAL SITE COMPLIANCE HISTORY SUMMARY:

☐ 1. Check here if a Tier Classification Compliance History of the person listed in BWSC107, Section D, was previously submitted, and there has been no change in that person's compliance history, or the person in Section D has no compliance history. If this box is checked, this section does not have to be completed.

2. List all permits or licenses that have been issued by the Department that are relevant to this Disposal Site:

Program	Permit Number	Permit Category	Facility ID
a. Air Quality			
b. Hazardous Waste (M.G.L. c. 21C)			
c. Solid Waste			
d. Industrial Wastewater Management			
e. Water Supply			
f. Water Pollution Control/Surface Water			
g. Water Pollution Control/Groundwater			
h. Water Pollution Control/Sewer Connection			
i. Wetland & Waterways			

3. List all other Federal, state or local permits, licenses, certifications, registrations, variances, or approvals that are relevant to this Disposal Site:

Issuing Authority or Program, or Documentation Type	Identification Number	Date Issued mm/dd/yyyy
MA EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS	MEPA CERTIFICATE EEA #14900	6/15/2012
MADEP WASTE SITE CLEANUP - NOTICE OF NON-COMPLIANCE	NON-NE-07-3A146	10/22/2007

☐ 4. Check here to certify that, if needed, a statement further describing the Compliance History of this Disposal Site is attached.

This statement must describe the compliance history of the person or entity named in BWSC107, Section D with the following: (1) DEP regulations; and (2) other laws for the protection of health, safety, public welfare and the environment administered or enforced by any other government agency. Such a statement should identify information such as: (1) actions relevant to the Disposal Site taken by the Department to enforce its requirements including, but not limited to, a Notice of Noncompliance (NON), Notice of Intent to Assess Civil Administrative Penalty (PAN), Notice of Intent to Take Response Action (NORA), and an administrative enforcement order; (2) administrative consent orders; (3) judicial consent judgements; (4) similar administrative actions taken by other Federal, state or local agencies; (5) civil or criminal actions relevant to the Disposal Site brought on behalf of the DEP or other Federal, state, or local agencies; and (6) any additional relevant information. For each action identified, provide the following information: (1) name of the issuing authority, type of action, identification number and date issued; (2) description of noncompliance cited; (3) current status of the matter; and (4) final disposition, if any.

Supplemental Phase II Comprehensive Site Assessment, Phase III Remedial Action Plan, and Temporary Solution Statement
Parcel P-3
Boston (Roxbury), Massachusetts
MassDEP RTNs 3-15009 and 3-36365

Attachment to Tier Classification Transmittal Form BWSC107

Section B, Question 5. Submit a Tier Classification Extension Submittal

The Tier Classification Extension Submittal has been submitted via eDEP as part of the Supplemental Phase II Comprehensive Site Assessment, Phase III Remedial Action Plan, and Temporary Solution Statement (eDEP Transmittal No. 1211729).

Section F, Question 1. Required Attachment and Submittals

The response actions described in this Supplemental Phase II Comprehensive Site Assessment, Phase III Remedial Action Plan, and Temporary Solution Statement are subject to the provisions of Notice of Non-Compliance (NON-NE-07-3A146) issued by MassDEP to the Boston Redevelopment Authority (now BPDA) on October 22, 2007.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC 108

Release Tracking Number
3 - 15009

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

A. SITE LOCATION:

1. Site Name: UTMS 4688700MN 327800 ME

2. Street Address: PARCEL P-3 TREMONT & WHITTIER STS

3. City/Town: ROXBURY 4. ZIP Code: 021190000

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

☐ a. Tier I ☐ b. Tier ID ☑ c. Tier II

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

☐ 1. Submit a **Phase I Completion Statement,** pursuant to 310 CMR 40.0484.

☐ 2. Submit a **Revised Phase I Completion Statement,** pursuant to 310 CMR 40.0484.

☐ 3. Submit a **Phase II Scope of Work,** pursuant to 310 CMR 40.0834.

☐ 4. Submit an **interim Phase II Report.** This report does not satisfy the response action deadline requirements in 310 CMR 40.0500.

☐ 5. Submit a **final Phase II Report and Completion Statement,** pursuant to 310 CMR 40.0836.

☑ 6. Submit a **Revised Phase II Report and Completion Statement,** pursuant to 310 CMR 40.0836.

☐ 7. Submit a **Phase III Remedial Action Plan and Completion Statement,** pursuant to 310 CMR 40.0862.

☑ 8. Submit a **Revised Phase III Remedial Action Plan and Completion Statement,** pursuant to 310 CMR 40.0862.

☐ 9. Submit a **Phase IV Remedy Implementation Plan,** pursuant to 310 CMR 40.0874.

☐ 10. Submit a **Modified Phase IV Remedy Implementation Plan,** pursuant to 310 CMR 40.0874.

☐ 11. Submit an **As-Built Construction Report,** pursuant to 310 CMR 40.0875.

☐ 12. Submit a **Phase IV Status Report,** pursuant to 310 CMR 40.0877.

☐ 13. Submit a **Phase IV Completion Statement,** pursuant to 310 CMR 40.0878 and 40.0879.

Specify the outcome of Phase IV activities: (check one)

☐ a. Phase V Operation, Maintenance or Monitoring of the Comprehensive Remedial Action is necessary to achieve a Permanent or Temporary Solution.

☐ b. The requirements of a Permanent Solution have been met. A completed Permanent Solution Statement and Report (BWSC104) will be submitted to DEP.

☐ c. The requirements of a Temporary Solution have been met. A completed Temporary Solution Statement and Report (BWSC104) will be submitted to DEP.

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

☐ 14. Submit a **Revised Phase IV Completion Statement,** pursuant to 310 CMR 40.0878 and 40.0879.

☐ 15. Submit a **Phase V Status Report,** pursuant to 310 CMR 40.0892.

☐ 16. Submit a **Remedial Monitoring Report.** (This report can only be submitted through eDEP.)

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

b. Frequency of Submittal: (check all that apply)

☐ i. A Remedial Monitoring Report(s) submitted monthly to address an Imminent Hazard.

☐ ii. A Remedial Monitoring Report(s) submitted monthly to address a Condition of Substantial Release Migration.

☐ iii. A Remedial Monitoring Report(s) submitted every six months, concurrent with a Status Report.

☐ iv. A Remedial Monitoring Report(s) submitted annually, concurrent with a Status Report.

c. Status of Site: (check one) ☐ i. Phase IV ☐ ii. Phase V ☐ iii. Remedy Operation Status ☐ iv. Temporary Solution

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

A separate BWSC108A, CRA Remedial Monitoring Report, must be filled out for each Remedial System and/or Monitoring Program addressed by this transmittal form.

☐ 17. Submit a **Remedy Operation Status,** pursuant to 310 CMR 40.0893.

☐ 18. Submit a **Status Report to maintain a Remedy Operation Status,** pursuant to 310 CMR 40.0893(2).

☐ 19. Submit a **Transfer and/or a Modification of Persons Maintaining a Remedy Operation Status (ROS),** pursuant to 310 CMR 40.0893(5) (check one, or both, if applicable).

☐ a. Submit a Transfer of Persons Maintaining an ROS (the transferee should be the person listed in Section D, "Person Undertaking Response Actions").

☐ b. Submit a Modification of Persons Maintaining an ROS (the primary representative should be the person listed in Section D, "Person Undertaking Response Actions").

c. Number of Persons Maintaining an ROS not including the primary representative: _____

☐ 20. Submit a **Termination of a Remedy Operation Status,** pursuant to 310 CMR 40.0893(6).(check one)

☐ a. Submit a notice indicating ROS performance standards have not been met. A plan and timetable pursuant to 310 CMR 40.0893(6)(b) for resuming the ROS are attached.

☐ b. Submit a notice of Termination of ROS.

☐ 21. Submit a **Phase V Completion Statement,** pursuant to 310 CMR 40.0894.

Specify the outcome of Phase V activities: (check one)

☐ a. The requirements of a Permanent Solution have been met. A completed Permanent Solution Statement and Report (BWSC104) will be submitted to DEP.

☐ b. The requirements for a Temporary Solution have been met. A completed Temporary Solution Statement and Report (BWSC104) will be submitted to DEP.

☐ 22. Submit a **Revised Phase V Completion Statement,** pursuant to 310 CMR 40.0894.

☐ 23. Submit a **Temporary Solution Status Report,** pursuant to 310 CMR 40.0898.

☐ 24. Submit a **Plan for the Application of Remedial Additives** near a sensitive receptor, pursuant to 310 CMR 40.0046(3).

a. Status of Site: (check one)

☐ i. Phase IV ☐ ii. Phase V ☐ iii. Remedy Operation Status ☐ iv. Temporary Solution

C. LSP SIGNATURE AND STAMP:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and 309 CMR 4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief,

> *if Section B indicates that a* ***Phase I, Phase II, Phase III, Phase IV or Phase V Completion Statement*** *and/or a* ***Termination of a Remedy Operation Status*** *is being submitted*, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *if Section B indicates that a* ***Phase II Scope of Work*** *or a* ***Phase IV Remedy Implementation Plan*** *is being submitted,* the response action(s) that is (are) the subject of this submittal (i) has (have) been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *if Section B indicates that an* ***As-Built Construction Report,*** *a* ***Remedy Operation Status,*** *a* ***Phase IV, Phase V or Temporary Solution Status Report,*** *a* ***Status Report to Maintain a Remedy Operation Status,*** *a* ***Transfer or Modification of Persons Maintaining a Remedy Operation Status*** *and/or a* ***Remedial Monitoring Report*** *is being submitted,* the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal.

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

1. LSP#: 9719

2. First Name: ILEEN S 3. Last Name: GLADSTONE

4. Telephone: 7817214012 5. Ext.: 6. Email: igladstone@geiconsultants.com

7. Signature:

8. Date:
(mm/dd/yyyy)

9. LSP Stamp:

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

D. PERSON UNDERTAKING RESPONSE ACTIONS:

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

2. Name of Organization: BOSTON PLANNING & DEVELOPMENT AGENCY

3. Contact First Name: WILLIAM 4. Last Name: EPPERSON

5. Street: 22 DRYDOCK AVENUE 6. Title:

7. City/Town: BOSTON 8. State: MA 9. ZIP Code: 022100000

10. Telephone: 6179186202 11. Ext: 12. Email: william.j.epperson@boston.gov

E. RELATIONSHIP TO SITE OF PERSON UNDERTAKING RESPONSE ACTIONS: ☐ Check here to change relationship

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

☐ e. Other RP or PRP Specify:

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

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

☐ 4. Any Other Person Undertaking Response Actions Specify Relationship:

F. REQUIRED ATTACHMENT AND SUBMITTALS:

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

☑ 2. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the submittal of any Phase Reports to DEP.

☑ 3. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the availability of a Phase III Remedial Action Plan.

☐ 4. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the availability of a Phase IV Remedy Implementation Plan.

☐ 5. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of any field work involving the implementation of a Phase IV Remedial Action.

☐ 6. If submitting a Transfer of a Remedy Operation Status (as per 310 CMR 40.0893(5)), check here to certify that a statement detailing the compliance history for the person making this submittal (transferee) is attached.

☐ 7. If submitting a Modification of a Remedy Operation Status (as per 310 CMR 40.0893(5)), check here to certify that a statement detailing the compliance history for each new person making this submittal is attached.

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

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

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

G. CERTIFICATION OF PERSON UNDERTAKING RESPONSE ACTIONS:

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

>*if Section B indicates that this is a* **Modification of a Remedy Operation Status (ROS),** I attest under the pains and penalties of perjury that I am fully authorized to act on behalf of all persons performing response actions under the ROS as stated in 310 CMR 40.0893(5)(d) to receive oral and written correspondence from MassDEP with respect to performance of response actions under the ROS, and to receive a statement of fee amount as per 4.03(3).

I understand that any material received by the Primary Representative from MassDEP shall be deemed received by all the persons performing response actions under the ROS, and I am aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate or incomplete information.

2. By: _____ (Signature) 3. Title: _____

4. For: BOSTON PLANNING & DEVELOPMENT AGENCY (Name of person or entity recorded in Section D) 5. Date: _____ (mm/dd/yyyy)

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

7. Street: _____

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

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

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

Date Stamp (DEP USE ONLY:)

Supplemental Phase II Comprehensive Site Assessment, Phase III Remedial Action Plan, and Temporary Solution Statement
Parcel P-3
Boston (Roxbury), Massachusetts
MassDEP RTNs 3-15009 and 3-36365

Attachment to Comprehensive Response Action Transmittal Form BWSC108

Section B, Question 6. Submit a Supplemental Phase II Comprehensive Site Assessment

The Supplemental Phase II CSA has been submitted via eDEP as part of the Supplemental Phase II Comprehensive Site Assessment, Phase III Remedial Action Plan, and Temporary Solution Statement (eDEP Transmittal No. 1211729).

Section B, Question 8. Submit a Phase III Remedial Action Plan *Addendum*

The Phase III RAP Addendum has been submitted via eDEP as part of the Supplemental Phase II Comprehensive Site Assessment, Phase III Remedial Action Plan, and Temporary Solution Statement (eDEP Transmittal No. 1211729).

Section F, Question 1. Required Attachment and Submittals

The response actions described in this Supplemental Phase II Comprehensive Site Assessment, Phase III Remedial Action Plan, and Temporary Solution Statement are subject to the provisions of Notice of Non-Compliance (NON-NE-07-3A146) issued by MassDEP to the Boston Redevelopment Authority (now BPDA) on October 22, 2007.

Appendix B

Public Notice Documents and Response to Comments on Draft Report

GEI Consultants

Consulting Engineers and Scientists

April 14, 2021
Project 2002082

Mr. Carl Spector
Environment Department Director
One City Hall Square, Room 805
Boston, MA 02201

Dear Mr. Spector:

Re: Supplemental Phase II Comprehensive Site Assessment, Phase III Remedial Action Plan Addendum, and Temporary Solution Statement
Parcel P-3: Whittier and Tremont Street
Boston (Roxbury), Massachusetts
MassDEP RTNs 3-15009 and 3-36365

GEI Consultants, Inc. is hereby notifying your office that a Supplemental Phase II Comprehensive Site Assessment, Phase III Remedial Action Plan Addendum, and Temporary Solution Statement (the Report) is being submitted to the Massachusetts Department of Environmental Protection (MassDEP) for the above-referenced site.

In accordance with the MCP (310 CMR 40.1403(3)(e,f)), we have enclosed a copy of the findings and conclusions of the Report in the form of the Executive Summary. The Report is being submitted to the MassDEP Northeast Regional Office (NERO) in Wilmington, Massachusetts concurrently with this letter and is available for review online at https://eeaonline.eea.state.ma.us/portal#!/search/wastesite, searchable under RTNs 3-0015009 and 3-0036365.

This notification is made in fulfillment of the public notice requirements of the MCP (310 CMR 40.1403).

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

Sincerely,

GEI CONSULTANTS, INC.

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

Ryan S. Hoffman, P.G., LSP
Senior Project Manager

RSH:jam
Enclosure
c: Bureau of Waste Site Cleanup, MassDEP-NERO

B:\Working\BOSTON PLANNING & DEV AGENCY (AKA BRA)\2002082 BPDA Parcel P3\01_ADMIN\Final Phase II&III+TSS\App B - Public Notice and Resonse to Comments\Ph1 ISI pub not ltrs.doc

GEI Consultants

Consulting Engineers and Scientists

April 14, 2021
Project 2002082

Ms. Rita Nieves, RN, MPH, LICSW
Interim Executive Director
Boston Public Health Commission
1010 Massachusetts Avenue, 2nd Floor
Boston, MA 02218

Dear Ms. Nieves:

Re: Supplemental Phase II Comprehensive Site Assessment, Phase III Remedial Action Plan Addendum, and Temporary Solution Statement
Parcel P-3: Whittier and Tremont Street
Boston (Roxbury), Massachusetts
MassDEP RTNs 3-15009 and 3-36365

GEI Consultants, Inc. is hereby notifying your office that a Supplemental Phase II Comprehensive Site Assessment, Phase III Remedial Action Plan Addendum, and Temporary Solution Statement (the Report) is being submitted to the Massachusetts Department of Environmental Protection (MassDEP) for the above-referenced site.

In accordance with the MCP (310 CMR 40.1403(3)(e,f)), we have enclosed a copy of the findings and conclusions of the Report in the form of the Executive Summary. The Report is being submitted to the MassDEP Northeast Regional Office (NERO) in Wilmington, Massachusetts concurrently with this letter and is available for review online at https://eeaonline.eea.state.ma.us/portal#!/search/wastesite, searchable under RTNs 3-0015009 and 3-0036365.

This notification is made in fulfillment of the public notice requirements of the MCP (310 CMR 40.1403).

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

Sincerely,

GEI CONSULTANTS, INC.

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

Ryan S. Hoffman, P.G., LSP
Senior Project Manager

RSH:jam
Enclosure
c: Bureau of Waste Site Cleanup, MassDEP-NERO

B:\Working\BOSTON PLANNING & DEV AGENCY (AKA BRA)\2002082 BPDA Parcel P3\01_ADMIN\Final Phase II&III+TSS\App B - Public Notice and Resonse to Comments\Ph1 ISI pub not ltrs.doc

Public Comments and Responses to "Draft Supplemental Phase II Comprehensive Site Assessment, Phase III Remedial Action Plan Addendum, and Temporary Solution Statement", dated January 11, 2021 and "Draft Release Abatement Measure Plan", dated January 11, 2021

Comments received by email from Alison Pultinas on January 18, 2021.

Can you confirm that a 20-day comment period has begun for the draft remediation Plans and when is the deadline?

> BPDA Response: The comment period for the environmental conditions of P-3 has been extended to February 26th, providing additional time for public feedback after the February 8th meeting. If you or someone you know has any additional comments, please feel free to send a note to me (kelly.sherman@boston.gov) or Ileen Gladstone (IGladstone@geiconsultants.com).

Was there a legal notice advertising January 11 as the public involvement meeting? I didn't see anything in the Banner newspaper.

> BPDA Response: As you know, we regularly provide public notice in the Bay State Banner, The Sun, and the South End News and apologize for the oversight in this posting. GEI included a public notice in the Boston Herald, but moving forward, we will make sure they publish in several local publications as well.

Comments received by email from Norm Stembridge on January 26, 2021.

I'm a member of the Roxbury Strategic Master Plan Oversight Committee. I sat in last week on your presentation for the soil remediation work to be done on Parcel 3 across the street from the Boston Police Headquarters. I appreciated the presentation. I do have some follow up questions though on the proposed work to be done.

To what extent will the remediation work be suitable for future use? After the proposed work is done will the land be suitable for people to live on or nearby? What if future use called for an underground parking garage of four to five levels? Will the proposed remediation work clearly state and layout what may or may not be located on Parcel 3 afterwards?

The Oversight Committee and the Boston Planning Development Agency (BPDA) work together on certain proposed projects within Roxbury. In the past we've seen remediation work done, a proposal comes along and then to find out that the level of remediation work done is inadequate for the proposed usage. Certain types of housing may not be suitable or putting a garage of some type can't be done.

I'm sure that you can see how such information would be useful. Funding for proposed projects may be much more than originally anticipated. I think you would agree it would be better to avoid such surprises.

So yes, I'd like your feedback on what I've asked. I'm also requesting that my questions be entered, by the BPDA, into any relevant comment sections for the proposed work. If you have

anything to say directly to me then please feel free to do so. I'm sure that we'd all like to see this work out well so that the community move on from there.

BPDA Response: William Epperson, Deputy Director for Capital Construction, BPDA, spoke with Mr. Stembridge and addressed his concerns.

Comments received by email from Connie Forbes on February 1, 2021.

We've just been informed that residents are unable to access the BPDA website for information to make any comments, and the comment deadline for this particular project is today. Please request an extension of the deadline due to issues with the BPDA website. We need to ensure resident feedback is captured.

BPDA Response: The comment period for the Environmental conditions of P3 will be extended to Feb 26th, 2021. If you have feedback or comments please email me (kelly.sherman@boston.gov) or leave a comment on the P3 website (which will automatically get sent to me). You can also email IGladstone@geiconsultants.com

Comments received during Parcel P3 Workshop on February 22, 2021.

What is the remediation timeline and plan?

BPDA Response: We are still working on finalizing the timeline, but we expect the first phase of remediation to occur in late summer or early fall (work on site will be 2 weeks long)
www.bostonplans.org/getattachment/62a0dd74-2822-40b9-b4fd-2e6e578b6b61

What will be the level of community involvement in remediation efforts?

BPDA Response: Once the environmental consultant is awarded, we will begin a competitive bidding process for a site work contractor. We are working with our DEI team to expand outreach to MBEs for this work.

More specifically, we can make our work transparent by publishing the plans and specifications that will be the basis of the work done by the future site contractor who performs the remediation. Because these tend to be long and technical, we can also publish a more reader-friendly guide of both the site conditions, as well as the work to be included in the contract with the contractor. Most importantly, we can publish the requirements of the contractor that will be enforced to ensure neighbors are not impacted.

Prior to on-site remediation work, we will notify adjacent residents of the projected timeline of remediation activities, expected to be conducted over a two-week period.

During the active construction period, we can publish a live phone number for concerned neighbors to call and report concerns directly to us, our engineer, and our contractor (via collaborative Google Voice line)

Appendix C

Historical Records

Feldco Development
Tremont St./Whittier St.
Boston, MA 02120

Inquiry Number: 4513182.5
January 14, 2016

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th Floor
Shelton, Connecticut 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Date EDR Searched Historical Sources:

Aerial Photography January 14, 2016

Target Property:

Tremont St./Whittier St.

Boston, MA 02120

Year	***Scale***	***Details***	***Source***
1938	Aerial Photograph. Scale: 1"=500'	Flight Date: December 15, 1938	USGS
1946	Aerial Photograph. Scale: 1"=500'	Flight Date: June 15, 1946	EDR
1946	Aerial Photograph. Scale: 1"=500'	Flight Date: June 15, 1946	USGS
1952	Aerial Photograph. Scale: 1"=500'	Flight Date: August 24, 1952	EDR
1952	Aerial Photograph. Scale: 1"=500'	Flight Date: August 24, 1952	USGS
1955	Aerial Photograph. Scale: 1"=500'	Flight Date: December 01, 1955	USGS
1960	Aerial Photograph. Scale: 1"=500'	Flight Date: May 06, 1960	USDA
1969	Aerial Photograph. Scale: 1"=500'	Flight Date: April 13, 1969	USGS
1970	Aerial Photograph. Scale: 1"=500'	Flight Date: October 29, 1970	USGS
1978	Aerial Photograph. Scale: 1"=500'	Flight Date: April 23, 1978	USGS
1980	Aerial Photograph. Scale: 1"=500'	Flight Date: October 10, 1980	USGS
1985	Aerial Photograph. Scale: 1"=500'	Flight Date: April 17, 1985	USGS
1995	Aerial Photograph. Scale: 1"=500'	Flight Date: April 03, 1995	USGS
1996	Aerial Photograph. Scale: 1"=500'	DOQQ - acquisition dates: May 07, 1996	USGS/DOQQ
2008	Aerial Photograph. Scale: 1"=500'	Flight Year: 2008	USDA/NAIP
2010	Aerial Photograph. Scale: 1"=500'	Flight Year: 2010	USDA/NAIP
2012	Aerial Photograph. Scale: 1"=500'	Flight Year: 2012	USDA/NAIP


INQUIRY #: 4513182.5
YEAR: 1938
= 500'
N
EDR

INQUIRY #: 4513182.5

YEAR: 1946

= 500'

N

EDR

INQUIRY #: 4513182.5

YEAR: 1946

N

= 500'


INQUIRY #: 4513182.5
YEAR: 1952
= 500'
N
EDR


INQUIRY #: 4513182.5
YEAR: 1952
= 500'
N
EDR


INQUIRY #: 4513182.5
YEAR: 1955
= 500'
N
EDR


INQUIRY #: 4513182.5
YEAR: 1960
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EDR


INQUIRY #: 4513182.5
YEAR: 1969
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N
EDR


INQUIRY #: 4513182.5
YEAR: 1970
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N
EDR


INQUIRY #: 4513182.5
YEAR: 1978
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INQUIRY #: 4513182.5
YEAR: 2008
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EDR


INQUIRY #: 4513182.5
YEAR: 2010
= 500'
N
EDR


INQUIRY #: 4513182.5
YEAR: 2012
= 500'
N
EDR

Feldco Development
Tremont St./Whittier St.
Boston, MA 02120

Inquiry Number: 4513182.3
January 14, 2016

Certified Sanborn® Map Report

6 Armstrong Road, 4th Floor
Shelton, Connecticut 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

1/14/16

Site Name:
Feldco Development
Tremont St./Whittier St.
Boston, MA 02120

Client Name:
GEI Consultants, Inc.
400 Unicorn Park Drive
Woburn, MA 01801

EDR Inquiry # 4513182.3

Contact: Ross Mower

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by GEI Consultants, Inc. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Site Name: Feldco Development
Address: Tremont St./Whittier St.
City, State, Zip: Boston, MA 02120
Cross Street:
P.O. # 132673-3
Project: Feldco Tremont Crossing ESA
Certification # E230-476D-BE46

Maps Provided:

2002	1990	1888
1998	1988	
1995	1964	
1994	1950	
1993	1919	
1992	1897	

Sanborn® Library search results
Certification # E230-476D-BE46

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ✓ Library of Congress
- ✓ University Publications of America
- ✓ EDR Private Collection

The Sanborn Library LLC Since 1866™

Limited Permission To Make Copies

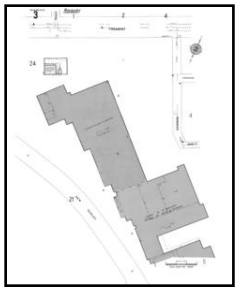
GEI Consultants, Inc. (the client) is permitted to make up to FIVE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR's copyright policy; a copy of which is available upon request.

Sanborn Sheet Thumbnails

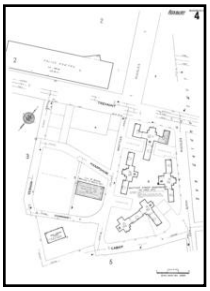
This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.

2002 Source Sheets

Volume 3E, Sheet 2



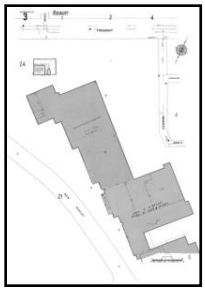
Volume 3E, Sheet 3



Volume 3E, Sheet 4

1998 Source Sheets

Volume 3E, Sheet 2

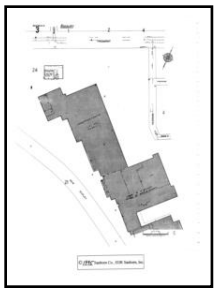


Volume 3E, Sheet 3

Volume 3E, Sheet 4

1995 Source Sheets

Volume 3E, Sheet 2

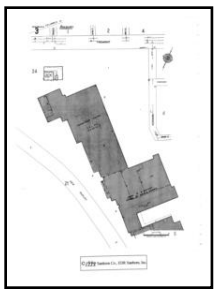


Volume 3E, Sheet 3

Volume 3E, Sheet 4

1994 Source Sheets

Volume 3E, Sheet 2

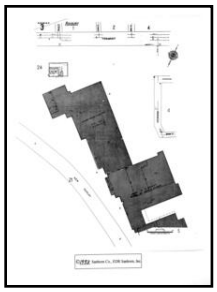


Volume 3E, Sheet 3

Volume 3E, Sheet 4

1993 Source Sheets

Volume 3E, Sheet 2



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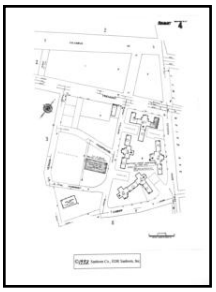

Volume 3E, Sheet 4

1992 Source Sheets

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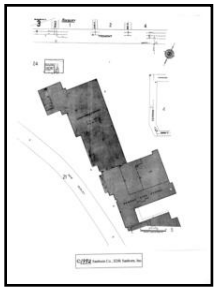

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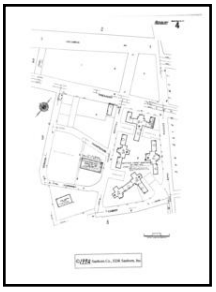

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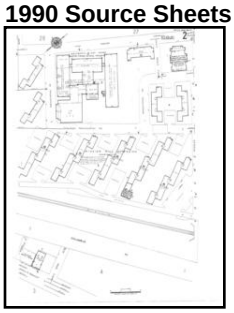

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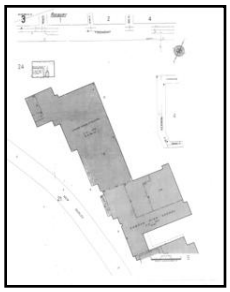

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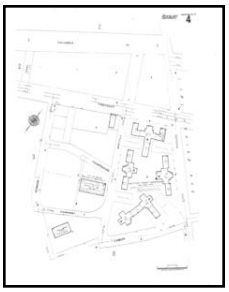
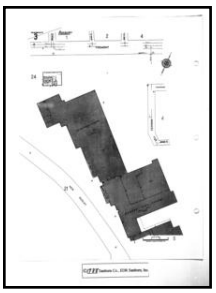


Volume 3E, Sheet 4

1988 Source Sheets

Volume 3E, Sheet 4

Volume 3E, Sheet 2



Volume 3E, Sheet 3

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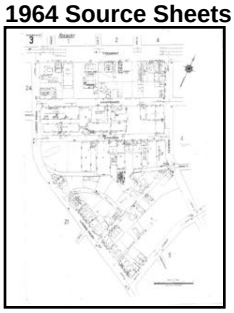


Volume 3E, Sheet 3

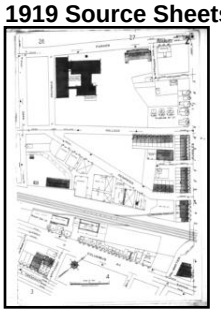
Volume 3E, Sheet 4

1950 Source Sheets

Volume 3, Sheet 3

Volume 3, Sheet 4

1919 Source Sheets

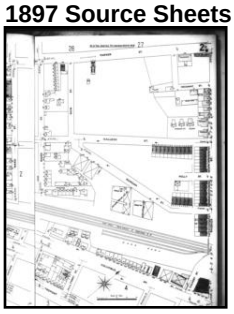


Volume 3, Sheet 2

Volume 3, Sheet 3

Volume 3, Sheet 4

1897 Source Sheets



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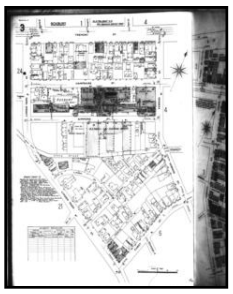


Volume 3, Sheet 3

Volume 3, Sheet 4

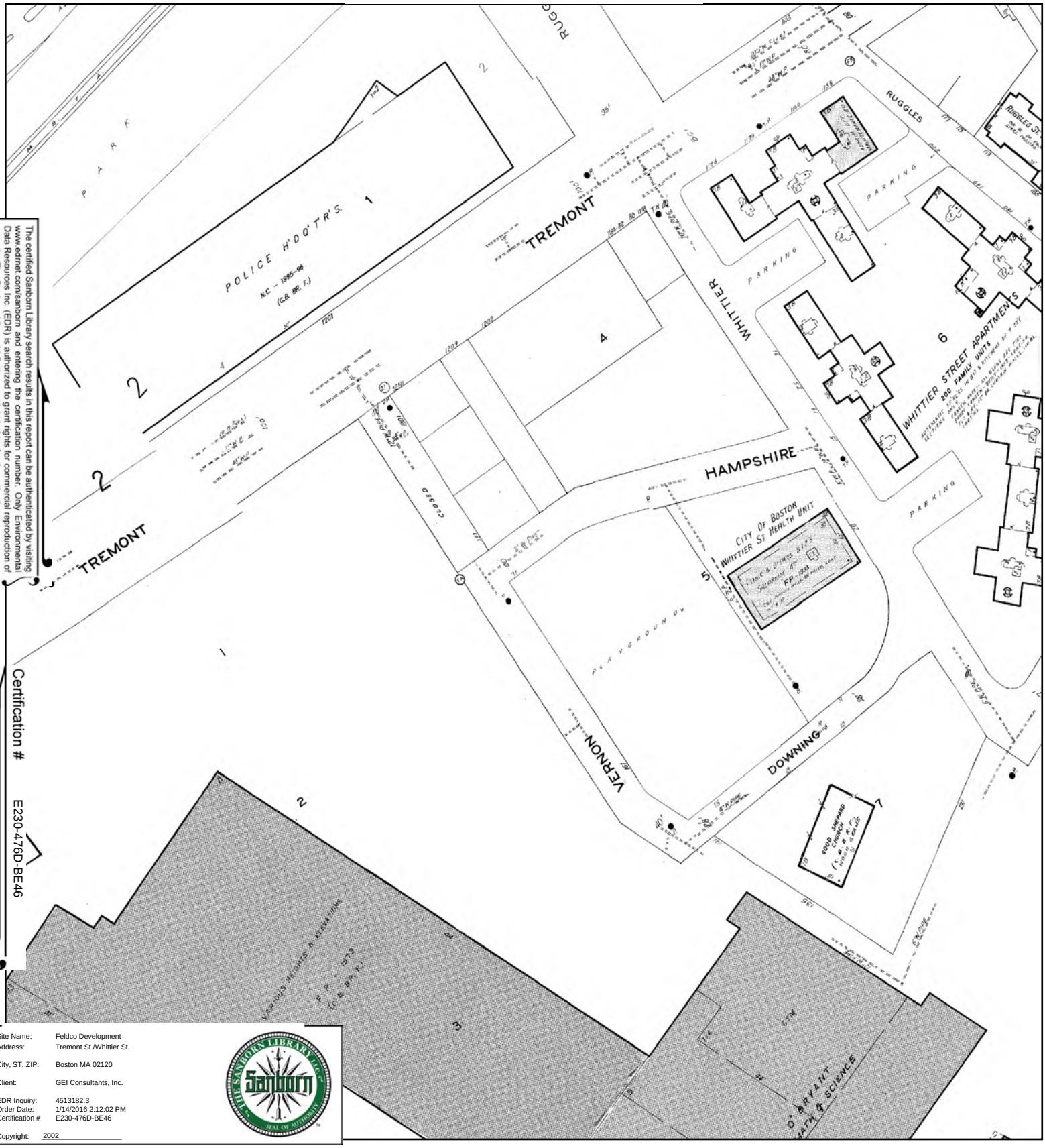
1888 Source Sheets

Volume 3, Sheet 65

Volume 3, Sheet 66

Volume 3, Sheet 66

2002 Certified Sanborn Map



Certification # E230-476D-BE46

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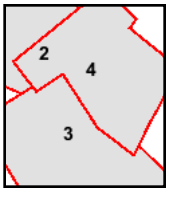
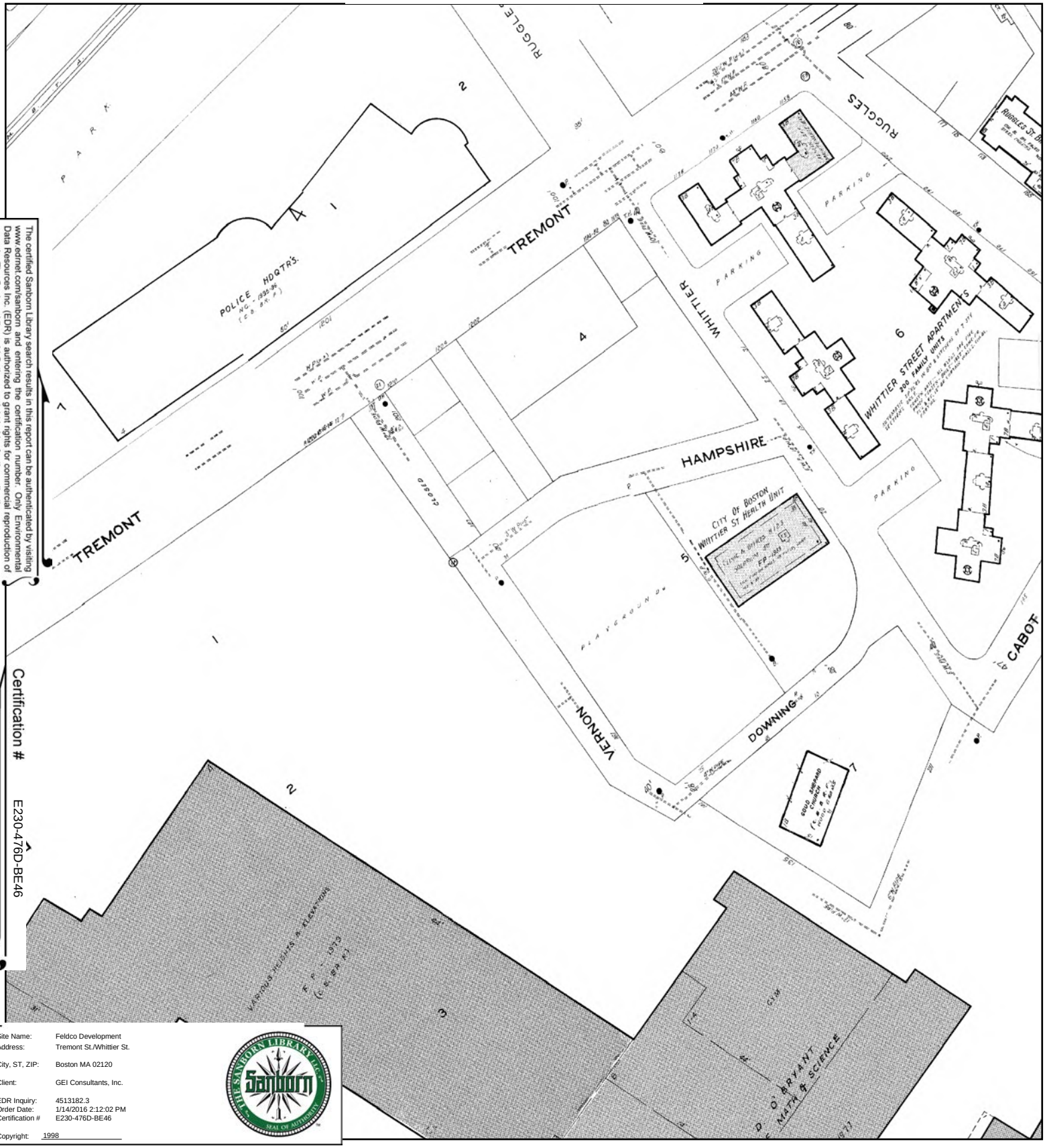


Volume 3E, Sheet 2
Volume 3E, Sheet 3
Volume 3E, Sheet 4

0 Feet 150 300 600

N

1998 Certified Sanborn Map



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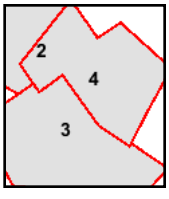

Volume 3E, Sheet 2
Volume 3E, Sheet 3
Volume 3E, Sheet 4

0 Feet 150 300 600

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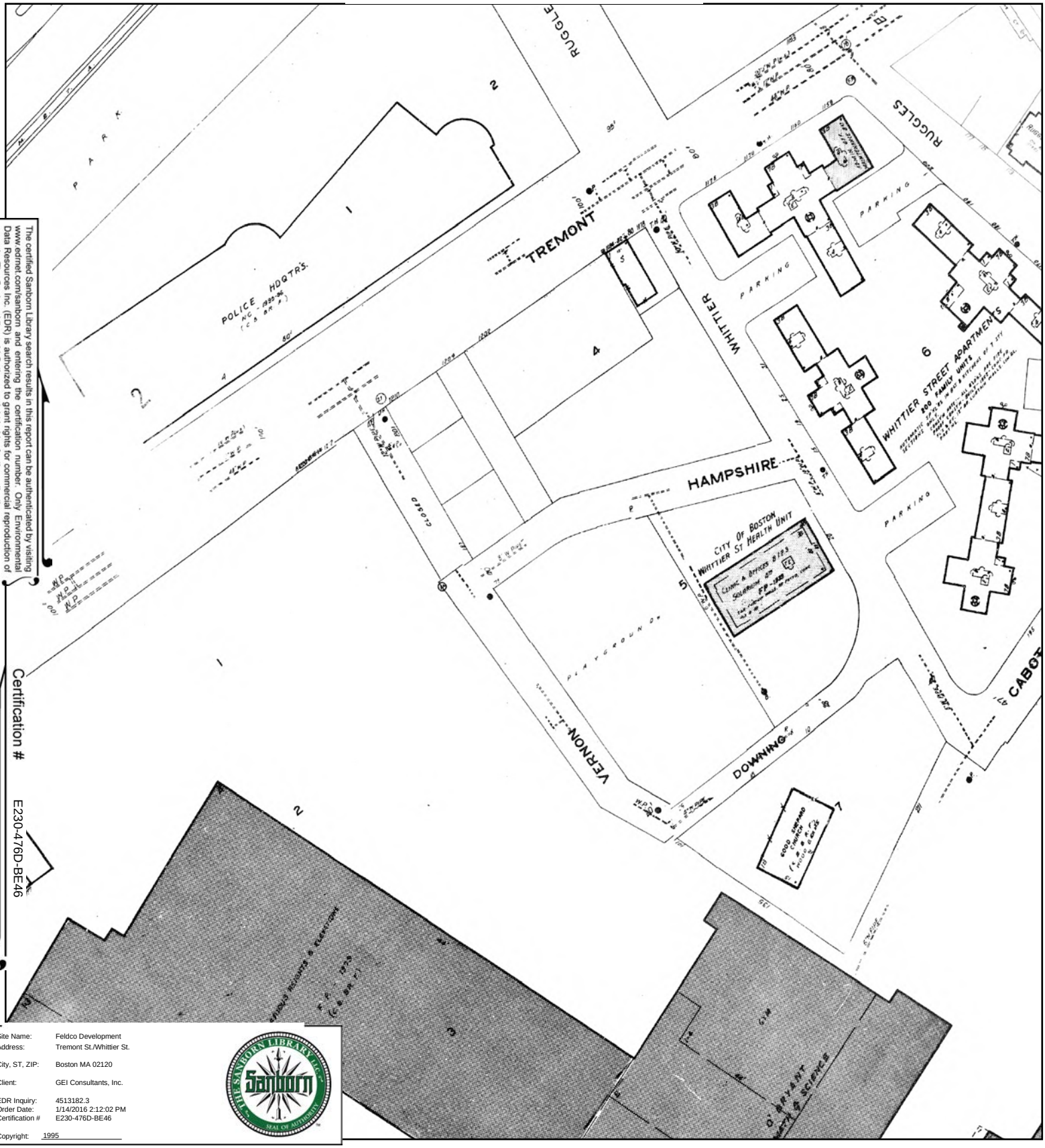

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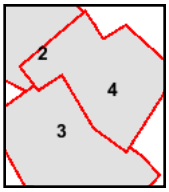

Volume 3E, Sheet 2
Volume 3E, Sheet 3
Volume 3E, Sheet 4

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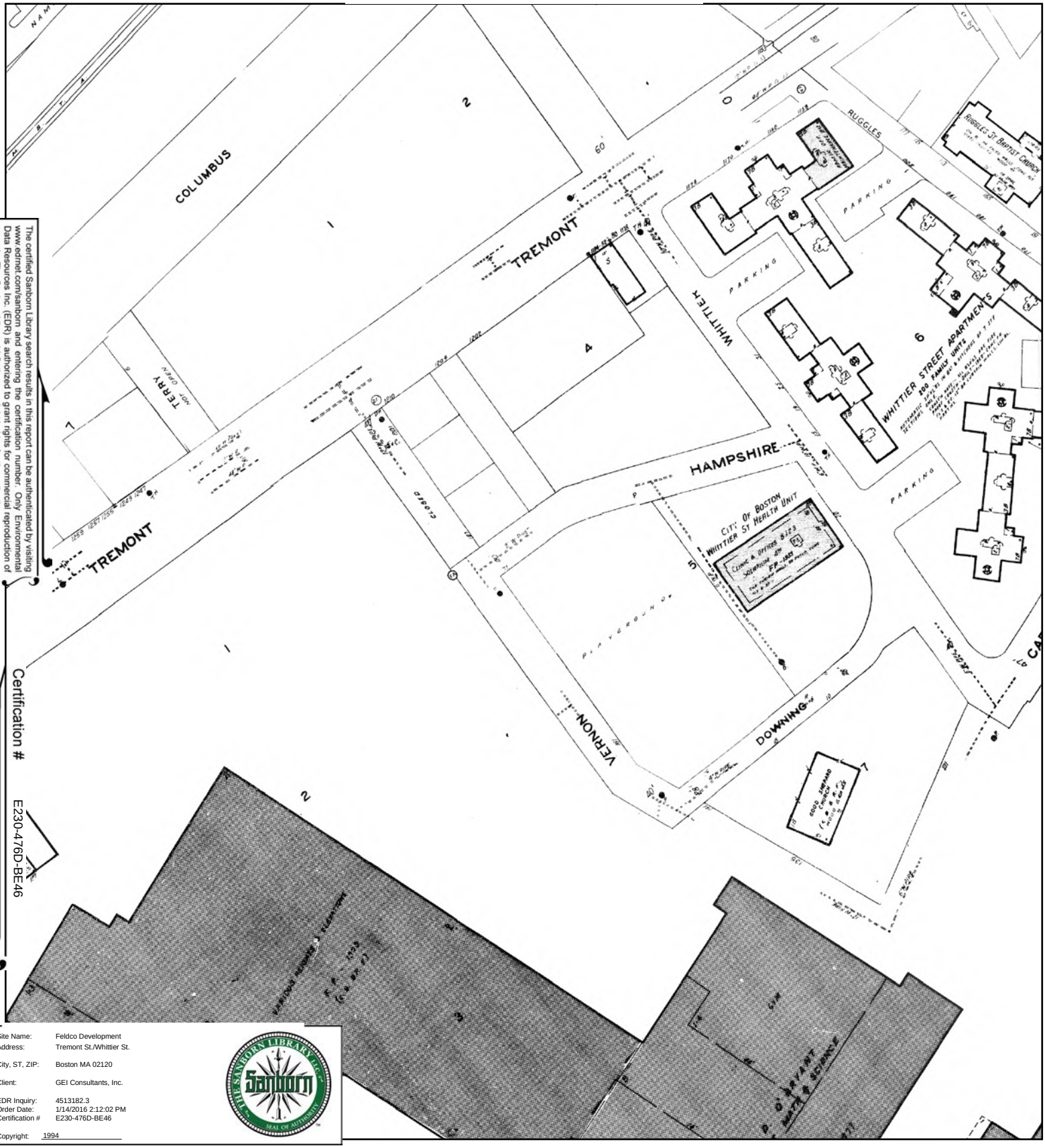

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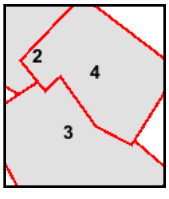

Volume 3E, Sheet 2
Volume 3E, Sheet 3
Volume 3E, Sheet 4

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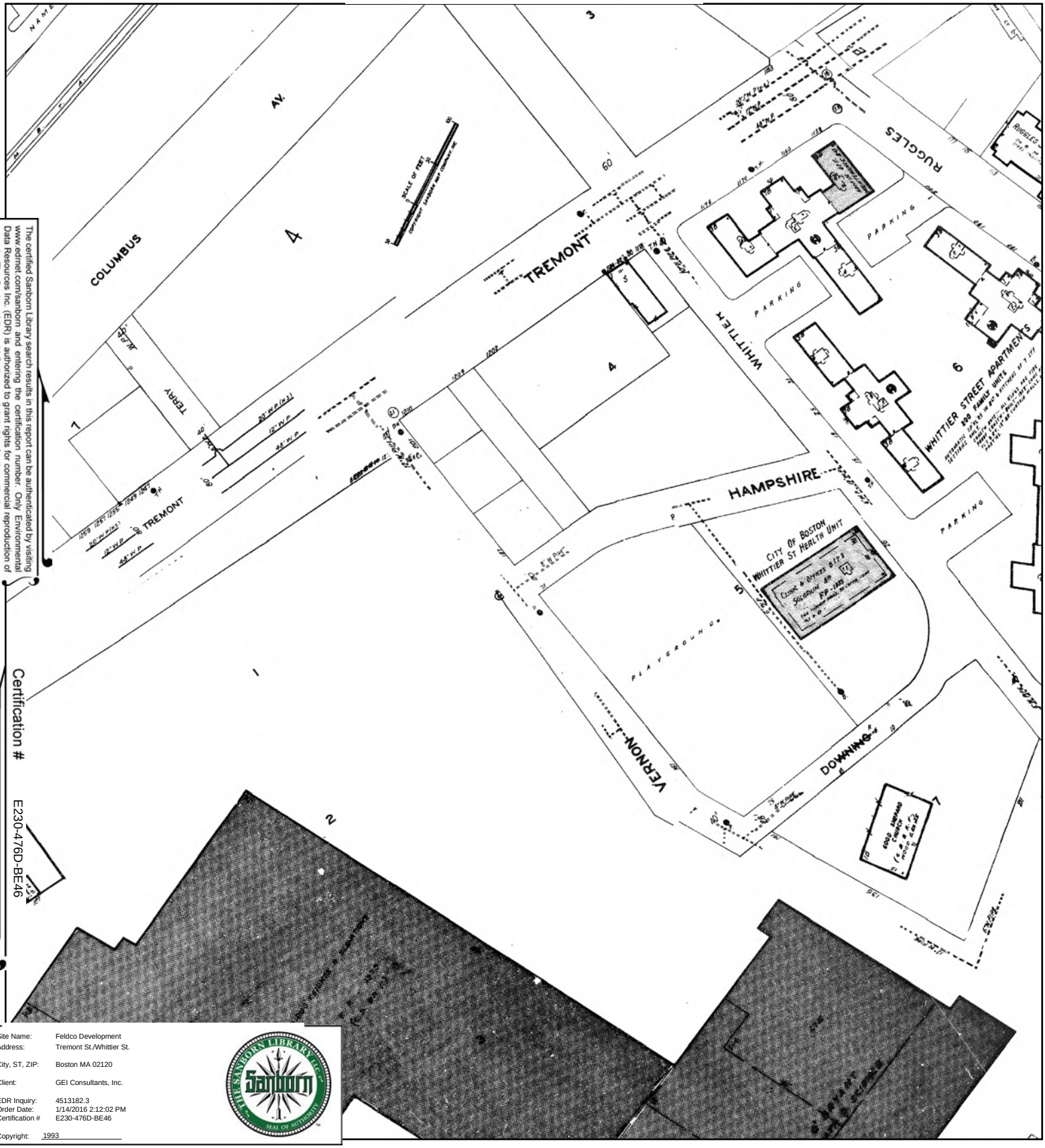

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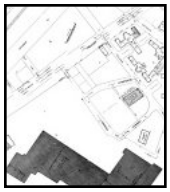

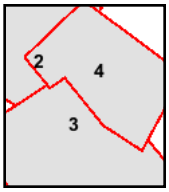

Volume 3E, Sheet 2
Volume 3E, Sheet 3
Volume 3E, Sheet 4

0 Feet 150 300 600

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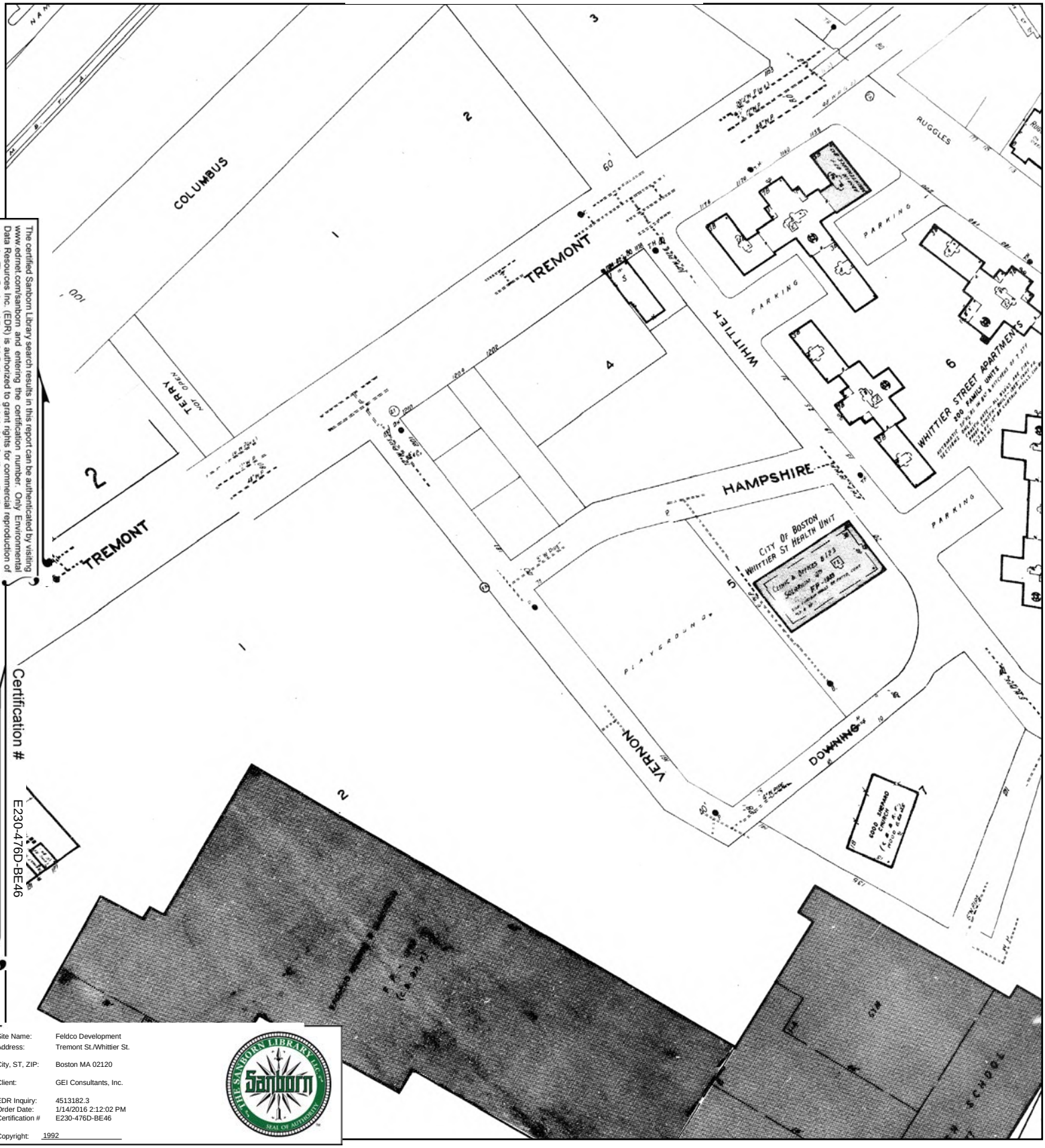

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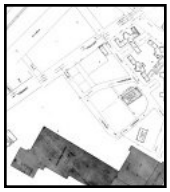

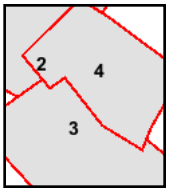

Volume 3E, Sheet 2
Volume 3E, Sheet 3
Volume 3E, Sheet 4

0 Feet 150 300 600

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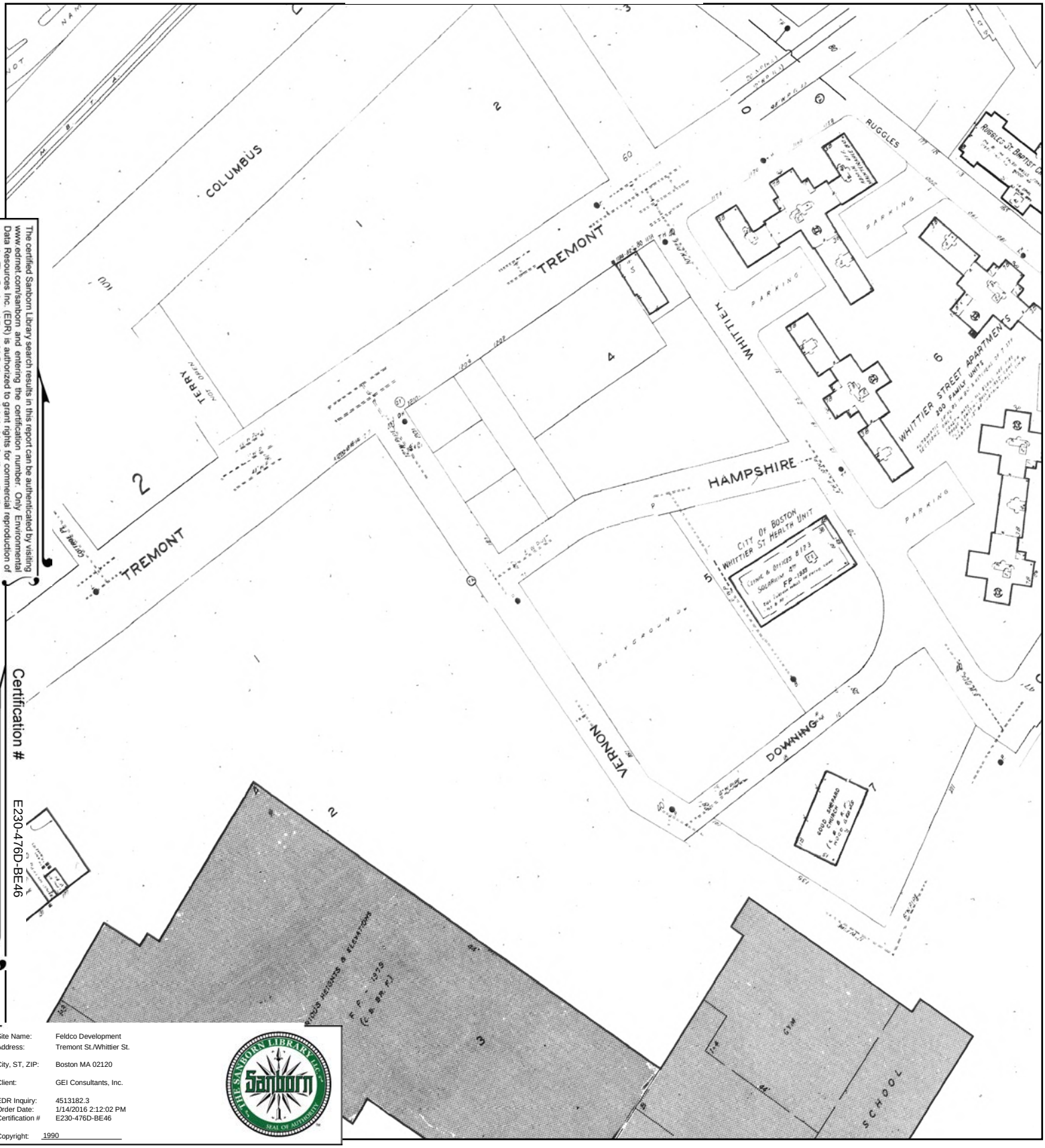

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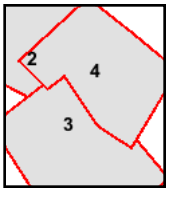

Volume 3E, Sheet 2
Volume 3E, Sheet 3
Volume 3E, Sheet 4

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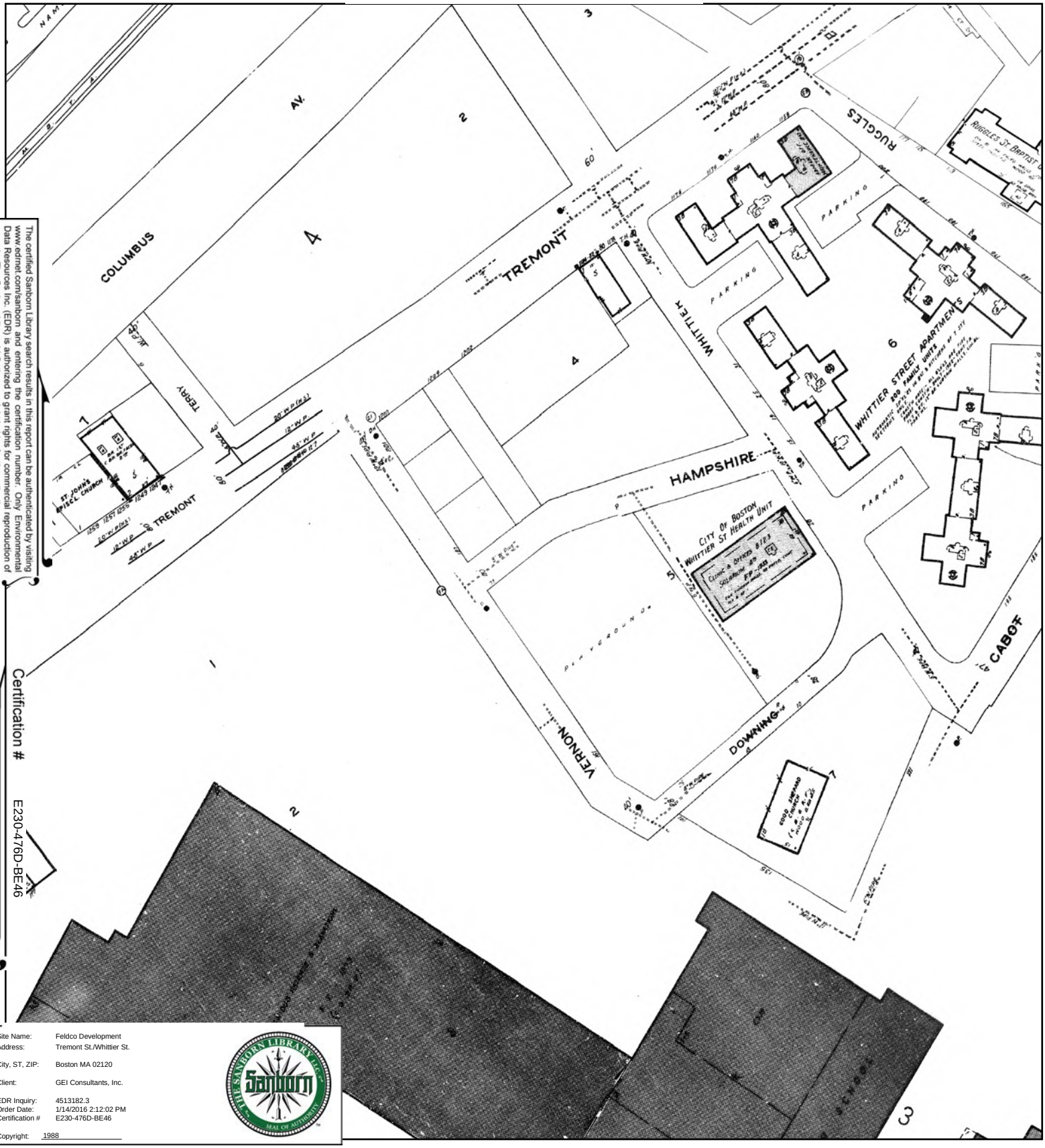

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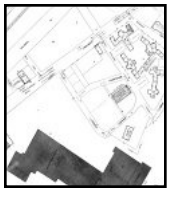

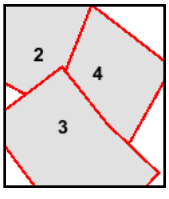

Volume 3E, Sheet 4
Volume 3E, Sheet 2
Volume 3E, Sheet 3

0 Feet 150 300 600

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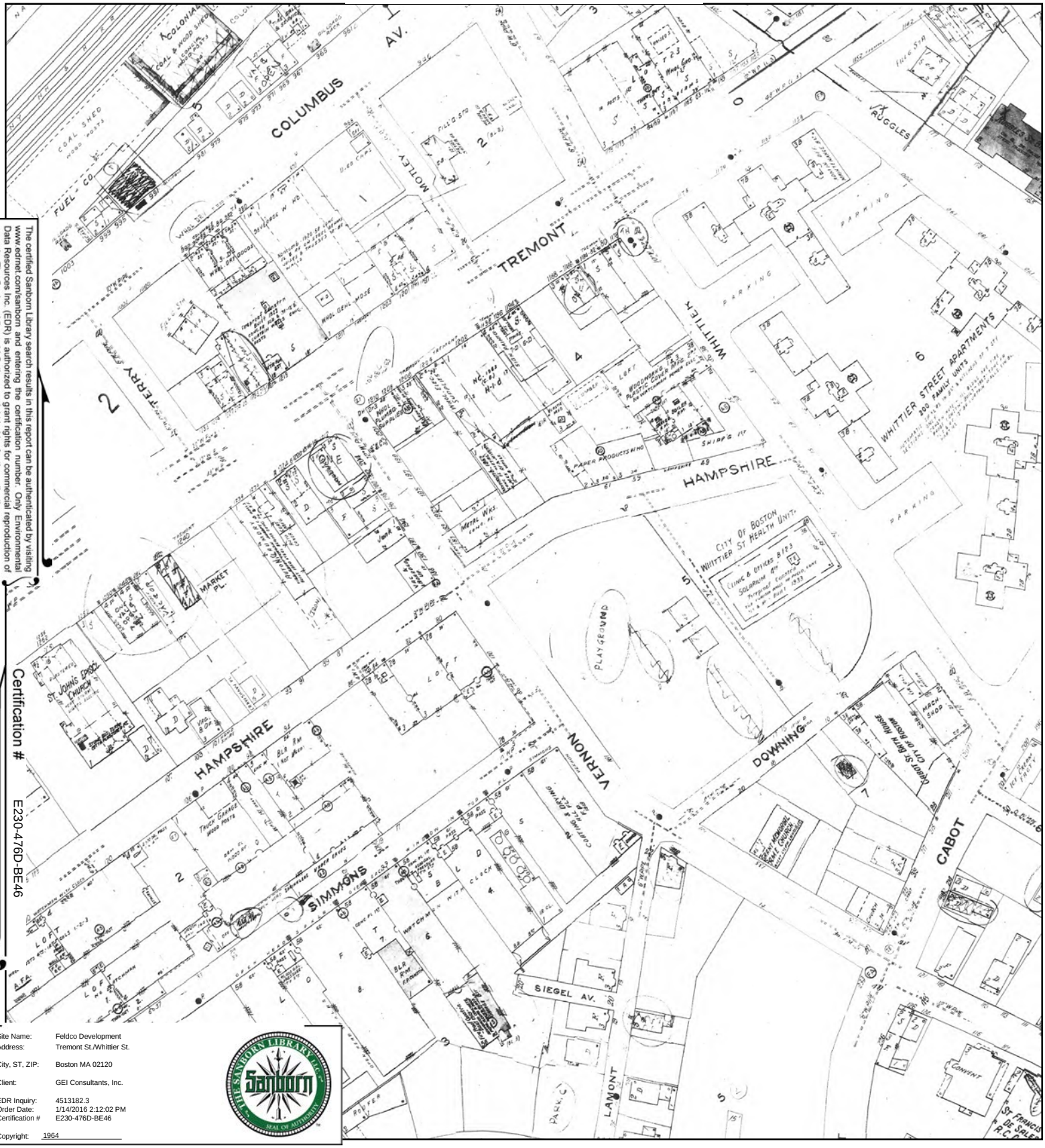
1964 Certified Sanborn Map



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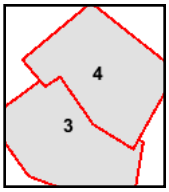

Volume 3E, Sheet 3
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1950 Certified Sanborn Map

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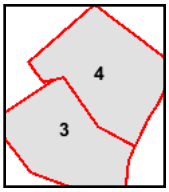

Volume 3, Sheet 3
Volume 3, Sheet 4

0 Feet 150 300 600

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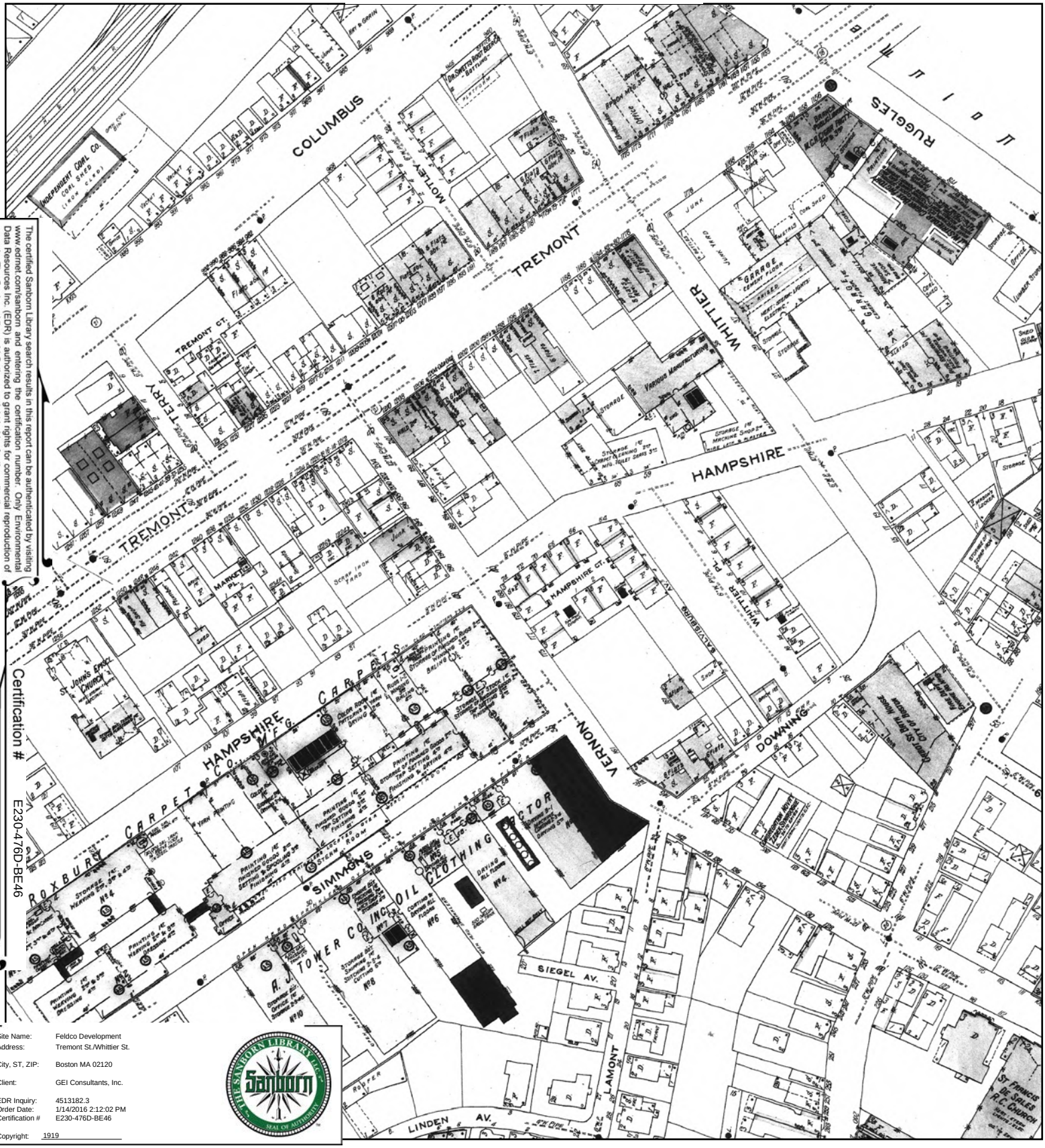
1919 Certified Sanborn Map



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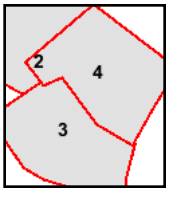

Volume 3, Sheet 2
Volume 3, Sheet 3
Volume 3, Sheet 4

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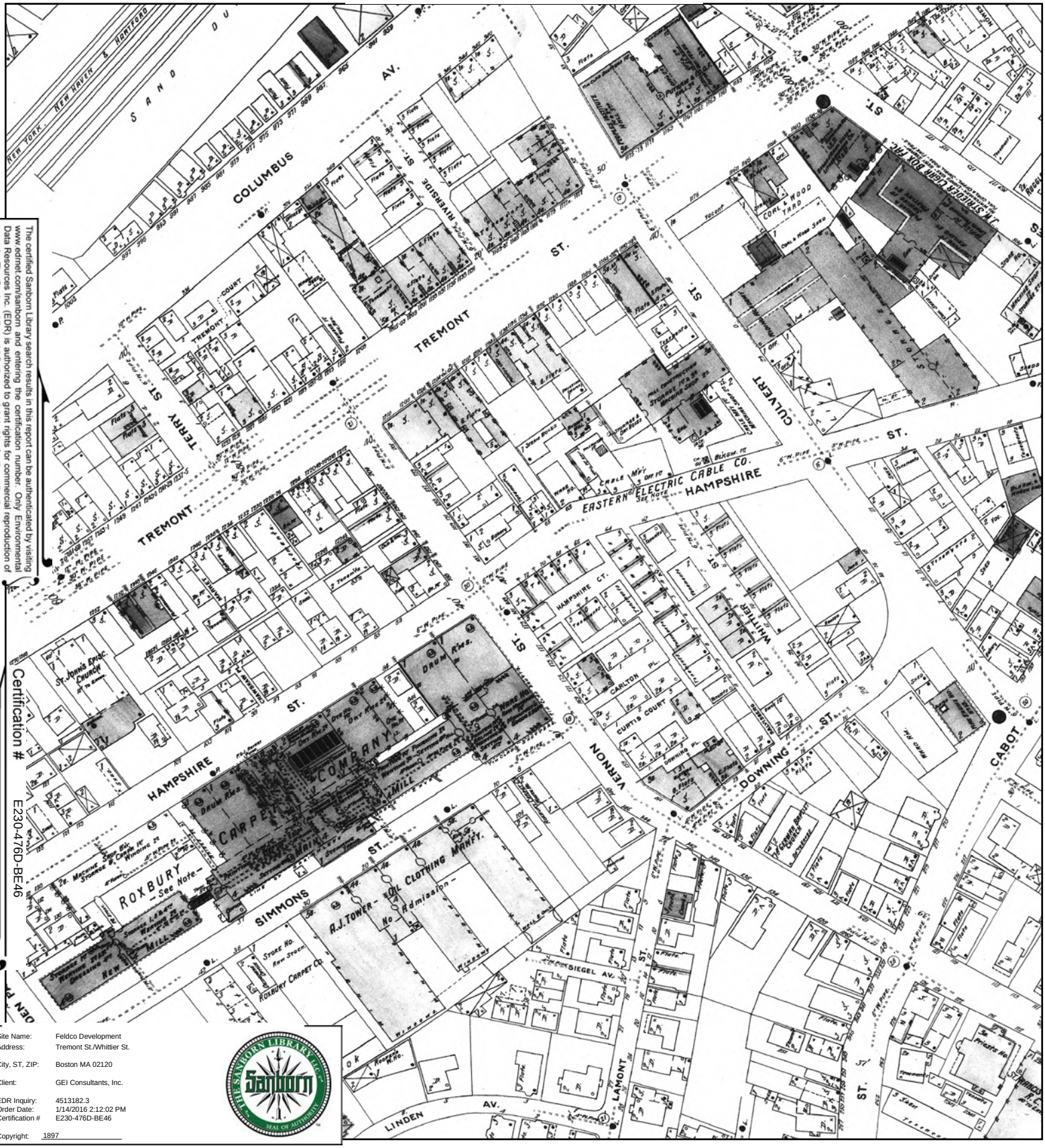
1897 Certified Sanborn Map



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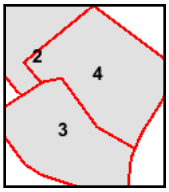

Volume 3, Sheet 2
Volume 3, Sheet 3
Volume 3, Sheet 4

0 Feet 150 300 600

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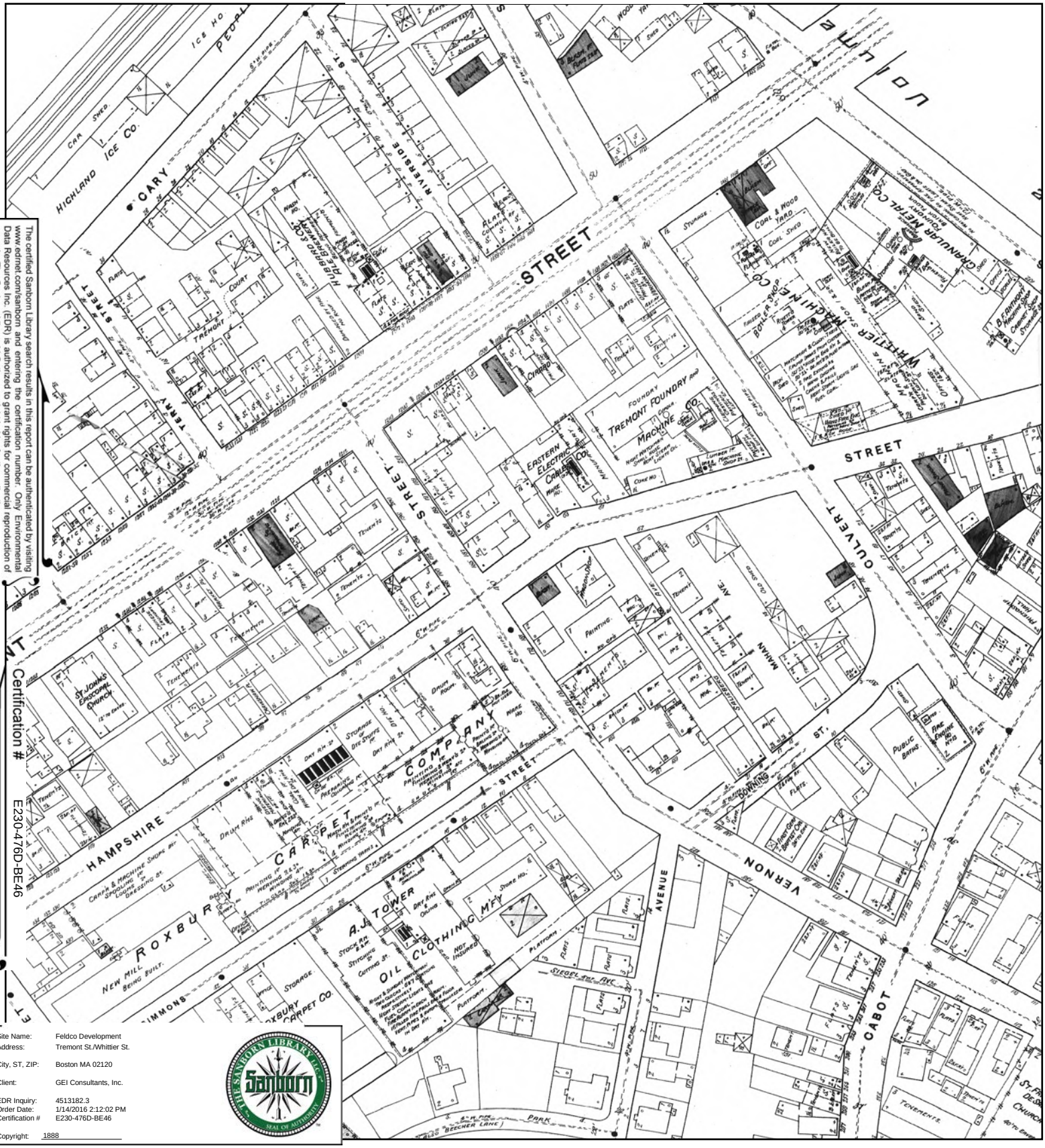
1888 Certified Sanborn Map



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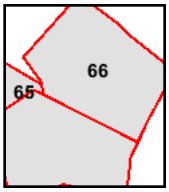
This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.



Volume 3, Sheet 65
Volume 3, Sheet 66
Volume 3, Sheet 66

0 Feet 150 300 600

N

Assessing On-Line

« New search Map

Parcel ID:	0902980100
Address:	TREMONT ST BOSTON MA 02119
Property Type:	Exempt
Classification Code:	986 (Exempt Property Type / OTHER PUBLIC LAND)
Lot Size:	334,546 sq ft
Gross Area:	0 sq ft
Owner on Thursday, January 1, 2015:	BOSTON REDEVELOPMENT AUTH
Owner's Mailing Address:	TREMONT ST ROXBURY MA 02119
Residential Exemption:	No
Personal Exemption:	No

Value/Tax

Assessment as of Thursday, January 1, 2015, statutory lien date.

FY2016 Building value:	$0.00
FY2016 Land Value:	$9,628,200.00
FY2016 Total Assessed Value:	$9,628,200.00
FY2016 Tax Rates (per thousand):	
- Residential:	$11.00
- Commercial:	$26.81
FY2016 Gross Tax:	$0.00
- Residential Exemption:	$0.00
- Personal Exemption:	$0.00
FY2016 Net Tax:	$0.00

Abatements/Exemptions

The deadline for filing an Abatement application for FY2016 was Monday, February 1, 2016. However, additional documentation for applications already on file is still being accepted.

This type of parcel is not eligible for a residential or personal exemption.

Current Owners

1 BOSTON REDEVELOPMENT AUTH

Owner information may not reflect any changes submitted to City of Boston Assessing after Dec 23, 2015.

Value History

Fiscal Year	Property Type	Assessed Value *
2016	Exempt	$9,628,200.00
2015	Exempt	$8,336,900.00
2014	Exempt	$5,871,300.00
2013	Exempt	$5,871,300.00
2012	Exempt	$5,637,100.00
2011	Exempt	$0.00

* Actual Billed Assessments

View Quarterly Tax Bill and Payment Information for this parcel for FY2015 and FY2016.

Visit My Neighborhood for information on city services related to this parcel.

Questions? For CURRENT fiscal year tax bill Questions, contact the Taxpayer Referral & Assistance Center. For PRIOR fiscal year tax payments, interest charges, fees, etc. contact the Collector's office at 617-635-4131.

From: Lori Donovan
To: Mower, Ross
Subject: Re: 21E Search Tremont St and Whittier St.
Date: Friday, January 22, 2016 8:37:17 AM

Hi Ross, I have completed your 21E Search, at this time there are No records on file for AST.UST at 20 Whittier St.

Thanks,
Lori Donovan

Lori Donovan
Senior Administrative Assistant- Fire Marshal Office
Boston Fire Prevention Division
1010 Massachusetts Avenue, 4th Floor
Boston, MA 02118
Direct Line: 617-343-3402
Email: lori.donovan@boston.gov

On Fri, Jan 22, 2016 at 8:14 AM, Lori Donovan <lori.donovan@boston.gov> wrote:

> Hi Ross, I will work on your request today and get back to you shortly with answers.
>
> Thanks
> Lori Donovan
>
> Lori Donovan
> Senior Administrative Assistant- Fire Marshal Office
> Boston Fire Prevention Division
> 1010 Massachusetts Avenue, 4th Floor
> Boston, MA 02118
> Direct Line: 617-343-3402
> Email: lori.donovan@boston.gov
>
> On Wed, Jan 20, 2016 at 3:30 PM, Mower, Ross <rmower@geiconsultants.com> wrote:
>
> > Lori,
> >
> > My apologies, the address to search within the parcel is 20 Whittier Street, Boston, MA. Do I need to re-mail the request or does this email suffice? I appreciate your help, thanks!
> >
> > Ross

From: Lori Donovan [mailto:lori.donovan@boston.gov]
Sent: Wednesday, January 20, 2016 1:49 PM
To: Mower, Ross <rmower@geiconsultants.com>
Subject: 21E Search Tremont St and Whittier St.

Hi, I have received your request please re-submit with actual addresses not Parcel ID numbers. we cant not perform a search without an actual address.

Thanks,

Lori Donovan

Senior Administrative Assistant- Fire Marshal Office

Boston Fire Prevention Division

1010 Massachusetts Avenue, 4th Floor

Boston, MA 02118

Direct Line: 617-343-3402

Email: lori.donovan@boston.gov

40139

B D 15a

Location, Ownership and Detail Must Be Correct, Complete and Legible.

Application Required for Each Elevator.

Plans Must Be Filed with This Application When Required.

Application for Permit to Alter Elevator.

Boston, May 3, 1971.

To the
BUILDING COMMISSIONER:

The undersigned applies for a permit to alter an elevator in the following-described building:—

Description of Present Bldg.

Location, 20 Whittier St. Ward 9

Name of owner is? Boston Housing Authority Address, 230 Congress St., Boston

Name of contractor is? Consolidated Elevator Co. " 49 Melcher St., Boston, Mass.

Material of building is? Style of roof? Number of stories?

What was the building last used for?

Building occupied for? No. of elevators, etc., in building?

Present power used? Speed of car? Capacity? Operating Device?

Type of Elevator or Dumbwaiter? Passenger Estimated Cost? 250.00

DETAIL OF PROPOSED WORK.

Furnish & install new governor ropes on passenger elevator.

Proposed power? Speed? Capacity? Operating Device?

Signature of owner or authorized representative, D. C. O'Neill

CONSOLIDATED ELEVATOR CO., INC.
49 MELCHER STREET
BOSTON 10, MASSACHUSETTS

License No. 153 Class?

Signature W. A. Kobs W. A. Kobs

Address, 122 Monroe St., Dedham, Mass.

NOTE: *Elevator and Escalator Regulations—Division A—Definition 34 (c-f).* **If the speed or capacity of an existing elevator is increased, the installation becomes a new installation.**

PERMIT MUST BE OBTAINED BEFORE BEGINNING WORK.

OFF

No. 548 APPLICATION FOR PERMIT TO ALTER

ELEVATOR

Location

20 Whittier St

Ward 9

REFERRED TO INSPECTOR.

Boston, May 14 1921

To the Building Commissioner:

Sir,—I have examined the premises and find same as herein described and as proposed in details.

Existing shaftway? YES

Condition? FAIR

New shaftway? NO

Permit has been granted for new shaftway? NO

Is this an alteration or repair? REPAIR

F. [signature]
Inspector.

Permit granted

EXAMINATION OF PLANS

Approved 19

Chief, Elevator Division.

FINAL REPORT.

May 14 1921

Has the alteration been made in accordance with the application and plans filed and approved? YES

Have the safety devices been tested in your presence and found satisfactory? YES

Law been violated? NO

Doc. No. of 19

Violation removed?

F. [signature]
Inspector.

Gen 25

CITY OF BOSTON AND COUNTY OF SUFFOLK

DEPARTMENTAL COMMUNICATION

January 24, 1955.

	(NAME)	(RATING)	(DEPARTMENT-DIVISION)
TO	Charles A. Callanan	Commissioner	Building.
FROM	Bernard B. Whelan	Superintendent	Bldg.-Elec.Inspection.

SUBJECT: Electrical Installation of Day Care Agency for 40 Children.

FILE REF. NO.

Ruggles St. Nursery,
Marian Finn,
20 Whittier St.,Roxbury. (Health Unit)

Dear Sir:

An inspection of the electrical installation at 20 Whittier St., Roxbury shows same to be satisfactory to this division.
Fourth floor and two rooms and lavatory third floor.

Yours truly,

Bernard B. Whelan

Bernard B. Whelan,
Superintendent.

jmc.

07 TAKEDOWN

070601
08435

CITY OF BOSTON — INSPECTIONAL SERVICES DEPARTMENT
1010 Massachusetts Avenue, Boston, MA 02118

SPECIAL FORM APPLICATION No. .... for Permit for Demolition, Ordinary Repairs and Minor Alterations Not Involving Vital Structural Changes.

JUN 21 2 55 PM '01

This form NOT TO BE USED for ADDITIONS or CHANGES OF OCCUPANCY

The undersigned hereby applies to the Commissioner, Inspectional Services, for a permit to perform the work described herein:

$107

DATE ...... June 21 2001 ....

Street and No. .... 20 Whittier Street .... Historic District/Ward 9

Name of Owner BRA .... Address 1 City Hall Plaza

.... Zone .... Fire Limit ....

Material of Building Brick .... Group Occupancy and Division ....

Size of building, feet front 64 ....; feet rear 64 ..; feet deep 120 ..; No. of stories 1 .....

How is building NOW occupied? Health Unit DOC#1200/1932

Check all means of egress from this building:

Main stairs ...... Back stairs ...... Fire escapes ...... Con. balconies ...... Any other ......

Is this work being done to remove Building Code Violations? Yes .... No ....

Detail of proposed work — STATE EXACTLY WHAT IS TO BE DONE

REMOVE BUILDING, WALL & SLAB ON GRADE

MASS DEBRIS DISPOSAL LAW
MGL c40; S54, c084, S9 all S150A
Will work result in any debris?
Yes ☑ No ☐ Initials ....

Roll off containers for trash

Estimated Cost, $ 10,000 ....

The facts set forth in this application and in the accompanying plans (if any) are true statements made under penalty of perjury. The applicant also attests that he has read the statement printed on the reverse side and abides by its requirements.

.... (Signature of Owner or Authorized Agent) — Address 935 East First Street SB; Phone 617-268-4933

.... (Signature of Licensed Builder or Wrecker) — Fleet Environmental Services, Inc. (Name of Contractor)

Address 41 Lone Pike Patch — Address 59 Longwater Drive

Lic. No. 076738 .. Class CS00 — Norwell, Massachusetts 02061

My license expires 4/28/03 — Phone 781-982-7200

Approved (date) 6-21-01 .... Permit granted ....

By .... By ....

Boston
Landmarks
Commission
City of Boston
The Environment
Department

Boston City Hall/Room 805
Boston, Massachusetts 02201
617/635-3850

18 April 2001

Mr. Joseph T. Conran
Senior Real Estate Specialist
Boston Redevelopment Authority
One City Hall Square
Boston, MA 02201

NOTICE OF DETERMINATION

Application #01-1258D593
Demolition of two secondary buildings at the rear of 20 Whittier Street, Roxbury.

Dear Mr. Conran:

The Boston Landmarks Commission staff have determined that the two secondary buildings located at 20 Whittier Street are not significant buildings under the Criteria for determining significance in Section 85-5.3 (a-e) of the Demolition Delay Ordinance (Article 85, Chapter 665 of the Acts of 1956 as amended). No further review is required. If you have any questions regarding this decision, please contact me at 617-635-2514.

Please bring this determination with you to Inspectional Services Department when applying for a demolition permit. Thank you for your cooperation in this matter.

Sincerely,

Colleen M. Meagher
Preservation Planner
Boston Landmarks Commission

cc: Commissioner of Inspectional Services
Boston Redevelopment Authority
Boston Civic Design Commission

CITY OF BOSTON
BUILDING DEPARTMENT

ROBERT E. YORK
BUILDING COMMISSIONER

FRANK J. COUGHLIN
EXECUTIVE SECRETARY

OFFICE OF THE BUILDING COMMISSIONER

CITY HALL ANNEX, ROOM 901, BOSTON

W. Gildea
pas

NOTICE—VIOLATION OF LAW

May 3, 1965

City of Boston
Health Department
745 Mass. Ave.
Boston, Mass

Inspection of premises 20 Whittier St. Ward 9

indicates the following violation of Law: ~~Chap. 479, Acts of 1938 as amended & viz~~ G. L. Ch. 143: Sect. 15 to 52 incl., as amended and regulations made thereunder entitled Form B-7 Regulations: There are operable transoms on the third floor; they must be filled inor made inoperable. Wire glass required in all stair enclosured and smoke partitions. An automatic fire alarm system with manual stations, distinctly marked and with a heat detector device and an secondary source of power must be provided. All manual stations must be not less than 5' from the floor. Exit and directional signs, located as directed must be provided. Egress doors must be provided with approved hardware, must swing in the direction of exit travel. Egress from the third and fourth floors is not satisfactory in that it is through rooms and areas occupied for other purposes. The means of egress are not adequately lighted and the emergency lighting is inadequate. Fire ~~To remedy this condition~~ Department approval is required for all drapes, fabrics and other materials. The gas range is not properly vented. Windows in the basement and first floor are barred. A fresh air duct is required for the heater room.
TO REMEDY THIS CONDITION, apply forthwith to this department for permit to make repairs, alterations and changes or installations which will bring this day care agency into conformity with the Regulations. This case will be entered into Superior Court if the premises are not vacated or repairs made within 15 days of this notice.

This notice is an order to correct violation. Application for permit must be filed in the Building Department.

R. E. York, *Building Commissioner.*

V 827

Authority for this notice is given under the provisions of Chapter 479, Acts of 1938 as amended, and Chapter 488, Acts of 1924, as amended.

Document room

(5C.-1-'31.)

SYNOPSIS.

Location 20 Whittier St Rox Ward 9

Name of owner is? City of Boston G. R. White Fund Address, City Hall Boston

Name of contractor is? A. Singarella " 22 A Tremlett St Dor

Name of architect is? Holt " 100 Boylston St

Structure to be used for? Wading Pool

Size of lot, No. of feet front? 255½ ; No. of feet rear? 276 ; No. of feet deep? 340

Size of structure, No. of feet front? 85 ; No. of feet rear? 85 ; No. of feet deep? 45

No. of stories, front? None ; rear? None

No. of feet in height from the mean grade to the highest part of the roof? None

Distance from lot lines, front? 232 feet; right side? 116 feet; left side? 92 feet; rear? 62 feet.

Distance from next buildings: Front? feet; side? feet; side? feet; rear? feet.

Will the structure be erected on solid or filled land? Filled ; Area of lot covered? %

Will the foundation be laid on earth, rock, or piles? Earth

Structure, how framed? Concrete

Material of foundation? Conc thickness of? laid with half cement mortar?

Underpinning, material of? height of? thickness of?

Will the roof be flat, pitch, mansard, or hip? None Material of roofing? None

Is there a sewer in street opposite this location? Yes

Description:

This is a wading pool constructed in part on a foundation formerly used for a fountain (see plan submitted) Its depth below grade varies from 2'-0 to 3'-0 and is to be constructed in conjunction with a locker bldg on the same lot. Also 12 shelters

Estimated Cost, $ ~~[illegible] $10000 [illegible]~~
$25000.—

CITY OF BOSTON—GEORGE ROBERT WHITE FUND
George [illegible]
SECRETARY
City Hall Boston

Signature of owner or authorized representative,

Address,

License No. 281 Class 1

Signature, A. Singarella

Address, 22 A Tremlett St Dor

My license expires Jan 27 1937

LOCATION

Ward

ZONING DISTRICT

ISSUED

Boston, May 7, 1936

To the Building Commissioner

Sir,—I have examined the premises and find same as herein described.

Inspector.

FINAL REPORT

10-31 1936

Has the work been completed in accordance with this application and plans filed and approved?

Inspected

Law been violated? Doc. No of 19

Violation removed 19

Inspector.

PERMIT GRANTED

JUN 15 1936 193

INSPECTORS MEMORANDA

DATE	REMARKS

RESERVED FOR ZONING DIVISION

AM 119—4-15-'31-500.

CERTIFIED STREET NO.
20
Whittier St
May 22, 1936
Ward 9
J. G. L.
Street Numbering Inspector.

Location, ownership and detail must be correct, complete and legible.
Separate application required for every Structure.
Duplicate Plans must be filed with this application.

Application for Permit to Build Structures

Other than 1st, 2d or 3d Class Buildings.

Boston, May 22 1936

To the
BUILDING COMMISSIONER:

The undersigned hereby applies for a permit to build, according to the following described specifications:

Location 20 whittier St Roxb. Ward 9
Name of owner is? City of Boston & R White Trust Address, City Hall Boston
Name of mechanic is? A. Singaretta " 22 A Hewlett St.
Name of architect is? James Holt " 120 Boylston St.
Structure to be used for? Wading Pool
Size of lot, No. of feet front? 225'; No. of feet rear? 276; No. of feet deep? 340
Size of structure, No. of feet front? 85'; No. of feet rear? 85'; No. of feet deep? 45'
No. of stories, front? None; rear? None
No. of feet in height from the mean grade of street to the highest part of the roof? None
Distance from lot lines, front? 232 feet; side? 116' feet; side? 92 feet; rear? 62 feet.
Distance from next buildings: Front 50 feet; side? — feet; side? — feet; rear? — feet.
Will the structure be erected on solid or filled land? Filled
Will the foundation be laid on earth, rock, or piles? Caissons
Structure, how framed? Concrete
Material of foundation? Conc. thickness of? laid with half cement mortar?
Underpinning, material of? height of? thickness of?
Will the roof be flat, pitch, mansard, or hip? None Material of roofing? None
Description:

This is a wading pool constructed in part on a foundation formerly used for a fountain (See plan submitted) Its depth below grade varies from 2'-0 - 3'-0 and is to be constructed under in conjunction with a locker building on the same lot

There are 12 shelters constructed of conc post and wood roof around the pool the size 8'-0 x 12'-1

Estimated Cost, $ Part of a $10,000.- contract
Plans submitted? Yes.
Deed submitted? Lib. Folio. Year 1936

CITY OF BOSTON—GEORGE ROBERT WHITE, Mayor
Signature of owner or authorized representative, [signature]
SECRETARY
Address, City Hall Boston

License No. 283 Class A B C
Signature, A Singaretta
Address, 22 A Hewlett St. Roxb.

PERMIT MUST BE OBTAINED BEFORE BEGINNING WORK.

Plans must be submitted in duplicate, one set to be filed with the Department, and the duplicate set thereof (bearing the approval of the Building Commissioner) shall be kept on the work and exhibited on demand to any Building Inspector of the City of Boston.

No. 1048

APPLICATION FOR
PERMIT TO BUILD STRUCTURES
OTHER THAN 1st, 2d or 3d CLASS.

Location.

No. 80 Whittier Street,

Ward 9

CONDITIONS

Permit Granted.

JUN 15 1936 193

Permit filled out by

Plan number

Material of structure

Purpose of structure

Estimated cost $

EXAMINATION OF PLANS.

Approved June 15 1936

David [illegible]
Supervisor of Plans.

EXAMINED JUN 15 1936
O.K. McMackin.

EXAMINED JUN 14 1936
Plan corrected by Mr. [illegible].
Hold until Locker bldg. is
approved
McMack[illegible]

EXAMINED MAY 27 1936
Inspectors note.
Soil values?
Existing foundation
[illegible]

MEMORANDA.

MEMORANDA.

BUILDING DEPARTMENT
ZONING
APPROVED
MAY 25 1936
Supvr. of Construction Zoning Div.
F. [illegible]
L 65

Form 55A.—7-9-'31.

SYNOPSIS.

Location 20 Whittier St. Roxbury Ward 9

Name of owner is? George R. White Fund-City of Boston Address, Boston City Hall

Name of contractor is? Mathew Cummings Co. " Boston

Name of architect is? Coolidge, Shepley, Bulfinch & Abbott " Boston

Material of building? Brick and stone, concrete, steel

Building to be occupied for? Health unit No. of Stores? None

How many families? None

How near the line of the street? 12 feet Width of street? 40 feet

Will the building be erected on solid or filled land? Filled If in block, how many?

Size of lot, No. of feet front? 112; feet rear? 248; feet deep? 348

Size of building, No. of feet front? 64 No. of feet rear? 64 No. of feet deep? 120

Distance from lot lines, front? 12; right side? 20; left side? 40; rear? 180

No. of stories in height, above basement? 4; No. of feet in height from sidewalk to highest point of roof? 63

Material of foundation? Concrete If concrete, submit specifications.

Will foundation be laid on earth, rock or piles? Earth (Caissons) Area covered of lot 9,950 9 %

Piles cut off at what grade? Grade of basement?

External walls, thickness? 1st, 12 2d, 12 3d, 12 4th, 12 5th, 6th, 7th, 8th, 9th, 10th, 11th, 12th,

Party walls, thickness? 1st, 2d, 3d, 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th, 12th,

Are the walls solid or vaulted? Solid Material? Brick

What will be the materials of front? Brick and stone

Will the roof be flat, pitch, mansard or hip? Hip Material of roofing? Copper

What will be the material of cornice? Copper

What will be means of access to roof? None

Are there any hoistways or elevators? Yes How protected? Fire proof enclosure

Are stairways enclosed? Yes How? terra cotta wall, metal door

Is there a sewer in street opposite this location? Yes

Estimated Cost, $ 298,000

CITY OF BOSTON PUBLIC WORKS DEPT. APPROVED JUN 8 1933 EXT 9th

Signature of owner or authorized representative, CITY OF BOSTON-GEORGE ROBERT WHITEFUND

Address, By Edward Logan

License No. 1235 Class 4B & D.E

Signature Matthew Cummings

Address 43 Tremont St.

My license expires June 6, 1933

PERMIT ISSUED

1700

INSPECTOR'S MEMORANDA

Date	REMARKS

LOCATION

Ward 9

ZONING DISTRICT

Boston, 193

To the Building Commissioner:

Sir,—I have examined the premises and find same as herein described.

Inspector.

FINAL REPORT

5/28/33 193

Has the work been completed in accordance with this application and plans filed and approved? finished

Law been violated? Doc. No. of 19

Violation removed 19

M. A. Spillane

Inspector.

PERMIT GRANTED

1932 193

Plan Filed with application

Date July 20, 1932

After a careful examination we find that the dimensions and position of foundation are in accordance with the approved lot plan.

Inspector

Upon examination of this building for a lathing permit, we find that it conforms with the approved plans and with all the requirements of the Building and Zoning Laws.

Signature of Licensed Builder

Signature of Building Inspector

Form 55—7-9-'31-1,000. Location, ownership and detail must be correct, complete and legible.

Separate application required for every Building.

Plans must be filed with this application.

CERTIFIED STREET NO.
Whittier St
20
[illegible]
6 6 32
[illegible]
Street Numbering Inspector.

Application for Permit to Build.

(FIRST CLASS BUILDING) RECEIVED

Boston, June 6, 1932

To the BUILDING COMMISSIONER:

The undersigned hereby applies for a permit to build, according to the following specifications:

Location 20 Whittier Street Ward 9

Name of owner is? George R White Fund Address, Boston City Hall

Name of contractor is? Mathew Cummings Co. " "

Name of architect is? Coolidge Shepley Bulfinch & Abbott " 1 Court St. Boston

Material of building? Brick and stone, concrete, steel

Building to be occupied for? Health unit No. of Stores? None

How many families? None

How near the line of the street? 12 feet Width of street? 40 feet

Will the building be erected on solid or filled land? Filled If in block, how many?

Size of lot, No. of feet front? 112; feet rear? 248; feet deep? 348

Size of building, No. of feet front? 64; No. of feet rear? 64; No. of feet deep? 120

Distance from lot lines, front? 12 feet; right side? 90 feet; left side? 40 feet; rear? 180 feet

No. of stories in height, above basement? 4; No. of feet in height from sidewalk to highest point of roof? 63

Area of Building in Square Feet								
1st, 7680	2d, 7680	3d, 7680	4th, 7680	5th,	6th,	7th,	8th,
9th,	10th,	11th,	12th,	13th,	14th,	15th,	16th,
17th,	18th,	19th,	20th,	21st,	22d,	23d,	24th,
25th,	26th,	27th,	28th,	29th,	30th,	31st,	32d,

Material of foundation? Concrete If concrete, submit specifications.

Will foundation be laid on earth, rock, or piles? Earth (Caissons) Area of lot covered 9 %

Length of piles? Wood or concrete piles?

Number of rows?

Distance on centres?

Diameter top? Bottom?

Capped with stone or concrete?

Piles cut off at what grade? Grade of basement? + 9.50

External walls, thickness? 1st, 12 2d, 12 3d, 12 4th, 12 5th, 6th, 7th, 8th, 9th, 10th, 11th, 12th,

Party walls, thickness? 1st, 2d, 3d, 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th, 12th,

Are the walls solid or vaulted? Solid Material? Brick

What will be the materials of front? Brick and stone

Will the roof be flat, pitch, mansard or hip? Hip Material of roofing Copper

What will be the material of cornice? Copper

What will be means of access to roof? None

Are there any hoistways or elevators? Yes How protected? Fireproof enclosure

How is building heated? Steam Thickness of shell of flue?

Means of extinguishing fire?

Stairways enclosed in brick walls? Terra Cotta Thickness of such walls? 4

Is there a sewer in the street opposite this location? Yes

If the building is to be occupied as a Tenement House, give the following particulars:

Height of cellar? Height of basement? 11-6"

Height of first story, 13-6" second, 12-3" third, 12-3" fourth, 18-6"

fifth, sixth, seventh, eighth, ninth, tenth,

Is the cellar or the basement to be occupied for habitation? Yes

Distance from lot lines, front? 12; right side? 90; left side? 40; rear? 180

If there is a building already erected on the front or rear of lot, give height? No

State how many ways of egress are to be provided, Two

Nature of egress? Enclosed Stairs

Will the building comply with the requirements of statutes? Yes

Estimated Cost, $ 2[illegible],000

Signature of owner or authorized representative, CITY OF BOSTON-GEORGE ROBERT WHITE FUN

Address, BY Edward F. Logan

License No. 1235 Class A B C D E

Signature, Matthew Cummings

Address, 43 Tremont St

My license expires June 1, 1933

PERMIT MUST BE OBTAINED BEFORE BEGINNING WORK.

Plans must be submitted in duplicate, one set to be filed with the Department, and the duplicate set thereof (bearing the approval of the Building Commissioner) shall be kept on the work and exhibited on demand to any Building Inspector of the City of Boston.

BOSTON PUBLIC WORKS DEPT. APPROVED JUN 6 1932

No. 1700 Fee Paid

JUN 7 1932

EXAMINATION OF PLANS.

The material facts set forth in this application and on accompanying plans are a true statement, made under the penalties of perjury.

Name ....

Address ....

Application for Permit to Build.

FIRST CLASS BUILDING

Location.

No. 20 Whittier St.

Ward 9

CONDITIONS.

Boston, ... 193....

To the Building Commissioner:

Sir,—I have examined the premises and find same as herein described.

Inspector.

Permit granted.

.. 29 1932 .... 193....

Permit filled out by ....

File number ....

Plan number ....

Plan Filed with application

EXAMINATION OF PLANS.

Approved JUN 15 1932 193

W. H. Smith

Supervisor of Plans.

Affidavit accepted from Coolidge Shepley, Bulfinch & Abbott, by Elmer P. Rankin 1 Court St. Boston

Plans returned from Arch 6.15.32

EXAMINED JUN 15 1932 P. K. Shea

Gen Notes - Stairs skylight steel Roof steel not F.P.
Note - change in Conc. Mix
Provide interm. rib in long spans 9-12
Note - waterproofing below Soil - note design sub. to Insp.
Note info. re Elevator
Refer to Egress.

EXAMINED JUN 8 - 1932

RESERVED FOR ZONING DIVISION.

All applications for new buildings and all applications increasing the area of buildings, must be accompanied by a survey of the lot signed by a qualified surveyor, or a true survey in accordance with last filing at Registry of Deeds, giving Deed number, Reference Book number and Page number.

Plot plan must show:—
Area of lot in square feet.
Area of building in square feet.
Percentage of area of lot covered.

BUILDING DEPARTMENT
ZONING
APPROVED

F. Emmons

Form 64—6-14-'30-1M.

Location, Ownership and Detail Must be Correct, Complete and Legible.

Application in Duplicate Required for Each Elevator.

Plans Must be Filed With this Application When Required.

RECEIVED

Application for Permit to Install Elevator.

Boston, Sept. 22, 1932. 193

To the BUILDING COMMISSIONER:

The undersigned applies for a permit to install an elevator in the following-described building:—

Description of Present Bldg.

Location, Health Unit #7, Whittier & Hampshire Sts., Roxbury Ward 9.

Name of owner is? City of Boston Address, City Hall

Name of contractor is? Beckwith Elevator Co. " 113 Albany St., Boston

Material of building is? brick Style of roof? -- No. of stories? --

What was the building last used for? ---

Building occupied for Health Unit #7 No. of existing elevators, etc., in building --

DETAIL OF PROPOSED WORK.

Type of Elevator, Passenger, Freight, Dumb Waiter, sidewalk elevator Estimated cost, $ 500.

Computations.

Machine overhead? no — Machine in basement? yes

Weight of machine? -- lbs. — Diameter of sheaves overhead -- inches.

Weight of car? -- lbs. — Capacity of car 1000 lbs. including cover lbs.

Weight of machine counterweight none lbs. — Weight of car counterweight --- lbs.

Combined weight of cables -- lbs. — Weight of sheaves overhead --- lbs.

Size of overhead beams -- — Number of overhead beams? ---

Shaftways.

New or existing shaftway? new — Material of shaftway? concrete

Landing openings, No. of? two — How protected? steel sidewalk cover

Doors, how locked? not locked — Does elevator serve lowest floor? yes

Passageway under elevator? no — If so, how protected? --

Overhead platform? no — Isolated counterweight? --

Counterweight in shaftway? -- — Counterweight, how protected? --

Skylight? -- Plain glass? -- — Screen over skylight? --

Depth of pit? -- Bumpers? -- — Projections? -- How guarded? --

Bars at exterior of windows? -- — Power Doors Interlocked? ---

Car.

Area of platform? 12 sq. ft. — Sling, material of? none Size --

Passenger capacity? none — Overtravel? --

Velocity per minute in feet? slow — Ascent? -- Speed governor set to act at? --

Car enclosure? none Dome cut? --- — Car gate? -- Seat? -- Car cover? --

Operating device? crank hand Governing rope? --- — Lights? -- Signals? --

No. of openings in car? --- — Width? --- Emergency exit? ---

Machine.

Machine, type of heavy geared hand brake — Power used? hand Phase? --

Current, A. C. or D. C. -- Voltage? -- — Light in machine room? --

Size of piston? -- Pressure? -- — Choker valves? --

Hoist cables, No. of? four — Hoist cables, size of 7/16" steel Material? steel

Counterweight cables, No. of? none — Counterweight cables, size of? -- Material? --

Clearance between counterweight and shaftway? -- — Clearance between car and shaftway? 1 1/2"

Clearance between car and counterweight? -- — Counterweight stops? --

Guide rails, material of? steel angle — Size of guide rails? 2 1/2" x 3 1/2" x 3/8"

Counterweight guides, material of? -- — Counterweight guides, size of --

Safeties.

Car safety, type of? -- — Slack cables device? --

Counterweight safety, type of? -- — Speed governor device? --

Limit switches? -- — Machine automatic terminal stops? --

Emergency switches in car -- — Automatic car switches? --

Interlocking device? -- — Warning chains? -- Rope lock? --

Escalators.

Drive? Speed? — Hand rails? Emergency stops?

Safety devices? Electric brake? — Angle of inclination

Sides? How protected? — Links and chains?

PERMIT MUST BE OBTAINED BEFORE BEGINNING WORK

Note.—In cases of new shaftway in existing building alteration permit must be granted.

Note.—Applicant to fill out sketch of shaftway on other side of this application.

Signature of owner or authorized representative, Beckwith Elevator Co.

License No. 1732 Class? F

Signature A. L. Bedford

Address Worcester

Address, 113 Albany St Boston

SEP 2

No.

APPLICATION FOR
PERMIT TO INSTALL

ELEVATOR

LOCATION

20 Whittier St

Ward 9

REFERRED TO INSPECTOR.

BOSTON, ... 193...

To the Building Commissioner:

Sir,— I have examined the premises and find same as herein described and as proposed in details.

Existing shaftway? .....

Condition? .....

New shaftway? .....

Permit been granted for new shaftway? .....

Is this a new, substitute or repair installation? .....

Inspector.

Permit granted SEP 9 1932

Fee paid ..... $ .....

Fee, $

EXAMINATION OF PLANS

Approved ..... 193...

Supervisor of Construction, Elevator Division.

FINAL REPORT.

..... 193...

Has the elevator been installed in accordance with the application and plans filed and approved? .....

Have the safety devices been tested in your presence and found satisfactory? .....

Law been violated? .....

Doc. No. ..... of 193...

Violation removed? .....

Inspector.

SKETCH OF SHAFTWAY

REQUIRED: OVERHEAD SUPPORTS LOCATED. MACHINE LOAD DISTRIBUTION.

GUIDE RAIL SUPPORTS COMPUTED FOR SHEAR OF RIVETS.

Applicant to sketch in location of overhead beams, also the distribution of machine thereon, and show

Form 64—6-14-'30-1M.

Location, Ownership and Detail Must be Correct, Complete and Legible.
Application in Duplicate Required for Each Elevator.
Plans Must be Filed With this Application When Required.

Application for Permit to Install Elevator.

Boston, Sept. 22, 1932. 193

To the BUILDING COMMISSIONER: 20

The undersigned applies for a permit to install an elevator in the following-described building:—

Description of Present Bldg.

Location, Health Unit #7, Whittier & Hampshire Sts., Roxbury Ward 9
Name of owner is? City of Boston Address, City Hall
Name of contractor is? Beckwith Elevator Co. " 113 Albany St., Boston
Material of building is? brick Style of roof? --- No. of stories? ---
What was the building last used for? ---
Building occupied for Health Unit #7 No. of existing elevators, etc., in building ---

DETAIL OF PROPOSED WORK.

Type of Elevator, Passenger, Freight, Dumb Waiter, sidewalk elevator Estimated cost, $ 500.

Computations.

Machine overhead? no — Machine in basement? yes
Weight of machine? --- lbs. — Diameter of sheaves overhead --- inches.
Weight of car? --- lbs. — Capacity of car 1000 lbs. including cover lbs.
Weight of machine counterweight none lbs. — Weight of car counterweight --- lbs.
Combined weight of cables --- lbs. — Weight of sheaves overhead --- lbs.
Size of overhead beams --- — Number of overhead beams? ---

Shaftways.

New or existing shaftway? new — Material of shaftway? concrete
Landing openings, No. of? two — How protected? steel sidewalk cover
Doors, how locked? not locked — Does elevator serve lowest floor? yes
Passageway under elevator? no — If so, how protected? ---
Overhead platform? no — Isolated counterweight? ---
Counterweight in shaftway? --- — Counterweight, how protected? ---
Skylight? --- Plain glass? --- — Screen over skylight? ---
Depth of pit? --- Bumpers? --- — Projections? --- How guarded? ---
Bars at exterior of windows? --- — Power Doors Interlocked? ---

Car.

Area of platform? 12 sq. ft. — Sling, material of? none Size ---
Passenger capacity? none — Overtravel? ---
Velocity per minute in feet? slow — Ascent? --- Speed governor set to act at? ---
Car enclosure? none Dome cut? --- — Car gate? --- Seat? --- Car cover? ---
Operating device? crank handle Retering rope? --- — Lights? --- Signals? ---
No. of openings in car? --- — Width? --- Emergency exit? ---

Machine.

Machine, type of heavy geared hand brake — Power used? hand Phase? ---
Current, A. C. or D. C. --- Voltage? --- — Light in machine room? ---
Size of piston? --- Pressure? --- — Choker valves? ---

Hoist cables, No. of? four — Hoist cables, size of 7/16" steel Material? steel
Counterweight cables, No. of? none — Counterweight cables, size of? --- Material? ---
Clearance between counterweight and shaftway? --- — Clearance between car and shaftway? 1 1/2"
Clearance between car and counterweight? --- — Counterweight stops? ---
Guide rails, material of? steel angle — Size of guide rails? 2 1/2" x 3 1/2" x 3/8"
Counterweight guides, material of? --- — Counterweight guides, size of ---

Safeties.

Car safety, type of? --- — Slack cables device? ---
Counterweight safety, type of? --- — Speed governor device? ---
Limit switches? — Machine automatic terminal stops? ---
Emergency switches in car --- — Automatic car switches? ---
Interlocking device? --- — Warning chains? --- Rope lock? ---

Escalators.

Drive? Speed? — Hand rails? Emergency stops?
Safety devices? Electric brake? — Angle of inclination
Sides? How protected? — Links and chains?

PERMIT MUST BE OBTAINED BEFORE BEGINNING WORK

Note.—In cases of new shaftway in existing building alteration permit must be granted.
Note.—Applicant to fill out sketch of shaftway on other side of this application.

Signature of owner or authorized representative, Beckwith Elevator Co

License No. 1732 Class? F
Signature H. E. Beckwith
Address Wollaston

Address, 113 Albany St Boston

No. 27[illegible] SEP 24 1932

APPLICATION FOR
PERMIT TO INSTALL

ELEVATOR

PERMIT ISSUED

LOCATION

2[illegible] Whittier St

..................Ward..................

REFERRED TO INSPECTOR.

BOSTON, Sept 27 1932

To the Building Commissioner:

Sir,—I have examined the premises and find same as herein described and as proposed in details.

Existing shaftway?..................

Condition?..................

New shaftway? new

Permit been granted for new shaftway? [illegible]

Is this a new, substitute or repair installation? [illegible]

[illegible signature]
Inspector.

Permit granted [illegible]

Fee paid [illegible]

Fee, $..................

EXAMINATION OF PLANS

Approved Sept 22 1932
[illegible signature]
Supervisor of Construction, [illegible] Division.

FINAL REPORT.

Feb 23 1933

Has the elevator been installed in accordance with the application and plans filed and approved? yes

Have the safety devices been tested in your presence and found satisfactory? yes

Law been violated?..................

Doc. No..................of 193..

Violation removed?..................

C. J. Collins
Inspector.

SKETCH OF SHAFTWAY

REQUIRED: OVERHEAD SUPPORTS LOCATED. MACHINE LOAD DISTRIBUTION.

GUIDE RAIL SUPPORTS COMPUTED FOR SHEAR OF RIVETS.

Applicant to sketch in location of overhead beams, also the distribution of machine thereon, and show [illegible]

BD 412

CITY OF BOSTON-BUILDING DEPARTMENT-ELECTRICAL INSPECTION

PERMIT TO PERFORM WORK
OFFICE

BOSTON, MASS.

Nov. 10, 19 80

PERMISSION IS GRANTED TO:

Mr. Thomas J. Tuton
800 Washington Ave.
Revere, Mass. 02151

E # 17834

TEL. # 322-2727

LIC. # A-8132

TO PERFORM WORK DESCRIBED BELOW:

AT 20 Whittier Street, Roxbury, WARD 9

OCCUPANCY Same (Commercial)

MAIN SWITCH OR CIRCUIT BREAKER (Existing) AMPERES 400 VOLTS 208

NO. METER LOOPS ~~1~~ not needed

ADDITIONAL WORK:

Install additional outlets and 200 Amp. Feeder.
2 Light Outlets
13 Plugs.
1 Fixt.

2/20/81 Comp

FEB 20 1981

APPROVED NO. OF METERS

CHIEF OR SUPERVISOR

$50.00
FEE APPROVED BY
mg

LEO F. MARTIN
DEPT. BLDG. COMM.

FRANCIS W. GENS
BLDG. COMM.

BD 10

APPLICATION FOR PERMIT TO DO PLUMBING

BUILDING DEPARTMENT – 808 CITY HALL
BOSTON, MASS. 02201

DATE Oct. 1, 1980.

WORK MUST BE PERFORMED IN COMPLIANCE WITH ALL PROVISIONS OF THE MASSACHUSETTS STATE PLUMBING CODE AND CHAPTER 142 OF THE GENERAL LAWS.

ALL APPLICATIONS REQUIRED TO BE SUBMITTED IN TRIPLICATE

FIXTURES

No. 848

	WATER CLOSETS	KITCHEN SINKS	LAVATORIES	BATHTUBS	SHOWER STALLS	DISHWASHERS	DISPOSERS	LAUNDRY TRAYS	WASH. MACH. CONN.	HOT WATER TANKS	TANKLESS	SLOP SINKS	FLOOR DRAINS	GAS TRAPS	URINALS	DRINKING FOUNTAIN	AREA DRAIN	WATER PIPING	OTHER FIXTURES	Dental Chairs
SUB-BASEMENT																				
BASEMENT																				
1ST FLOOR																				
2ND FLOOR																				
3RD FLOOR		11											1						4	
4TH FLOOR																				
5TH FLOOR																				
6TH FLOOR																				
7TH FLOOR																				
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16TH FLOOR																				
17TH FLOOR																				
18TH FLOOR																				
19TH FLOOR																				
20TH FLOOR																			1	

W-9

NAME AND ADDRESS OF BUILDING Whittier St Health Ctr. 20 Whittier St.

LEGAL OCCUPANCY Clinic

NEW OR RENOVATION Renovation

NAME OF OWNER Same as Above

ADDRESS OF OWNER Same as Above

PLANS SUBMITTED? YES ____ NO ✓

ESTIMATED COST OF JOB $10,000 –

NAME CERTIFICATE NO.

CORPORATION Sacchetti Plbg. & H. Co. Inc. 991-C

PARTNERSHIP ____

FIRM OR COMPANY ____

NAME OF MASTER OR JOURNEYMAN PLUMBER Gaetano A. Sacchetti Jr.

ADDRESS 18 Ellsworth St, Bra, Mass.

TELEPHONE NUMBERS: BUSINESS 843-0884

RESIDENCE 843-0945

I hereby certify that all of the details and information I have submitted (or entered) in above application are true and accurate to the best of my knowledge and that all plumbing work and installations performed under Permit issued for this application will be in compliance with all pertinent provisions of the Massachusetts State Plumbing Code and Chapter 142 of the General Laws.

APPROVED

Boston Building Department

by James T. Reed
Chief Plumbing Inspector

Gaetano A. Sacchetti Jr.
Signature of Licensed Plumber

M-6206
Designation and License Number of Plumber

BELOW FOR OFFICE USE ONLY

FINAL INSPECTION

SKETCHES

FEE

NO. 548

APPLICATION FOR PERMIT TO DO PLUMBING

NAME & TYPE OF BUILDING

LOCATION OF BUILDING

PLUMBER

PERMIT GRANTED

DATE Oct 2 19 80

PLUMBING INSPECTOR

PROGRESS INSPECTIONS

Oct 2 - w.i.p.

Dec - 4 - w.i.p.

GF65

1

PUBLIC SAFETY INSPECTION REPORT

1 From Fire Department To Building (Egress) Department

Location 20 Whittier St (street and number) Ward 9 Inspected by Arthur Bopp

Owner City of Boston Address

Lessee/Occupant Health Unit Address

Material of Building Brick Style of Roof ☑ Flat ☐ Pitch ☐ Mansard Number of Stories 3

Dimensions of Building 50 X 40 X 60

Occupancy Health Unit Number of families

Sidewalk, pavement, curbings: condition of

Nature of complaint (or defect)

Room in basement being used as Playroom, and baby sitting area This room is in far corner of basement with only one means of egress,

RECEIVED SEP 13 3 57 PM 1968 BUILDING DEPARTMENT CITY OF BOSTON

Refer to Public Facility Ed Johnson P. Pizzielli

Fire Egress
No previous record of complaint.
9/16/68
Enforcement Section

Signed Arthur F. Bopp

Signed

Date 9/10/68

Inspector will not write below this line

Forwarded to Building Department Date 9/12/68 By William J. Fitzgerald

Conditions corrected Complaining Department notified Fire Commissioner

Other report:

BD 3—

CITY OF BOSTON — BUILDING DEPARTMENT

SPECIAL FORM APPLICATION No. 02353 for Permit for Demolition, Ordinary Repairs & Minor Alterations Not Involving Vital Structural Changes

This form NOT TO BE USED for ADDITIONS or CHANGE OF OCCUPANCY

The undersigned hereby applies to the Building Commissioner for a permit to perform the work described herein:

DATE 7/10/67

Street and No. 61 HAMPSHIRE STREET, ROXBURY

Name of Owner [illegible] Address ROXBURY Ward 9

Type of Construction .... Zone .... Fire Limit 2

Size of building, feet front 100 ; feet rear 100 ; feet deep 60 ; No. of stories 3

How is building NOW occupied? COMMERCIAL .... Group Occupancy and Division ....

Check all means of egress from this building:

Main stairs ✓ Back stairs .... Fire escapes ✓ Con. balconies .... Any other ELEVATOR

Is this work being done to remove Building Code violations? Yes ✓ No ....

WORK TO REMOVE VIOLATIONS MUST BE COMMENCED AND COMPLETED FORTHWITH

Detail of proposed work — STATE EXACTLY WHAT WORK IS TO BE DONE:

REPLACE 6 CHARRED FLOOR JOISTS 16" ... AND CHARRED FLOORING AREA APPROX 12'X12' REPAIR EXTERIOR STAIRS WALLS AND REPLACE MISSING CONDUCTOR PIPES

WORK BEING DONE TO REMOVE CAUSE OF COMPLAINT.

Estimated Cost, $ 500.00

The facts set forth in this application, and in the accompanying plans, if any, are true statements, made under penalty of perjury.

[signature]

(Signature of Owner or Authorized Agent) (Address) ....

[signature]

(Signature of Licensed Builder or Wrecker) GILBERT ... & Co.

(Address) 61 Hampshire St Roxbury (Name of Contractor)

Lic. No. 2265 Class ... (Address) 61 HAMPSHIRE ST. ROXBURY

My license expires 12-10-67

Approved (date) ....

By [signature]

Permit granted ....

By ....

JUL 11 1967

INSPECTOR'S FINAL REPORT

61 Hampshire ST

Jan 12 19 71

Has the work enumerated in this application been completed and approved?

Answer "yes" or "no" yes

Is egress satisfactory?

Answer "yes" or "no" yes

Building Inspector [signature]

INSPECTORS' MEMORANDA

Remarks

INSPECTIONS MADE

Date	

(9-6-'17-1,500.)
FORM 57A.

PLAN DIVISION.

Location, rear 59 Hampshire St
Name of owner is ? Chas Logan Ward 13
Name of mechanic is ? " " Address, 6 Webber
Name of architect is ? " "
Material of building is ? Wood Style of roof ? pitch Material of roofing ? Slate
Size of building, feet front ? 45 ; feet rear ? 45 ; feet deep ? 40 ; No. of stories ? 1½
Size of L, feet long ? ; feet wide ? ; feet high ? ; No. of stories ? ; roof ?
No. of feet in height from sidewalk of highest point of roof ? Material of foundation ?
Thickness of external walls ? Party walls ? Distance from line of street ? Width of street ?
What was the building last used for ? Factory How many families ? Number of stores ?
Nature of egress, front stairs ? Back stairs ? Fire escape ? Con. balconies ?
Size of lot front ? ; rear ? ; deep ?
Building to be occupied for after alteration

Description of Present Building.

DETAIL OF PROPOSED WORK.

TAKE DOWN

If Extended On Any Side.

Size of extension, No. of feet long ? ; No. of feet wide ? ; Estimated cost, $ 70
No. of stories high ? ; style of roof ? ; material of roofing
Of what material will the extension be built ? Foundation ?
If of brick, what will be the thickness of external walls ? inches; and party walls inches.
How will the extension be occupied ? How connected with main building ?
Distance from lot lines:— Front ? ; side ? ; side ? ; rear ?

When Moved, Raised or Built Upon.

Number of stories in height when moved, raised or built upon ? Proposed foundations ?
Height from level of ground to highest part of roof to be ? Distance back from line of street ?
Distances from lot lines when moved, front ? ; side ? ; side ? ; rear ?
Distance from next buildings when moved, front ? ; side ? ; side ? ; rear ?
How many feet will the external walls be increased in height ? Party walls ?
Licensed builder Chas Logan
No. 2130 & Address 6 Webber St

No.

LOCATION.

Rear 59 Hampshire Street

Ward 13

TRANSCRIPT OF
APPLICATION FOR

Permit for Repairs, Alterations, etc.

CONDITIONS.

Dec. 6, 1917

F. Conroy

IN BOARD OF APPEAL.

MAR 25 1918

Permit Granted

Plan No. On File

EXAMINATION OF PLANS.

Approved 191

Chief of Plan Division.

BD2A

SYNOPSIS

Description of Present Building

Location, 61 Hampshire St District, Roxbury Ward 9

Name of owner is? Hampshire Realty Co Address, 36 Whittier St.

Name of architect or engineer is? " Lic. No. -

Material of building is? Stucco wood Style of roof? Flat Construction of roof? Wood

Size of building, feet front? app 100 ft; feet rear? app 80; feet deep? apr 40; No. of stories? 3

Size of L, feet long?; feet wide?; feet high?; No. of stories?; roof?

No. of feet in height from sidewalk of highest point of roof? apr 56 Material of foundation?

Thickness of external walls? Party walls? Physical value of building? 10,000 approx

What was the building last used for? Paper Storage & Storage of furniture & finishing of same

Front stairs? yes Back stairs? no Fire escape? no Con. balconies? no Any other? no

Type of construction? VI Group occupancy? F-2 Number of employees? 3

Building to be occupied for Furniture storage & finishing & Paper storage after alteration

IF EXTENDED ON ANY SIDE.

Description of Extension

Size of extension, No. of feet long?; No. of feet wide?; No. of feet high above sidewalk?

No. of stories high?; style of roof?; material of roofing?

Of what material will the extension be built?; Foundation?

If of brick, what will be the thickness of external walls? inches; and party walls inches

How will the extension be occupied? How connected with main building?

Distance from lot lines:—Front?; right side?; left side?; rear?

Area of lot covered after extension % Type of Construction

GENERAL DESCRIPTION OF THE PROPOSED WORK AND ITS LOCATION

Erect 2 Partitions & form [illegible] a spray Booth as per sketch filed & To legalize for furn Storing & finishing of same Storing of new wrapping Paper Bags & furn [illegible] no scrap paper used or stored on premises

Estimated Cost $100 —

Date Aug 11th /57

The facts set forth above in this application and accompanying plans are a true statement to the best of my knowledge and belief.

[illegible signature] (Signature of Owner or Authorized Agent) (Address) 61 Hampshire St Boston

(Signature of Licensed Builder) (Name of Contractor)

(Address) (Address)

Lic. No. Class

My license expires

OK

The work as stated in application in my opinion is of such simple character that its execution will not endanger the safety of the public or of any person engaged thereon.

Ventilated - 2 - 20" exhaust fans & weather hoods 2 feet above roof & spray booth to be of asbestos or masonite [illegible]

2M.-7-'56.

No. 1084

AUG 19 1957

LOCATION

61 Hampshire St

Ward 9

ZONING DISTRICT

Boston, 8-28 1957

PERMIT ISSUED

To the Building Commissioner:

Sir,—I have examined the premises and find same as herein described.

Louis J. Keohane

Act. Bd. of Dir. *Inspector.*

FINAL REPORT

July 25 1958

Has the work been completed in accordance with this application and plans filed and approved? Yes

Law been violated? / Doc. No. ...... of 19......

Violation removed ...... 19......

John W. Dosan

Inspector.

PERMIT GRANTED

AUG 20 1957

...... 19......

DATES WHEN EXAMINED

VISITS	DATE	HOUR	REMARKS
1	1/8		IN PROGRESS J.W.D.
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

EGRESS INSPECTOR'S REPORT

This building is provided with satisfactory exits.

DATE July 25 58

Upon examination of this building for a lathing permit, we find that it conforms with the approved plans and with all the requirements of the Building and Zoning Laws.

Signature of Licensed Builder.

CITY OF BOSTON
BUILDING DEPT.
AUG 20 1957
Existant egress to conform
EXAMINED
E. Kang
FIRE PROT. ENGR.

(9-6-'17-1,500.)
FORM 57A.

INSPECTOR'S SYNOPSIS.

Location rear 59 Hampshire St
Name of owner is ? Chas Lyons ..... Ward 13
Name of mechanic is ? ..... Address, 6 Webber St
Name of architect is ? ..... " .....
Material of building is ? Wood ..... Style of roof ? Peleth ..... Material of roofing ? Slate
Size of building, feet front ? 45 ; feet rear ? 45 ; feet deep ? 40 ; No. of stories ? 1½
Size of L, feet long ? ..... ; feet wide ? ..... ; feet high ? ..... ; No. of stories ? ..... ; roof ?
No. of feet in height from sidewalk of highest point of roof ? ..... Material of foundation ?
Thickness of external walls ? ..... Party walls ? ..... Distance from line of street ? ..... Width of street ?
What was the building last used for ? factory ..... How many families ? ..... Number of stores ?
Nature of egress, front stairs ? ..... Back stairs ? ..... Fire escape ? ..... Con. balconies ?
Size of lot front ? ..... ; rear ? ..... ; deep ?
Building to be occupied for ..... after alteration

Description of Present Building.

DETAIL OF PROPOSED WORK.

TAKE DOWN

If Extended On Any Side.

Size of extension, No. of feet long ? ..... ; No. of feet wide ? ..... ; No. of feet high above sidewalk ? ..... Estimated cost, $ 70 —
No. of stories high ? ..... ; style of roof ? ..... ; material of roofing .....
Of what material will the extension be built ? ..... Foundation ? .....
If of brick, what will be the thickness of external walls ? ..... inches; and party walls ..... inches.
How will the extension be occupied ? ..... How connected with main building ? .....
Distance from lot lines:— Front ? ..... ; side ? ..... ; side ? ..... ; rear ? .....

When Moved, Raised or Built Upon.

Number of stories in height when moved, raised or built upon ? ..... Proposed foundations ? .....
Height from level of ground to highest part of roof to be ? ..... Distance back from line of street ? .....
Distances from lot lines when moved, front ? ..... ; side ? ..... ; side ? ..... ; rear ? .....
Distance from next buildings when moved, front ? ..... ; side ? ..... ; side ? ..... ; rear ? .....
How many feet will the external walls be increased in height ? ..... Party walls ? .....
Licensed builder ... Chas Lyons ..... Address ... 6 Webber St
No. 2130

No.

LOCATION

Rear 59 Hampshire Street

Ward 13

REFERRED TO INSPECTOR

Boston, Dec. 6, 1917.

To the Building Commissioner:

Sir,—I have examined the premises and find same as herein described.

F. Conroy
Inspector.

FINAL REPORT

March 26, 1918.

Has the work been completed in accordance with this application and plans filed and approved ?

Yes

Law been violated ?.....Doc. No.....of 191.....

Violation removed.....191.....

F. Conroy
Inspector.

PERMIT GRANTED

MAR 25 1918

.....191

DATES WHEN EXAMINED

VISITS	DATE	HOUR	REMARKS
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			

(Form 57-11-1-'17-2,000.)

Location, ownership and detail must be correct, complete and legible.

Separate application required for every building.

Plans must be filed with this application.

RECEIVED
P. M.
BUILDING DEPT.
1917 DEC

CERTIFIED STREET
rear 59 Hampshire
wd 13
Charles Lyons
own
P C Kelly
Street Numbering Inspector.

BOSTONIA CONDITA A.D. 1630.

Application for Permit for Alterations, etc.

Boston, Dec 4 1917.

To the
BUILDING COMMISSIONER:

The undersigned applies for a permit to alter the following-described building:—

Location Rear of 59 Hampshire St - Wash - Rox Ward 13

Name of owner is? Chas Lyons Address, 6 Webber St

Name of mechanic is? Chas Lyon " 6 Webber St

Name of architect is? "

Description of Present Building.

Material of building is? Wood Style of roof? Pitch Material of roofing? Slate

Size of building, feet front? 45; feet rear? 45; feet deep? 40; No. of stories? 1½

Size of L, feet long?; feet wide?; feet high?; No. of stories?; roof?

No. of feet in height from sidewalk to highest point of roof? Material of foundation?

Thickness of external walls? Party walls? Distance from line of street? Width of street?

What was the building last used for? Factory How many families? Number of stores?

Nature of egress, front stairs? Back stairs? Fire escape? Con. balconies?

Size of lot front?; rear?; deep?

Building to be occupied for after alteration

DETAIL OF PROPOSED WORK.

To be Torn Down

Estimated cost, $ 70.00

IF EXTENDED ON ANY SIDE.

Size of extension, No. of feet long?; No. of feet wide?; No. of feet high above sidewalk?

No. of stories high?; style of roof?; material of roofing

Of what material will the extension be built? Foundation?

If of brick, what will be the thickness of external walls? inches; and party walls inches.

How will the extension be occupied? How connected with main building?

Distance from lot lines:— Front?; side?; side?; rear?

WHEN MOVED, RAISED OR BUILT UPON.

Number of stories in height when moved, raised or built upon? Proposed foundations?

Height from level of ground to highest part of roof to be? Distance back from line of street?

Distances from lot lines when moved, front?; side?; side?; rear?

Distance from next buildings when moved, front?; side?; side?; rear?

How many feet will the external walls be increased in height? Party walls?

IF ANY PORTION OF THE EXTERNAL OR PARTY WALLS ARE REMOVED

Will an opening be made in the party or external walls? in story.

Size of the opening? How protected?

How will the remaining portion of the wall be supported?

Signature of owner or authorized representative, Chas Lyon

Address, 6 Webber St

License No. 2130 Class E

Signature, Chas Lyons

Address, 6 Webber St

PERMIT MUST BE OBTAINED BEFORE BEGINNING WORK.

No. [illegible]

APPLICATION FOR

Permit for Repairs, Alterations, etc.

Location

No. 59 Hampshire Street rr

Ward 13

CONDITIONS.

Permit granted.

.....191 .

Permit filled out by.....

Plan number.....

Material of building.....

f building.....

t $.....

EXAMINATION OF PLANS.

Approved 191

Supervisor of Plans.

MEMORANDA.

MEMORANDA.

B D 8—5M.-12-'58.

CITY OF BOSTON—BUILDING DEPARTMENT

SPECIAL FORM APPLICATION No. 01165 for Permit for
Ordinary Repairs & Minor Alterations Not Involving Vital Structural Changes

This form NOT TO BE USED for ADDITIONS or CHANGE OF OCCUPANCY.

The undersigned hereby applies to the Building Commissioner for a alter permit to repair the following-described building:

DATE April 9, 1959

Street and No. 61 Hampshire St Fire Zone — Ward 9

Name of Owner Wiener Address 61 Hampshire St Roy

Type of Construction Wood FT Group Occupancy and Division F 1

Size of building, feet front 30; feet rear 30; feet deep 80; No. of stories 2

How is building NOW occupied? Distributor of paper products

Does building have automatic sprinkler system?

Main stairs 1 Back stairs Fire escapes 1 Con. balconies Any other

Detail of proposed work

Replace 6 x 8 sill in rear of building put in concrete footing and concrete blocks to replace brick piers

(B&O)

Estimated Cost, $ 900.

The facts set forth above in this application and accompanying plans are a true statement made under penalty of perjury.

John G. Guerra
(Signature of Owner or Authorized Agent) (Address) 97 Edgerly Drive

John G. Guerra
(Signature of Licensed Builder or Wrecker)

(Address) Lenox

Lic. No. 1652 Class C Ltd

My license expires May 22 1958

Approved (date) 4/9/59

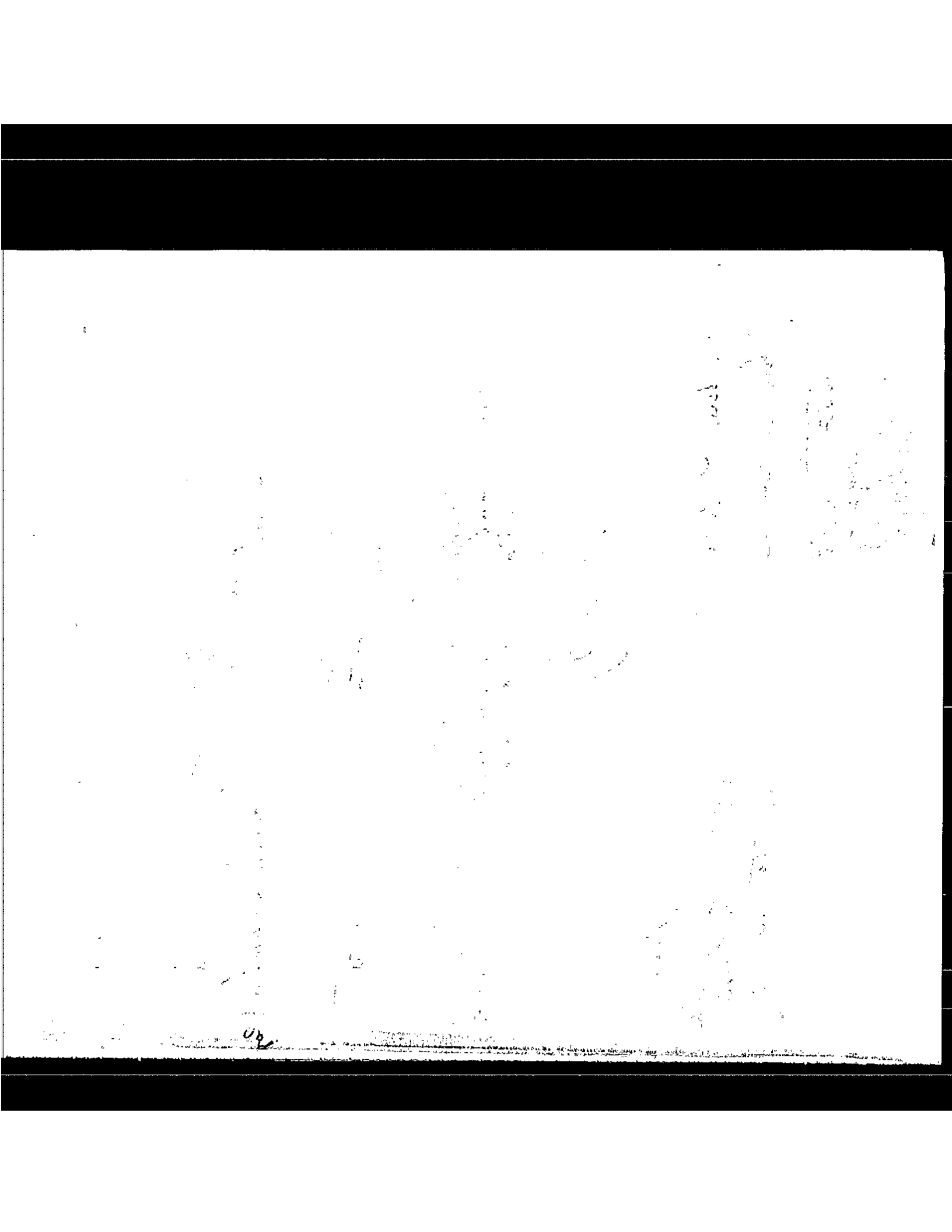
By

Mattapan
(Name of Contractor)

(Address)

Permit granted APR - 9 1959

By



B D 3—5M.-12-'58.

CITY OF BOSTON—BUILDING DEPARTMENT

SPECIAL FORM APPLICATION No. 1165 for Permit for Ordinary Repairs & Minor Alterations Not Involving Vital Structural Changes

This form NOT TO BE USED for ADDITIONS or CHANGE OF OCCUPANCY

The undersigned hereby applies to the Building Commissioner for a permit to repair / alter the following-described building: April 9, 1959 (Date)

Street and No. 61 Hampshire St. Fire Zone II Ward 9

Name of Owner Wiener Address 61 Hampshire St Rox

Type of Construction Wood VI Group Occupancy and Division I-1

Size of building, feet front 30; feet rear 30; feet deep 80; No. of stories 2

How is building NOW occupied? Distributor of paper products

Does building have automatic sprinkler system?

Main stairs ✓ Back stairs Fire escapes ✓ Con. balconies Any other

Detail of proposed work Replace 6 x 8 sill in rear of building put in concrete footing and concrete blocks to replace brick piers

(B 80)

Estimated Cost, $900.

The facts set forth above in this application and accompanying plans are a true statement made under penalty of perjury.

John F. Arena

(Signature of Owner or Authorized Agent) (Address) 97 Edgewater Drive

John F. Arena Mattapan

(Signature of Licensed Builder or Wrecker) (Name of Contractor)

(Address) Same

Lic. No. 1652 Class C ltd (Address)

My license expires May 22, 1958

Approved (date) 4/9/59 Permit granted APR 9 1959

By J. Morgan By

61 Hampshire St

INSPECTORS' FINAL REPORT

Repair 9

May 4 19 59

Has the work enumerated in this application been completed and approved?

Yes.

Law been violated?.....Doc. No.....of 19.....

Violation removed.....19.....

Building Inspector John W. Horan

Remarks.....

INSPECTORS' MEMORANDA

Date	REMARKS

BD 3—

CITY OF BOSTON — BUILDING DEPARTMENT

SPECIAL FORM APPLICATION No. 02353 for Permit for Demolition, Ordinary Repairs & Minor Alterations Not Involving Vital Structural Changes

This form NOT TO BE USED for ADDITIONS or CHANGE OF OCCUPANCY

The undersigned hereby applies to the Building Commissioner for a permit to perform the work described herein:

DATE 7/10/67

Street and No. 61 HAMPSHIRE STREET, ROXBURY

Name of Owner [illegible] Address ROXBURY Ward 9

Type of Construction .... Zone .... Fire Limit ....

Size of building, feet front 100; feet rear 100 Group Occupancy and Division ....

How is building NOW occupied? COMMERCIAL; feet deep 60; No. of stories 3

Check all means of egress from this building:

Main stairs ✓ Back stairs .... Fire escapes ✓ Con. balconies .... Any other ELEVATOR

Is this work being done to remove Building Code violations? Yes ✓ No ....

WORK TO REMOVE VIOLATIONS MUST BE COMMENCED AND COMPLETED FORTHWITH

Detail of proposed work — STATE EXACTLY WHAT WORK IS TO BE DONE:

REPLACE 6 CHARRED FLOOR JOISTS, 16' ... AND CHARRED FLOORING AREA APPROX 12'X12' REPAIR EXTERIOR STAIRS WALLS AND REPLACE MISSING CONDUCTOR PIPES.

WORK BEING DONE TO REMOVE CAUSE OF COMPLAINT.

Estimated Cost, $ 500.00

The facts set forth in this application, and in the accompanying plans, if any, are true statements, made under penalty of perjury.

[signature] (Signature of Owner or Authorized Agent) (Address) ....

[signature] (Signature of Licensed Builder or Wrecker) GILBERT ESGUR & CO. (Name of Contractor)

(Address) 61 Hampshire St Roxbury

Lic. No. 2265 Class [illegible] (Address) 61 HAMPSHIRE ST. ROXBURY

My license expires 12-10-67

Approved (date) ....

By .... [signature]

Permit granted ....

By ....

JUL 11 1967 OK

INSPECTOR'S FINAL REPORT

61 Hampshire St

Jan 12 19 71

Has the work enumerated in this application been completed and approved?

Answer "yes" or "no" yes

Is egress satisfactory?

Answer "yes" or "no" yes

Building Inspector Robert Lum

INSPECTORS' MEMORANDA

Remarks

INSPECTIONS MADE

Date	

(9-6-'17-1,500.)
Form 57A.

PLAN DIVISION.

Location, rear 59 Hampshire St

Name of owner is ? Chas Logan Ward 13

Name of mechanic is ? " " Address, 6 Webber

Name of architect is ? " "

Description of Present Building.

Material of building is ? Wood Style of roof ? Pitch Material of roofing ? Slate

Size of building, feet front ? 45 ; feet rear ? 45 ; feet deep ? 46 ; No. of stories ? 1½

Size of L, feet long ? ; feet wide ? ; feet high ? ; No. of stories ? ; roof ?

No. of feet in height from sidewalk of highest point of roof ? Material of foundation ?

Thickness of external walls ? Party walls ? Distance from line of street ? Width of street ?

What was the building last used for ? Factory How many families ? Number of stores ?

Nature of egress, front stairs ? Back stairs ? Fire escape ? Con. balconies ?

Size of lot front ? ; rear ? ; deep ?

Building to be occupied for after alteration

DETAIL OF PROPOSED WORK.

TAKE DOWN

If Extended On Any Side.

Size of extension, No. of feet long ? ; No. of feet wide ? ; Estimated cost, $ 70—

No. of stories high ? ; style of roof ? ; material of roofing

Of what material will the extension be built ? Foundation ?

If of brick, what will be the thickness of external walls ? inches; and party walls inches.

How will the extension be occupied ? How connected with main building ?

Distance from lot lines:— Front ? ; side ? ; side ? ; rear ?

When Moved, Raised or Built Upon.

Number of stories in height when moved, raised or built upon ? Proposed foundations ?

Height from level of ground to highest part of roof to be ? Distance back from line of street ?

Distances from lot lines when moved, front ? ; side ? ; side ? ; rear ?

Distance from next buildings when moved, front ? ; side ? ; side ? ; rear ?

How many feet will the external walls be increased in height ? Party walls ?

Licensed builder Chas E Logan

No. 2130 Address 6 Webber St

No.

LOCATION.

Rear 59 Hampshire Street

Ward 13

TRANSCRIPT OF
APPLICATION FOR

Permit for Repairs, Alterations, etc.

CONDITIONS.

Dec. 6, 1917

F. Conroy

IN BOARD OF APPEAL.

MAR 25 1918

Permit Granted

Plan No. On File

EXAMINATION OF PLANS.

Approved 191

Chief of Plan Division.

SYNOPSIS

BD 2A

Description of Present Building

Location, 61 Hampshire St. District, Roxbury Ward 9

Name of owner is? Hampshire Realty Co. Address, 36 [illegible] St.

Name of architect or engineer is? .... " .... Lic. No. —

Material of building is? Stucco & wood Style of roof? Flat Construction of roof? Wood

Size of building, feet front? app 100 ft; feet rear? app 80; feet deep? app 40; No. of stories? 3

Size of L, feet long? ....; feet wide? ....; feet high? ....; No. of stories? ....; roof? ....

No. of feet in height from sidewalk of highest point of roof? app 56 Material of foundation? ....

Thickness of external walls? .... Party walls? .... Physical value of building? 10,000 approx

What was the building last used for? Paper Storage & Storage of furniture & finishing of same

Front stairs? yes Back stairs? no Fire escape? no Con. balconies? no Any other? no

Type of construction? VI Group occupancy? F-2 Number of employees? 3

Building to be occupied for Furniture Storage & finishing & Paper Storage after alteration

IF EXTENDED ON ANY SIDE.

Description of Extension

Size of extension, No. of feet long? ....; No. of feet wide? ....; No. of feet high above sidewalk? ....

No. of stories high? ....; style of roof? ....; material of roofing? ....

Of what material will the extension be built? ....; Foundation? ....

If of brick, what will be the thickness of external walls? .... inches; and party walls .... inches

How will the extension be occupied? .... How connected with main building? ....

Distance from lot lines:—Front? ....; right side? ....; left side? ....; rear? ....

Area of lot covered after extension ....% Type of Construction ....

GENERAL DESCRIPTION OF THE PROPOSED WORK AND ITS LOCATION

Erect 2 Partitions & form ~~[illegible]~~ a spray Booth as per sketch filed & to legalize for furn storing & finishing of same

Storing of new wrapping paper bags & [illegible] new scrap paper or used bags. Estimated Cost? $100 —

Date Aug 11 '57 Stored on Premises

The facts set forth above in this application and accompanying plans are a true statement to the best of my knowledge and belief.

[illegible signature] (Signature of Owner or Authorized Agent) (Address) 61 Hampshire St. [illegible]

.... (Signature of Licensed Builder) .... (Name of Contractor)

(Address) .... (Address) ....

Lic. No. .... Class ....

My license expires ....

OK [illegible]

Work as stated in application in my opinion is of such simple character that its execution will not endanger the safety of the public or of any person engaged thereon.

2M.-7-'56.

Vent hood - 2 - 20" exhaust fans & weather cap [illegible] ... walls to be of asbestos [illegible] ... [illegible]

No. 1084 AUG 19 1957

LOCATION

61 Hampshire St

Ward 9

ZONING DISTRICT

Boston, 8-28 1957

To the Building Commissioner:

Sir,—I have examined the premises and find same as herein described.

Louis J. Keohane
Hd of Div. *Inspector.*

PERMIT ISSUED

FINAL REPORT

July 25 1958

Has the work been completed in accordance with this application and plans filed and approved?

Yes

Law been violated? / Doc. No. ...... of 19......

Violation removed ...... 19......

John W. Doran
Inspector.

PERMIT GRANTED

AUG 20 1957

...... 19......

DATES WHEN EXAMINED

VISITS	DATE	HOUR	REMARKS
1	1/6		IN PROGRESS J.W.D.
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

EGRESS INSPECTOR'S REPORT

This building is provided with satisfactory exits.

DATE July 25 58

Upon examination of this building for a lathing permit, we find that it conforms with the approved plans and with all the requirements of the Building and Zoning Laws.

Signature of Licensed Builder.

CITY OF BOSTON
BUILDING DEPT.
AUG 20 1957
Existant stairs to conform
EXAMINED
E. Kane
FIRE PROT. ENGR.

(9-6-'17-1,500.)
FORM 57A.

INSPECTOR'S SYNOPSIS.

Location rear 59 Hampshire St
Name of owner is ? Chas Lyons ..... Ward 13
Name of mechanic is ? ..... Address, 6 Webber St
Name of architect is ? ..... " .....
Material of building is ? Wood ..... Style of roof ? Gable ..... Material of roofing ? slate
Size of building, feet front ? 45 ; feet rear ? 45 ; feet deep ? 40 ; No. of stories ? 1½
Size of L, feet long ? ..... ; feet wide ? ..... ; feet high ? ..... ; No. of stories ? ..... ; roof ? .....
No. of feet in height from sidewalk of highest point of roof ? ..... Material of foundation ? .....
Thickness of external walls ? ..... Party walls ? ..... Distance from line of street ? ..... Width of street ? .....
What was the building last used for? Factory ..... How many families ? ..... Number of stores ? .....
Nature of egress, front stairs ? ..... Back stairs ? ..... Fire escape ? ..... Con. balconies ? .....
Size of lot front ? ..... ; rear ? ..... ; deep ? .....
Building to be occupied for ..... after alteration

Description of Present Building.

DETAIL OF PROPOSED WORK.

TAKE DOWN

If Extended On Any Side.

Size of extension, No. of feet long ? ..... ; No. of feet wide ? ..... ; No. of feet high above sidewalk ? ..... Estimated cost, $ 70 —
No. of stories high ? ..... ; style of roof ? ..... ; material of roofing .....
Of what material will the extension be built ? ..... Foundation ? .....
If of brick, what will be the thickness of external walls ? ..... inches; and party walls ..... inches.
How will the extension be occupied ? ..... How connected with main building ? .....
Distance from lot lines:— Front ? ..... ; side ? ..... ; side ? ..... ; rear ? .....

When Moved, Raised or Built Upon.

Number of stories in height when moved, raised or built upon ? ..... Proposed foundations ? .....
Height from level of ground to highest part of roof to be ? ..... Distance back from line of street ? .....
Distances from lot lines when moved, front ? ..... ; side ? ..... ; side ? ..... ; rear ? .....
Distance from next buildings when moved, front ? ..... ; side ? ..... ; side ? ..... ; rear ? .....
How many feet will the external walls be increased in height ? ..... Party walls ? .....
Licensed builder ..... Address .....
No. 2130 Chas Lyons 6 Webber St

No.....

LOCATION

Rear 59 Hampshire Street

Ward 13

REFERRED TO INSPECTOR

Boston, Dec. 6, 1917.

To the Building Commissioner:

Sir,—I have examined the premises and find same as herein described.

F. Conry

Inspector.

FINAL REPORT

March 26, 1918.

Has the work been completed in accordance with this application and plans filed and approved ?

Yes

Law been violated ?.....Doc. No.....of 191.....

Violation removed.....191.....

F. Conry

Inspector.

PERMIT GRANTED

MAR 25 1918

.....191

DATES WHEN EXAMINED

VISITS	DATE	HOUR	REMARKS
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			

(Form 57-11-1-'17-2,000.)

CERTIFIED STREET

rear 59 Hampshire
ward 13
Charles Lyons
own
P. C. Kelly
Street Numbering Inspector.

Location, ownership and detail must be correct, complete and legible.

Separate application required for every building.

Plans must be filed with this application.

RECEIVED
P. M.
BUILDING DEPT.
DEC 7 1917

BOSTONIA CONDITA A.D. 1630.

Application for Permit for Alterations, etc.

Boston, Dec 4 1917

To the
BUILDING COMMISSIONER:

The undersigned applies for a permit to alter the following-described building:—

Location Rear of 59 Hampshire St. Ware Roxy Ward 13
Name of owner is? Chas Lyons Address, 6 Webber St.
Name of mechanic is? Chas Lyon " 6 Webber St.
Name of architect is? "

Description of Present Building.

Material of building is? Wood Style of roof? Pitch Material of roofing? Slate
Size of building, feet front? 45; feet rear? 45; feet deep? 40; No. of stories? 1 1/2
Size of L, feet long?; feet wide?; feet high?; No. of stories?; roof?
No. of feet in height from sidewalk to highest point of roof? Material of foundation?
Thickness of external walls? Party walls? Distance from line of street? Width of street?
What was the building last used for? Factory How many families? Number of stores?
Nature of egress, front stairs? Back stairs? Fire escape? Con. balconies?
Size of lot front?; rear?; deep?
Building to be occupied for after alteration

DETAIL OF PROPOSED WORK.

To be Torn Down

Estimated cost, $ 70.00

IF EXTENDED ON ANY SIDE.

Size of extension, No. of feet long?; No. of feet wide?; No. of feet high above sidewalk?
No. of stories high?; style of roof?; material of roofing
Of what material will the extension be built? Foundation?
If of brick, what will be the thickness of external walls? inches; and party walls inches.
How will the extension be occupied? How connected with main building?
Distance from lot lines:— Front?; side?; side?; rear?

WHEN MOVED, RAISED OR BUILT UPON.

Number of stories in height when moved, raised or built upon? Proposed foundations?
Height from level of ground to highest part of roof to be? Distance back from line of street?
Distances from lot lines when moved, front?; side?; side?; rear?
Distance from next buildings when moved, front?; side?; side?; rear?
How many feet will the external walls be increased in height? Party walls?

IF ANY PORTION OF THE EXTERNAL OR PARTY WALLS ARE REMOVED

Will an opening be made in the party or external walls? in story.
Size of the opening? How protected?
How will the remaining portion of the wall be supported?

Signature of owner or authorized representative, Chas Lyon

Address, 6 Webber St.

License No. 2130 Class E
Signature, Chas Lyons
Address, 6 Webber St.

PERMIT MUST BE OBTAINED BEFORE BEGINNING WORK.

21

No. [illegible]

APPLICATION FOR

Permit for Repairs, Alterations, etc.

Location

No. 59 Hampshire Street

Ward 13

CONDITIONS.

Permit granted.

.....191 .

Permit filled out by.....

Plan number.....

Material of building.....

[illegible] building.....

[illegible] $.....

EXAMINATION OF PLANS.

Approved 191

Supervisor of Plans.

MEMORANDA.

MEMORANDA.

B D 3—5M.-12-'58.

CITY OF BOSTON—BUILDING DEPARTMENT

SPECIAL FORM APPLICATION No. 01165 for Permit for
Ordinary Repairs & Minor Alterations Not Involving Vital Structural Changes
This form NOT TO BE USED for ADDITIONS or CHANGE OF OCCUPANCY.

2

Fee $2.00 APR 9

The undersigned hereby applies to the Building Commissioner for a permit to repair the following-described building:

DATE April 9, 1959

Street and No. 61 Hampshire St Fire Zone H Ward 9
Name of Owner Warren Address 61 Hampshire St Roy

Type of Construction Wood V Group Occupancy and Division I 1
Size of building, feet front 30; feet rear 30; feet deep 80; No. of stories 2
How is building NOW occupied? distributors of paper products
Does building have automatic sprinkler system?
Main stairs 1 Back stairs Fire escapes 1 Con. balconies Any other
Detail of proposed work

Replace 6 x 8 sill in rear of building put in concrete footing and concrete blocks to replace brick piers

(B 80)

Estimated Cost, $ 900.

The facts set forth above in this application and accompanying plans are a true statement made under penalty of perjury.

John G. Guena (Signature of Owner or Authorized Agent) (Address) 97 Edgewater Drive

John G. Guena (Signature of Licensed Builder or Wrecker) Mattapan (Name of Contractor)
(Address) Same (Address)
Lic. No. 1652 Class C Ltd
My license expires May 22 1958
Approved (date) 4/9/59
By E J Morgan

Permit granted APR - 9 1959
By

B D 8—5M.-12-'58.

CITY OF BOSTON—BUILDING DEPARTMENT

SPECIAL FORM APPLICATION No. 91165 for Permit for
Ordinary Repairs & Minor Alterations Not Involving Vital Structural Changes
This form NOT TO BE USED for ADDITIONS or CHANGE OF OCCUPANCY

The undersigned hereby applies to the Building Commissioner for a permit to repair the following-described building:

DATE April 9, 1959

Street and No. 61 Hampshire St Fire Zone 1 Ward 9

Name of Owner Warren Address 61 Hampshire St Roy

Type of Construction Wood V Group Occupancy and Division F-1

Size of building, feet front 30; feet rear 30; feet deep 80; No. of stories 2

How is building NOW occupied? Distributor of paper products

Does building have automatic sprinkler system?

Main stairs ✓ Back stairs Fire escapes ✓ Con. balconies Any other

Detail of proposed work: Replace 6 & 8 sill in rear of building put in concrete footing and concrete blocks to replace brick piers

(B80)

Estimated Cost, $ 900.

The facts set forth above in this application and accompanying plans are a true statement made under penalty of perjury.

John C. Riena
(Signature of Owner or Authorized Agent) (Address) 97 Edgewater Drive

John C. Riena
(Signature of Licensed Builder or Wrecker) Mattapan
(Name of Contractor)

(Address) Canada
Lic. No. 1652 Class C Ltd (Address)
My license expires May 22 1958

Approved (date) 4/13/59 Permit granted APR - 9 1959

By J Morgan By

61 Hampshire St

INSPECTORS' FINAL REPORT

Plain 9

May 4 19 59

Has the work enumerated in this application been completed and approved?

Yes.

Law been violated?.....Doc. No.....of 19.....

Violation removed.....19.....

Building Inspector John W. Doran

Remarks.....

INSPECTORS' MEMORANDA

Date	REMARKS

[illegible]

[illegible]	[illegible]
Alteration	[illegible]
[illegible]	[illegible]
Bd. Appeal	[illegible]
[illegible]	[illegible]
Elevators	[illegible]
[illegible]	[illegible]
Fire Escapes	[illegible]
Signs Projections	[illegible]
Unsafe	[illegible]
[illegible]	[illegible]
Violations	[illegible]
Elevator	[illegible]
[illegible]	[illegible]
Light Sprinklers	[illegible]
Special	[illegible]
Elevator Accident	[illegible]
[illegible]	[illegible]
Car Accident	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

No. 71

Application for Permit to Build,

(BRICK AND STONE.)

Boston, May 11. 1882

To the INSPECTOR OF BUILDINGS.

The undersigned hereby applies for a permit to build according to the following specification:—

1. State how many buildings to be erected, One.
2. Material, brick.
3. What is the Owner's name? William H. Wallace.
4. " " Architect's " X
5. " " Builder's " William H. Wallace.
6. " " location? Fremont St. 1180-82 Ward 19.
7. " " nearest street? Culvert St.
8. " " purpose of the building? dwelling & store.
9. If a dwelling, for how many families? three
10. Is there a store in lower story? one
11. Will the building be erected on solid or filled land? filled
12. Size of lot, No. of feet front, filled; No. of feet rear, ; No. of feet deep,
13. Size of building, No. of feet front, 28'; No. of feet rear, 28; No. of feet deep 66.
    No. of Stories in height, 4-5; No. of feet in height from sidewalk to highest point of roof, 46'
14. No. of feet in height from level of sidewalk to highest part of wall, 48'6"
15. No. of feet in height from sidewalk to eaves, 46'
16. Size of ell, X feet long; feet wide; feet high; No. of stories,; style of roof,
17. Will foundation be laid on earth, rock, timber, or piles? piles Material of foundation, rubble.
18. Thickness of external walls, 1st story 12"; 2d story 12"; 3d story 12"; 4th story 12"; 5th story
    12½ 12½ 16" 16" 12"

No. 41 1882

Application for Permit to Build.

BRICK, STONE, ETC.

LOCATION.

Tremont St.
1180-82

Ward 19

PERMIT GRANTED.

May 12 1882

Referred to Assistant Inspector

Shaw.

Approved plans with the described building.
L. W. Shaw, Asst Inspector
May 12 1882

FINAL REPORT.

2M.-3-'35.

EDWARD W. ROEMER
Building Commissioner

City of Boston

Building Department

Office of the Building Commissioner

Ninth Floor, City Hall Annex

Boston

November 14, 1935.

To the FIRE COMMISSIONER,

Bristol Street, Boston, Mass.

DEAR SIR:

Premises: 112A Tremont St., Roxbury.

Our Inspector reports:

"Chimney has been extended to the cellar;
Smoke pipe changed.
Ceiling and floor protected."

Yours very truly,

Building Commissioner

CITY OF BOSTON

FIRE DEPARTMENT

BRISTOL STREET

EDWARD F. McLAUGHLIN
FIRE COMMISSIONER

RECEIVED
DEC 13 1934
BUILDING DEPT.
CITY OF BOSTON

December 12, 1934.

To the Building Commissioner,

901 City Hall Annex, Boston.

Dear Sir: 1184 Tremont Street, Roxbury.

I forward herewith for your information the following report of an inspector of this Department concerning the above named premises:

Four story, second class brick tenement house; 25x60x55'. Wood beams and floor boarding over hot air furnace not protected with metal lath and cement plaster. Smoke pipe of furnace within eighteen inches of wooden beams and floor boarding without shield; and where smoke pipe passes through wooden flooring, pipe is within one inch of floor boarding and timbers. Above installed within past three months. Recommend that chimney be extended to cellar floor so that smoke pipe need not be carried through first floor, smoke pipe properly installed, and ceiling over furnace be properly protected.
Owner, Robert Anderson, 27 Warwick Street, Roxbury, Mass.

1-16-35 card
1-7-35 Action promised.

Referred to
Inspector

DEC 14 1934

Yours very truly,

Fire Commissioner.

5,000-8-'34.

BOSTONIA CONDITA A.D. 1630.

Boston Landmarks Commission

City of Boston
The Environment Department

Boston City Hall/Room 805
Boston, Massachusetts 02201
617/635-3850

10 April, 1998

Mr. William Evers
Department of Neighborhood Development
26 Court Street
Boston, MA 02201

NOTICE OF DETERMINATION

Application #98.1084D291
Demolition of a tavern located at 1182-1184 Tremont Street, Roxbury.

Dear Mr. Evers:

The Boston Landmarks Commission staff have determined that the tavern located at 1182-1184 Tremont Street, Roxbury is not a significant building under the Criteria for Determining Significance in Section 85-5.3 (a-e) of the Demolition Delay Ordinance (Article 85, Chapter 665 of the Acts of 1956 as amended). No further review is required. If you have any questions regarding this decision, please contact either me at 635-3850.

Please bring this determination with you to Inspectional Services Department when applying for a demolition permit. Thank you for your cooperation in this matter.

Sincerely,

Michael A. Cannizzo
Staff Architect
Boston Landmarks Commission

cc: John Eade, Commissioner of Inspectional Services
Boston Redevelopment Authority
Boston Civic Design Commission

ISSUED

4·17·98

ISCBUS

PARCEL #

APPLICANT MUST USE TYPEWRITER IN FILLING IN THIS APPLICATION 004008

CITY OF BOSTON
INSPECTIONAL SERVICES DEPARTMENT.

Certified Street Numbers
1182-1184 TREMONT ST
W/9
Street Numbering Inspector.

Application to the Commissioner for Permit for Alterations, Repairs or Change of Occupancy

Location, 1182-1184 TREMONT ST District, BOSTON Ward 9
Name of owner is? CITY OF BOSTON Address, XMAX 26 COURT STREET, BOSTN
Name of architect or engineer is? Lic. No.

Description of Present Building

Material of building is? BRICK Style of roof? FLAT Construction of roof? T/G
Size of building, feet front? 28 ; feet rear? 28 ; feet deep? 56 ; No. of stories? 5
No. of feet in height from sidewalk to highest point of roof? 48 Material of foundation?
Thickness of external walls? Party walls?

LEGAL OCCUPANCY OR USE (Applicant is not to fill in this box)
CAFE & FOUR APARTMENTS #111/1959

Front stairs? Back stairs? Fire escape? Con. balconies? Any other?
Is building equipped with automatic sprinkler system?
Type of construction?
Building to be occupied for CAFE & FOUR APTS Group occupancy?
after alteration

Description of Proposed Extension

IF EXTENDED ON ANY SIDE OR VERTICALLY
Size of extension, No. of feet long? ; No. of feet wide? ; No. of feet high above sidewalk?
No. of stories high? ; style of roof? ; material of roofing?
Of what material will the extension be built? Foundation?
How will the extension be occupied? Type of Construction

GENERAL DESCRIPTION OF THE PROPOSED WORK AND ITS LOCATION.
(ALL STRUCTURAL, MECHANICAL, ELECTRICAL, ETC., SHALL BE INCLUDED)

REMOVING EXISTING STRUCTURE AT
1182-1184 UNDER ARTICLE 85 BOSTON
ZONING CODE.

MASS DEBRIS DISPOSAL LAW
MGL c40, S54, c584, S9, all S150A
Will work result in any debris?
Yes ☐ No ☐ Initials _____

PERMIT MUST BE OBTAINED BEFORE BEGINNING WORK

GROUND WATER SURVEY
Repairs to: Exterior Wall: yes ☐ no ☐ , Foundation: yes ☐ no ☐ , Basement Area: yes ☐ no ☐

Date 4/16/98 19 Estimated Cost, $ 10,000.00
Owner's Phone 508-587-3409

The facts I have set forth above in this application and accompanying plans are a true statement to the best of my knowledge and belief.

X [signature] (Signature of Owner)

Type Name of Person Signing MIKE PICEWICK

(Address) 131 CLINTON AVE, BROCKTON, MA 02402

[signature] (Signature of Licensed Builder)

Type Name of Person Signing

(Address)
Lic. No. CD1559 Class 2
My license expires 1/10 (one)

Phone

(Name of Contractor)
(Address) 131 Clinton Ave. Brockton MA 02402

Phone

BD 2 Revised 12/89

004003

APR 16

PAID

No fee

4 16 98

No.

APPLICATION FOR

Permit for Alterations, Repairs or Change of Occupancy

Location

No. 1182 - 1184 Tremont St

Boston

(Takedown)

04 2 98

Ward 9

CONDITIONS

PERMIT ISSUED

Permit granted

EXAMINATION OF PLANS

Approved 4/16/98 19

Supervisor of Plans.

Arch./Struc./Safety

APPROVED
as shown on plans

EXAMINATION OF PLANS

PERMIT NUMBERS

Electrical .... Gas ....

Plumbing .... Sprinklers ....

Electrical APPROVED as shown on plans

Egress APPROVED as shown on plans

Plumbing .... Gas ....

H.V.A.C. .... Sprinklers ....

Mechanical APPROVED as shown on plans

ZONING

CITY OF BOSTON
ZONING DIVISION
APPROVED
4/16/98 Art 85
DATE ZONE

DATE .... 19........

INSPECTOR'S REPORT

This building is approved for satisfactory Egress.

Signature of Inspector.

All work hereafter performed must be tested before being used, and the Supervisor must be notified when all connections are in position and the final test is applied.

BD 13

APPLICATION NO. _____

APPLICATION FOR PERMIT TO DO GAS FITTING

TO THE COMMISSIONER: INSPECTIONAL SERVICES DEPT. BOSTON, 3/22 19

INSPECTIONAL SERVICES DEPT PERMIT DESK MAR 21 10 19 AM '94

2948

MAR 22 1994

The undersigned hereby applies for a permit to perform gas fitting work according to the following specifications:

NATURE OF PROPOSED GAS FITTING IN DETAIL

Floor	Pipe Size	Grilles	Cookers	Domestic Ranges	Hotel Ranges	Conversion Burner	Auto. Room Heaters	Roof top Units	Auto. Storage Heaters	Heating Boilers	Furnaces	Oil Pilots	Melting Pots	Dryers	Generators	Unit Heaters	Gas Engines	Hot Plates	Bunsen Burners	Incinerators	Confect. Stoves	OVEN FLOWATT
Basement																						
1st	1¼	1																				12
2nd																						
3rd																						
4th																						
5th																						
6th																						
7th										Wld												
8th																						
9th																						
10th																						
11th																						

No. of Meters

MASS. DEBRIS DISPOSAL LAW MGL c40, S54, C584, S9, all, S150A. Will work result in any debris? Yes _____ No _____ Initials _____

B.T.U. INPUT FOR HEATING _____

1182-1184

NAME AND ADDRESS OF BUILDING Connolly's 1184 Tremont St.

LEGAL OCCUPANCY _____

NEW OR RENOVATION Renovation

NAME OF OWNER Fred Hamlet SR.

ADDRESS OF OWNER _____

PLANS SUBMITTED? YES _____ NO _____

CORPORATION NAME _____

CERTIFICATE NUMBER _____

PARTNERSHIP _____

FIRM OR COMPANY _____

NAME OF MASTER OR JOURNEYMAN GAS FITTER LARRY V. WYNN

ADDRESS 2058 Dorchester Av. Dorchester, MA. 02124

TELEPHONE NUMBERS: BUSINESS (617) 265-5078

* I hereby certify that all of the details and information I have submitted (or entered) in above application are true and accurate to the best of my knowledge and that all gas fitting work and installation performed under Permit issued for this application will be in compliance with all pertinent provisions of the Massachusetts Building Code and Chapter 142 of the General Laws.

Please read statement on reverse side which is hereby incorporated as part of this certification and is a condition of the issuance of this permit.

I have a current liability insurance policy to include completed operations coverage. [ ]

I have informed the owner or the agent of the property that I do not have liability insurance including completed operations coverage

Signature of Owner/Agent of the property

APPROVED

Inspectional Services/Building Division

by _____

Chief Gas Inspector

L Larry V. Wynn

Signature of Licensed Gas Fitter

20070

Designation and License Number of Gas Fitter

GAS FITTER MUST RECEIVE PERMIT BEFORE COMMENCING WORK

INSPECTOR'S MEMORANDA

No. ______ Fee ______

APPLICATION FOR PERMIT TO DO GAS FITTING

Location 1182-1184 Tremont St

____

Ward 9

____

Gas Fitter ______________________________

____

BOSTON, ______________________ 19____

APPROVED:

______________________________ Inspector.

PERMIT GRANTED.

This permit is issued with the understanding that all fees have been paid in full pursuant to City of Boston Code, Ordinances, Title [illegible]. Further, this permit is issued with the understanding and agreement between the applicant and the Commissioner that no [illegible] payment or exchange of any gift, gratuity or thing of value, including cash, over and above the aforementioned [illegible] will take place relative to the permit being [illegible] the information and/or assurance contained in the permit application [illegible] permit. If such solicitation, [illegible] payment or exchange has occurred, [illegible] civil or criminal action will be instituted. The permit shall be [illegible] days.

FINAL REPORT ______________________________

______________________________ Inspector.

All work hereafter performed must be tested before being used, and the Supervisor must be notified when all connections are in position and the final test is applied.

BD 13

APPLICATION FOR PERMIT TO DO GAS FITTING

APPLICATION NO. 2948

TO THE
COMMISSIONER: INSPECTIONAL SERVICES DEPT. BOSTON, 3/22 19

The undersigned hereby applies for a permit to perform gas fitting work according to the following specifications:

NATURE OF PROPOSED GAS FITTING IN DETAIL

Floor 30	Pipe Size	Grilles	Cookers	Domestic Ranges	Hotel Ranges	Conversion Burner	Auto. Room Heaters	Roof top Units	Auto. Storage Heaters	Heating Boilers	Furnaces	Oil Pilots	Melting Pots	Dryers	Generators	Unit Heaters	Gas Engines	Hot Plates	Bunsen Burners	Incinerators	Confect. Stoves	Oven
Basement																						
1st	1¼	1																				
2nd																						12
3rd																						
4th																						
5th																						
6th																						
7th																						
8th																						
9th																						
10th																						
11th																						

No. of Meters

MASS. DEBRIS DISPOSAL LAW MGL c40, S54, C584, S9, all, S150A. Will work result in any debris? Yes________ No________ Initials________

B.T.U. INPUT FOR HEATING ________

NAME AND ADDRESS OF BUILDING Connlly's 1182-1184 Tremont St.

LEGAL OCCUPANCY ________

NEW OR RENOVATION Renovation

NAME OF OWNER Fred Hamllet Sr.

ADDRESS OF OWNER ________

PLANS SUBMITTED? YES ________ NO ________

CORPORATION NAME ________

CERTIFICATE NUMBER ________

PARTNERSHIP ________

FIRM OR COMPANY ________

NAME OF MASTER OR JOURNEYMAN GAS FITTER Larry V. Wynn

ADDRESS 2058 Dorchester Av, Dorchester, MA. 02124

TELEPHONE NUMBERS: BUSINESS (617) 265-5078

* I hereby certify that all of the details and information I have submitted (or entered) in above application are true and accurate to the best of my knowledge and that all gas fitting work and installation performed under Permit issued for this application will be in compliance with all pertinent provisions of the Massachusetts Building Code and Chapter 142 of the General Laws.

Please read statement on reverse side which is hereby incorporated as part of this certification and is a condition of the issuance of this permit.

I have a current liability insurance policy to include completed operations coverage. [✓]

I have informed the owner or the agent of the property that I do not have liability insurance including completed operations coverage

________ Signature of Owner/Agent of the property

APPROVED

Inspectional Services/Building Division

by ________ Chief Gas Inspector

X Larry V. Wynn
Signature of Licensed Gas Fitter

20070
Designation and License Number of Gas Fitter

GAS FITTER MUST RECEIVE PERMIT BEFORE COMMENCING WORK

No. 29448 ABANDONED File 32

APPLICATION FOR PERMIT TO DO GAS FITTING

Location 1182-1184 Tremont

Ward 9

JUN 27 1994

Gas Fitter LARRY Wynn

BOSTON, 3/22 1994

APPROVED:

David Paul Alwardt 367 Inspector.

PERMIT GRANTED.

ABANDONED

This permit is issued with the understanding that all fees have been paid in full pursuant to City of Boston Code, Ordinances, Title 14, 450(48). Further, this permit is issued with the understanding that no agreement between the applicant and the Commissioner that no solicitation, promise, payment or exchange of any gift, gratuity or thing of value, including cash, over and above the aforementioned permit fees, has or will take place relative to the permit being issued or relative to the information and/or statements contained in the permit application. If any such solicitation, promise, payment or exchange has occurred, this permit is void and civil or criminal action will be instituted. This permit shall be void, if work has not commenced in 90 days.

INSPECTOR'S MEMORANDA

6/21/94 WILL REINSPECT KITCHEN JUST
David Paul Alwardt 367
JUN 23 JUL 29 '94

ABANDONED

FINAL REPORT 367
David Paul Alwardt Inspector.

COPY FOR LICENSING OFFICIAL B D 411A

THE CITY OF BOSTON — BUILDING DEPARTMENT

INSPECTION CERTIFICATE

Issued in accordance with the provisions of Chapter 143, General Laws

	Location	Number	Ward
Occupancy and Maximum Capacity	Tremont Street	118½	9
	Restaurant-all alcoholic; Capacity: 113 persons		
Owner, Lessee or Licensee	Connolly's Inc.,		
	118½ Tremont Street		
	Roxbury, Massachusetts		

Bsmt..... 1st Floor..... 2nd Floor..... 3rd Floor..... 4th Floor.....

5th Floor..... 6th Floor..... 7th Floor..... 8th Floor..... 9th Floor.....

10th Floor..... 11th Floor..... 12th Floor..... 13th Floor..... 14th Floor.....

.....

.....

I Certify that I have inspected the above premises, and that the requirements of Chapter 143 of the General Laws, for buildings of its class, are applicable thereto.

THE EGRESS AND MEANS OF ESCAPE FROM FIRE ARE SUFFICIENT FOR 113 PERSONS.

A copy of this certificate must be posted in a conspicuous place in each story of the building.

Issued November 15, 1968

Expires November 15, 1969

Leonard D. Rizzo
Inspector

NOTICE:— THIS CERTIFICATE SHALL BE VOID IF THE NUMBER OF OCCUPANTS IS INCREASED, OR MATERIAL CHANGES OR ALTERATIONS IN ARRANGEMENT ARE MADE, OR IF EGRESSES ARE OBSTRUCTED OR CHANGED.

THE CITY OF BOSTON — INSPECTIONAL SERVICES DEPARTMENT

Oct. 97-98

INSPECTION CERTIFICATE

NO. 1648

Issued in accordance with the provisions of Chapter 802 of the Acts of 1972 as amended

Location	Number	Ward
Tremont St.	1184	9

Occupancy: Restaurant

Maximum Capacity: 113 persons

Owner, Lessee or Licensee:
Connolly's Inc.
1184 Tremont St.
Roxbury, Ma. 02119
C/o Mary Jones
442-7788

I certify that these premises have been inspected and approved by the Inspectional Services Department and the requirements of Chapter 802 of MGL for buildings of its class are applicable thereto. Read the statement printed on the reverse side and abide by its requirements.

THE EGRESS AND MEANS OF ESCAPE FROM FIRE ARE SUFFICIENT FOR PERSONS.

A copy of this certificate must be posted in a conspicuous place in each story of the building.

Issued 10/11/97

Expires 10/11/98

R. J. McCarthy
Authorized Signature

NOTICE — THIS CERTIFICATE SHALL BE VOID IF THE NUMBER OF OCCUPANTS IS INCREASED, OR MATERIAL CHANGES OR ALTERATIONS IN ARRANGEMENT ARE MADE, OR IF EGRESSES ARE OBSTRUCTED OR CHANGED.

(SEE OVER)

B D 202a—2M.-2-'57.

CITY OF BOSTON
BUILDING DEPARTMENT
OFFICE OF THE BUILDING COMMISSIONER

CITY HALL ANNEX, ROOM 901, BOSTON

THOMAS J. HUGHES
BUILDING COMMISSIONER

FRANK J. COUGHLIN
EXECUTIVE SECRETARY

MAY 20 1958

James Conmly
1182-1184 Tremont Street
Roxbury, Massachusetts

The Building situated 1182 - 1184 Tremont Street

Ward 9

in said Boston, of which you are the owner, being unsafe so as to endanger life, is therefore a common nuisance, and you are hereby notified forthwith to remove the cause of danger and abate the nuisance.

An application setting forth the manner and method of removing the cause of danger and abating the nuisance must be filed with this Department forthwith, and if in accordance with law, permit will be granted.

Chapter 479, Acts of 1938, as amended, to wit: Section 116 (d).

Bulge in rear wall, pulling away. Fracture front wall, lintels cracked. Chimneys in need of repair, in danger of falling. Bricks on parapet wall loose and in danger of falling. Conditions are unsafe and dangerous.

TO REMEDY THIS CONDITION: A permit must be secured from the Building Department and conditions corrected or building razed.

Thomas J. Hughes
Building Commissioner.

Doran
rmb

SECTION 116, PARAGRAPH (d), CHAPTER 479, ACTS OF 1938 AS AMENDED

Every building of which the exits are insufficient shall be provided with exits satisfactory to the commissioner; and every building which is dangerous or unsafe shall be made safe or removed; or every such building shall be vacated forthwith on order of the commissioner, with the approval of the mayor. Such order shall be in writing and shall be addressed and delivered, or mailed, postage prepaid, to the owner or tenant, if he is known or can be found, or otherwise by posting an attested copy of the order in a conspicuous place upon an external wall of the building, and shall state the conditions under which the building may again be used or occupied. An attested copy so posted shall not be defaced or removed without the approval of the commissioner. If in the opinion of the commissioner the public safety so requires the commissioner with the approval of the mayor, may at once enter the building or other structure which he finds unsafe or dangerous or land on which it stands, or the abutting land or buildings, with such assistance as he may require, and make safe or remove said unsafe or dangerous building or other structure and may protect the public by a proper fence or otherwise as may be necessary, and for this purpose may close a public or private way.

5M.-4-'57.

CITY OF BOSTON—BUILDING DEPARTMENT

001 CITY HALL ANNEX BDS

DOC. NO. 02931 YEAR PERMISSION JUL 8 59

SPECIAL FORM APPLICATION

FOR PERMIT FOR

Ordinary Repairs and Minor Alterations Not Involving Vital Structural Changes

This form NOT TO BE USED for ADDITIONS or CHANGE OF OCCUPANCY

The undersigned hereby applies to the Building Commissioner for a permit to alter repair the following-described building:

DATE July 8-59

Street and No. 1234 TREMONT ST. Rox. Fire Zone ..... Ward 9

Name of Owner Joseph Bell Address same -

Type of Construction Brick IV Group Occupancy and Division 2 c

Size of building, feet front 50 ; feet rear 50 ; feet deep 200 ; No. of stories 1

How is building NOW occupied? CAR WASH -

Main stairs ..... Back stairs ..... Fire escapes ..... Con. balconies ..... Any other .....

Detail of proposed work Erect (2) metal signs

(B80)

The facts set forth above in this application and accompanying plans are a true statement made under penalty of perjury.

Estimated Cost, $ 90 00

Joseph Bell
(Signature of Owner or Authorized Agent)

(Address) 1234 Tremont St. Rox

Lindsey F. Egerton
(Signature of Licensed Builder or Wrecker)

(Address) 255 Northampton St. Boston

Lic. No. 2207 Class G1

My license expires 11/24/59

Approved (date) 7-8-59

By John L. Riley

SIGNS by Design Inc.
(Name of Contractor)

(Address) .....

JUL 8-1959

Permit granted .....

By .....

A - 2"x2"x¼" Clips
B - 1" Pipe supports back to Roof Timbers

5M.-4-'57.

CITY OF BOSTON—BUILDING DEPARTMENT 901 CITY HALL ANNEX BDS

DOC. NO. 02931 YEAR.....

SPECIAL FORM APPLICATION

FOR PERMIT FOR

Ordinary Repairs and Minor Alterations Not Involving Vital Structural Changes

This form NOT TO BE USED for ADDITIONS or CHANGE OF OCCUPANCY

The undersigned hereby applies to the Building Commissioner for a permit to alter repair the following described building:

DATE July 8-59

Street and No. 1234 Tremont St. Rox Fire Zone..... Ward 9

Name of Owner Joseph Dell - Address same -

Type of Construction Brick IV Group Occupancy and Division J c

Size of building, feet front 30 ; feet rear 30 ; feet deep 200 ; No. of stories 1

How is building NOW occupied? CAR WASH -

Main stairs..... Back stairs..... Fire escapes..... Con. balconies..... Any other.....

Detail of proposed work Erect (2) metal signs

(B&O)

Estimated Cost, $ 90.00

The facts set forth above in this application and accompanying plans are a true statement made under penalty of perjury.

Joseph Dell

(Signature of Owner or Authorized Agent)

(Address) 1234 Tremont St. Rox

Sidney L. Epstein

(Signature of Licensed Builder or Wrecker)

(Address) 255 Northampton St.

Lic. No. 2207 Class G4

My license expires 11/24/59

Approved (date) 7-8-59

By Thos. L. Riley

SIGNS By DESIGN Inc.

(Name of Contractor)

Boston

(Address).....

Permit granted JUL 8 - 1959

By.....

1 & 3 of Application 4

INSPECTORS' FINAL REPORT

Sign 9

Aug. 31 1959

Has the work enumerated in this application been completed and approved?

Yes

Law been violated?.....Doc. No.....of 19.....

Violation removed.....19.....

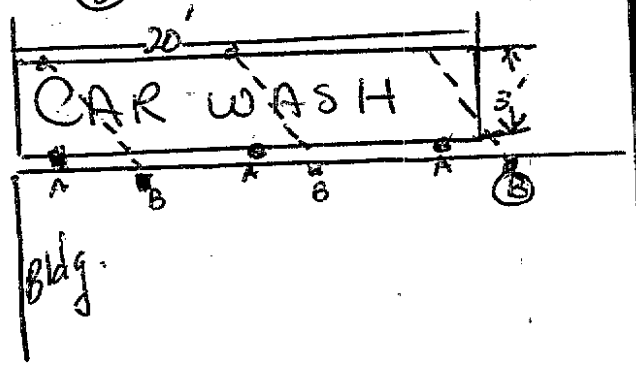
Building Inspector John W. Doran

Remarks.....

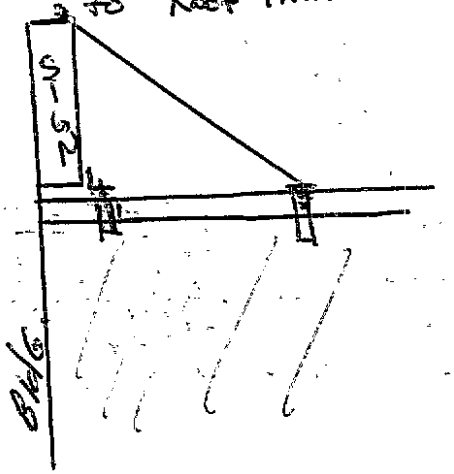
INSPECTORS' MEMORANDA

Date	REMARKS

(2 Signs)



A - 2"x2"x¼" Chips
B - 1" Pipe supports back to Roof Timbers



BARRON & FELDMAN
COUNSELLORS AT LAW
19 MILK STREET
BOSTON 9, MASS.

SAMUEL BARRON, JR.
MOSES D. FELDMAN
HARRY G. FELDMAN
PHYLLIS L. PERLMAN

TELEPHONE
HUBBARD 2-4225

August 30, 1949

Mr. Frank Whitecross
Planning Division
Building Department
City Hall
Boston, Massachusetts

Dear Sir:

In re: PROPERTY AT 1226 TO 1236 TREMONT STREET, BOSTON

Please be advised that I represent the Home Owners Federal Savings & Loan Association, and that on August 19, 1949 Jack Grusby of Boston, owner of the above-addressed premises, mortgaged said premises to the Home Owners Federal Savings & Loan Association, and recorded with the mortgage is a "Plan of Land in Boston, Roxbury, Mass., July 26, 1949, Joseph Selwyn, Civil Engineer". This survey plan indicates that Mr. Grusby has a frontage on Tremont Street of 81.50 feet.

Also be advised that on August 19, 1949, on behalf of the said Jack Grusby, I filed a petition in the Land Court, case No. 21970, to register his title to the said property. The petition for registration claims title in a parcel bounded: "NORTHWESTERLY by Tremont Street, as shown on said plan, eighty-one and 50/100 (81.50) feet; NORTHEASTERLY through the center of a nine-foot passageway, as shown on said plan, and by land of Marshall Club, Inc., fifty-five and 00/100 (55.00) feet; and SOUTHEASTERLY through the center of a ten-foot passageway, as shown on said plan, and by land of said Marshall Club, Inc., twenty-six and 50/100 (26.50) feet; etc."

The net effect of this petition for registration is that Mr. Grusby is claiming title in fee through half of the nine-foot passageway, as shown on said plan, and through half of the ten-foot passageway, as shown on said plan.

This information is being furnished you at the request of Mr. Grusby, and I trust this is what you are looking for.

Very truly yours,

Harry G. Feldman

HARRY G. FELDMAN

HGF:GL

APPLICANT MUST USE INK OR TYPEWRITER IN FILLING IN THIS APPLICATION

BUILDING DEPARTMENT RECEIVED 1949 JUL 5 PM 3:37

Certified Street Numbers.
1234 Tremont St.
O.K. as
Street Numbering Inspector.
7/1/49

CITY OF BOSTON

APPLICATION TO THE BUILDING COMMISSIONER FOR A PERMIT:

To erect, enlarge building or structure, under provisions of Chapter 479 of the Acts of 1938 as Amended by Chapter 217 of the Acts of 1939, with the Amendments by Ordinances of the City Council Incorporated.

Certified street and number 1234 Tremont St. Within 2 Fire Zone. Ward 9

Name of Owner Jack Grusby Address 1238 Tremont St.

Name of Architect or Engineer Wm. Galvin " Cambridge, Mass.

Classification of building or structure — Pre-Code ..... Post-Code X Type of Construction I

Dimensions of building or structure — Front 50 Right side 112' Left side 112' Rear 24'

Height from sidewalk or mean grade to highest point of roof 17'

Dimensions Lot — Front 50.0' Right side 180.92' Left side 180.92' Rear 55.0'

Main stairs None Back stairs None Fire escapes None Con. balconies None Any other —

Material of — Foundation Concr. Floors Concr. Walls Concr. Block BRICK " Thickness of 12"

Roof construction Concr. Slab Soil Sand & gravel Party walls — Thickness of —

Floors	1	2	3	4	Any Others
Occupancy	Light Mfg. of Auto Seat Covers & Car Wash				
Number of persons accommodated	10				
Designed live load	80 On Ground 40			7	

Number of employees in building 10 Proposed occupancy Light Mfg. & Car Wash of Auto Seat Covers

Estimated cost 35,000

GENERAL DESCRIPTION OF THE PROPOSED WORK AND ITS LOCATION

The construction of a one story 12" Concrete block bldg. Foundation to consist of 12" Concrete walls. Roof to be Concrete slabs & floor to be poured Concrete.

JUL 5 1949

Date 7/5/49

The facts set forth above in this application and accompanying plans are a true statement made under penalty of perjury.

D. C. Loveys (Signature of Owner or Authorized Agent) (Address) 1470 Mass Ave, Cambridge

Howard C. Loveys (Signature of Licensed Builder) D. C. Loveys Co. (Name of Contractor)

Address 1470 Mass Ave, Cambridge Address 1470 Mass Ave

Lic. No. ..... Class .....

My license expires .....

Cambridge

(5-10-'46.)

No. 1211 JUL 5 1949

Rebid - 4 - 2626

PAID CITY OF BOSTON $70.00 JUL 1949

Application to the Building Commissioner for Permit:—

I

To erect, enlarge building or structure

CERTIFIED STREET AND NUMBER

1234 Tremont Street,

Ward 9

B-90

PERMIT GRANTED

SEP 5 1949 194

Permit filled out by

Plan number File number F 100

Plan filed with Application

EXAMINATION OF PLANS

Approved APPROVED SEP 1 1949

Thomas ... Chief, Plan Division

Deputy Building Commissioner

Approved for special foundation permit
See permit #
WM

EXAMINED AUG 31 1949
F. F. ... O.K.

EXAMINED AUG 8 1949
F. F. ...
1. Egress, 2. Groups, 3. Construction
4. Conc. mix, 5. Sign
Plans taken by Mr. Galuni 8/10/49
" " " Eng. 8/26/49

Group occupancy and division F 2-6

Present principal occupancy vacant

8/1/49.

EXAMINATION OF PLANS

ZONING

All applications for new buildings and all applications increasing the area of buildings, must be accompanied by a survey of the lot signed by a qualified surveyor, or a true survey in accordance with last filing at Registry of Deeds, giving Deed number, Reference Book number and Page number.

Plot plan must show:—

Area of lot in square feet.

Area of building in square feet.

Percentage of area of lot covered.

Approved as in compliance with Acts of 1924, Chapter 488, as amended.

Zone

P.P. Not Certified — Chief of Zoning Division
Bldg Size — Plan & Appl. Correc
Card Sent (✓)

EXAMINED JUL 13 1949

7-20 Plans & Lic Taken By Owner.

BUILDING DEPARTMENT
CITY OF BOSTON
ZONING DIVISION
APPROVED

JUL 27 1949 B 80

CHIEF, ZONING DIV.

3

5M.-8-'47.

CITY OF BOSTON—BUILDING DEPARTMENT

901 CITY HALL ANNEX — B D 17

DOC. NO. 516 YEAR

SPECIAL FORM APPLICATION

FOR PERMIT FOR

Ordinary Repairs and Minor Alterations Not Involving Vital Structural Changes

This form NOT TO BE USED for ADDITIONS or CHANGE OF OCCUPANCY

The undersigned hereby applies to the Building Commissioner for a permit to alter / repair the following-described building:

DATE Feb 25-48

Street and No. 1234 Tremont St.

Name of Owner White Streak Motors Fire Zone 2nd Zone Ward 9

Address 1234 Tremont St. Boston

Type of Construction .... Group Occupancy and Division ....

Size of building, feet front ....; feet rear ....; feet deep ....; No. of stories ....

How is Building NOW occupied? USED CAR LOT (SIGN)

Main stairs .... Back stairs .... Fire escapes .... Con. balconies .... Any other ....

Detail of proposed work Erect V Shape Neon Signs on 4 8"×8" wood Poles (B-50)

SIGN

SIGN

The facts set forth above in this application and accompanying plans are a true statement made under penalty of perjury. Estimated Cost $ 90.00

James Burke

(Signature of Owner or Authorized Agent) (Address) 1825 [illegible] W. Rox

John A. Barthe

(Signature of Licensed Builder or Wrecker) (Name of Contractor)

(Address) 119 Florence St. Ros.

Lic. No. 3335 Class C-4 (Address)

My license expires March 5-48

Approved (date) 2-25-48

By D. J. [illegible]

Permit granted FEB 25 1948

By

1234 TREMONT ST

INSPECTORS' FINAL REPORT

WD 9

January 21 19 60

Has the work enumerated in this application been completed and approved?

.....

Law been violated?.....Doc. No.....of 19.....

Violation removed.....19.....

Building Inspector John R. Ball

Remarks CAR WASH IS NOW IN BLDG

.....

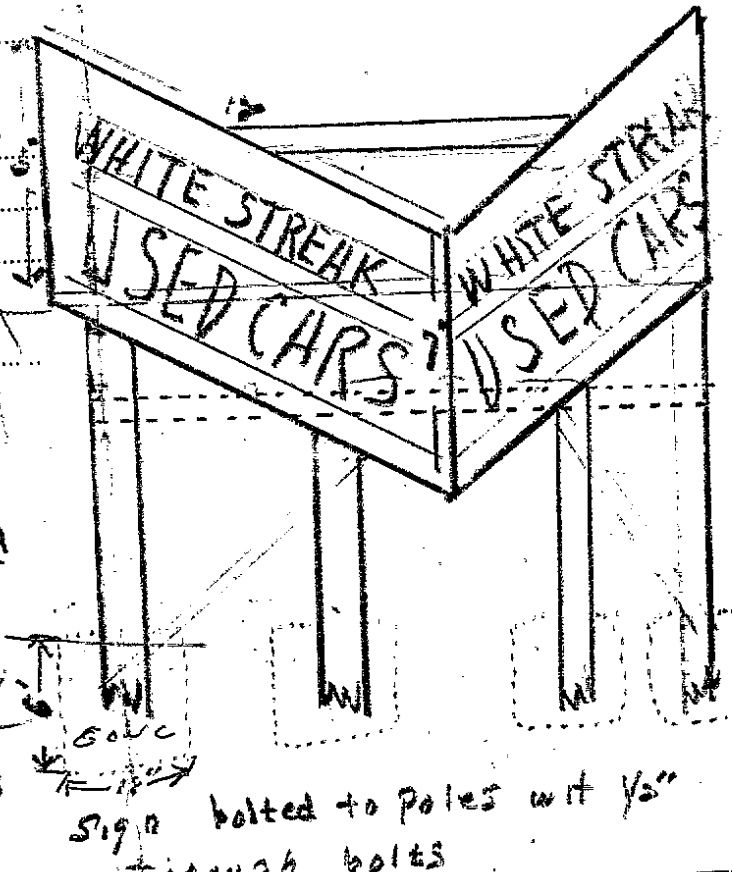
.....

.....

.....

INSPECTORS' MEMORANDA

Date	REMARKS



5M.-8-'47.

CITY OF BOSTON—BUILDING DEPARTMENT

ROOM 801, CITY HALL ANNEX

B D 17

DOC. NO. 0 516 YEAR

SPECIAL FORM APPLICATION

FOR PERMIT FOR

Ordinary Repairs and Minor Alterations Not Involving Vital Structural Changes

This form NOT TO BE USED for ADDITIONS or CHANGE OF OCCUPANCY

The undersigned hereby applies to the Building Commissioner for a permit to alter / repair the following-described building:

DATE Feb-25-48

Street and No. 1234 Tremont St. Fire Zone 2 Ward 9

Name of Owner White Steuk Motors Address 1234 Tremont St. Boston

Type of Construction ..... Group Occupancy and Division .....

Size of building, feet front ..... ; feet rear ..... ; feet deep ..... ; No. of stories .....

How is Building NOW occupied? USED CAR Lot (SIGN)

Main stairs ..... Back stairs ..... Fire escapes ..... Con. balconies ..... Any other .....

Detail of proposed work Erect ✓ 5 Sign Neon Signs on 4 8"x8" Wood Poles (B-20)

SIGN

SIGN

Estimated Cost $ 90.00

The facts set forth above in this application and accompanying plans are a true statement made under penalty of perjury.

James Burke
(Signature of Owner or Authorized Agent)

(Address) 1825 Centre St W. Roxbury

John A Barthe ✓
(Signature of Licensed Builder or Wrecker)

(Address) 219 Florence St. Rox.

Lic. No 2335 ✓ Class 6-4 ✓

My license expires March 15-48 ✓

Approved (date) 2-25-48

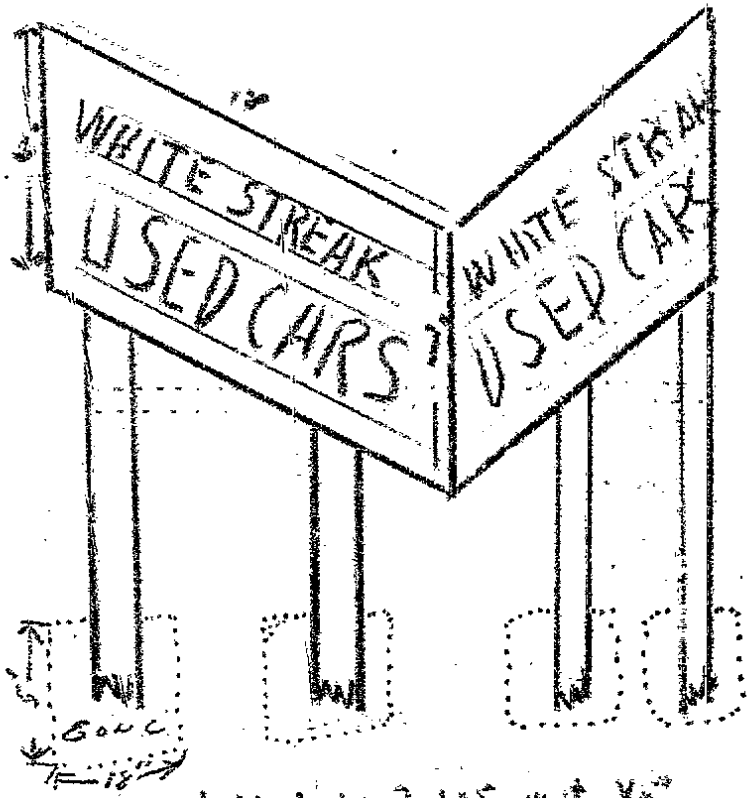
By D. J. McLane

(Name of Contractor)

(Address) .....

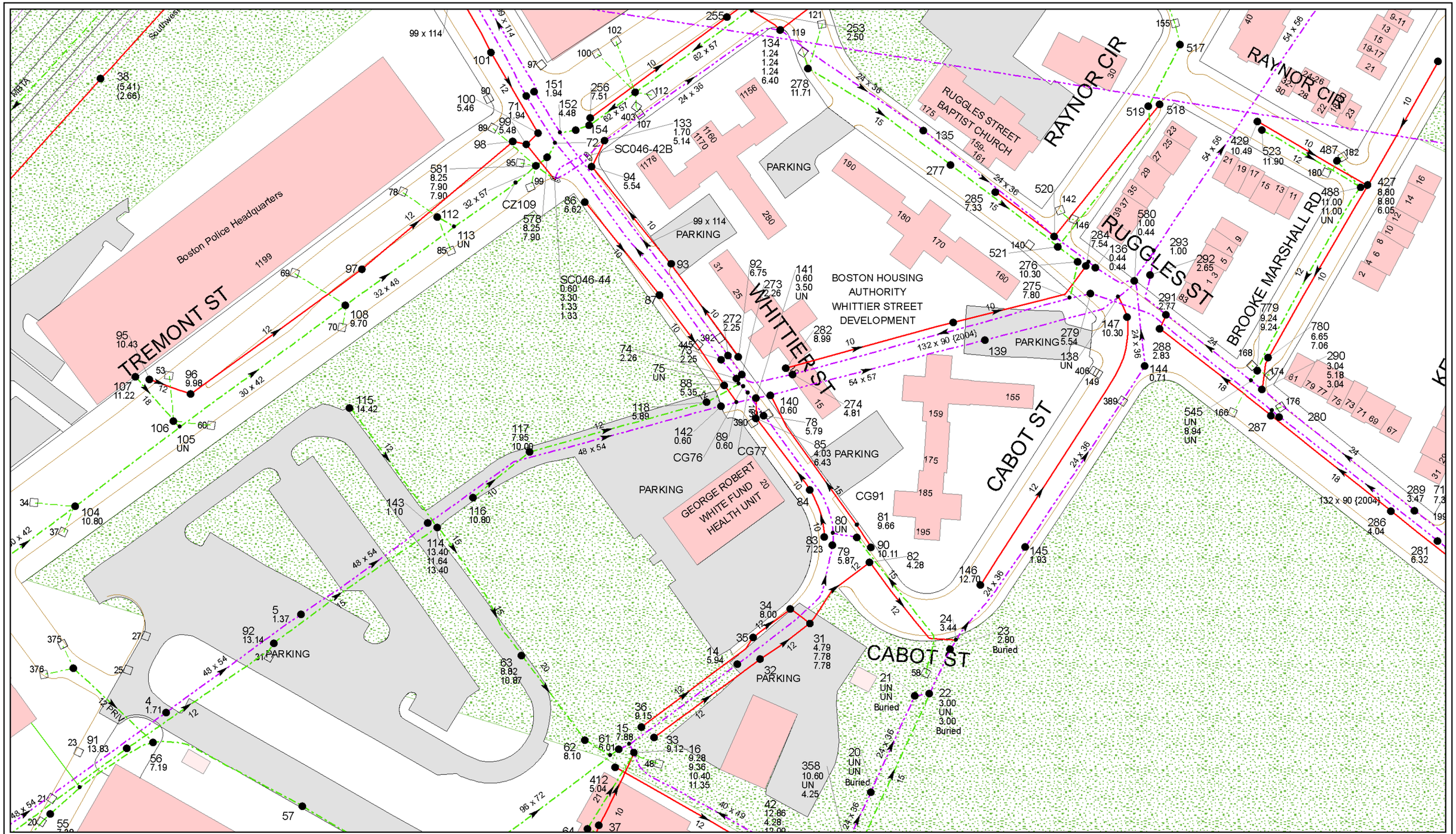
Permit granted FEB 25 1948

By .....



4 - 8"x8" wood Poles
5' in cement

Sign bolted to Poles with ½"
Through bolts

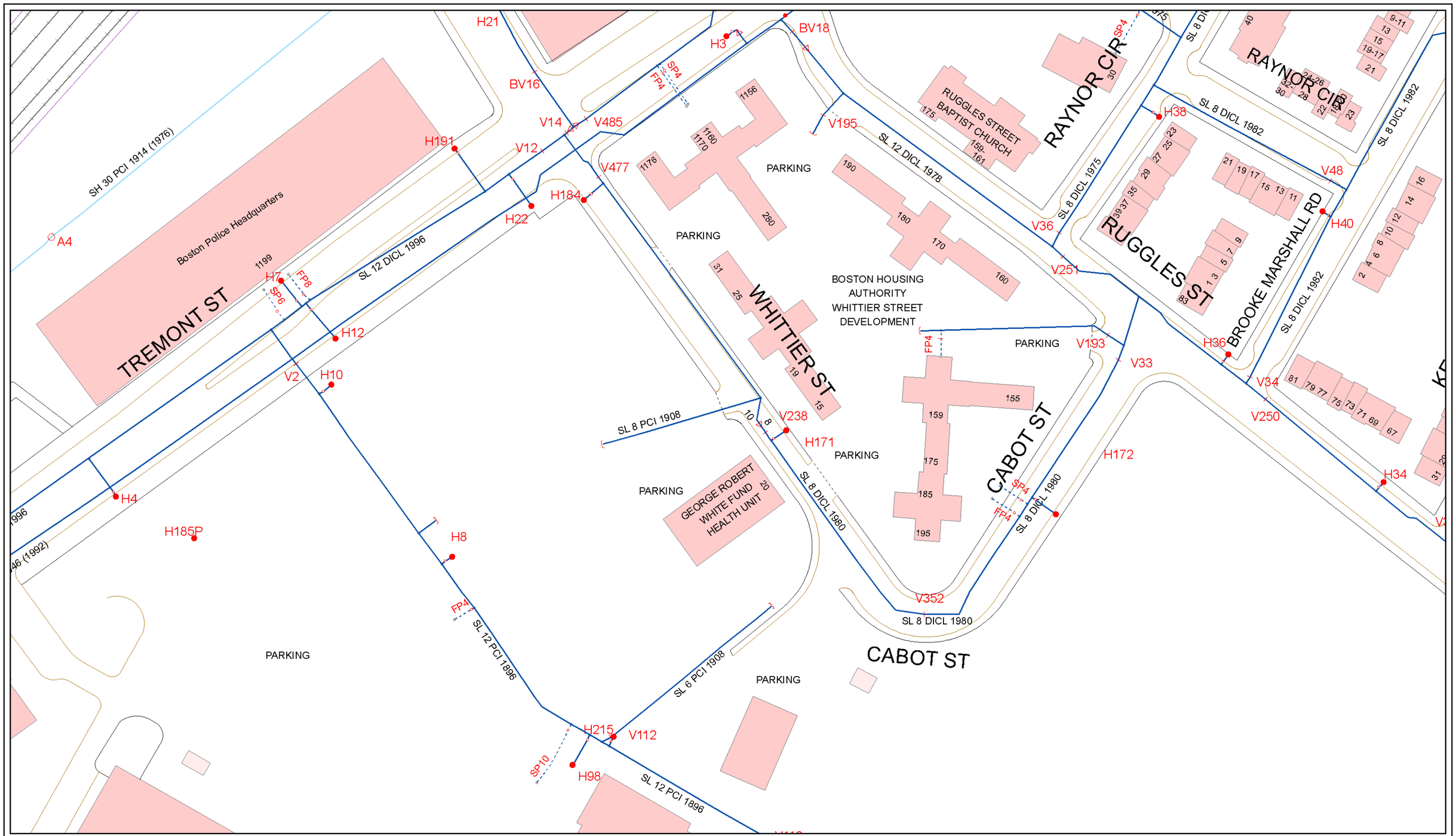


BOSTON WATER AND SEWER

N W E S

100 50 0 100 200 300 Feet

1 inch = 100 feet



BOSTON WATER AND SEWER

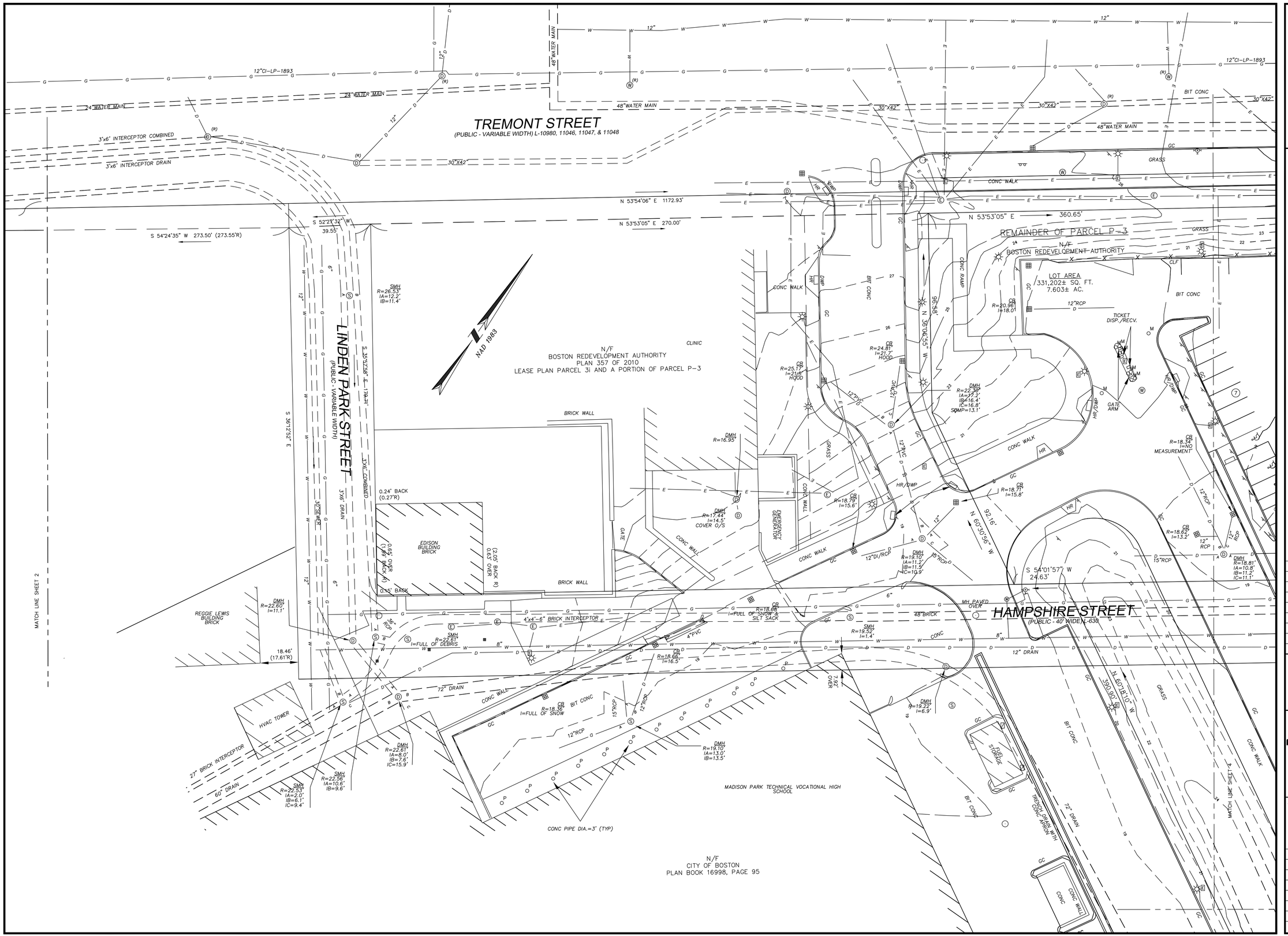
N W E S

100 50 0 100 200 300 Feet

1 inch = 100 feet

Appendix D

Existing Site Drawings



PARCEL P-3

TREMONT STREET

IN

ROXBURY
MASSACHUSETTS
(SUFFOLK COUNTY)

EXISTING CONDITIONS

FEBRUARY 28, 2012

REVISIONS:

NO.	DATE	DESC.

PREPARED FOR:

P3 PARTNERS, LLC
220 ELM ST. SUITE 104
NEW CANAAN CT, 06840

BSC GROUP
15 Elkins Street
Boston, Massachusetts
02127
617 896 4300

SCALE: 1" = 20'
0 2.5 5 10 METERS
0 10 20 40 FEET

PROJ. MGR.: S.MARTORANO		
FIELD: N.BRYANT		
CALC./DESIGN: M.HASSANOVA		
DRAWN: J.DOTOLO		
CHECK: S.EWALD		
FILE: P:\PRJ\2315500\SURVEY\DRAWINGS		
DWG. NO: 2315500EC1	FILED:	SHEET
JOB. NO: 2-3155.00	FILED	3 OF 7

TREMONT STREET
(PUBLIC - VARIABLE WIDTH) L-10980, 11046, 11047, & 11048

VERNON STREET
(PUBLIC-40' WIDE) L440

HAMPSHIRE STREET
(PUBLIC - VARIABLE WIDTH) L-1924

REMAINDER OF PARCEL P-3
N/F
BOSTON REDEVELOPMENT AUTHORITY
LOT AREA
331,202± SQ. FT.
7.603± AC.

N 53°54'06" E 1172.93'
360.65'
N 53°53'05" E
40.00'
N 53°51'14" E
335.12'
N 53°52'32" E

NAD 1983

MATCH LINE SHEET 5
MATCH LINE SHEET 6

PARCEL P-3

TREMONT STREET
IN
ROXBURY
MASSACHUSETTS
(SUFFOLK COUNTY)

EXISTING CONDITIONS

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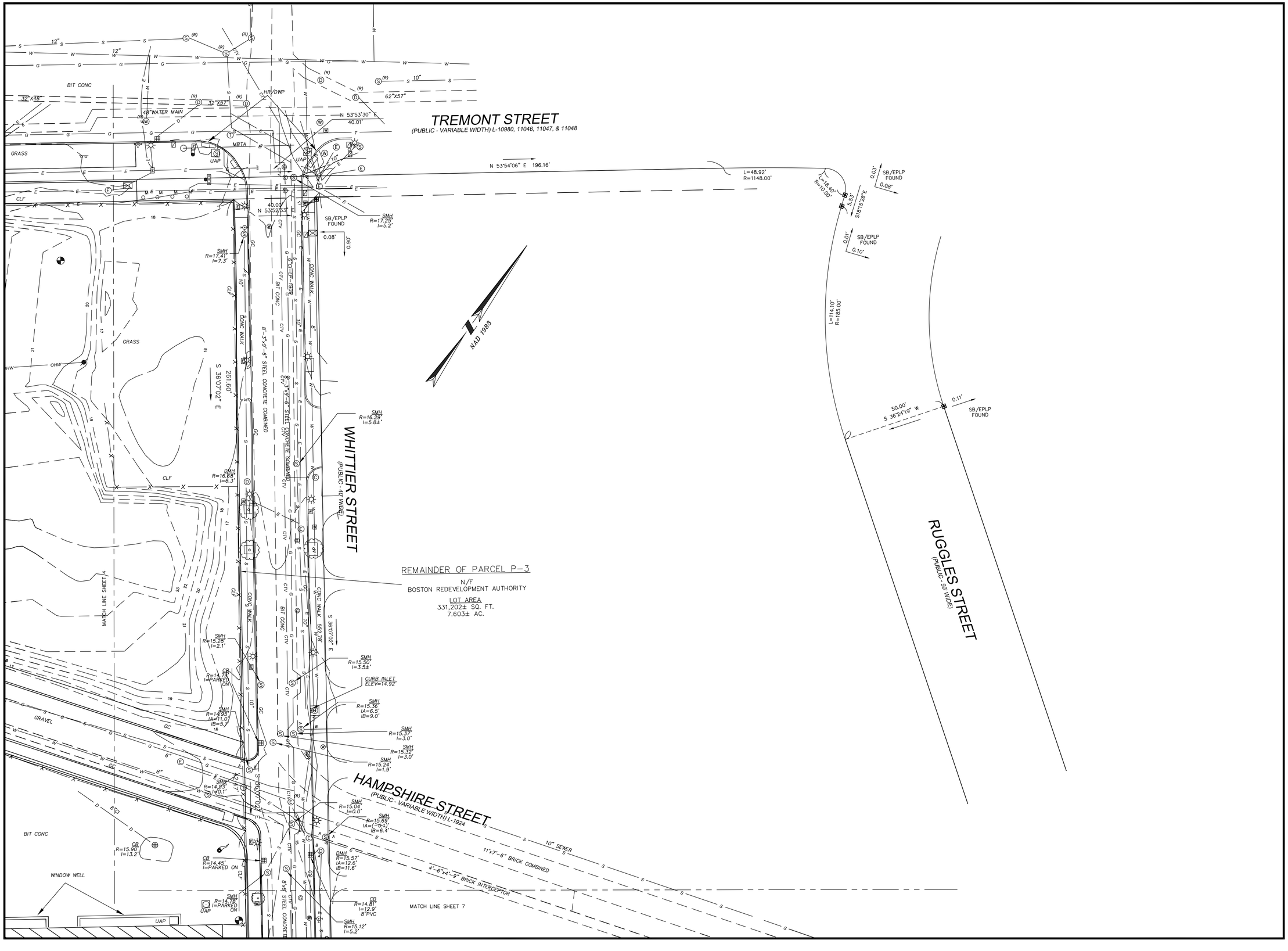
FILE: P:\PRJ\2315500\SURVEY\DRAWINGS		
DWG. NO: 2315500EC1	FILED:	SHEET
JOB. NO: 2-3155.00	FILED	4 OF 7



PARCEL
P-3

TREMONT STREET

IN

ROXBURY
MASSACHUSETTS
(SUFFOLK COUNTY)

EXISTING CONDITIONS

FEBRUARY 28, 2012

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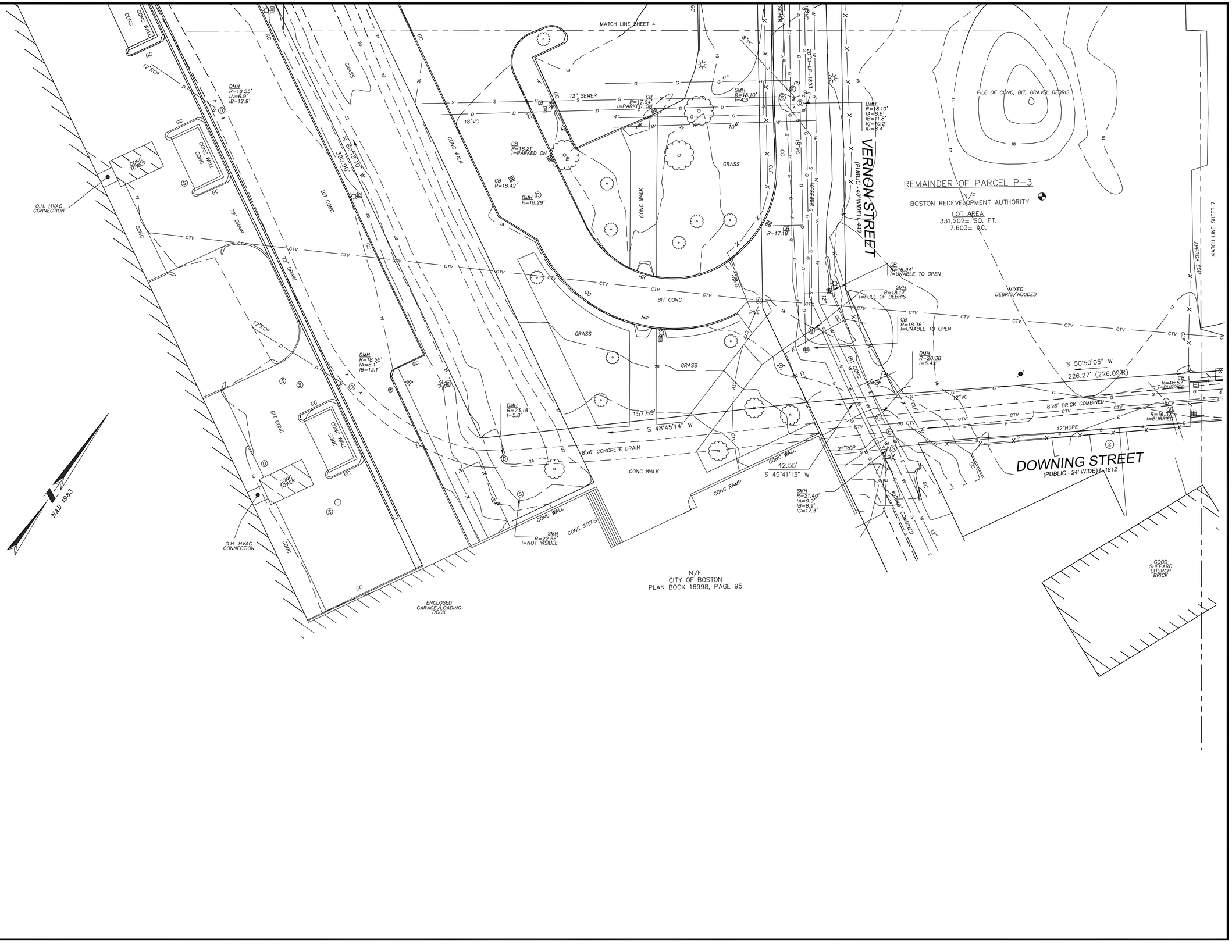
FILE: P:\PRJ\2315500\SURVEY\DRAWINGS		
DWG. NO: 2315500EC1	FILED:	SHEET
JOB. NO: 2-3155.00	FILED	5 OF 7



PARCEL P-3

TREMONT STREET

IN

ROXBURY
MASSACHUSETTS
(SUFFOLK COUNTY)

EXISTING CONDITIONS

FEBRUARY 28, 2012

REVISIONS:

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BSC GROUP
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617 896 4300

SCALE: 1" = 20'

0 2.5 5 10 METERS
0 10 20 40 FEET

PROJ. MGR.: S.MARTORANO		
FIELD: N.BRYANT		
CALC./DESIGN: M.HASSANOVA		
DRAWN: J.DOTOLO		
CHECK: S.EWALD		
FILE: P:\PRJ\2315500\SURVEY\DRAWINGS		
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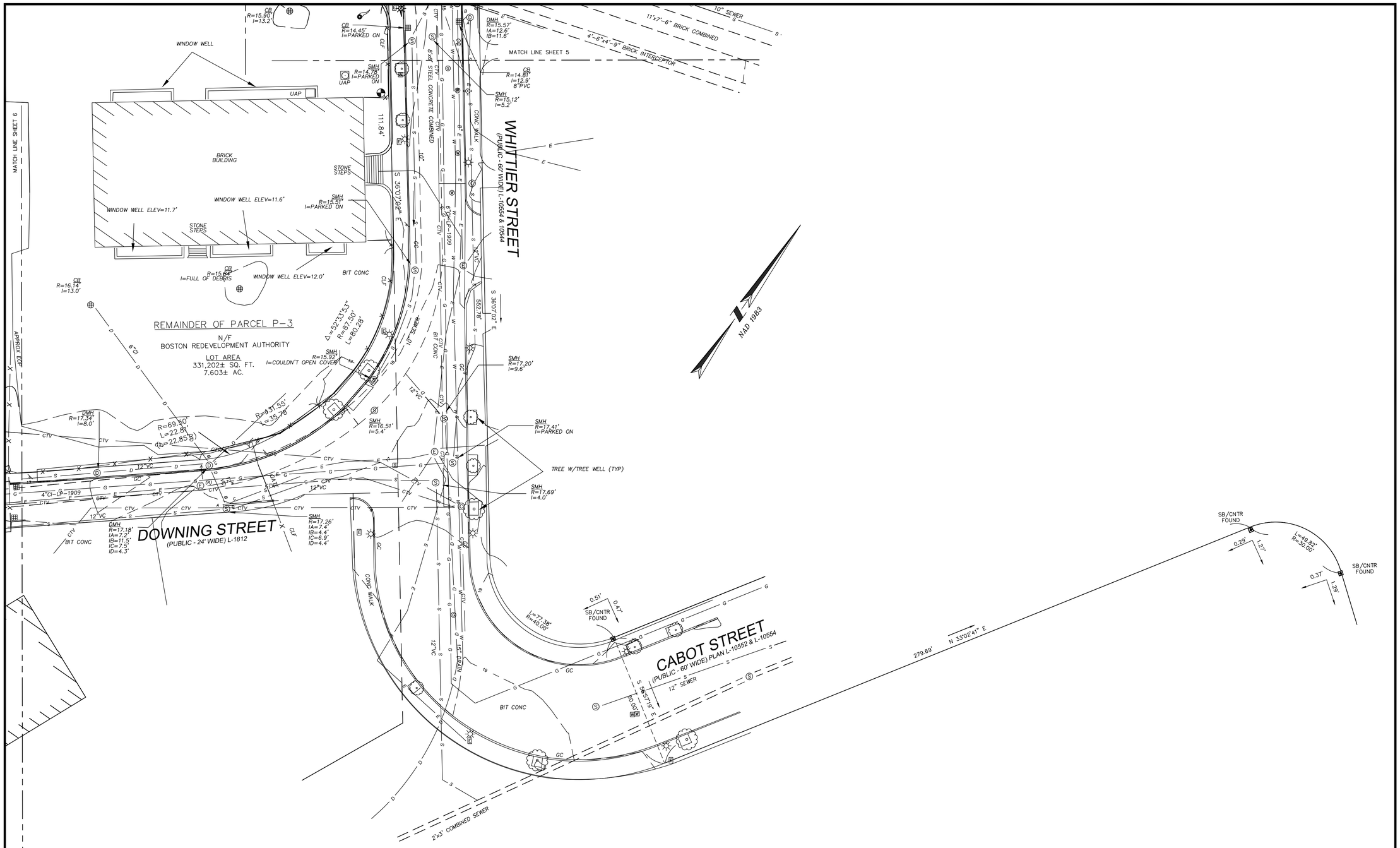
JOB. NO: 2-3155.00	FILED	6 OF 7



PARCEL P-3

TREMONT STREET

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MASSACHUSETTS
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FILE: P:\PRJ\2315500\SURVEY\DRAWINGS		
DWG. NO: 2315500EC1	FILED:	SHEET
JOB. NO: 2-3155.00	FILED	7 OF 7

Appendix E

GEI Boring and Well Installation Logs

BORING INFORMATION

LOCATION: See boring location plan
GROUND SURFACE EL. (ft): 19.6
VERTICAL DATUM: Boston City Base
TOTAL DEPTH (ft): 79.0
LOGGED BY: H. Shields
DATE START/END: 7/25/2013 - 7/26/2013
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: Chip Tucker
RIG TYPE: Mobile B-59 Truck Rig

BORING

B101

DRILLING INFORMATION

HAMMER TYPE: Donut Hammer - rope and cathead
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Rotary Wash
CASING I.D./O.D.: 4 inch/ 4.5 inch
DRILL ROD O.D.: 2.625
CORE BARREL TYPE: NA
CORE BARREL I.D./O.D. NA / NA
WATER LEVEL DEPTHS (ft): ▼ 11.8 7/26/2013 7:18 am

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

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0.5 to 2.5	24/7	14-28-33-27	PID = 0	FILL	0 - 4": Asphalt. S1: WIDELY GRADED SAND WITH GRAVEL (SW); ~75% fine to coarse sand, ~20% fine to coarse gravel, <5% nonplastic fines. Light brown, top 2" are gray.
	5	S2	4 to 6	24/8	11-14-15-13	PID = 0	SAND AND SILT	S2: WIDELY GRADED SAND WITH SILT (SW-SM); ~85% fine to coarse sand, 10% nonplastic fines ~5% coarse gravel (one piece of 1.25" gravel) . Brown.
10	10	S3	9 to 11	24/10	12-13-20-24	PID = 0		S3: NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% mostly fine to medium sand, ~10% nonplastic fines. Brown.
	15	S4	14 to 16	24/9	12-12-18-21	PID = 0		S4: WIDELY GRADED SAND WITH GRAVEL (SW); ~75% fine to coarse sand, ~20% mostly fine gravel, ~5% nonplastic fines. Brown.
0	20	S5	19 to 21	24/13	27-34-40-31	PID = 0		S5: WIDELY GRADED SAND WITH GRAVEL (SW); ~75% fine to coarse sand, ~20% mostly fine gravel, ~5% nonplastic fines. Light brown.

NOTES:

PROJECT NAME: Tremont Crossing
CITY/STATE: Roxbury, Massachusetts
GEI PROJECT NUMBER: 132673-0

GEI Consultants

LOCATION: See boring location plan
GROUND SURFACE EL. (ft): 19.6 **DATE START/END:** 7/25/2013 - 7/26/2013
VERTICAL DATUM: Boston City Base **DRILLING COMPANY:** Northern Drill Service, Inc.

BORING B101

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	25	S6	24 to 26	24/10	28-20-19-27	PID = 0	SAND AND SILT	S6 (0-4"): WIDELY GRADED SAND (SW); ~85% fine to coarse sand, ~10% mostly fine gravel, ~5% nonplastic fines. Brown. S6 (4-10"): NARROWLY GRADED SAND WITH SILT (SP-SM); ~80% mostly fine sand, ~10% mostly fine gravel, ~10% nonplastic fines. Light brown.
		S7	26 to 28	24/4	10-14-19-24	PID = 0		S7: WIDELY GRADED SAND (SW); ~95% fine to coarse sand, <5% mostly fine grave. Brown.
-10	30	S8	29 to 31	24/13	11-17-24-27	PID = 0		S8: SILTY SAND (SM); 83% mostly fine sand, 17% nonplastic fines. Light brown.
	35	S9	34 to 36	24/11	16-33-33-32			S9: WIDELY GRADED SAND WITH GRAVEL AND SILT (SW-SM); ~75% fine to coarse sand, ~15% mostly fine gravel, ~10% nonplastic fines. Brown.
-20	40	S10	39 to 41	24/12	10-18-23-27			S10: NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% mostly fine to medium sand, 10% nonplastic fines. Light brown.
	45	S11	44 to 46	24/18	9-10-13-18			S11: SANDY SILT (ML); 60% nonplastic fines, 40% fine sand. Light brown.
-30	50	S12	49 to 51	24/12	12-19-28-33			S12: NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% fine to medium sand, ~10% nonplastic fines, ~5% mostly fine gravel. Light brown.
	55	S13	54 to 55.5	18/2	39-57-75	Driller noted change in drilling at 53.5 ft. Color of wash water changed.	TILL	S13: WIDELY GRADED GRAVEL (GW); Fine to coarse angular gravel. Gray.

NOTES:

PROJECT NAME: Tremont Crossing
CITY/STATE: Roxbury, Massachusetts
GEI PROJECT NUMBER: 132673-0

GEI Consultants

LOCATION: See boring location plan
GROUND SURFACE EL. (ft): 19.6 **DATE START/END:** 7/25/2013 - 7/26/2013
VERTICAL DATUM: Boston City Base **DRILLING COMPANY:** Northern Drill Service, Inc.

BORING B101

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
						After S13, drove 3-in-OD split spoon to recover sample.	TILL	S13 Redrive: CLAYEY GRAVEL WITH SAND (GC); ~40% fine to coarse gravel up to 2", ~30% fine to coarse sand, ~30% low plasticity fines. Light gray.
-40	60	S14	59 to 61	24/14	51-50-73-106			S14: CLAYEY SAND WITH GRAVEL (SC); ~40% fine to coarse sand, ~35% fine to coarse gravel up to 1", ~25% low plasticity fines. Light gray.
	65							
-50	70	S15	69 to 69	0/0	50/0"	Possible weathered rock at ~69 feet.	WEATHERED ROCK	S15: No penetration, no recovery.
	75					Harder rock at ~73 feet.	BEDROCK	
-60	80	S16	79 to 79	0/0	50/0"			S16: No penetration, no recovery. Bottom of boring at depth 79 ft. Borehole backfilled with cuttings. Asphalt repaired with cold patch.
	85							

NOTES:

PROJECT NAME: Tremont Crossing
CITY/STATE: Roxbury, Massachusetts
GEI PROJECT NUMBER: 132673-0

GEI Consultants

BORING INFORMATION

LOCATION: See boring location plan
GROUND SURFACE EL. (ft): 17.5
VERTICAL DATUM: Boston City Base
TOTAL DEPTH (ft): 94.0
LOGGED BY: H. Shields
DATE START/END: 7/26/2013 - 7/27/2013
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: Chip Tucker/Chris DeVillers
RIG TYPE: Mobile B-59 Truck Rig

BORING

B102(OW)

DRILLING INFORMATION

HAMMER TYPE: Donut Hammer - rope and cathead
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Rotary Wash
WATER LEVEL DEPTHS (ft): Not measured
CASING I.D./O.D.: 4 inch/ 4.5 inch
DRILL ROD O.D.: 2.625
CORE BARREL TYPE: NA
CORE BARREL I.D./O.D. NA / NA

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

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 2	24/18	5-9-14-27	PID = 0	FILL	S1 (0-4"): SILTY SAND (SM); ~60% mostly fine sand, ~40% low plasticity fines. Brown, plant fibers, slight organic odor, a few brick fragments. Topsoil. S1 (4-9"): Brick fragments. S1 (9-18"): SILTY GRAVEL WITH SAND (GM); ~50% fine to coarse gravel, ~30% fine to coarse sand, ~20% nonplastic fines. Gray and black, asphalt and concrete pieces.
	5	S2	4 to 6	24/11	15-13-21-20	PID = 0		S2: Brick fragments; ~90% fine to coarse brick fragments up to 1", ~10% fine to coarse sand. Red and gray.
10							CLAY	
	10	S3	9 to 11	24/6	5-4-4-4	PID = 0		S3: SANDY LEAN CLAY (CL); ~50% low plasticity fines, ~40% fine to coarse sand, ~10% fine gravel. Gray.
	15	S4	14 to 16	24/2	3-3-2-3	PID = 0	ORGANICS	S4: ORGANIC SILT (OL); Low plasticity fines. Dark gray, a few plant fibers, slight organic odor. S4 Redrive: Similar to S4.
0								
	20	S5	19 to 21	24/21	2-1-2-2	PID = 0		S5: ORGANIC SILT (OL); Similar to S4. Layer of peat at 12-16 inches.

NOTES:

PROJECT NAME: Tremont Crossing
CITY/STATE: Roxbury, Massachusetts
GEI PROJECT NUMBER: 132673-0

GEI Consultants

LOCATION: See boring location plan
GROUND SURFACE EL. (ft): 17.5 **DATE START/END:** 7/26/2013 - 7/27/2013
VERTICAL DATUM: Boston City Base **DRILLING COMPANY:** Northern Drill Service, Inc.

BORING B102(OW)

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	25	S6	24 to 26	24/10	14-9-22-25		SAND AND SILT	S6: SILTY SAND (SM); ~75% mostly fine to medium sand, 20% nonplastic fines, <5% fine gravel. Gray. Tip of sample contains WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% fine to coarse sand, ~30% mostly fine gravel, ~10% nonplastic fines. Orange-brown.
-10								
	30	S7	29 to 31	24/7	13-12-12-10			S7: WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~60% fine to coarse sand, ~30% mostly fine gravel, ~10% nonplastic fines. Brown.
	35	S8	34 to 36	24/6	64-62-19-25			S8: WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~75% fine to coarse sand, ~15% mostly fine gravel, ~10% nonplastic fines. Brown.
-20								
	40	S9	39 to 41	24/0	20-7-10-11			S9: No recovery. S9 Redrive: WIDELY GRADED SAND WITH GRAVEL (SW); ~65% fine to coarse sand, ~35% mostly fine gravel, <5% nonplastic fines. Brown.
	45							
-30								
	50	S10	49 to 51	24/2	12-12-10-10			S10: WIDELY GRADED SAND WITH GRAVEL (SW); Similar to S9 Redrive. S10 Redrive: WIDELY GRADED SAND WITH GRAVEL (SW); Similar to S9 Redrive.
	55							

NOTES:

PROJECT NAME: Tremont Crossing
CITY/STATE: Roxbury, Massachusetts
GEI PROJECT NUMBER: 132673-0

GEI Consultants

LOCATION: See boring location plan
GROUND SURFACE EL. (ft): 17.5 **DATE START/END:** 7/26/2013 - 7/27/2013
VERTICAL DATUM: Boston City Base **DRILLING COMPANY:** Northern Drill Service, Inc.

BORING B102(OW)

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
-40								
	60	S11	59 to 61	24/2	10-9-10-28			S11: WIDELY GRADED SAND WITH GRAVEL (SW); Similar to S9 Redrive. S11 Redrive: WIDELY GRADED SAND WITH SILT (SW-SM); ~85% mostly medium to coarse sand, ~10% nonplastic fines, <5% mostly fine gravel. Brown. Two pieces of 2" gravel stuck in tip of sampler.
	65	S12	64 to 66	24/0	10-6-10-10			S12: No recovery. S12 Redrive: One piece of 2" gravel, gray.
-50								
	70	S13	69 to 71	24/1	11-15-16-22		SAND AND SILT	S13: WIDLEY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~50% fine to coarse sand, ~40% mostly fine gravel, ~10% nonplastic fines. Brown. S13 Redrive: NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% fine to medium sand, ~10% nonplastic fines. Brown.
	75	S14	74 to 76	24/0	16-21-22-21			S14: No recovery.
-60								
	80	S15	79 to 81	24/7	18-26-33-30			S15: NARROWLY GRADED SAND WITH SILT (SP-SM); 80% mostly fine to medium sand, 11% nonplastic fines, 9% mostly fine gravel. Brown, pieces of coarse gravel stuck in tip of sampler. S16: NARROWLY GRADED GRAVEL WITH SAND (GP); ~80% mostly coarse gravel up to 1.25", ~15% fine to coarse sand, <5% low plasticity fines. Light brown and gray. S16 Redrive: NARROWLY GRADED GRAVEL WITH SAND (GP); ~60% mostly fine gravel (one piece of 2" gravel), ~35% fine to coarse sand, <5% nonplastic fines. Light brown.
	85	S16	84 to 86	24/2	41-23-27-45			

NOTES:

PROJECT NAME: Tremont Crossing
CITY/STATE: Roxbury, Massachusetts
GEI PROJECT NUMBER: 132673-0

GEI Consultants

LOCATION: See boring location plan
GROUND SURFACE EL. (ft): 17.5 **DATE START/END:** 7/26/2013 - 7/27/2013
VERTICAL DATUM: Boston City Base **DRILLING COMPANY:** Northern Drill Service, Inc.

BORING B102(OW)

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
-70	90						SAND AND SILT	Soil collected from wash at 94 feet: NARROWLY GRADED SAND (SP); Similar to S15.
	95							Bottom of boring at depth 94 ft. Observation well installed - see separate installation log.
-80	100							
	105							
-90	110							
	115							
-100								

NOTES:

PROJECT NAME: Tremont Crossing
CITY/STATE: Roxbury, Massachusetts
GEI PROJECT NUMBER: 132673-0

GEI Consultants

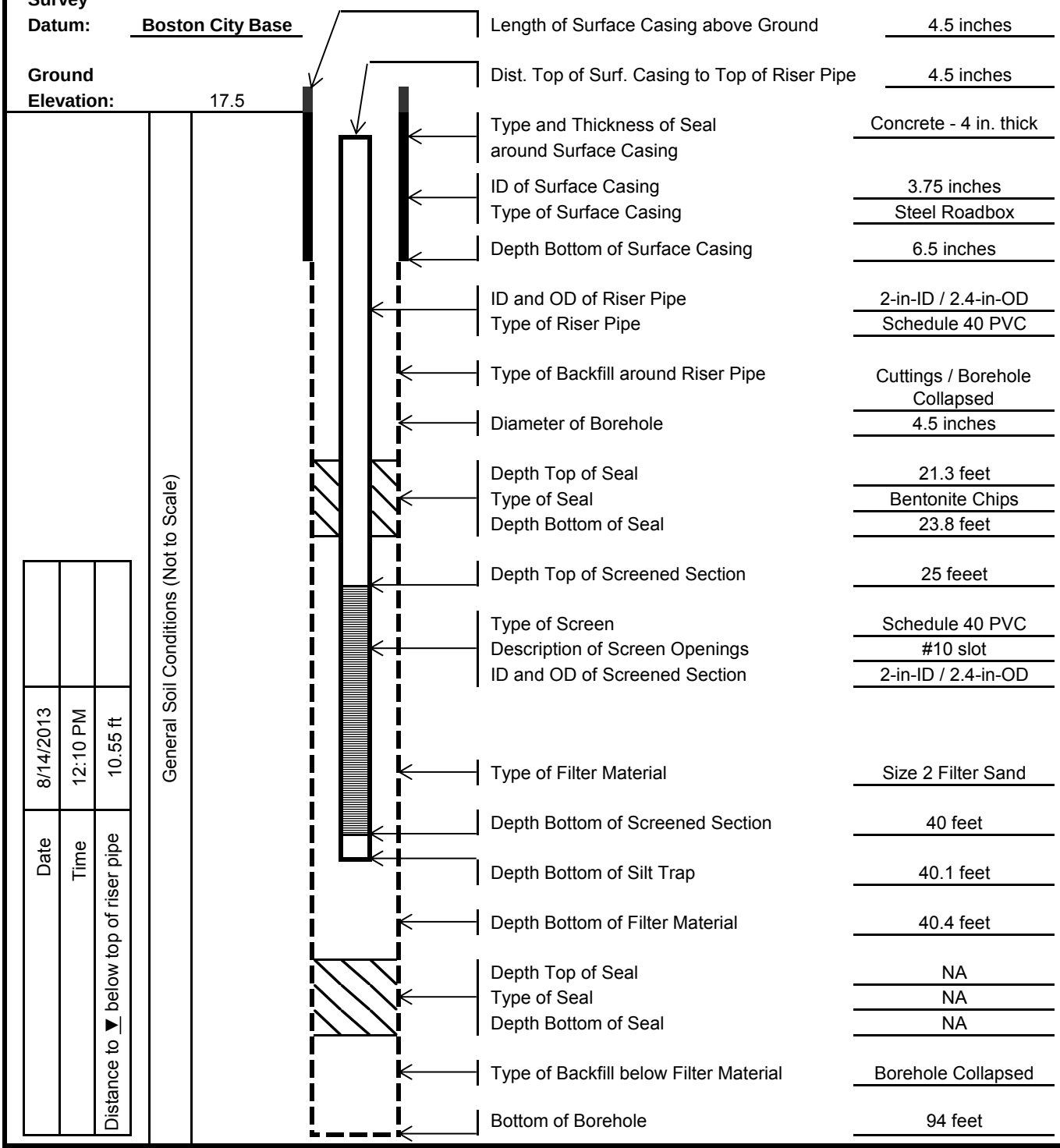
Groundwater Well Installation Log

B102 (OW)

Project	Tremont Crossing	**GEI Proj. No.**	132673-0
City / Town	Roxbury, Massachusetts	**Location**	Fenced area near intersection of Tremont St. and Whittier St.
Client	Feldco Development		
Contractor	Northern Drill Service		
Driller	Chris DeVillers **GEI Rep.** H. Shields	**Install Date**	7/27/2013

Survey Datum: **Boston City Base**

Ground Elevation: 17.5



Length of Surface Casing above Ground	4.5 inches
Dist. Top of Surf. Casing to Top of Riser Pipe	4.5 inches
Type and Thickness of Seal around Surface Casing	Concrete - 4 in. thick
ID of Surface Casing	3.75 inches
Type of Surface Casing	Steel Roadbox
Depth Bottom of Surface Casing	6.5 inches
ID and OD of Riser Pipe	2-in-ID / 2.4-in-OD
Type of Riser Pipe	Schedule 40 PVC
Type of Backfill around Riser Pipe	Cuttings / Borehole Collapsed
Diameter of Borehole	4.5 inches
Depth Top of Seal	21.3 feet
Type of Seal	Bentonite Chips
Depth Bottom of Seal	23.8 feet
Depth Top of Screened Section	25 feeet
Type of Screen	Schedule 40 PVC
Description of Screen Openings	#10 slot
ID and OD of Screened Section	2-in-ID / 2.4-in-OD
Type of Filter Material	Size 2 Filter Sand
Depth Bottom of Screened Section	40 feet
Depth Bottom of Silt Trap	40.1 feet
Depth Bottom of Filter Material	40.4 feet
Depth Top of Seal	NA
Type of Seal	NA
Depth Bottom of Seal	NA
Type of Backfill below Filter Material	Borehole Collapsed
Bottom of Borehole	94 feet

Notes:

GEI Consultants

BORING INFORMATION

LOCATION: See boring location plan
GROUND SURFACE EL. (ft): 22
VERTICAL DATUM: Boston City Base
TOTAL DEPTH (ft): 85.0
LOGGED BY: J. Scully/D. McVeety
DATE START/END: 6/30/2016 - 7/5/2016
DRILLING COMPANY: New England Boring
DRILLER NAME: B. Cross
RIG TYPE: Mobile B-53 ATV

BORING

B201

DRILLING INFORMATION

HAMMER TYPE: Safety Hammer - rope and cathead
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Mud Rotary Wash
CASING I.D./O.D.: 4 inch / 4.5 inch
DRILL ROD O.D.: NM
CORE BARREL TYPE: NX
CORE BARREL I.D./O.D. NA / NA
WATER LEVEL DEPTHS (ft): ▽ 14.1 7/5/2016 8:00 am

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

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	1	S1	0 to 2	24/9	5-35-29-40		FILL	S1: SILTY SAND (SM) ~75% fine to coarse sand, ~15% non-plastic fines, ~10% gravel up to 1/2 inch, brown. Brick fragments. FILL.
20	2							
	3							
	4	S2	4 to 6	24/12	20-34-29-20			S2: SILTY SAND WITH GRAVEL (SM) ~55% fine to coarse sand, ~25% non-plastic fines, ~20% gravel up to 1/4 inch, gray. Brick fragments. FILL.
	5							
	6							
	7							
	8							
	9	S3	9 to 11	24/6	9-11-12-17		SAND AND GRAVEL	S3: WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM): 77.5% fine to coarse sand, 15.4% fine gravel up to 1/4 inch, 7.1% non-plastic fines.
	10							
	11							
10	12							
	13							
	14	S4	14 to 16	24/6	27-32-14-13			S4:NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM) 58.8% fine to coarse sand, 33.4% mostly fine gravel up to 3/4 inch, 7.8% non-plastic fines, brown.
	15					Added drilling mud. Pressuremeter test.		
	16							
	17							
	18							
	19	S5	19 to 21	24/10	24-21-18-22			S5: WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM) 73.9% mostly medium to fine sand, 17.7% gravel up to 1/2 inch, 8.4% non-plastic fines, brown.
	20					Pressuremeter test.		
	21							
0	22							
	23							

NOTES:

PROJECT NAME: Tremont Crossing
CITY/STATE: Boston, Massachusetts
GEI PROJECT NUMBER: 1609300

GEI Consultants

LOCATION: See boring location plan
GROUND SURFACE EL. (ft): 22 **DATE START/END:** 6/30/2016 - 7/5/2016
VERTICAL DATUM: Boston City Base **DRILLING COMPANY:** New England Boring

BORING B201

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	25	S6	24 to 26	24/12	13-11-14-15		SAND AND GRAVEL	S6: WIDELY GRADED SAND WITH GRAVEL (SW) ~85% fine to coarse sand, ~15% fine gravel up to 1/4 inch, brown.
	26							
	27							
	28							
	29	S7	29 to 31	24/7	24-23-35-30	Pressuremeter test.		S7: WIDELY GRADED SAND WITH GRAVEL (SW) ~75% fine to coarse sand, ~20% gravel up to 1/4 inch, ~5% non-plastic fines, brown.
	30							
	31							
-10	32							
	33							
	34	S8	34 to 36	24/12	15-12-15-17			S8: SILTY SAND (SM) ~70% fine sand, ~30% non-plastic fines, olive-brown. Pockets of low plasticity fines.
	35							
	36							
	37							
	38							
	39	S9	39 to 41	24/10	16-32-35-27			S9: WIDELY GRADED SAND WITH GRAVEL (SW) ~80% fine to coarse sand, ~15% gravel up to 1/4 inch, ~5% non-plastic fines, brown.
	40							
	41							
-20	42							
	43							
	44	S10	44 to 46	24/6	22-18-18-19			S10: NARROWLY GRADED SAND WITH SILT (SP-SM) 91.5% mostly fine sand, 8.1% non-plastic fines, 0.4% fine gravel up to 3/8", brown.
	45							
	46							
	47							
	48							
	49	S11	49 to 51	24/10	20-19-20-18			S11: Similar to S10.
	50							
	51							
-30	52							
	53							
	54	S12	54 to 56	24/12	22-32-31-26	Pressuremeter test.		S12: WIDELY GRADED SAND WITH GRAVEL (SW) ~80% fine to coarse sand, ~15% gravel up to 1/4 inch, ~5% non-plastic fines, brown.
	55							

NOTES:

PROJECT NAME: Tremont Crossing

CITY/STATE: Boston, Massachusetts

GEI PROJECT NUMBER: 1609300

GEI Consultants

LOCATION: See boring location plan
GROUND SURFACE EL. (ft): 22 **DATE START/END:** 6/30/2016 - 7/5/2016
VERTICAL DATUM: Boston City Base **DRILLING COMPANY:** New England Boring

BORING B201

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	56						SAND AND GRAVEL	
	57							
	58							
	59	S13	59 to 61	24/9	17-16-18-17			S13: NARROWLY GRADED SAND WITH SILT (SP-SM) ~90% fine sand, ~10% non-plastic fines, gray.
	60							
	61							
-40	62							
	63						TILL	
	64	S14	64 to 66	24/7	24-26-23-12			S14: CLAYEY SAND WITH GRAVEL (SC) ~50% fine to coarse sand, ~30% low plasticity fines, ~20% gravel up to 1/2 inch, gray. TILL.
	65							
	66							
	67							
	68							
	69	S12	69 to 71	24/2	28-27-30-37			S15: Similar to S14. TILL.
	70							
	71							
-50	72							
	73							
	74					Casing at 73.5 feet.		
	75	C1	74.5 to 79.5	60/12	0	Weathered bedrock.	WEATHERED BEDROCK	C1: Pieces of gravel. Highly weathered rock.
	76					Coring Advancement (min./ft.): 3-5-4-5-4		
	77							
	78					Sand matrix appears to have been washed away.		
	79							
	80							
	81	C2	80 to 85	60/12	0	Coring Advancement (min./ft.): 8-5.5-4.5-4.5-5.5		C2: (0-3"): Fine sand (3-12"): Pieces of subrounded-subangular gravel 1/2-3/4 inch. Possible clasts of Roxbury Conglomerate.
-60	82							
	83					Sand matrix appears to have been washed away.		
	84							
	85							
	86							Bottom of boring at 85 ft. Borehole tremie grouted and topped with cuttings.

NOTES:

PROJECT NAME: Tremont Crossing
CITY/STATE: Boston, Massachusetts
GEI PROJECT NUMBER: 1609300

GEI Consultants

BORING INFORMATION

LOCATION: See boring location plan
GROUND SURFACE EL. (ft): 23
VERTICAL DATUM: Boston City Base
TOTAL DEPTH (ft): 109.0
LOGGED BY: K. Gleichauf
DATE START/END: 7/13/2016 - 7/15/2016
DRILLING COMPANY: New England Boring
DRILLER NAME: B. Cross
RIG TYPE: Mobile B-53 ATV

BORING

B202

DRILLING INFORMATION

HAMMER TYPE: Safety Hammer - rope and cathead
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Mud Rotary Wash
WATER LEVEL DEPTHS (ft): Not measured
CASING I.D./O.D.: 4 inch / 4.5 inch
DRILL ROD O.D.: NM
CORE BARREL TYPE: NX
CORE BARREL I.D./O.D. NA / NA

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

Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	1	S1	0 to 1.8	21/14	8-25-34-100/3"		FILL	S1: SILTY SAND WITH GRAVEL (SM) ~55% fine to coarse sand, ~30% non-plastic fines, ~15% fine gravel, gray. FILL.
	2							
20	3							
	4	S2	4 to 6	24/0	16-23-16-25			S2: SILTY SAND WITH GRAVEL (SM) ~40% fine to coarse sand, ~30% non-plastic fines, ~30% fine to coarse gravel, gray/brown. Brick Fragments. FILL.
	5							
	6							
	7							
	8							
	9	S3	9 to 11	24/8	13-12-11-6	Petroleum-like odor.		S3: SILTY SAND WITH GRAVEL (SM) similar to S2. Low plasticity fines. FILL.
	10							
	11							
	12							
10	13							
	14	S4	14 to 16	24/3	7-13-8-6	Slight Petroleum-like odor.		S4: SILTY SAND WITH GRAVEL (SM) ~70% fine to coarse sand, ~15% non-plastic fines, ~15% fine gravel, brown/gray. Brick fragments. FILL.
	15							
	16							
	17							
	18							
	19	S5	19 to 21	24/13	2-1/18"	WC = 210.7%	ORGANICS	S5: PEAT (PT) Dark brown/gray, fibrous, organic odor.
	20							
	21							
	22							
0	23							

NOTES:

PROJECT NAME: Tremont Crossing
CITY/STATE: Boston, Massachusetts
GEI PROJECT NUMBER: 1609300

GEI Consultants

LOCATION: See boring location plan
GROUND SURFACE EL. (ft): 23 **DATE START/END:** 7/13/2016 - 7/15/2016
VERTICAL DATUM: Boston City Base **DRILLING COMPANY:** New England Boring

BORING B202

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	25	S6	24 to 26	24/24	WOR/6"-WOH/18"	WC = 171.4%	ORGANICS	S6: PEAT (PT) Dark brown/gray, fibrous, organic odor.
	26							
	27							
	28						SAND AND GRAVEL	
	29	S7	29 to 31	24/7	42-24-24-20			S7: WIDELY GRADED SAND WITH SILT (SW-SM) ~90% fine to coarse sand, ~10% non-plastic fines, gray.
	30							
	31							
	32							
-10	33							
	34	S8	34 to 36	24/5	30-27-22-21			S8: WIDELY GRADED SAND WITH GRAVEL (SW) ~70% fine to coarse sand, ~25% fine to coarse gravel up to 1", ~5% nonplastic fines, dark brown.
	35							
	36							
	37							
	38							
	39	S9	39 to 41	24/5	14-29-30-29			S9: NARROWLY GRADED SAND WITH GRAVEL (SW) ~60% medium to coarse sand, ~30% fine to coarse gravel up to 1.5", ~5% non-plastic fines, brown.
	40							
	41							
	42							
-20	43							
	44	S10	44 to 46	24/5	17-17-12-10			S10: WIDELY GRADED GRAVEL WITH SAND (GW) ~80% fine to coarse gravel up to 1.25", ~15% fine to coarse sand, ~5% non-plastic fines, brown.
	45							
	46							
	47							
	48					Rig chatter.		
	49							
	50	S11	49 to 51	24/0	19-19-21-14	No recovery; redrive with 3 in. SS.		S11: NARROWLY GRADED SAND WITH GRAVEL (SP) ~50% medium to coarse sand, ~45% fine gravel, ~5% nonplastic fines, brown.
	51							
	52							
-30	53							
	54	S12	54 to 56	24/13	14-17-15-15			S12: WIDELY GRADED SAND (SW) ~85% fine to coarse sand, ~10% fine gravel up to 1/2", ~5% nonplastic fines, brown.
	55							

NOTES:

PROJECT NAME: Tremont Crossing
CITY/STATE: Boston, Massachusetts
GEI PROJECT NUMBER: 1609300

GEI Consultants

LOCATION: See boring location plan
GROUND SURFACE EL. (ft): 23 **DATE START/END:** 7/13/2016 - 7/15/2016
VERTICAL DATUM: Boston City Base **DRILLING COMPANY:** New England Boring

BORING B202

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	56							
	57							
	58							
	59							
	60	S13	59 to 61	24/13	9-16-15-15			S13: NARROWLY GRADED SAND WITH SILT (SP-SM) ~90% fine to medium sand, ~10% nonplastic fines, some slight black mottling, brown.
	61							
	62							
-40	63							
	64							
	65	S14	64 to 66	24/16	13-16-23-23			S14 (0-10): WIDELY GRADED SAND (SW) ~95% fine to coarse sand, ~5% nonplastic fines, brown. S14 (10-16): SILTY SAND (SM) ~65% mostly fine sand, ~35% nonplastic fines, brown.
	66							
	67							
	68							
	69							
	70	S15	69 to 71	24/18	25-38-42-45		SAND AND GRAVEL	S15: NARROWLY GRADED SAND (SP) ~95% fine to medium sand, ~5% nonplastic fines, brown.
	71							
	72							
-50	73							
	74							
	75	S16	74 to 76	24/16	16-25-33-38			S16: NARROWLY GRADED SAND (SP) ~95% fine to medium sand, ~5% nonplastic fines, brown.
	76							
	77							
	78							
	79							
	80	S17	79 to 81	24/14	22-30-31-30			S17: WIDELY GRADED SAND WITH GRAVEL (SW) ~55% fine to coarse sand, ~35% fine to coarse gravel up to 1", ~10% nonplastic fines, brown.
	81							
	82							
-60	83							
	84							
	85	S18	84 to 86	24/15	21-24-27-25			S18: NARROWLY GRADED SAND (SP) ~95% fine to medium sand, ~5% nonplastic fines, brown. Alternating fine sand and medium sand strata.
	86							

NOTES:

PROJECT NAME: Tremont Crossing

CITY/STATE: Boston, Massachusetts

GEI PROJECT NUMBER: 1609300

GEI Consultants

LOCATION: See boring location plan
GROUND SURFACE EL. (ft): 23 **DATE START/END:** 7/13/2016 - 7/15/2016
VERTICAL DATUM: Boston City Base **DRILLING COMPANY:** New England Boring

BORING B202

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	87							
	88					Silty chunks in wash.		
	89							
	90	S19	89 to 91	24/20	23-30-22-35			S19 (0-12): WIDELY GRADED SAND WITH SILT (SW-SM) ~80% fine to coarse sand, ~10% slightly-plastic fines, ~10% coarse gravel up to 1", brown/red. TILL.
	91						TILL	S19 (12-20): SILT WITH SAND (ML) ~80% nonplastic fines, ~20% fine sand, light gray, possible lean clay present.
	92							
-70	93					Rig chatter, hard drilling at 92 ft.		
	94	S20	94 to 94.8	9/7	65-100/3"			S20: GRAVELLY LEAN CLAY WITH SAND (CL) ~50% low plasticity fines, ~30% fine to coarse gravel up to 1", ~20% fine to coarse sand, light gray. Gravel is weathered bedrock.
	95					Light gray clay bits in wash.		
	96							
	97					S20: Gravel appears similar to weathered bedrock.		
	98							
	99					Notable roller bit resistance increase at 97.5 ft.		
	100	S21	99 to 99.8	9/8	16-100/3"		WEATHERED BEDROCK	S21: LEAN CLAY WITH SAND (CL) ~60% low plasticity fines, ~25% fine to coarse sand, ~15% fine to coarse gravel up to 1", light gray. Possible weathered bedrock.
	101							
	102					Rig chatter at 101 ft.		
-80	103							
	104	C1	104 to 109	60/56	69	Cored using slow rotation speed	BEDROCK	C1: CONGLOMERATE, hard, moderately weathered, quartz sandstone matrix, rounded gravel clasts matrix has faint stratification, coarse clasts and fine siltstone intraclasts appear from 31-47, fractures every 4" to 6", light gray/purple throughout.
	105					Coring Advancement (min./ft.): 4.5-6-7-9-8.5		
	106							
	107							
	108							
	109							Bottom of boring at 109 ft. Borehole tremie grouted upon completion.
	110							
	111							
	112							
-90	113							
	114							
	115							
	116							
	117							
	118							

NOTES:

PROJECT NAME: Tremont Crossing
CITY/STATE: Boston, Massachusetts
GEI PROJECT NUMBER: 1609300

GEI Consultants

BORING INFORMATION

LOCATION: See boring location plan

GROUND SURFACE EL. (ft): 22.5 **DATE START/END:** 6/28/2016 - 6/29/2016

VERTICAL DATUM: Boston City Base **DRILLING COMPANY:** New England Boring

TOTAL DEPTH (ft): 70.2 **DRILLER NAME:** P. Labossier

LOGGED BY: K. Gleichauf **RIG TYPE:** Mobile B-53 Truck

BORING

B203 (OW)

DRILLING INFORMATION

HAMMER TYPE: Safety Hammer - rope and cathead **CASING I.D./O.D.:** 4 inch / 4.5 inch **CORE BARREL TYPE:** NX

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

DRILLING METHOD: Mud Rotary Wash

WATER LEVEL DEPTHS (ft): ▽ 2.5 6/26/2016 7:30 am

ABBREVIATIONS:

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

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

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

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

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	1	S1	0 to 2	24/16	1-7-12-50		FILL	S1: WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM) ~60% fine to coarse sand, ~30% fine gravel, ~10% non-plastic fines, gray. Piece of brick at 10". FILL.
20	2							
	3							
	4							
	5	S2	5 to 7	24/16	13-35-46-45			S2 (0-6"): SILTY SAND WITH GRAVEL (SM) ~60% fine to coarse sand, ~25% non-plastic fines, ~15% fine gravel, gray. FILL.
	6							
	7							S2 (6-16"): WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM) ~60% fine to coarse sand, ~30% fine to coarse gravel up to 1 inch, ~10% non-plastic fines, gray. Bricks. FILL.
	8							
	9					Rig chatter at 8 feet.		
	10	S3	10 to 12	24/8	8-9-8-8		SAND AND GRAVEL	S3: WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM) 58.7% fine to coarse gravel, 34.3% fine to coarse sand, 7% non-plastic fines, brown.
10	11							
	12							
	13					Rig chatter at 12 feet.		
	14							
	15	S4	15 to 17	24/3	8-7-6-7			S4: WIDELY GRADED SAND WITH GRAVEL (SW) ~75% fine to coarse sand, ~20% coarse gravel up to 1.25 inch, ~5% non-plastic fines, brown. Piece of coarse gravel stuck in tip.
	16							
	17							
	18							
	19							
	20	S5	20 to 22	24/9	6-10-11-8			S5: WIDELY GRADED SAND WITH GRAVEL (SW) ~75% fine to coarse sand, ~20% fine gravel up to 1/2 inch, ~5% non-plastic fines, brown.
	21							
	22							
0	23							

NOTES:

PROJECT NAME: Tremont Crossing

CITY/STATE: Boston, Massachusetts

GEI PROJECT NUMBER: 1609300

GEI Consultants

LOCATION: See boring location plan
GROUND SURFACE EL. (ft): 22.5 **DATE START/END:** 6/28/2016 - 6/29/2016
VERTICAL DATUM: Boston City Base **DRILLING COMPANY:** New England Boring

BORING B203 (OW)

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	25	S6	25 to 27	24/13	14-24-32-29		SAND AND GRAVEL	S6: WIDELY GRADED SAND (SW) ~90% mostly medium sand, ~5% fine gravel up to 1/2 inch, ~5% non-plastic fines, brown/gray.
	26							
	27							
	28					Rig chatter at 28.5 feet.		
	29							
	30	S7	30 to 32	24/11	15-23-17-27			S7 (0-6"): NARROWLY GRADED SAND WITH SILT (SP-SM) ~90% mostly fine sand, ~10% non-plastic fines, gray/brown.
	31							S7 (6-11"): NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM) ~70% fine to coarse sand, ~20% fine gravel up to 1/2 inch, ~10% non-plastic fines, brown.
	32							
-10	33							
	34							
	35	S8	35 to 37	24/16	15-24-29-37			S8: NARROWLY GRADED SAND (SP): ~90% fine to medium sand, ~5% fine gravel up to 1/2 inch, ~5% non-plastic fines, brown.
	36							
	37							
	38							
	39							
	40	S9	40 to 42	24/17	26-26-32-35			S9 (0-5"): SILTY SAND (SM) ~85% fine sand, ~15% non-plastic fines, gray.
	41							S9 (5-15"): NARROWLY GRADED SAND WITH SILT (SP-SM) ~90% fine to medium sand, ~10% non-plastic fines, red to gray.
	42							
-20	43							S9 (15-17"): WIDELY GRADED SAND ~75% fine to coarse sand, ~20% fine to coarse gravel up to 1 inch, ~5% non-plastic fines, gray.
	44							
	45	S10	45 to 46.3	16/9	10-100/4"	Sv = 0.2 tsf	TILL	S10: SANDY LEAN CLAY (CL) ~60% low plasticity fines, ~30% fine to coarse sand, ~10% fine to coarse gravel up to 1 inch, light gray. TILL.
	46							
	47					Rig chatter at 47.5 feet.		
	48							
	49							
	50	S11	50 to 52	24/12	15-22-22-19			S11: CLAYEY GRAVEL WITH SAND (GC) ~40% fine gravel up to 3/4 inch, ~30% fine to coarse sand, ~30% low plasticity fines, light gray. TILL.
	51							
	52							
-30	53							
	54							
	55							

NOTES:

PROJECT NAME: Tremont Crossing

CITY/STATE: Boston, Massachusetts

GEI PROJECT NUMBER: 1609300

GEI Consultants

LOCATION: See boring location plan
GROUND SURFACE EL. (ft): 22.5 **DATE START/END:** 6/28/2016 - 6/29/2016
VERTICAL DATUM: Boston City Base **DRILLING COMPANY:** New England Boring

BORING B203 (OW)

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	56	S12	55 to 57	24/13	29-43-46-53		TILL	S12: CLAYEY GRAVEL WITH SAND (GC) ~40% fine gravel up to 3/4 inch, ~30% fine to coarse sand, ~30% low plasticity fines, light gray. TILL.
	57							
	58							
	59							
	60							
	61	S13	60 to 60.6	7/7	33-100/1"			S13: GRAVELLY LEAN CLAY (CL) ~60% low plasticity fines, ~40% fine to coarse gravel up to 1", gray. TILL
-40	62							
	63							
	64							
	65	S14	65 to 65.2	2/2	100/2"	65-65.8 ft: Weathered Bedrock		S14: WIDELY GRADED GRAVEL WITH CLAY (GW-GC): 90% fine to coarse gravel, ~10% low plasticity fines, gray. Highly weathered soft bedrock.
	66	C1	65.2 to 70.2	60/51	0		BEDROCK	C1 (0-8"): SANDSTONE, soft, highly weathered, homogeneous, gray. Fractures at 1" to 2". C1 (8-51"): CONGLOMERATE, hard, moderately weathered, no visible stratification, rounded clasts of purple blue and gray (0.5-2 inch diameter) in fine grained, light gray matrix.
	67							
	68							
	69							
	70							
	71							Bottom of boring at 70.2 ft. Borehole backfilled with soil cuttings upon completion, Installed well upon location on 7/11/2016.
	72							
-50	73							
	74							
	75							
	76							
	77							
	78							
	79							
	80							
	81							
	82							
-60	83							
	84							
	85							
	86							

NOTES:

PROJECT NAME: Tremont Crossing

CITY/STATE: Boston, Massachusetts

GEI PROJECT NUMBER: 1609300

GEI Consultants

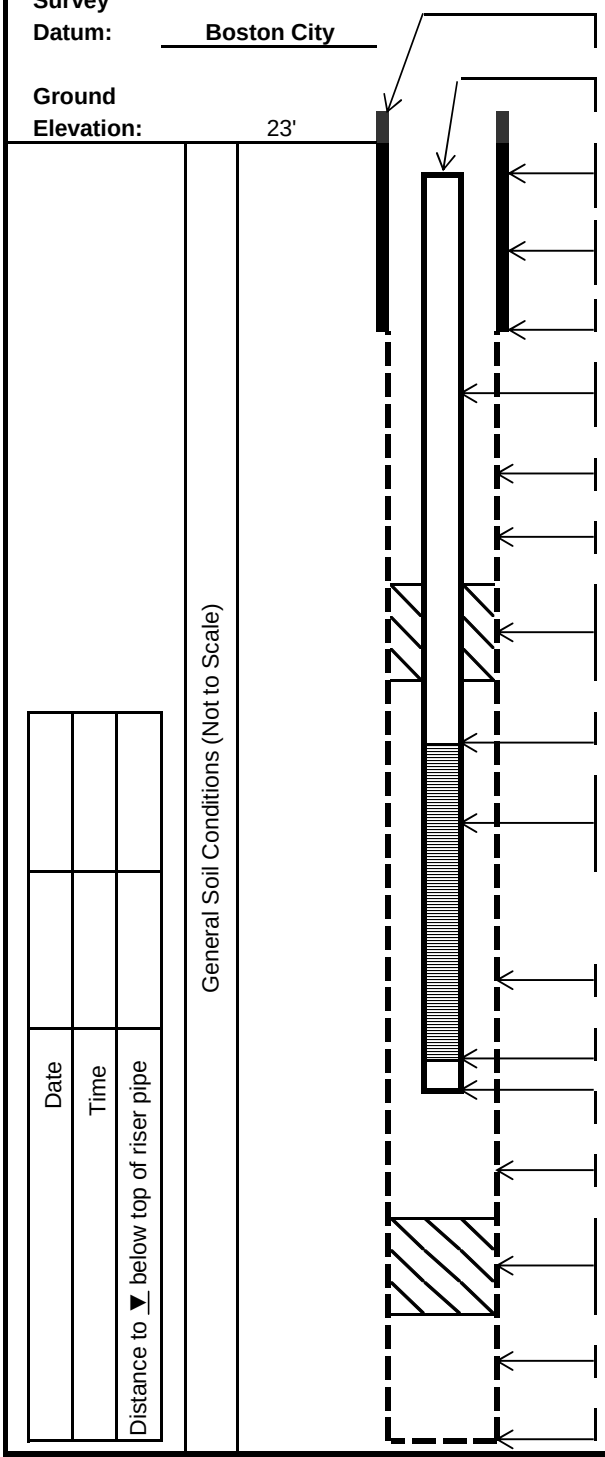
Groundwater Well Installation Log

B203 (OW)

Project	Tremont Crossing	**GEI Proj. No.**	1609300
City / Town	Boston, MA	**Location**	B203
Client	FELDCO		
Contractor	New England Boring		
Driller	P. Labossier **GEI Rep.** K.Gleichauf	**Install Date**	7/11/2016

Survey Datum: **Boston City**

Ground Elevation: 23'



Length of Surface Casing above Ground	0
Dist. Top of Surf. Casing to Top of Riser Pipe	0.25'
Type and Thickness of Seal around Surface Casing	Grout, 0.5'
ID of Surface Casing	0.5'
Type of Surface Casing	
Depth Bottom of Surface Casing	0.8'
ID and OD of Riser Pipe	2", 2.5"
Type of Riser Pipe	
Type of Backfill around Riser Pipe	Cuttings
Diameter of Borehole	4"
Depth Top of Seal	24'
Type of Seal	Bentonite Chips
Depth Bottom of Seal	26'
Depth Top of Screened Section	27.9'
Type of Screen	Slotted Pipe
Description of Screen Openings	Slots
ID and OD of Screened Section	2", 2.5"
Type of Filter Material	Silica Sand
Depth Bottom of Screened Section	37.9'
Depth Bottom of Silt Trap	38'
Depth Bottom of Filter Material	39'
Depth Top of Seal	--
Type of Seal	--
Depth Bottom of Seal	--
Type of Backfill below Filter Material	Cuttings
Bottom of Borehole	

Notes: Installed on B203 location that was previously drilled and backfilled with cuttings

GEI Consultants

BORING INFORMATION

LOCATION: See boring location plan

GROUND SURFACE EL. (ft): 19.5 **DATE START/END:** 6/29/2016 - 6/29/2016

VERTICAL DATUM: Boston City Base **DRILLING COMPANY:** New England Boring

TOTAL DEPTH (ft): 69.0 **DRILLER NAME:** P. Labossier

LOGGED BY: K. Gleichauf **RIG TYPE:** Mobile B-53 Truck

BORING

B204

DRILLING INFORMATION

HAMMER TYPE: Safety Hammer - rope and cathead **CASING I.D./O.D.:** 4 inch / 4.5 inch **CORE BARREL TYPE:** NX

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

DRILLING METHOD: Mud Rotary Wash

WATER LEVEL DEPTHS (ft): Not measured

ABBREVIATIONS:

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

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

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

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

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
								6" ASPHALT.
	1	S1	0.5 to 2.5	24/12	3-3-11-17	Driller mixed mud.	FILL	S1 (0-3"): WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM) ~60% fine sand, ~35% fine to coarse gravel, ~5% non-plastic fines, brown. FILL. S1 (3-12"): CLAYEY SAND WITH GRAVEL (SC) ~55% fine to coarse sand, ~25% fine to coarse gravel up to 1", ~20% nonplastic fines, dark brown/black. Piece of coal from 10-12", traces of brick. FILL.
	5	S2	5 to 7	24/10	4-8-13-22			S2 (0-8"): WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM) ~50% fine to coarse gravel, ~40% fine to coarse sand, ~10% nonplastic fines, dark brown, brick fragments throughout. FILL. S2 (8-10"): NARROWLY GRADED SAND WITH CLAY (SP-SC) ~80% fine to medium sand, ~20% low plasticity fines, brown. FILL.
10	10	S3	10 to 12	24/14	13-17-16-23		SAND AND GRAVEL	S3 (0-5"): SILT (ML) ~85% non-plastic fines, ~15% fine sand, brown. S3 (5-14"): NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM) 73.9% fine to medium sand, 19.1% coarse gravel up to 1 inch, 7% non-plastic fines, brown. Gravel in seams from 5-6" and 12-13".
	15	S4	15 to 17	24/11	14-13-15-14	Pressuremeter test 11.5-14 feet. Pressuremeter test 15-17.5 feet.		S4: WIDELY GRADED SAND WITH GRAVEL (SW) ~60% fine to coarse sand, ~35% fine to coarse gravel up to 1", ~5% non-plastic fines, gray.
0	20	S5	20 to 22	24/12	21-18-21-16			S5: WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM) ~50% fine to coarse gravel up to 1 inch, ~40% fine to coarse sand, ~10% non-plastic fines.

NOTES:

PROJECT NAME: Tremont Crossing

CITY/STATE: Boston, Massachusetts

GEI PROJECT NUMBER: 1609300

GEI Consultants

LOCATION: See boring location plan
GROUND SURFACE EL. (ft): 19.5 **DATE START/END:** 6/29/2016 - 6/29/2016
VERTICAL DATUM: Boston City Base **DRILLING COMPANY:** New England Boring

BORING B204

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	25	S6	25 to 27	24/10	18-14-18-19	Pressuremeter test 25-27.5 feet.	SAND AND GRAVEL	S6 (0-5"): NARROWLY GRADED SAND WITH GRAVEL (SP) ~80% fine to medium sand, ~15% fine to coarse gravel, ~5% non-plastic fines, brown. Gravel pieces on top.
	26							S6 (5-10"): WIDELY GRADED SAND WITH GRAVEL (SW) ~55% fine to coarse sand, ~40% fine to coarse gravel up to 1 inch, ~5% non-plastic fines, brown.
	27							
	28							
	29							
-10	30	S7	30 to 32	24/12	12-14-23-46			S7: SILTY GRAVEL WITH SAND (GM) ~55% fine to coarse gravel up to 1 inch, ~30% fine to coarse sand, ~15% nonplastic fines, brown.
	31							
	32							
	33							
	34							
	35	S8	35 to 37	24/15	33-42-32-41			S8: Similar to S7.
	36							
	37							
	38							
	39							
-20	40	S9	40 to 42	24/9	25-28-26-12	Pressuremeter test 40-42.5 feet.		S9: WIDELY GRADED GRAVEL WITH SAND (GW) ~70% fine to coarse gravel up to 1 inch, ~25% fine to coarse sand, ~5% non-plastic fines, brown.
	41							
	42							
	43							
	44							
	45	S10	45 to 46.3	16/3	24-18-14-21			S10: WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM) ~60% fine to coarse sand, ~30% fine to coarse gravel, ~10% non-plastic fines, brown.
	46							
	47							
	48							
	49							
-30	50	S11	50 to 52	24/13	12-13-25-25			S11 (0-9"): WIDELY GRADED SAND (SW) ~90% fine to medium sand ~5% fine gravel, ~5% non-plastic fines, brown.
	51						TILL	S11 (9-13"): CLAYEY SAND WITH GRAVEL (SC) ~50% fine to coarse sand, ~35% low plasticity fines, ~15% fine to coarse gravel up to 1 inch, brown. TILL.
	52							
	53							
	54							
	55							

NOTES:

PROJECT NAME: Tremont Crossing

CITY/STATE: Boston, Massachusetts

GEI PROJECT NUMBER: 1609300

GEI Consultants

LOCATION: See boring location plan
GROUND SURFACE EL. (ft): 19.5 **DATE START/END:** 6/29/2016 - 6/29/2016
VERTICAL DATUM: Boston City Base **DRILLING COMPANY:** New England Boring

BORING B204

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	56	S12	55 to 57	24/13	18-10-20-20		TILL	S12: CLAYEY GRAVEL WITH SAND (GC) ~50% fine to coarse gravel up to 1.25", ~ 30% low plasticity fines, ~20% fine to coarse sand, light gray. TILL.
	57							
	58							
	59							
-40	60							
	61	S13	60 to 60.6	7/12	26-26-39-53			S13: CLAYEY GRAVEL WITH SAND (GC) ~60% fine to coarse gravel up to 1 inch, ~25% low plasticity fines, ~15% fine to coarse sand, light gray. TILL.
	62							
	63							
	64	C1	64 to 69	60/10	0	Casing refusal at 63 feet. Coring Advancement (min./ft.): 5.5-4-4-3.5-4.5	HIGHLY WEATHERED BEDROCK	C1: CONGLOMERATE, medium hard to hard, weathered, highly fractured conglomerate.
	65							
	66							
	67							
	68							
	69							Bottom of boring at 69 ft. Borehole tremie grouted upon completion.
-50	70							
	71							
	72							
	73							
	74							
	75							
	76							
	77							
	78							
	79							
-60	80							
	81							
	82							
	83							
	84							
	85							
	86							

NOTES:

PROJECT NAME: Tremont Crossing

CITY/STATE: Boston, Massachusetts

GEI PROJECT NUMBER: 1609300

GEI Consultants

BORING INFORMATION

LOCATION: See boring location plan

GROUND SURFACE EL. (ft): 22.5 **DATE START/END:** 7/8/2016 - 7/12/2016

VERTICAL DATUM: Boston City Base **DRILLING COMPANY:** New England Boring

TOTAL DEPTH (ft): 104.0 **DRILLER NAME:** B. Cross

LOGGED BY: D. McVeety/K. Gleichauf **RIG TYPE:** Mobile B-53 ATV

BORING

B205 (OW)

DRILLING INFORMATION

HAMMER TYPE: Safety Hammer - rope and cathead **CASING I.D./O.D.:** 4 inch / 4.5 inch **CORE BARREL TYPE:** NX

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

DRILLING METHOD: Mud Rotary Wash

WATER LEVEL DEPTHS (ft): ▽ 15.1 7/11/2016 7:35 am

ABBREVIATIONS:

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

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

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

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

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	1	S1	0 to 2	24/13	7-10-17-16		FILL	S1 (0-4): SILTY SAND WITH GRAVEL (SM) ~45% fine to coarse sand, ~35% mostly fine gravel, ~15% nonplastic fines, brown. Much of gravel is possible pulverized red brick fragments. FILL. S1 (4-9): ASPHALT S1 (9-13): Similar to S1 (0-4). FILL.
20	2							
	3							
	4	S2	4 to 6	24/6	15-9-7-10			S2: CLAYEY GRAVEL WITH SAND (GC) ~40% fine to coarse gravel up to 3/4", ~30% low plasticity fines (both clay and silt present), ~30% fine to coarse sand, brown. ~1" possible pulverized asphalt in bottom of sample. FILL.
	5							
	6							
	7					Very high driving resistance when advancing casing from 4 to 9 feet.		
	8							
	9	S3	9 to 11	24/12	12-19-23-40	At ~8.5 feet, wash becomes significantly darker.		S3: WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM) ~70% fine to coarse sand, ~20% fine gravel, ~10% nonplastic fines. Alternating bands of light brown, dark brown and black with seams of white. Possible ash. Material in spoon had foul odor. FILL.
	10							
	11							
10	12							
	13							
	14	S4	14 to 16	24/6	10-9-8-12			S4 (0-2): WIDELY GRADED SAND WITH CLAY (SW-SC) ~90% fine to coarse sand, ~10% low plasticity fines, gray and light brown. Possible FILL. S4 (2-6): WIDELY GRADED SAND (SW) ~95% fine to coarse sand, <5% nonplastic fines, black. Possible FILL.
	15							
	16							
	17					Little resistance to rollerbit starting at 15 feet.	ORGANICS	
	18							
	19	S5	19 to 21	24/22	WOH/19"-2			S5: PEAT (PT) dark brown/gray, fibrous, organic odor.
	20					Sv: 0.2, 0.3, 0.2, 0.2 TSF		
	21							
	22					Qp: 0, 0, 0, 0 TSF		
0	23					Based on rollerbit resistance, bottom of organics is at ~22.9 feet.		

NOTES:

PROJECT NAME: Tremont Crossing

CITY/STATE: Boston, Massachusetts

GEI PROJECT NUMBER: 1609300

GEI Consultants

LOCATION: See boring location plan
GROUND SURFACE EL. (ft): 22.5 **DATE START/END:** 7/8/2016 - 7/12/2016
VERTICAL DATUM: Boston City Base **DRILLING COMPANY:** New England Boring

BORING B205 (OW)

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	25	S6	24 to 26	24/5	19-18-15-17		SAND AND GRAVEL	S6: WIDELY GRADED SAND WITH GRAVEL (SW) ~75% fine to coarse sand, ~20% fine gravel, <5% fines, dark gray.
	26							
	27							
	28							
	29	S7	29 to 31	24/5	25-22-13-14			S7 (0-2): WIDELY GRADED SAND WITH GRAVEL (SW) similar to S6. S7 (2-5) NARROWLY GRADED SAND (SP) ~95% fine to medium sand, <5% nonplastic fines, light brown and orangeish brown.
	30							
	31							
-10	32							
	33							
	34	S8	34 to 36	24/1	10-11-10-13	S8: Poor recovery likely due to damaged SS catcher; replaced prior to S9.		S8: NARROWLY GRADED SAND WITH GRAVEL (SP) ~70% coarse sand, ~30% fine gravel up to 1/8". Possible wash.
	35							
	36							
	37							
	38							
	39	S9	39 to 41	24/20	6-5-5-9			S9: NARROWLY GRADED SAND (SP) ~90% mostly fine sand, 10% nonplastic fines, light brown.
	40							
	41							
	42							
-20	43							
	44	S10	44 to 46	24/8	7-6-5-8			S10: WIDELY GRADED SAND (SW) ~95% fine to coarse sand, 5% nonplastic fines, light brown.
	45							
	46							
	47							
	48							
	49	S11	49 to 51	24/6	10-16-15-10			S11 (0-2): NARROWLY GRADED SAND (SP) ~95% fine sand, 5% nonplastic fines, light brown. S11 (2-6): WIDELY GRADED SAND WITH GRAVEL (SW) ~75% fine to coarse sand, ~25% fine to coarse gravel up to 3/4", light brown.
	50							
	51							
	52							
-30	53							
	54	S12	54 to 56	24/10	7-10-9-8			S12: NARROWLY GRADED SAND (SP) 94.2% mostly fine sand, 5.8% nonplastic fines, light brown.
	55							

NOTES:

PROJECT NAME: Tremont Crossing

CITY/STATE: Boston, Massachusetts

GEI PROJECT NUMBER: 1609300

GEI Consultants

LOCATION: See boring location plan
GROUND SURFACE EL. (ft): 22.5 **DATE START/END:** 7/8/2016 - 7/12/2016
VERTICAL DATUM: Boston City Base **DRILLING COMPANY:** New England Boring

BORING B205 (OW)

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	56						SAND AND GRAVEL	
	57							
	58							
	59	S13	59 to 61	24/8	12-11-18-23			S13 (0-6): WIDELY GRADED SAND (SW) ~90% fine to coarse sand, ~10% nonplastic fines, light brown. S13 (6-8): WIDELY GRADED SAND (SW) ~85% fine to coarse sand, ~10% nonplastic fines, ~5% fine gravel to 1/4"
	60							
	61							
	62							
-40	63							
	64	S14	64 to 66	24/0	26-30-29-25	Three pieces of ~3/4" gravel in spoon tip.		S14: WIDELY GRADED GRAVEL (GW) ~85% fine to coarse subangular to subrounded up to 2 1/4" gravel, ~10% coarse sand, <5% low plasticity fines, dark gray.
	65							
	66							
	67							
	68							
	69	S15	69 to 71	24/9	17-23-22-21			S15: WIDELY GRADED SAND WITH GRAVEL (SW) ~80% fine to coarse sand, ~15% fine to coarse subrounded gravel up to 3/4", ~5% nonplastic fines, light brown.
	70							
	71							
	72							
-50	73							
	74	S16	74 to 76	24/8	24-21-23-20			S16: NARROWLY GRADED SAND (SP) 95% mostly fine sand, ~5% nonplastic fines, light brown.
	75							
	76							
	77							
	78							
	79	S17	79 to 81	24/10	19-20-25-26			S17 (0-3): NARROWLY GRADED SAND WITH SILT (SP-SM) ~90% fine sand, ~10% nonplastic fines, light brown. S17 (3-10): SILTY SAND (SM) ~55% fine sand, ~45% nonplastic fines, light brown. Seam (<1/8") of fine to coarse sand at 5".
	80					No soil within sample 5" to 10", possible due to nonplastic fines.		
	81							
	82							
-60	83							
	84	S18	84 to 86	24/8	32-40-27-32			S18: WIDELY GRADED SAND WITH GRAVEL (SW) ~50% fine to coarse sand, ~45% fine gravel, <5% nonplastic fines, light brown.
	85							
	86							

NOTES:

PROJECT NAME: Tremont Crossing

CITY/STATE: Boston, Massachusetts

GEI PROJECT NUMBER: 1609300

GEI Consultants

LOCATION: See boring location plan
GROUND SURFACE EL. (ft): 22.5 **DATE START/END:** 7/8/2016 - 7/12/2016
VERTICAL DATUM: Boston City Base **DRILLING COMPANY:** New England Boring

BORING B205 (OW)

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	87							
	88							
	89						TILL	
	90	S19	89 to 90.6	19/9	19-16-15-100/1"			S19: SANDY LEAN CLAY WITH GRAVEL (CL) ~45% low plasticity fines, ~35% fine to coarse sand, ~20% fine gravel up to 3/4", gray. TILL.
	91							
	92							
-70	93							
	94							
	95	S20	94 to 96	24/15	31-35-39-45	Open hole sample.		S20: GRAVELLY SILT WITH SAND (ML) ~40% nonplastic fines, ~35% fine to coarse gravel, ~25% fine to coarse sand, light gray. Weathered rock present. TILL.
	96							
	97							
	98					Bit stopped advancing at 97.5 feet without down pressure.	WEATHERED BEDROCK	
	99	S21	99 to 99.1	1/1	100/1"			S21: SILTY GRAVEL WITH SAND (GM) ~60% fine to coarse gravel, ~20% nonplastic fines, ~20% fine to coarse sand, light gray. Weathered bedrock.
	100					Added down pressure to advance to 99 feet.		
	101							
	102							
-80	103					Angular bedrock fragments in wash. Increased drilling resistance with depth.		
	104	C1	104 to 109	60/54	20		BEDROCK	C1: CONGLOMERATE hard, medium grained sand matrix, larger clasts are rounded and up to 2", highly weathered, alternating coarse and fine strata. Fractures every 0.5" to 4", joints tend to follow coarse strata along larger clasts matrix is light gray, clasts are pink, purple, dark blue.
	105					Coring Advancement (min./ft.): 6.5-8.5-9.0-7.5-12.5		
	106							
	107							
	108					Cored with slow barrel speed.		
	109							Bottom of boring at 109 ft. Installed well upon completion.
	110							
	111							
	112							
-90	113							
	114							
	115							
	116							
	117							
	118							

NOTES:

PROJECT NAME: Tremont Crossing

CITY/STATE: Boston, Massachusetts

GEI PROJECT NUMBER: 1609300

GEI Consultants

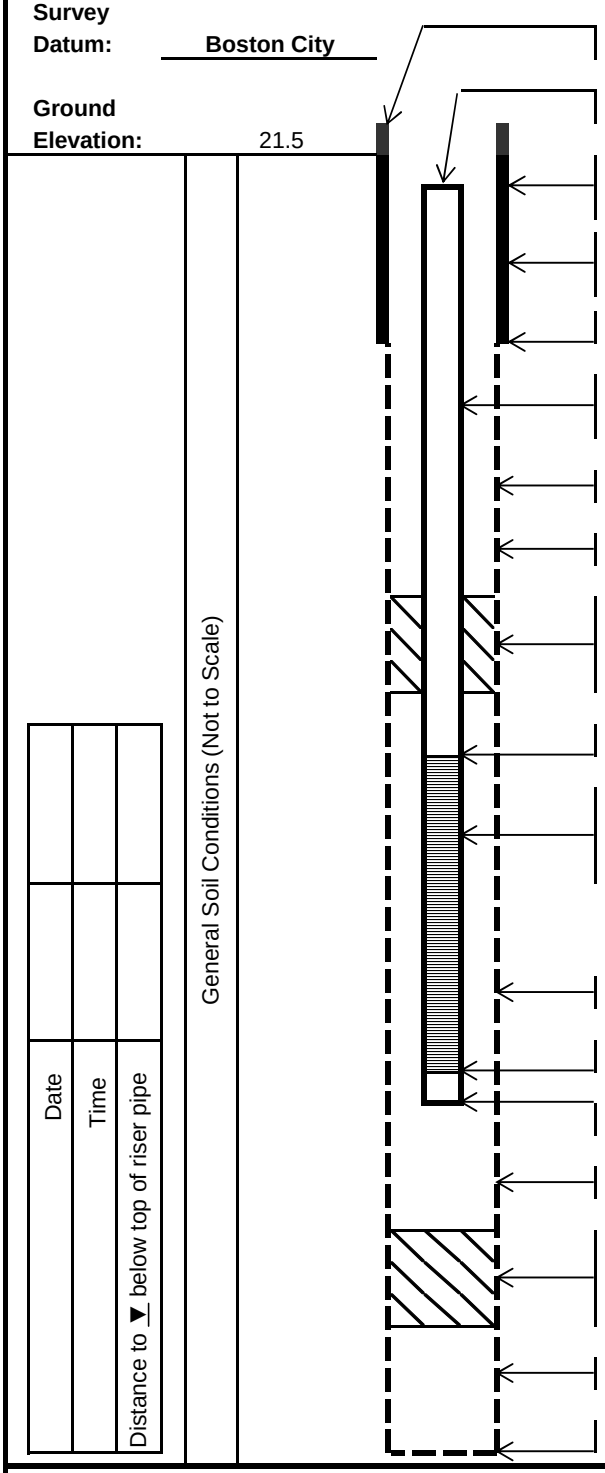
Groundwater Well Installation Log

B205 (OW)

Project	Tremont Crossing	**GEI Proj. No.**	1609300
City / Town	Boston, MA	**Location**	B205
Client	FELDCO		
Contractor	New England Boring		
Driller	B. Cross **GEI Rep.** K.Gleichauf	**Install Date**	7/13/2016

Survey Datum: **Boston City**

Ground Elevation: 21.5



Length of Surface Casing above Ground	3'
Dist. Top of Surf. Casing to Top of Riser Pipe	4"
Type and Thickness of Seal around Surface Casing	soil
ID of Surface Casing	4"
Type of Surface Casing	Steel Casing
Depth Bottom of Surface Casing	2'
ID and OD of Riser Pipe	2", 2.5"
Type of Riser Pipe	PVC
Type of Backfill around Riser Pipe	Cuttings
Diameter of Borehole	4"
Depth Top of Seal	24.5'
Type of Seal	Bentonite Chips
Depth Bottom of Seal	26.5'
Depth Top of Screened Section	38.9'
Type of Screen	Slotted Pipe
Description of Screen Openings	Slots
ID and OD of Screened Section	2", 2.5"
Type of Filter Material	Silica Sand
Depth Bottom of Screened Section	38.9'
Depth Bottom of Silt Trap	39'
Depth Bottom of Filter Material	40'
Depth Top of Seal	--
Type of Seal	--
Depth Bottom of Seal	--
Type of Backfill below Filter Material	Native Sand
Bottom of Borehole	104'

Notes: Installed in B205 borehole

GEI Consultants

BORING INFORMATION

LOCATION: See boring location plan

GROUND SURFACE EL. (ft): 19 | **DATE START/END:** 6/30/2016 - 7/5/2016

VERTICAL DATUM: Boston City Base | **DRILLING COMPANY:** New England Boring

TOTAL DEPTH (ft): 64.0 | **DRILLER NAME:** P. Labossier/S. Cooley

LOGGED BY: K. Gleichauf | **RIG TYPE:** Mobile B-53 Truck

BORING

B206

DRILLING INFORMATION

HAMMER TYPE: Safety Hammer - rope and cathead | **CASING I.D./O.D.:** 4 inch / 4.5 inch | **CORE BARREL TYPE:** NX

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

DRILLING METHOD: Mud Rotary Wash

WATER LEVEL DEPTHS (ft): ▼ 11.0 7/5/2016

ABBREVIATIONS:

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

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

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

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

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
								6" CONCRETE sidewalk.
	1	S1	0.5 to 2.5	24/9	19-1-9-19		FILL	S1: WIDELY GRADED SAND WITH GRAVEL (SW) ~70% fine to coarse sand, ~20% fine gravel up to 1/2 inch, ~10% non-plastic fines, grass. TOPSOIL.
	2							
	3							
	4							
	5	S2	5 to 7	24/16	19-7-6-6	Casing refusal at 4 feet. Offset hole onto sidewalk to avoid obstruction.		S2 (0-11"): SILTY SAND WITH GRAVEL (SM) ~75% fine to coarse sand, ~15% non-plastic fines, ~1% fine gravel up to 1/2", mottled black, gray. FILL.
	6							
	7							S2 (11-16"): SANDSTONE, soft, friable, red. FILL.
	8							
10	9					Mixed bentonite mud		
	10	S3	10 to 12	24/8	8-7-7-5	Drove 3" SS from 10-12.5 feet for PMT test.		S3: WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM) ~50% fine to coarse gravel up to 1 inch, ~40% fine to coarse sand, ~10% non-plastic fines, brown. Possible FILL.
	11							
	12	S3A	12 to 12.5	6/3		Pressuremeter test 10-12.5 feet.		S3A: SANDY LEAN CLAY (CL) ~60% low plasticity fines, ~30% fine to coarse sand, ~10% fine to coarse gravel up to 1/2 inch. Possible FILL.
	13							
	14						ORGANICS	
	15	S4	15 to 17	24/19	2-2-2-3	WC = 85.6%		S4: ORGANIC SOIL (OL) ~100% low plasticity organic fines, black, trace veg.
	16							
	17							
	18							
0	19							
	20	S5	20 to 22	24/8	17-12-19-18		SAND AND GRAVEL	S5: WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM) ~60% fine to coarse sand, ~25% fine to coarse gravel up to 3/4 inch, ~15% non-plastic fines, dark gray.
	21							
	22							
	23							

NOTES:

PROJECT NAME: Tremont Crossing

CITY/STATE: Boston, Massachusetts

GEI PROJECT NUMBER: 1609300

GEI Consultants

LOCATION: See boring location plan
GROUND SURFACE EL. (ft): 19 **DATE START/END:** 6/30/2016 - 7/5/2016
VERTICAL DATUM: Boston City Base **DRILLING COMPANY:** New England Boring

BORING B206

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	25	S6	25 to 27	24/12	11-10-12-12	Hard drilling.	SAND AND GRAVEL	S6: WIDELY GRADED SAND WITH GRAVEL ~80% fine to coarse sand, ~20% fine gravel, gray/brown. Red layer 7-8". Gravel amount increases with depth.
	26							
	27							
	28							
-10	29							
	30	S7	30 to 32	24/10	10-12-9-15			S7: WIDELY GRADED SAND WITH GRAVEL (SW) ~70% medium to coarse sand, ~25% fine gravel up to 1/2 inch, ~5% non-plastic fines, brown/gray, streak of red 5-6".
	31							
	32							
	33							
	34							
	35	S8	35 to 37	24/12	8-8-11-12			S8: WIDELY GRADED SAND (SW) ~95% fine to coarse sand, ~5% non-plastic fines, gray/brown.
	36							
	37							
	38							
-20	39							
	40	S9	40 to 42	24/15	9-11-15-16			S9: NARROWLY GRADED SAND (SP) ~95% fine to medium sand, ~5% non-plastic fines, gray/brown.
	41							
	42					Pressuremeter test 41-43.5 feet.		
	43							
	44							
	45	S10	45 to 46.2	14/11	38-39-100/2"			S10 (0-5"): WIDELY GRADED SAND ~95% fine to coarse sand, ~5% non-plastic fines, brown.
	46						TILL	S10 (5-11"): CLAYEY SAND WITH GRAVEL (SC) ~40% low plasticity fines, ~35% fine to coarse sand, ~25% fine gravel up to 1/2", light gray. TILL.
	47							
	48							
-30	49							
	50	S11	50 to 52	24/9	14-14-11-17			S11: CLAYEY SAND WITH GRAVEL (SC) ~55% fine to coarse sand, ~25% low plasticity fines, ~20% fine gravel up to 1", light gray. TILL.
	51					100% water loss while drilling for pressuremeter test.		
	52							
	53							
	54							
	55							

NOTES:

PROJECT NAME: Tremont Crossing
CITY/STATE: Boston, Massachusetts
GEI PROJECT NUMBER: 1609300

GEI Consultants

LOCATION: See boring location plan
GROUND SURFACE EL. (ft): 19 **DATE START/END:** 6/30/2016 - 7/5/2016
VERTICAL DATUM: Boston City Base **DRILLING COMPANY:** New England Boring

BORING B206

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	56	S12	55 to 55.1	1/1	100/1"	Coring Advancement (min./ft.): 3.5-4.5-4.5-5-6	WEATH. BEDROCK	S12: WEATHERED BEDROCK.
	57							
	58							
-40	59	C1	59 to 64	60/60	13		BEDROCK	C1: CONGLOMERATE, hard, coarse grained, light gray matrix with 1-2" clasts of rounded blue, green, and purple stones, no laminations, moderately weathered, highly fractured.
	60							
	61							
	62							
	63							
	64							Bottom of boring at 64 ft. Borehole tremie grouted upon completion.
	65							
	66							
	67							
	68							
-50	69							
	70							
	71							
	72							
	73							
	74							
	75							
	76							
	77							
	78							
-60	79							
	80							
	81							
	82							
	83							
	84							
	85							
	86							

NOTES:

PROJECT NAME: Tremont Crossing

CITY/STATE: Boston, Massachusetts

GEI PROJECT NUMBER: 1609300

GEI Consultants

BORING INFORMATION

LOCATION: See boring location plan

GROUND SURFACE EL. (ft): 16 **DATE START/END:** 7/5/2016 - 7/6/2016

VERTICAL DATUM: Boston City Base **DRILLING COMPANY:** New England Boring

TOTAL DEPTH (ft): 85.1 **DRILLER NAME:** B. Cross

LOGGED BY: D. McVeety **RIG TYPE:** Mobile B-53 Truck

BORING

B207

DRILLING INFORMATION

HAMMER TYPE: Safety Hammer - rope and cathead **CASING I.D./O.D.:** 4 inch / 4.5 inch **CORE BARREL TYPE:** NX

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

DRILLING METHOD: Mud Rotary Wash

WATER LEVEL DEPTHS (ft): Not measured

ABBREVIATIONS:

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

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

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

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

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	1	S1	0 to 2	24/9	2-5-14-15		FILL	S1: WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM) ~75% fine to coarse sand, ~15% mostly fine to medium gravel, ~10% non-plastic fines, light brown. FILL
	2							
	3							
	4	S2	4 to 6	24/2	16-16-11-10			S2: NARROWLY GRADED SAND WITH GRAVEL (SP) ~70% coarse sand, ~30% fine gravel, brown. 1/2 inch fragment of possible concrete in spoon tip. FILL.
	5							
10	6							
	7							
	8							
	9	S3	9 to 9.2	2/2	100/2"			S3: WIDELY GRADED SAND (SW) ~75% fine to coarse sand, ~20% fine gravel, ~5% non-plastic fines, brown. FILL.
	10							
	11							
	12							
	13							
	14	S4	14 to 16	24/7	2-5-9-18		SAND AND GRAVEL	S4: SANDY SILT WITH GRAVEL (ML) ~40% nonplastic fines, ~30% fine to coarse sand, ~30% fine to coarse gravel, gray.
	15							
0	16							
	17							
	18							
	19	S5	19 to 21	24/1	16-24-28-31			S5: NARROWLY GRADED SAND WITH GRAVEL (SP) ~50% medium to coarse sand, ~ 50% fine gravel, light brown. Spoon tip contained ~30% low plasticity fines.
	20							
	21							
	22							
	23							

NOTES:

PROJECT NAME: Tremont Crossing

CITY/STATE: Boston, Massachusetts

GEI PROJECT NUMBER: 1609300

GEI Consultants

LOCATION: See boring location plan
GROUND SURFACE EL. (ft): 16 **DATE START/END:** 7/5/2016 - 7/6/2016
VERTICAL DATUM: Boston City Base **DRILLING COMPANY:** New England Boring

BORING B207

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	25	S6	24 to 26	24/23	2-7-11-12		SAND AND GRAVEL	S6 (0-10"): LEAN CLAY WITH SAND (CL) ~80% low plasticity fines, ~20% fine sand, light brown. S6 (10-23"): CLAYEY SAND (SC) ~70% fine to medium sand, ~30% low plasticity fines, light brown.
-10	26							
	27							
	28							
	29	S7	29 to 31	24/12	15-25-21-10	S7(9-12"): Qp = 0.75 tsf.		S7 (0-9"): SANDY LEAN CLAY WITH GRAVEL (SC) ~50% low plasticity fines, ~30% fine to coarse sand, ~20% fine gravel, brown/gray. S7 (9-12"): LEAN CLAY (CL) ~90% low plasticity fines, ~10% fine sand, light brown.
	30							
	31							
	32							
	33							
	34	S8	34 to 36	24/6	12-22-24-15			S8: WIDELY GRADED SAND WITH GRAVEL (SW) ~70% fine to coarse sand, ~25% fine to coarse gravel up to 3/4 inch, <5% non-plastic fines, brown.
	35							
-20	36							
	37					Mud added to wash when washing down to 39 feet.		
	38							
	39	S9	39 to 41	24/7	10-8-10-12			S9: WIDELY GRADED SAND WITH GRAVEL (SW) ~65% fine to coarse sand, ~30% fine to coarse rounded gravel, <5% fines, reddish brown and brown.
	40							
	41							
	42							
	43							
	44	S10	44 to 46	24/3	8-11-8-8			S10: WIDELY GRADED GRAVEL WITH SAND (GW) ~65% fine to coarse gravel up to 1 inch, ~30% medium to coarse sand, <5% fines, reddish brown.
	45							
-30	46							
	47							
	48							
	49	S11	49 to 51	24/4	17-13-20-14			S11: Similar to S10.
	50							
	51							
	52							
	53							
	54	S12	54 to 56	24/11	17-19-23-21		TILL	S12: SANDY LEAN CLAY WITH GRAVEL (CL) ~60% low plasticity fines, ~20% fine gravel up to 1/2 inch, ~20% fine to coarse sand, gray. TILL.
	55							

NOTES:

PROJECT NAME: Tremont Crossing

CITY/STATE: Boston, Massachusetts

GEI PROJECT NUMBER: 1609300

GEI Consultants

LOCATION: See boring location plan
GROUND SURFACE EL. (ft): 16 **DATE START/END:** 7/5/2016 - 7/6/2016
VERTICAL DATUM: Boston City Base **DRILLING COMPANY:** New England Boring

BORING B207

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
-40	56						TILL	
	57							
	58							
	59	S13	59 to 61	24/3	10-17-11-6			S13: CLAYEY SAND WITH GRAVEL (SC) ~50% fine to coarse sand, ~30% fine gravel, ~20% non-plastic to low plasticity fines, gray. TILL.
	60							
	61							
	62							
	63							
	64	S14	64 to 65.5	18/4	67-79-102	Driller indicates increase in drilling resistance 63 feet..		S14: WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM) ~50% fine to coarse sand, ~40% fine to coarse gravel, ~10% non-plastic fines, reddish brown. Possibly completely weathered rock (with staining throughout). TILL.
	65							
-50	66							
	67							
	68							
	69	S15	69 to 69.1	1/0	100/1"			S15: No recovery.
	70	C1	70 to 75	60/10	0	SS was bouncing during S15; Advanced casing to 70 ft prior to C1. Coring Advancement (min./ft.): 3.5-4.5-6-5.5-7	WEATHERED BEDROCK	C1: WIDELY GRADED GRAVEL, weathered bedrock. Subrounded gravel 1/4-1.25 inch with little staining. Possible clasts of Roxbury conglomerate, purple and gray.
	71							
	72							
	73							
	74					Casing driven to refusal at 73 ft. prior to C2		
	75	C2	75 to 80	60/13	0	Coring Advancement (min./ft.): 4.5-8.5-7.5-7.5-11.5 End 7/6/2016; Start 7/7/2016		C2: WIDELY GRADED GRAVEL, weathered bedrock. Subangular gravel 1/4-1.5. Possible clasts of Roxbury conglomerate, purple and gray.
-60	76							
	77							
	78							
	79					Driller slowed coring rotation speed for C2 and C3		
	80	S16	80 to 80.1	1/1	100/1"			S16: NARROWLY GRADED GRAVEL WITH SAND (GP) 70% fine angular gravel up to 1/4", 30% coarse sand; purple and gray.
	81	C3	80.1 to 85.1	60/15	0	Performed with 3 inch SS and 300 lb safety hammer.		C3: WIDELY GRADED GRAVEL Subrounded-to-angular gravel with little staining, <1/4" to 1"; purple and gray. Highly fractured Robury Conglomerate.
	82							
	83					After C2, ream out hole to 80 ft		
	84							
	85					Coring Advancement (min./ft.): 10-10.5-7.5-5.5-6.5		
-70	86							Bottom of boring at 85.1 ft. Borehole tremie grouted upon completion.

NOTES:

PROJECT NAME: Tremont Crossing
CITY/STATE: Boston, Massachusetts
GEI PROJECT NUMBER: 1609300

GEI Consultants

BORING INFORMATION

LOCATION: See boring location plan
GROUND SURFACE EL. (ft): 17
VERTICAL DATUM: Boston City Base
TOTAL DEPTH (ft): 84.0
LOGGED BY: K. Gleichauf
DATE START/END: 7/7/2016 - 7/8/2016
DRILLING COMPANY: New England Boring
DRILLER NAME: S. Cooley
RIG TYPE: Mobile B-53 Truck

BORING

B208

DRILLING INFORMATION

HAMMER TYPE: Safety Hammer - rope and cathead
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Mud Rotary Wash
CASING I.D./O.D.: 4 inch / 4.5 inch
DRILL ROD O.D.: NM
CORE BARREL TYPE: NX
CORE BARREL I.D./O.D. NA / NA
WATER LEVEL DEPTHS (ft): ▼ 9.5 7/8/2016

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

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
								ASPHALT.
	1	S1	0 to 2	24/9	7-4-3-2		FILL	S1: NARROWLY GRADED SAND WITH SILT (SP-SM) ~70% fine to coarse sand, ~20% fine to coarse gravel up to 1 inch, ~10% non-plastic fines, brown/black. Asphalt fragments. FILL.
	2							
	3							
	4							
	5	S2	5 to 7	24/6	9-5-3-4			S2: SILTY SAND WITH GRAVEL (SM) ~50% fine to coarse sand, ~35% non-plastic fines, ~15% fine gravel up to 3/4", brown. Black asphalt fragments, piece of ceramic was at top. FILL.
10	7							
	8							
	9	S3	9 to 11	24/1	4-2-3-3	WC = 59.2% Redrive S3 (9-11') with 3" SS for 12" recovery.	ORGANICS	S3 (REDRIVE): ORGANIC SOIL (OL) ~80% low plasticity organic fines, ~20% fine to coarse sand, visible plant matter, alternating black organic and dark gray silty layers, seam of coarse gravel at top.
	10							
	11							
	12							
	13							
	14	S4	14 to 16	24/0	3-2-4-4	Wash return changed color to dark gray.		S4: ORGANIC SOIL (OL) ~100% low plasticity organic fines, visible plant matter, dark gray.
	15							
	16					WC = 80.4% Redrive S4 (14-16') with 3" SS for 19" recovery.		
0	17							
	18							
	19	S5	19 to 21	24/10	11-14-19-37	Hard driving casing at 18 feet.	SAND AND GRAVEL	S5: WIDELY GRADED SAND WITH SILT AND GRAVEL ~55% fine to coarse sand, ~35% fine gravel, ~10% non-plastic fines, brown.
	20							
	21							
	22							
	23							

NOTES:

PROJECT NAME: Tremont Crossing
CITY/STATE: Boston, Massachusetts
GEI PROJECT NUMBER: 1609300

GEI Consultants

LOCATION: See boring location plan
GROUND SURFACE EL. (ft): 17 **DATE START/END:** 7/7/2016 - 7/8/2016
VERTICAL DATUM: Boston City Base **DRILLING COMPANY:** New England Boring

BORING B208

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	25	S6	24 to 26	24/8	15-11-23-26		SAND AND GRAVEL	S6: WIDELY GRADED SAND WITH GRAVEL (SW) ~80% fine to coarse sand, ~15% coarse gravel up to 1.25 inch, ~5% low plasticity fines, dark brown. Small amount of light brown clay in tip.
	26							
-10	27							
	28							
	29	S7	29 to 31	24/5	15-11-8-9	Rig chatter at 28.5 feet.		S7: WIDELY GRADED GRAVEL WITH SAND (GW) ~55% fine to coarse gravel up to 1.25 inch, ~40% fine to coarse sand, ~5% non-plastic fines, brown.
	30							
	31							
	32							
	33					Rig chatter at 32.5 feet.		
	34	S8	34 to 36	24/11	17-7-7-10			S8: WIDELY GRADED SAND (SW) ~95% fine to coarse sand, ~5% non-plastic fines, brown/red. Coarser sand layer 0-2".
	35							
	36							
-20	37							
	38							
	39	S9	39 to 41	24/13	22-11-13-18			S9: NARROWLY GRADED SAND (SP) ~95% fine to medium sand, ~5% non-plastic fines, brown, some black layers.
	40							
	41							
	42							
	43							
	44	S10	44 to 46	24/12	5-5-9-13			S10: NARROWLY GRADED SAND WITH SILT (SP-SM) ~90% mostly fine sand, ~10% non-plastic fines, brown, some red veins.
	45							
	46							
-30	47							
	48							
	49	S11	49 to 51	24/6	7-7-8-7			S11: WIDELY GRADED GRAVEL WITH SAND (GW) ~60% fine to coarse gravel up to 1.25 inch, ~35% fine to coarse sand, ~5% non-plastic fines, brown.
	50							
	51							
	52							
	53							
	54	S12	54 to 56	24/11	17-8-9-12			S12: WIDELY GRADED SAND (SW) ~95% fine to coarse sand, ~5% non-plastic fines, red/brown and coarser bottom half, gray and finer in upper half.
	55							

NOTES:

PROJECT NAME: Tremont Crossing

CITY/STATE: Boston, Massachusetts

GEI PROJECT NUMBER: 1609300

GEI Consultants

LOCATION: See boring location plan
GROUND SURFACE EL. (ft): 17 **DATE START/END:** 7/7/2016 - 7/8/2016
VERTICAL DATUM: Boston City Base **DRILLING COMPANY:** New England Boring

BORING B208

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	56						SAND AND GRAVEL	
-40	57							
	58							
	59	S13	59 to 61	24/6	14-17-17-16			S13: WIDELY GRADED SAND WITH SILT AND GRAVEL (SE-SM) ~55% fine to coarse sand, ~35% fine to coarse gravel up to 1 inch, ~10% non-plastic fines; brown with a black layer 5"-6".
	60							
	61							
	62							
	63							
	64	S14	64 to 66	24/12	4-5-10-10			S14: NARROWLY GRADED SAND (SP) 96.3% fine to medium sand, 2.0% non-plastic fines, 1.7% fine gravel, brown/grey.
	65							
	66							
-50	67							
	68							
	69	S15	69 to 71	24/18	8-9-17-17	Change in wash return: light gray clay observed		S15: NARROWLY GRADED SAND WITH SILT (SP-SM) ~90% fine sand, ~10% nonplastic fines, brown.
	70							
	71							
	72							
	73							
	74						TILL	
	75	S16	74 to 76	24/16	42-48-69-72	Casing refusal at 73.5 feet.		S16: LEAN CLAY WITH SAND AND GRAVEL (CL) ~65% low plasticity fines, ~20% fine to coarse sand, ~15% fine to coarse gravel up to 3/4 inch, brown-light brown. Weathered rock in tip. TILL.
	76							
-60	77							
	78							
	79	C1	79 to 84	60/28	15	Coring Advancement (min./ft.): 4.5-5-4-4.5-4.5 Cored using slow barrel speed.	BEDROCK	C1: CONGLOMERATE, hard, highly weathered, light gray sandy matrix, purple, green, dark blue rounded clasts 1/4" to 2", some coarse to fine alternating strata, fractures every 0.25" to 2". Joints are along coarse layers, gravel returned where weathered matrix was washed out.
	80							
	81							
	82							
	83							
	84							Bottom of boring at 84 ft. Borehole tremie grouted upon completion.
	85							
	86							

NOTES:

PROJECT NAME: Tremont Crossing
CITY/STATE: Boston, Massachusetts
GEI PROJECT NUMBER: 1609300

GEI Consultants

BORING INFORMATION

LOCATION: See boring location plan

GROUND SURFACE EL. (ft): 18 **DATE START/END:** 7/11/2016 - 7/11/2016

VERTICAL DATUM: Boston City Base **DRILLING COMPANY:** New England Boring

TOTAL DEPTH (ft): 8.0 **DRILLER NAME:** P. Labossier

LOGGED BY: K. Gleichauf **RIG TYPE:** Mobile B-53 Truck

BORING

B209

DRILLING INFORMATION

HAMMER TYPE: Safety Hammer - rope and cathead **CASING I.D./O.D.:** 4 inch / 4.5 inch **CORE BARREL TYPE:** NA

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

DRILLING METHOD: Mud Rotary Wash

WATER LEVEL DEPTHS (ft): Not measured

ABBREVIATIONS:

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

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

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

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

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	1					Hole was hand cleared to 5'	FILL	
	2							
	3							
	4							
	5	S1	5 to 7	24/9	8-7-5-8			S1: SILTY SAND WITH GRAVEL (SM) ~ 50% fine to coarse sand, ~25% fine gravel, ~ 25% nonplastic fines, dark brown. FILL.
	6							
	7							
10	8					Casing hit refusal at 8', possible utility.		Bottom of boring at 8 ft. Hole abandoned and backfilled with cuttings due to obstruction.
	9							
	10							
	11							
	12							
	13							
	14							
	15							
	16							
	17							
0	18							
	19							
	20							
	21							
	22							
	23							

NOTES:

PROJECT NAME: Tremont Crossing

CITY/STATE: Boston, Massachusetts

GEI PROJECT NUMBER: 1609300

GEI Consultants

BORING INFORMATION

LOCATION: See boring location plan
GROUND SURFACE EL. (ft): 17
VERTICAL DATUM: Boston City Base
TOTAL DEPTH (ft): 68.5
LOGGED BY: K. Gleichauf/D. McVeety
DATE START/END: 7/18/2016 - 7/19/2016
DRILLING COMPANY: New England Boring
DRILLER NAME: B. Cross
RIG TYPE: Mobile B-53 ATV

BORING

B209A

DRILLING INFORMATION

HAMMER TYPE: Safety Hammer - rope and cathead
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Mud Rotary Wash
CASING I.D./O.D.: 4 inch / 4.5 inch
DRILL ROD O.D.: NM
CORE BARREL TYPE: NX
CORE BARREL I.D./O.D. NA / NA
WATER LEVEL DEPTHS (ft): ▼ 8.3 7/19/2016 7:30 am

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

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	1	S1	0 to 2	24/16	6-9-12-11		FILL	S1: SILTY SAND WITH GRAVEL (SM); ~70% fine to coarse sand, ~15 non-plastic fines, ~15% fine to coarse gravel up to 1 in.; light brown. FILL.
	2							
	3							
	4	S2	4 to 6	24/10	4-9-13-12			S2 (0-4): WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% fine to coarse sand, ~20% gravel, ~10% non-plastic fines; black/brown. Charcoal, brick, and glass fragments. FILL. S2(4-10): WIDELY GRADED GRAVEL WITH SAND; ~80% fine to coarse gravel up to 1 1/4 in., ~20% fine to coarse sand; brown. FILL.
	5							
	6							
10	7							
	8					Rig chatter 7-9 ft.		
	9	S3	9 to 11	24/8	6-4-3-4	S3 (4-8"): WC = 12.2%		S3 (0-4): CLAYEY SAND WITH GRAVEL (SC); ~45% fine to coarse sand, ~35% fine to coarse gravel up to 1 1/4 in., ~25% low-plasticity fines; brown. FILL. S3 (4-8): SANDY LEAN CLAY (CL); ~55% low-plasticity fines, ~35% fine to coarse sand, ~10% fine gravel, blue/gray. FILL.
	10							
	11							
	12							
	13							
	14	S4	14 to 16	24/0	4-4-5-5	WC = 68.4% No recovery; redriven with 3 in. SS for recovery	ORGANICS	S4: ORGANIC SOIL (OL) ~90% low plasticity fines, ~10% fine to coarse sand, black/gray, visible plant matter.
	15							
	16							
0	17							
	18							
	19	S5	19 to 21	24/7	23-18-11-11		SAND AND GRAVEL	S5: WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM) ~60% fine to coarse sand, ~ 30% fine gravel, ~10% nonplastic fines, brown.
	20							
	21							
	22					Rig chatter		
	23							

NOTES:

PROJECT NAME: Tremont Crossing
CITY/STATE: Boston, Massachusetts
GEI PROJECT NUMBER: 1609300

GEI Consultants

LOCATION: See boring location plan
GROUND SURFACE EL. (ft): 17 **DATE START/END:** 7/18/2016 - 7/19/2016
VERTICAL DATUM: Boston City Base **DRILLING COMPANY:** New England Boring

BORING B209A

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	25	S6	24 to 26	24/8	7-9-8-9		SAND AND GRAVEL	S6 (0-4): WIDELY GRADED SAND WITH GRAVEL (SW) ~70% fine to coarse sand, ~25% fine gravel, ~5% nonplastic fines, brown.
	26							S6 (4-8): SILTY SAND WITH GRAVEL (SM) ~65% fine to coarse sand, ~20% fine gravel, ~15% nonplastic fines, brown.
-10	27					Rig chatter		
	28							
	29	S7	29 to 31	24/8	27-22-11-7			S7: WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM) ~60% fine to coarse sand, ~30% fine gravel, ~10% nonplastic fines, brown.
	30							
	31							
	32							
	33							
	34	S8	34 to 36	24/10	17-20-17-18			S8: WIDELY GRADED SAND WITH GRAVEL (SW) ~70% fine to coarse sand, ~25% fine to coarse gravel up to 1", ~ 5% nonplastic fines, dark brown.
	35							
	36							
-20	37							
	38							
	39	S9	39 to 41	24/10	18-16-19-20			S9: WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM) ~60% fine to coarse sand, ~30% fine to coarse gravel up to 1", ~10% non-plastic fines, red/brown.
	40							
	41							
	42					End 7/18/2016; Start 7/19/2016		
	43							
	44	S10	44 to 46	24/10	15-18-20-13		TILL	S10: SANDY LEAN CLAY WITH GRAVEL (CL) ~50% low plasticity fines, ~25% fine to coarse sand, ~25% fine to coarse gravel, gray. TILL.
	45							
	46							
-30	47							
	48							
	49	S11	49 to 51	24/10	10-31-25-21			S11: SANDY LEAN CLAY WITH GRAVEL (CL) ~50% low plasticity fines, ~25% fine to coarse sand, ~25% fine to coarse gravel, gray. TILL.
	50							
	51							
	52							
	53							
	54	S12	54 to 56	24/13	27-22-31-22			S12: SILTY GRAVEL WITH SAND (GM) ~ 50% fine to coarse gravel, ~35% fine to coarse sand, ~15% nonplastic fines, brown. TILL.
	55							

NOTES:

PROJECT NAME: Tremont Crossing
CITY/STATE: Boston, Massachusetts
GEI PROJECT NUMBER: 1609300

GEI Consultants

LOCATION: See boring location plan
GROUND SURFACE EL. (ft): 17 **DATE START/END:** 7/18/2016 - 7/19/2016
VERTICAL DATUM: Boston City Base **DRILLING COMPANY:** New England Boring

BORING B209A

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	56					Prior to S13, wash then drive casing to 59 ft. to refusal at 57.2 ft. Post S13, rollerbit to 63.5 ft.	TILL	
-40	57							
	58							
	59						WEATHERED BEDROCK	
	60	S13	59 to 59	0/0	100/0.5"			S13: No recovery, spoon bounced when driven.
	61							
	62							
	63							
	64	C1	63.5 to 68.5	60/60	8		BEDROCK	C1: CONGLOMORATE, hard, moderately weathered, moderately to highly fractured. Light gray matrix with purple, dark blue clasts. Fine grain matrix with fine gravel clasts. Non planar fractures spaced <1/4" to 5" (many fractures are along clasts).
	65							
	66							
-50	67							
	68							
	69							Bottom of boring at 68.5 ft. Borehole tremie grouted and topped with cuttings.
	70							
	71							
	72							
	73							
	74							
	75							
	76							
-60	77							
	78							
	79							
	80							
	81							
	82							
	83							
	84							
	85							
	86							

NOTES:

PROJECT NAME: Tremont Crossing

CITY/STATE: Boston, Massachusetts

GEI PROJECT NUMBER: 1609300

GEI Consultants

BORING INFORMATION

LOCATION: See boring location plan
GROUND SURFACE EL. (ft): 17
VERTICAL DATUM: Boston City Base
TOTAL DEPTH (ft): 79.0
LOGGED BY: K. Gleichauf
DATE START/END: 7/5/2016 - 7/5/2016
DRILLING COMPANY: New England Boring
DRILLER NAME: S. Cooley
RIG TYPE: Mobile B-53 Truck

BORING

B210 (OW)

DRILLING INFORMATION

HAMMER TYPE: Safety Hammer - rope and cathead
AUGER I.D./O.D.: NA / NA
DRILLING METHOD: Mud Rotary Wash
CASING I.D./O.D.: 4 inch / 4.5 inch
DRILL ROD O.D.: NM
CORE BARREL TYPE: NX
CORE BARREL I.D./O.D. NA / NA
WATER LEVEL DEPTHS (ft): Not measured.

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

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
								ASPHALT
	1	S1	0 to 2	24/9	6-6-9-8		FILL	S1: WIDELY GRADED SAND WITH GRAVEL AND SILT (SW-SM) ~70% fine to coarse sand, ~20% fine gravel up to 1/2 inch, ~10% non-plastic fines, brown/black. Contains brick fragments. FILL.
	2							
	3							
	4							
	5	S2	5 to 7	24/10	8-6-3-3			S2: SILTY SAND WITH GRAVEL (SM) ~50% fine to coarse sand, ~35% fine gravel, ~15% non-plastic fines, black/gray. Contains brick fragments. FILL.
10	7							
	8							
	9							
	10	S3	10 to 12	24/24	WOH/12"-1-2	S3: Qp = 0.25, 0.2 tsf; Sv = 1.0 tsf. WC = 81.3%	ORGANICS	S3: ORGANIC SOIL (OL) Black/gray, contains fragments of wood, organics.
	11							
	12							
	13							
	14							
	15	S4	15 to 17	24/20	WOH/12"-3-2	S4: Qp = 0.3, 0.35 tsf; Sv = 1.4, 1.5 tsf. WC = 63.2%		S4: ORGANIC SOIL (OL) Dark gray. No visible organic matter.
	16							
0	17							
	18							
	19							
	20	S5	20 to 22	24/4	7-9-10-36		SAND AND GRAVEL	S5: WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM) 51.4% fine to coarse sand, 38.1% fine gravel up to 1/2 inch, 10.5% non-plastic fines, dark gray/blue.
	21							
	22							
	23							

NOTES:

PROJECT NAME: Tremont Crossing
CITY/STATE: Boston, Massachusetts
GEI PROJECT NUMBER: 1609300

GEI Consultants

LOCATION: See boring location plan
GROUND SURFACE EL. (ft): 17 **DATE START/END:** 7/5/2016 - 7/5/2016
VERTICAL DATUM: Boston City Base **DRILLING COMPANY:** New England Boring

BORING B210 (OW)

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	25	S6	25 to 27	24/1	10-10-12-13		SAND AND GRAVEL	S6: CLAYEY SAND (SC) ~60% fine to coarse sand, ~40% low plasticity fines, light grey. Low recovery.
-10	27							
	30	S7	30 to 32	24/17	7-10-11-16			S7 (0-4"): NARROWLY GRADED SAND (SP) ~95% mostly fine sand, ~5% non-plastic fines, dark gray/blue. S7 (4-17"): WIDELY GRADED SAND (SW) ~85% fine to coarse sand, ~10% fine gravel, ~5% non-plastic fines. Pockets of sandy lean clay (CL), ~60% low plasticity fines. ~40% fine sand.
	35	S8	35 to 37	24/8	8-7-7-7			S8: WIDELY GRADED SAND WITH GRAVEL (SW) ~55% fine to coarse sand, ~40% fine to coarse gravel up to 1", <5% nonplastic fines, brown.
-20	37							
	40	S9	40 to 42	24/8	8-6-8-8		SANDY CLAY/CLAYEY SAND	S9 (0-4"): WIDELY GRADED SAND (SW) ~85% fine to coarse sand, ~10% fine gravel, ~5% non-plastic fines, brown/gray. S9 (4-8"): SANDY LEAN CLAY (CL) ~65% low plasticity fines, ~35% fine to medium sand, brown.
	45	S10	45 to 47	24/12	33-14-14-14			S10 (0-3"): WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM) ~50% fine to coarse sand, ~40% fine to coarse gravel up to 3/4 inch, ~10% nonplastic fines, brown. S10 (3-12"): CLAYEY SAND (SC): ~50% fine to coarse sand, ~40% low plasticity fines, ~10% fine gravel up to 1/2 inch, light brown.
-30	47					Driller notes change in wash from gravel to clay.		
	50	S11	50 to 51.2	14/10	13-13-14-17		SAND AND GRAVEL	S11 (0-4"): Similar to S10 (3-12"). S11 (4-10"): WIDELY GRADED SAND WITH GRAVEL (SW), ~60% fine to coarse sand, ~35% fine to coarse gravel up to 1", ~5% non-plastic fines, brown.
	55							

NOTES:

PROJECT NAME: Tremont Crossing
CITY/STATE: Boston, Massachusetts
GEI PROJECT NUMBER: 1609300

GEI Consultants

LOCATION: See boring location plan
GROUND SURFACE EL. (ft): 17 **DATE START/END:** 7/5/2016 - 7/5/2016
VERTICAL DATUM: Boston City Base **DRILLING COMPANY:** New England Boring

BORING B210 (OW)

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	56	S12	55 to 57	24/17	8-23-28-27		SAND AND GRAVEL	S12: NARROWLY GRADED SAND WITH GRAVEL (SP) ~80% fine to medium sand, ~15% fine gravel, ~5% non-plastic fines, brown.
-40	57							
	58							
	59							
	60	S13	60 to 62	24/18	10-12-24-43			S13: WIDELY GRADED SAND (SW), ~95% fine to coarse sand, ~5% non-plastic fines, brown.
	61							
	62							
	63							
	64					Hard driving casing ~62.5-63 feet.	TILL	
	65	S14	64.5 to 66.5	24/15	52-55-89-61			S14 (0-5"): NARROWLY GRADED GRAVEL WITH CLAY AND SAND (GP-GC) ~70% fine gravel up to 3/4 inch, ~20% fine to coarse sand, ~10% low plasticity fines, brown.
	66					Rollerbit to 64.5, possible till or weathered bedrock.		S14 (5-15"): CLAYEY GRAVEL WITH SAND (GC) ~60% fine to coarse gravel up to 1 inch, ~20% fine to coarse sand, ~20% low plasticity fines, light gray. TILL.
-50	67							
	68							
	69							
	70	S15	70 to 71.3	15/4	26-34-100/3"			S15: CLAYEY GRAVEL WITH SAND (GC) ~70% fine to coarse gravel, ~15% fine to coarse sand, ~15% low plasticity fines, light gray. TILL.
	71							
	72							
	73							
	74	C1	74 to 79	60/60	18	Coring Advancement (min./ft): 3-4.5-4-5.5-5	BEDROCK	C1: CONGLOMERATE, hard, moderately to highly weathered, light gray matrix, rounded clasts of varying size, purple, blue, pink, joints along interface of larger clasts, fractures every 1/4" to 1".
	75							
	76							
-60	77							
	78							
	79							Bottom of boring at 79 ft. Installed well upon completion.
	80							
	81							
	82							
	83							
	84							
	85							
	86							

NOTES:

PROJECT NAME: Tremont Crossing

CITY/STATE: Boston, Massachusetts

GEI PROJECT NUMBER: 1609300

GEI Consultants

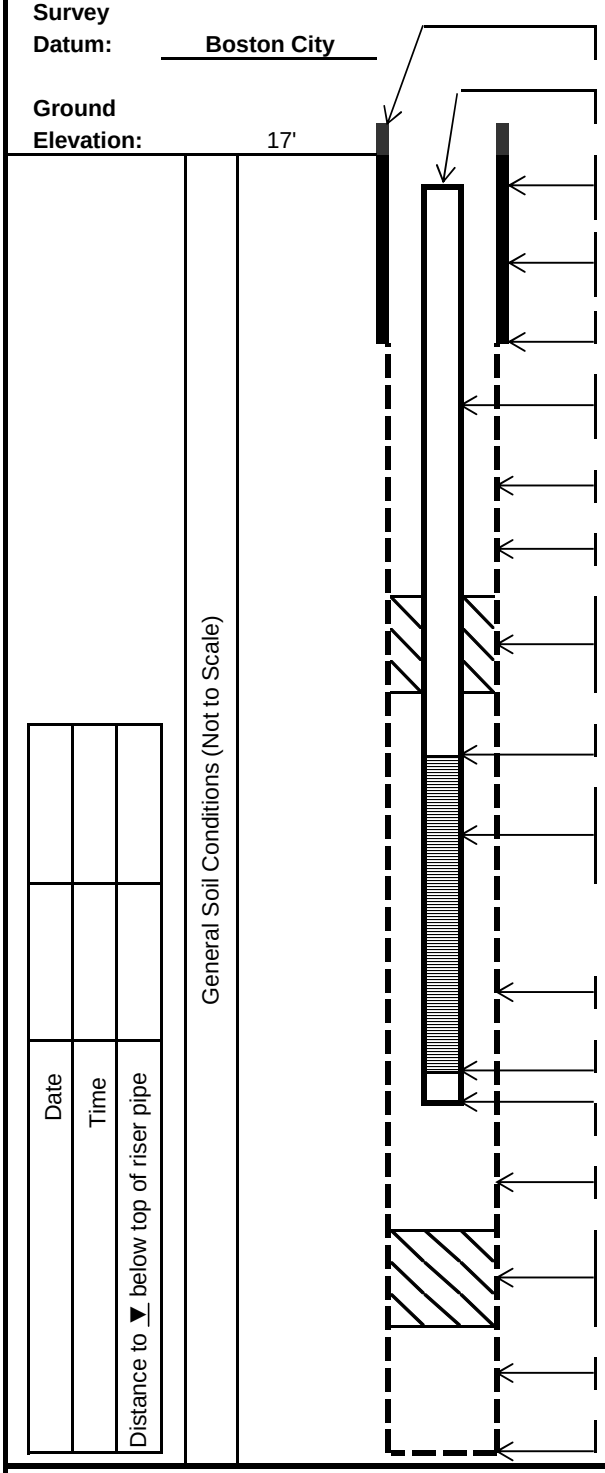
Groundwater Well Installation Log

B210 (OW)

Project	Tremont Crossing	**GEI Proj. No.**	1609300
City / Town	Boston, MA	**Location**	B210
Client	FELDCO		
Contractor	New England Boring		
Driller	S. Cooley **GEI Rep.** K.Gleichauf	**Install Date**	7/6/2016

Survey Datum: **Boston City**

Ground Elevation: 17'



Length of Surface Casing above Ground	0
Dist. Top of Surf. Casing to Top of Riser Pipe	0.25'
Type and Thickness of Seal around Surface Casing	Grout, 0.5'
ID of Surface Casing	0.5'
Type of Surface Casing	
Depth Bottom of Surface Casing	0.8'
ID and OD of Riser Pipe	2", 2.5"
Type of Riser Pipe	PVC
Type of Backfill around Riser Pipe	Cuttings
Diameter of Borehole	4"
Depth Top of Seal	19'
Type of Seal	Bentonite Chips
Depth Bottom of Seal	21'
Depth Top of Screened Section	22.9'
Type of Screen	Slotted Pipe
Description of Screen Openings	Slots
ID and OD of Screened Section	2", 2.5"
Type of Filter Material	Silica Sand
Depth Bottom of Screened Section	32.9'
Depth Bottom of Silt Trap	33'
Depth Bottom of Filter Material	34'
Depth Top of Seal	--
Type of Seal	--
Depth Bottom of Seal	--
Type of Backfill below Filter Material	Cuttings
Bottom of Borehole	79'

Notes: Installed in B210 borehole

GEI Consultants

BORING INFORMATION

LOCATION: See Plan

GROUND SURFACE EL. (ft): 100.93 **DATE START/END:** 3/1/2017 - 3/2/2017

VERTICAL DATUM: on-site benchmark **DRILLING COMPANY:** Northern Drill Service, Inc.

TOTAL DEPTH (ft): 22.0 **DRILLER NAME:** C. Beirholm

LOGGED BY: J. Neff **RIG TYPE:** Mobile B-57

BORING

B301

DRILLING INFORMATION

HAMMER TYPE: Automatic **CASING I.D./O.D.:** NA / NA **CORE BARREL TYPE:** NA

AUGER I.D./O.D.: 4.25 inch / 7.625 inch **DRILL ROD O.D.:** NM **CORE BARREL I.D./O.D.** NA / NA

DRILLING METHOD: Hollow Stem Auger

WATER LEVEL DEPTHS (ft): Not measured

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

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
100	0	S1	0 to 2	24/6	3-3-2-3	S1 = 0.3 ppm	FILL	S1: WIDELY GRADED SAND WITH SILT (SW-SM) ~90% fine to coarse sand, ~10% nonplastic fines, dark brown, dry. Contains leaves. TOP SOIL.
		S2	2 to 4	24/8	3-2-3-3	S2(0-4") = 1.6 ppm S2(4-8") = 1.4 ppm		S2(0-4"): SILTY SAND (SM) ~80% fine to coarse sand, ~15% nonplastic fines, ~5% subangular gravel up to 1/4", dark grey, dry. FILL. S2(4-8"): WIDELY GRADED SAND (SW) ~100% fine to coarse sand, brown, moist. FILL.
	5	S3	4 to 6	24/20	5-7-5-6	S3(0-15") = 5.6 ppm S3(15-20") = 4.2 ppm		S3(0-15"): WIDELY GRADED SAND WITH SILT (SW-SM) ~85% fine to coarse sand, ~10% nonplastic fines, ~5% subangular gravel up to 1/4", dark brown, dry. Contains coal clinkers, glass fragments, wood fragments. FILL. S3(15-20"): WIDELY GRADED SAND WITH GRAVEL (SW) ~75% fine to coarse sand, ~20% subangular gravel up to 1/2", ~5% nonplastic fines, brown, dry. FILL.
95		S4	6 to 8	24/7	5-4-2-4	S4 = 5.0 ppm		S4: SILTY SAND (SM) ~80% fine to coarse sand, ~20% nonplastic fines, brown to dark brown, moist. FILL.
		S5	8 to 10	24/10	3-4-3-4	S5 = 5.3 ppm		S5: WIDELY GRADED SAND (SW) ~90% fine to coarse sand, ~10% subrounded gravel up to 1", brown, dry. FILL.

NOTES: Bottom of boring at 22.0'. Installed monitoring well. Screened 11.0 - 21.0' below ground surface. Environmental samples collected: B301-S7(10-15") for VPH/EPH/VOCs, B301-COMP(0-3') for PCBs.

PROJECT NAME: Tremont Crossing Phase II

CITY/STATE: Boston, Massachusetts

GEI PROJECT NUMBER: 1700516

GEI Consultants

LOCATION: See Plan
GROUND SURFACE EL. (ft): 100.93 **DATE START/END:** 3/1/2017 - 3/2/2017
VERTICAL DATUM: on-site benchmark **DRILLING COMPANY:** Northern Drill Service, Inc.

BORING B301

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
90		S6	10 to 12	24/18	4-7-6-9	S6 = 5.4 ppm	FILL	S6: Similar to S5. FILL.
		S7	12 to 14	24/15	14-9-10-13	S7(0-10") = 5.5 ppm S7(10-15") = 5.2 ppm	SAND	S7(0-10"): NARROWLY GRADED SAND (SP) ~100% mostly fine to medium sand, brown, moist. SAND. S7(10-15"): WIDELY GRADED SAND (SW) ~95% fine to coarse sand, ~5% subangular gravel up to 1/4", brown, wet. SAND.
85	15	S8	15 to 17	24/22	4-7-11-12	S8 = 4.6 ppm		S8: WIDELY GRADED SAND (SW) ~100% fine to coarse sand, brown, wet. Fine sand seam from 9-11", 13-15". SAND.
80	20	S9	20 to 22	24/21	2-9-14-24	S9(0-10") = 4.0 ppm S9(10-21") = 4.1 ppm		S9(0-10"): NARROWLY GRADED SAND (SP) ~100% mostly fine to medium sand, brown, wet. SAND. S7(10-21"): WIDELY GRADED SAND (SW) ~100% fine to coarse sand, brown, wet. SAND.
								Bottom of boring at depth 22 ft.

NOTES: Bottom of boring at 22.0'. Installed monitoring well. Screened 11.0 - 21.0' below ground surface. Environmental samples collected: B301-S7(10-15") for VPH/EPH/VOCs, B301-COMP(0-3') for PCBs.

PROJECT NAME: Tremont Crossing Phase II

CITY/STATE: Boston, Massachusetts

GEI PROJECT NUMBER: 1700516

GEI Consultants

BORING INFORMATION

LOCATION: See Plan
GROUND SURFACE EL. (ft): 94.08
VERTICAL DATUM: on-site benchmark
TOTAL DEPTH (ft): 26.0
LOGGED BY: J. Neff
DATE START/END: 2/27/2017 - 2/28/2017
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: C. Beirholm
RIG TYPE: Mobile B-57

BORING
B302

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: 4.25 inch / 7.625 inch
DRILLING METHOD: Hollow Stem Auger
WATER LEVEL DEPTHS (ft): Not measured
CASING I.D./O.D.: NA / NA
DRILL ROD O.D.: NM
CORE BARREL TYPE: NA
CORE BARREL I.D./O.D. NA / NA

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

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
							FILL	6 " ASPHALT.
		S1	0.5 to 2	18/12	2-1-2	S1 = 1.3 ppm		S1: SILTY SAND WITH GRAVEL (SM) ~60% fine to coarse sand, ~20% subangular gravel up to 1/2", ~20% nonplastic fines, brown, dry. FILL.
		S2	2 to 4	24/15	2-2-2-2	S2(0-8") = 1.6 ppm S2(8-15") = 1.7 ppm		S2(0-8"): Similar to S1. Contains coal clinkers. FILL. S2(8-15"): SILTY SAND (SM) ~80% fine to coarse sand, ~20% nonplastic fines, light brown, dry. FILL.
90	5	S3	4 to 6	24/10	1-3-2-3	S3(0-4") = 1.3 pppm S3(4-10") = 1.8 ppm		S3(0-4"): Similar to S2(8-15"). FILL. S3(4-10"): SILTY SAND (SM) ~65% fine to coarse sand, ~30% nonplastic fines, ~5% subrounded gravel up to 1/4", brown, moist. FILL.
		S4	6 to 8	24/16	4-2-2-1	S4(0-8") = 1.6 ppm S4(8-16") = 1.6 ppm		S4(0-8"): Similar to S3(4-10"). FILL. S4(8-16"): CLAYEY SAND (SC) ~50% fine to coarse sand, ~40% nonplastic fines, ~10% subangular gravel up to 1/4", grey, moist. Dense. FILL.
		S5	8 to 10	24/24	1-1-1-1	S5(0-10") = 1.6 ppm S5(10-16") = 1.6 ppm S5(16-24") = 2.0 ppm		S5(0-10"): Similar to S4(8-16"). FILL.
85							ORGANICS	S5(10-16"): ORGANIC SOIL (OL) Dark brown. Contains silt lenses. S5(16-24"): ORGANIC SOIL (OL) Brown. Contains roots.

NOTES: Bottom of boring at 26.0'. Installed monitoring well. Screened 16.0 - 26.0' below ground surface. Environmental samples collected: B302-S4(0-8") for VPH/EPH/VOCs.

PROJECT NAME: Tremont Crossing Phase II
CITY/STATE: Boston, Massachusetts
GEI PROJECT NUMBER: 1700516

GEI Consultants

LOCATION: See Plan
GROUND SURFACE EL. (ft): 94.08 **DATE START/END:** 2/27/2017 - 2/28/2017
VERTICAL DATUM: on-site benchmark **DRILLING COMPANY:** Northern Drill Service, Inc.

BORING B302

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S6	13 to 15	24/24	1-1-1-1	S6 = 1.9 ppm Drilling resistance increased at approximately 17.5' below ground surface.	ORGANICS	S6: ORGANIC SOIL (OL) Gray.
80	15							
		S7	18 to 20	24/17	8-15-17-32	S7(0-7") = 1.6 ppm S7(7-17") = 1.0 ppm	SAND	S7(0-7"): WIDELY GRADED SAND (SW) ~90% fine to coarse sand, ~10% subangular gravel up to 1/2", grey, wet. SAND. S7(7-17"): SILTY SAND WITH GRAVEL (SM) ~50% fine to coarse sand, ~25% subangular gravel up to 1/4", ~25% nonplastic fines, brown, wet. SAND.
75	20							

NOTES: Bottom of boring at 26.0'. Installed monitoring well. Screened 16.0 - 26.0' below ground surface. Environmental samples collected: B302-S4(0-8") for VPH/EPH/VOCs.

PROJECT NAME: Tremont Crossing Phase II

CITY/STATE: Boston, Massachusetts

GEI PROJECT NUMBER: 1700516

GEI Consultants

LOCATION: See Plan

GROUND SURFACE EL. (ft): 94.08 **DATE START/END:** 2/27/2017 - 2/28/2017

VERTICAL DATUM: on-site benchmark **DRILLING COMPANY:** Northern Drill Service, Inc.

BORING B302

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
70	25	S8	24 to 26	24/5	4-12-11-8	S8 = 1.0 ppm	SAND	S8: WIDELY GRADED SAND WITH GRAVEL (SW) ~60% fine to coarse sand, ~40% angular gravel up to 1-1/2", brown, wet. SAND.
								Bottom of boring at depth 26 ft.
65	30							
60	35							

NOTES: Bottom of boring at 26.0'. Installed monitoring well. Screened 16.0 - 26.0' below ground surface. Environmental samples collected: B302-S4(0-8") for VPH/EPH/VOCs.

PROJECT NAME: Tremont Crossing Phase II

CITY/STATE: Boston, Massachusetts

GEI PROJECT NUMBER: 1700516

GEI Consultants

BORING INFORMATION

LOCATION: See Plan
GROUND SURFACE EL. (ft): 97.53
VERTICAL DATUM: on-site benchmark
TOTAL DEPTH (ft): 28.0
LOGGED BY: J. Neff
DATE START/END: 2/28/2017 - 3/1/2017
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: C. Beirholm
RIG TYPE: Mobile B-57

BORING
B303

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: 4.25 inch / 7.625 inch
DRILLING METHOD: Hollow Stem Auger
WATER LEVEL DEPTHS (ft): Not measured
CASING I.D./O.D.: NA / NA
DRILL ROD O.D.: NM
CORE BARREL TYPE: NA
CORE BARREL I.D./O.D. NA / NA

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

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 2	24/18	4-3-5-5	S1(0-8") = 0.1 ppm S1(8-18") = 0.1 ppm	FILL	S1(0-8"): SILTY SAND (SM) ~85% fine to medium sand, ~15% nonplastic fines, dark brown, dry. Contains roots. TOP SOIL. S1(8-18"): WIDELY GRADED SAND WITH SILT (SW-SM) ~80% fine to coarse sand, ~10% subangular gravel up to 3/4", ~10% nonplastic fines, dry. Contains coal clinkers, brick fragments. FILL.
95		S2	2 to 4	24/18	3-5-7-7	S2(0-6") = 0.1 ppm S2(6-18") = 0.0 ppm		S2(0-6"): Similar to S1(8-18"). Subangular gravel up to 1/2". FILL. S2(6-18"): CLAYEY SAND (SC) ~60% fine to coarse sand, ~40% nonplastic fines, grey, dry. Dense. FILL.
		S3	4 to 5	12/12	2-4-Refusal	S3 = 0.0 ppm Refusal at 5.0' below ground surface. Moved drill rig approximately 3.0 feet east. Augered to 5.0' bgs and drove spoon from 5.0 - 7.0 feet bgs.		S3: Similar to S2(6-18"). FILL.
	5	S4	5 to 7	24/20	2-5-17-18	S4(0-13") = 0.1 ppm S4(13-20") = 0.1 ppm		S4(0-13"): Similar to S2(6-18"). FILL. S4(13-20"): WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM) ~60% fine to coarse sand, ~30% subangular gravel up to 1/2", ~10% nonplastic fines, dark brown, dry. Contains brick fragments, coal clinkers. FILL.
90		S5	7 to 9	24/12	37-14-14-16	S5 = 0.2 ppm		S5: Similar to S4(13-20"). Crushed gravel from 0-7". FILL.
		S6	9 to 11	24/10	11-16-13-16	S6 = 0.2 ppm		S6: SILTY SAND WITH GRAVEL (SM) ~60% fine to coarse sand, ~25% nonplastic fines, ~15% subangular gravel up to 1/2", brown, dry. FILL.

NOTES: Bottom of boring at 28.0'. Installed monitoring well. Screened 18.0 - 28.0' below ground surface. Environmental samples collected: B303-S9(0-5") for VPH/EPH/VOCs.

PROJECT NAME: Tremont Crossing Phase II
CITY/STATE: Boston, Massachusetts
GEI PROJECT NUMBER: 1700516

GEI Consultants

LOCATION: See Plan
GROUND SURFACE EL. (ft): 97.53 **DATE START/END:** 2/28/2017 - 3/1/2017
VERTICAL DATUM: on-site benchmark **DRILLING COMPANY:** Northern Drill Service, Inc.

BORING B303

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
							FILL	
		S7	11 to 13	24/14	6-4-5-5	S7(0-7") = 0.1 ppm S7(7-10") = 0.1 ppm S7(10-14") = 0.4 ppm	FILL	S7(0-7"): Similar to S6. FILL. S7(7-10"): WIDELY GRADED SAND (SW) ~95% fine to coarse sand, ~5% nonplastic fines, brown, moist. FILL.
85							ORGANICS	S7(10-14"): SILTY SAND (SM) ~80% fine to coarse sand, ~20% nonplastic fines, grey, dry. Dense. SILT.
		S8	13 to 15	24/24	1-1-2-2	S8 = 0.4 ppm Augered to 20.0'. No increase in drilling resistance.	ORGANICS	S8: ORGANIC SOIL (OL). Gray. Contains silt lenses, plant matter.
	15							
80								
	20	S9	20 to 22	24/11	13-12-14-12	S9(0-5") = 0.3 ppm S9(5-11") = 0.2 ppm	SAND	S9(0-5"): WIDELY GRADED SAND (SW) ~90% fine to coarse sand, ~10% subangular gravel up to 1/4", grey, wet. SAND. S9(5-11"): WIDELY GRADED GRAVEL WITH SAND (GW) ~65% subangular gravel up to 1/2", ~35% fine to coarse sand, grey, wet. SAND.
75								

NOTES: Bottom of boring at 28.0'. Installed monitoring well. Screened 18.0 - 28.0' below ground surface. Environmental samples collected: B303-S9(0-5") for VPH/EPH/VOCs.

PROJECT NAME: Tremont Crossing Phase II

CITY/STATE: Boston, Massachusetts

GEI PROJECT NUMBER: 1700516

GEI Consultants

LOCATION: See Plan

GROUND SURFACE EL. (ft): 97.53 **DATE START/END:** 2/28/2017 - 3/1/2017

VERTICAL DATUM: on-site benchmark **DRILLING COMPANY:** Northern Drill Service, Inc.

BORING B303

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S10	24 to 26	24/19	1-1-4-7	S10 = 0.1 ppm	SAND	S10: WIDELY GRADED SAND (SW) ~100% fine to coarse sand, grey, wet. SAND.
70	25							Bottom of boring at depth 28 ft.
65	30							
	35							

NOTES: Bottom of boring at 28.0'. Installed monitoring well. Screened 18.0 - 28.0' below ground surface. Environmental samples collected: B303-S9(0-5") for VPH/EPH/VOCs.

PROJECT NAME: Tremont Crossing Phase II

CITY/STATE: Boston, Massachusetts

GEI PROJECT NUMBER: 1700516

GEI Consultants

BORING INFORMATION

LOCATION: See Plan

GROUND SURFACE EL. (ft): 97.61 **DATE START/END:** 3/2/2017 - 3/2/2017

VERTICAL DATUM: on-site benchmark **DRILLING COMPANY:** Northern Drill Service, Inc.

TOTAL DEPTH (ft): 22.0 **DRILLER NAME:** C. Beirholm

LOGGED BY: J. Neff **RIG TYPE:** Mobile B-57

BORING

B305

DRILLING INFORMATION

HAMMER TYPE: Automatic **CASING I.D./O.D.:** NA / NA **CORE BARREL TYPE:** NA

AUGER I.D./O.D.: 4.25 inch / 7.625 inch **DRILL ROD O.D.:** NM **CORE BARREL I.D./O.D.** NA / NA

DRILLING METHOD: Hollow Stem Auger

WATER LEVEL DEPTHS (ft): Not measured

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

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
								6" ASPHALT.
		S1	0.5 to 2	18/14	8-8-5	S1(0-6") = 4.4 ppm S1(6-14") = 5.2 ppm		S1(0-6"): WIDELY GRADED SAND (SW) ~80% fine to coarse sand, ~15% subangular gravel up to 1/2", ~5% nonplastic fines, brown, dry. Contains brick fragments. FILL. S1(6-14"): SILTY SAND WITH GRAVEL (SM) ~60% fine to coarse sand, ~20% subangular gravel up to 3/4", ~20% nonplastic fines, brown, dry. FILL.
95		S2	2 to 4	24/15	7-16-25-23	S2(0-4") = 5.6 ppm S2(4-15") = 5.1 ppm		S2(0-4"): WIDELY GRADED SAND WITH SILT(SW-SM) ~80% fine to coarse sand, ~10% subangular gravel up to 1/4", ~10% nonplastic fines, brown, dry. Contains brick fragments. FILL. S2(4-15"): NARROWLY GRADED SAND WITH SILT (SP-SM) ~90% fine to medium sand, ~10% nonplastic fines, brown, dry. Cobble from 9-15". FILL.
	5	S3	4 to 6	24/16	5-6-8-13	S3(0-9") = 5.7 ppm S3(9-12") = 5.6 ppm S3(12-16") = 5.8 ppm	FILL	S3(0-9"): WIDELY GRADED SAND (SW) ~100% fine to coarse sand, brown, dry. FILL. S3(9-12"): NARROWLY GRADED SAND WITH SILT (SP-SM) ~90% fine to medium sand, ~10% nonplastic fines, brown, dry. FILL. S3(12-16"): Similar to S3(0-9"). FILL.
		S4	6 to 8	24/19	17-18-20-23	S4 = 4.8 ppm		S4: WIDELY GRADED SAND WITH GRAVEL (SW) ~70% fine to coarse sand, ~25% subangular gravel up to 1/2", ~5% nonplastic fines, brown, dry. FILL.
90		S5	8 to 10	24/0	27-20-26-22	S5 = 5.1 ppm No recovery. Drove 3" spoon. Recovered 12".		S5: WIDELY GRADED SAND WITH GRAVEL (SW) ~60% fine to coarse sand, ~40% subangular gravel up to 1", brown, dry. FILL.

NOTES: Bottom of boring at 22.0'. Installed monitoring well. Screened 11.0 - 21.0' below ground surface. Environmental samples collected: B305-S7(9-13") for VPH/EPH/VOCs.

PROJECT NAME: Tremont Crossing Phase II

CITY/STATE: Boston, Massachusetts

GEI PROJECT NUMBER: 1700516

GEI Consultants

LOCATION: See Plan
GROUND SURFACE EL. (ft): 97.61 **DATE START/END:** 3/2/2017 - 3/2/2017
VERTICAL DATUM: on-site benchmark **DRILLING COMPANY:** Northern Drill Service, Inc.

BORING B305

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S6	10 to 12	24/15	14-27-16-18	S6 = 4.5 ppm	FILL	S6: Similar to S5. Subangular gravel up to 3/4". Crushed gravel from 3-5". FILL.
85		S7	12 to 14	24/13	27-17-14-12	S7(0-5") = 4.9 ppm S7(5-9") = 5.2 ppm S7(9-13") = 5.2 ppm		S7(0-5"): Similar to S5. Subangular gravel up to 3/4". FILL. S7(5-9"): WIDELY GRADED SAND WITH GRAVEL (SW) ~80% fine to coarse sand, ~20% subangular gravel up to 3/4", brown, moist. FILL. S7(9-13"): Similar to S7(5-9"), wet. SAND.
	15	S8	15 to 17	24/19	4-11-14-14	S8 = 5.6 ppm	SAND	S8: WIDELY GRADED SAND (SW) ~90% fine to coarse sand, ~10% subangular gravel up to 1/2", brown, wet. SAND.
80								
	20	S9	20 to 22	24/18	9-7-12-15	S9 = 5.8 ppm		S9: Similar to S8.
75								Bottom of boring at depth 22 ft.

NOTES: Bottom of boring at 22.0'. Installed monitoring well. Screened 11.0 - 21.0' below ground surface. Environmental samples collected: B305-S7(9-13") for VPH/EPH/VOCs.

PROJECT NAME: Tremont Crossing Phase II

CITY/STATE: Boston, Massachusetts

GEI PROJECT NUMBER: 1700516

GEI Consultants

BORING INFORMATION

LOCATION: See Plan
GROUND SURFACE EL. (ft): 98.65
VERTICAL DATUM: on-site benchmark
TOTAL DEPTH (ft): 22.0
LOGGED BY: J. Neff
DATE START/END: 3/3/2017 - 3/3/2017
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: C. Beirholm
RIG TYPE: Mobile B-57

BORING
B306
PAGE 1 of 2

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: 4.25 inch / 7.625 inch
DRILLING METHOD: Hollow Stem Auger
WATER LEVEL DEPTHS (ft): Not measured
CASING I.D./O.D.: NA / NA
DRILL ROD O.D.: NM
CORE BARREL TYPE: NA
CORE BARREL I.D./O.D. NA / NA

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

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 2	24/5	1-4-6-7	S1 = 4.2 ppm	FILL	S1: WIDELY GRADED SAND WITH SILT (SW-SM) ~90% fine to coarse sand, ~10% nonplastic fines, dark brown, dry. Contains brick fragments. TOP SOIL.
		S2	2 to 4	24/7	7-13-11-11	S2 = 5.3 ppm		S2: SAND WITH GRAVEL ~60% fine to coarse sand, ~20% low plasticity fines, ~20% subangular gravel up to 3/4", brown to grey, dry. Contains brick fragments, brick layer from 5-7". FILL.
95		S3	4 to 6	24/13	2-3-3-6	S3 = 5.4 ppm		S3: SANDY CLAY (SM) ~70% low plasticity fines, ~20% fine to coarse sand, ~10% subangular gravel up to 1/2", grey, dry. Dense. Contains brick fragments. FILL.
	5	S4	6 to 8	24/10	9-4-6-2	S4(0-5") = 5.3 ppm S4(5-10") = 6.1 ppm		S4(0-5"): Similar to S3. S4(5-10"): WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM) ~70% fine to coarse sand, ~15% subangular gravel up to 1/2", ~15% nonplastic fines, brown, dry. Contains brick fragments. FILL.
90		S5	8 to 10	24/9	3-3-4-4	S5 = 6.5 ppm		S5: Similar to S4(5-10"), moist. Contains brick fragments. FILL.

NOTES: Bottom of boring at 22.0'. Installed monitoring well. Screened 10.0 - 20.0' below ground surface. Environmental samples collected: B306-S7(8-14") for VPH/EPH/VOCs.

PROJECT NAME: Tremont Crossing Phase II
CITY/STATE: Boston, Massachusetts
GEI PROJECT NUMBER: 1700516

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME DRAFT BORING LOGS.GPJ 3/22/17

LOCATION: See Plan
GROUND SURFACE EL. (ft): 98.65 **DATE START/END:** 3/3/2017 - 3/3/2017
VERTICAL DATUM: on-site benchmark **DRILLING COMPANY:** Northern Drill Service, Inc.

BORING B306

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S6	10 to 12	24/6	2-4-2-2	S6 = 5.3 ppm	FILL	S6: WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM) ~70% fine to coarse sand, ~20% nonplastic fines, ~10% subangular gravel up to 1/4", brown, moist. FILL.
85		S7	12 to 14	24/0	5-8-9-5	S7(0-8") = 5.0 ppm S7(8-14") = 6.3 ppm No recovery. Drove 3" spoon. Recovered 14".		S7(0-8"): WIDELY GRADED GRAVEL WITH SILT AND SAND (GW) ~60% subangular gravel up to 1-3/4", ~25% fine to coarse sand, ~15% nonplastic fines, brown, moist. FILL. S7(8-14"): Similar to S7(0-8"), wet. FILL.
	15	S8	15 to 17	24/20	10-18-23-19	S8(0-8") = 5.5 ppm S8(8-20") = 6.4 ppm	SAND & GRAVEL	S8(0-8"): WIDELY GRADED SAND (SW) ~90% fine to coarse sand, ~10% subrounded gravel up to 1/4", brown, wet. SAND. S8(8-20"): WIDELY GRADED GRAVEL WITH SAND (GW) ~65% subangular gravel up to 3/4", ~35% fine to coarse sand, brown, wet. GRAVEL.
80								
	20	S9	20 to 22	24/24	10-9-9-13	S9(0-5") = 4.6 ppm S9(5-10") = 4.0 ppm S9(10-24") = 4.3 ppm		S9(0-5"): WIDELY GRADED SAND (SW) ~100% fine to coarse sand, brown, wet. SAND. S9(5-10"): NARROWLY GRADED SAND WITH SILT (SP-SM) ~70% fine to coarse sand, ~30% nonplastic fines, brown, moist. SAND.
							SILT	S9(10-24"): SANDY SILT (SM) ~60% nonplastic fines, ~40% fine sand, brown, dry. SILT.
								Bottom of boring at depth 22 ft.

NOTES: Bottom of boring at 22.0'. Installed monitoring well. Screened 10.0 - 20.0' below ground surface. Environmental samples collected: B306-S7(8-14") for VPH/EPH/VOCs.

PROJECT NAME: Tremont Crossing Phase II

CITY/STATE: Boston, Massachusetts

GEI PROJECT NUMBER: 1700516

GEI Consultants

BORING INFORMATION

LOCATION: See Plan
GROUND SURFACE EL. (ft): 97.50
VERTICAL DATUM: on-site benchmark
TOTAL DEPTH (ft): 22.0
LOGGED BY: J. Neff
DATE START/END: 2/27/2017 - 2/27/2017
DRILLING COMPANY: Northern Drill Service, Inc.
DRILLER NAME: C. Beirholm
RIG TYPE: Mobile B-57

BORING
B307
PAGE 1 of 2

DRILLING INFORMATION

HAMMER TYPE: Automatic
AUGER I.D./O.D.: 4.25 inch / 7.625 inch
DRILLING METHOD: Hollow Stem Auger
WATER LEVEL DEPTHS (ft): Not measured
CASING I.D./O.D.: NA / NA
DRILL ROD O.D.: NM
CORE BARREL TYPE: NA
CORE BARREL I.D./O.D. NA / NA

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

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
								6" ASPHALT.
		S1	0.5 to 2	18/11	12-8-6	S1 = 5.5 ppm		S1: WIDELY GRADED SAND WITH GRAVEL (SW) ~70% fine to coarse sand, ~25% subangular gravel up to 1/2", ~5% nonplastic fines, brown, dry. FILL.
95		S2	2 to 4	24/13	11-15-9-8	S2(0-4") = 6.3 ppm S2(4-13") = 8.4 ppm		S2(0-4"): Similar to S1. S2(4-13"): WIDELY GRADED GRAVEL WITH SAND (GW) ~75% subangular gravel up to 1-1/2", ~20% fine to coarse sand, ~5% nonplastic fines, red to black, dry. Contains coal ash, brick fragments. Brick from 4-7", 9-11", Wood fragments from 11-13". FILL.
	5	S3	4 to 6	24/14	4-7-9-8	S3 = 5.5 ppm	FILL	S3: SILTY SAND WITH GRAVEL (SM) ~50% fine to coarse sand, ~35% subangular gravel up to 3/4", ~15% nonplastic fines, brown, moist. Brick from 0-4", brick fragments throughout. FILL.
90		S4	6 to 8	24/19	44-55-33-24	S4 = 5.6 ppm		S4(0-5"): Similar to S3. S4(5-19"): Weathered concrete. FILL.
		S5	8 to 10	24/15	17-25-14-17	S5 = 5.9 ppm		S5: WIDELY GRADED SAND WITH GRAVEL (SW) ~65% fine to coarse sand, ~30% subangular gravel up to 3/4", ~5% nonplastic fines, brown, dry. Weathered gravel from 6-11". FILL.

NOTES: Bottom of boring at 22.0'. Installed monitoring well. Screened 11.0 - 21.0' below ground surface. Environmental samples collected: B307-S7(6-18") for VPH/EPH/VOCs.

PROJECT NAME: Tremont Crossing Phase II
CITY/STATE: Boston, Massachusetts
GEI PROJECT NUMBER: 1700516

GEI Consultants

GEI WOBURN STD 1-LOCATION-LAYER NAME DRAFT BORING LOGS.GPJ 3/22/17

LOCATION: See Plan

GROUND SURFACE EL. (ft): 97.50 **DATE START/END:** 2/27/2017 - 2/27/2017

VERTICAL DATUM: on-site benchmark **DRILLING COMPANY:** Northern Drill Service, Inc.

BORING B307

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S6	10 to 12	24/14	17-17-12-13	S6 = 5.9 ppm	FILL	S6: Similar to S5. FILL.
85		S7	12 to 14	24/18	16-9-6-6	S7(0-6") = 5.8 ppm S7(6-18") = 6.4 ppm		S7(0-6"): WIDELY GRADED SAND WITH GRAVEL (SW) ~50% fine to coarse sand, ~45% subangular gravel up to 1-1/4", ~5% nonplastic fines, brown, moist. FILL.
							SAND & GRAVEL	S7(6-18"): WIDELY GRADED SAND (SW) ~90% fine to coarse sand, ~10% subangular gravel up to 1/2", brown, wet. SAND.
	15	S8	15 to 17	24/15	2-4-7-8	S8 = 6.0 ppm		S8: WIDELY GRADED SAND (SW) ~100% fine to coarse sand, brown, wet. SAND.
80								
	20	S9	20 to 22	24/18	9-12-12-23	S9(0-15") = 3.8 ppm S9(15-18") = 4.4 ppm		S9(0-15"): WIDELY GRADED SAND WITH GRAVEL (SW) ~85% fine to coarse sand, ~15% subrounded gravel up to 1/2", brown, wet. SAND.
							SAND	S9(15-18"): NARROWLY GRADED SAND WITH SILT (SP-SM) ~90% fine to medium sand, ~10% nonplastic fines, brown, wet. SAND.
75								Bottom of boring at depth 22 ft.

NOTES: Bottom of boring at 22.0'. Installed monitoring well. Screened 11.0 - 21.0' below ground surface. Environmental samples collected: B307-S7(6-18") for VPH/EPH/VOCs.

PROJECT NAME: Tremont Crossing Phase II

CITY/STATE: Boston, Massachusetts

GEI PROJECT NUMBER: 1700516

GEI Consultants

BORING INFORMATION

LOCATION: See Plan

GROUND SURFACE EL. (ft): 97.73 **DATE START/END:** 3/1/2017 - 3/1/2017

VERTICAL DATUM: on-site benchmark **DRILLING COMPANY:** Northern Drill Service, Inc.

TOTAL DEPTH (ft): 22.0 **DRILLER NAME:** C. Beirholm

LOGGED BY: J. Neff **RIG TYPE:** Mobile B-57

BORING

B308

DRILLING INFORMATION

HAMMER TYPE: Automatic **CASING I.D./O.D.:** NA / NA **CORE BARREL TYPE:** NA

AUGER I.D./O.D.: 4.25 inch / 7.625 inch **DRILL ROD O.D.:** NM **CORE BARREL I.D./O.D.** NA / NA

DRILLING METHOD: Hollow Stem Auger

WATER LEVEL DEPTHS (ft): Not measured

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

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 2	24/19	3-11-5-8	S1(0-6") = 0.0 ppm S1(6-15") = 4.9 ppm S1(15-19") = 6.3 ppm	FILL	S1(0-6"): WIDELY GRADED SAND WITH SILT (SW-SM) ~90% fine to coarse sand, ~10% nonplastic fines, dark brown, dry. Contains roots, leaves. TOP SOIL. S1(6-15"): WIDELY GRADED SAND (SW) ~90% fine to coarse sand, ~5% subangular gravel up to 1/2", ~5% nonplastic fines, cark brown to black. Contains coal clinkers. S1(15-19"): WIDELY GRADED SAND WITH SILT AND GRAVEL (SP-SM) ~60% fine to coarse sand, ~30% subangular gravel up to 3/4", ~10% nonplastic fines, brown, dry. Dense. Contains brick fragments, coal clinkers.
95		S2	2 to 4	24/18	12-19-32-29	S2(0-12") = 2.0 ppm S2(12-18") = 55.0 ppm		S2(0-12"): SILTY SAND WITH GRAVEL (SM) ~60% fine to coarse sand, ~25% nonplastic fines, ~15% subangular gravel up to 1/2", olive, dry. Contains brick fragments, coal ash. Brick layer from 7-12". FILL. S2(12-18"): WIDELY GRADED SAND WITH GRAVEL (SW) ~75% fine to coarse sand, ~20% subangular gravel up to 3/4", ~5% nonplastic fines, dark brown to black, dry. Contains brick fragments, coal ash. FILL.
	5	S3	4 to 6	24/13	9-7-5-4	S3 = 6.9 ppm		S3: Similar to S2(6-18"). Brick layer from 7-10", wood fragments from 11-13". FILL.
90		S4	6 to 8	24/13	8-8-8-3	S4 = 12.7 ppm		S4: WIDELY GRADED SAND WITH GRAVEL (SW) ~60% fine to coarse sand, ~35% subangular gravel up to 1-1/2", ~5% nonplastic fines, dark brown to brown, dry. Contains wood chips from 3-7", weathered concrete and brick from 7-12", brick layer from 12-13". FILL.
		S5	8 to 10	24/18	9-12-17-16	S5(0-7") = 6.9 ppm S5(7-18") = 5.7 ppm	SAND & GRAVEL	S5(0-7"): SILTY SAND (SM) ~70% fine to coarse sand, ~30% nonplastic fines, olive, dry. SAND. S5(7-18"): WIDELY GRADED SAND WITH GRAVEL (SW) ~65% fine to coarse sand, ~30% subangular gravel up to 1-1/4", ~5% nonplastic fines, brown, dry. SAND.

NOTES: Bottom of boring at 22.0'. Installed monitoring well. Screened 11.0 - 21.0' below ground surface. Environmental samples collected: B308-S2(0-18") for VOCs, B308-S7(0-10") for VOCs, B-308-COMP(0-8') and B308-COMP(8-22') for full disposal suite.

PROJECT NAME: Tremont Crossing Phase II

CITY/STATE: Boston, Massachusetts

GEI PROJECT NUMBER: 1700516

GEI Consultants

LOCATION: See Plan
GROUND SURFACE EL. (ft): 97.73 **DATE START/END:** 3/1/2017 - 3/1/2017
VERTICAL DATUM: on-site benchmark **DRILLING COMPANY:** Northern Drill Service, Inc.

BORING B308

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Sample Information: Depth (ft)	Sample Information: Pen./ Rec. (in)	Sample Information: Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S6	10 to 12	24/17	10-12-17-16	S6 = 5.5 ppm	SAND & GRAVEL	S6: WIDELY GRADED SAND WITH SILT AND GRAVEL (SW) ~75% fine to coarse sand, ~15% subangular gravel up to 1", ~15% nonplastic fines, brown, dry. Silt seam from 3-6". SAND.
85		S7	12 to 14	24/15	35-8-17-12	S7(0-10") = 3.9 ppm S7(10-15") = 2.1 ppm		S7(0-10"): WIDELY GRADED SAND WITH GRAVEL (SW) ~80% fine to coarse sand, ~15% subangular gravel up to 3/4", ~5% nonplastic fines, brown, dry. SAND. S7(10-15"): WIDELY GRADED GRAVEL WITH SAND (GW) ~60% angular gravel up to 1-1/4", ~40% fine to coarse sand, brown, wet. GRAVEL.
	15	S8	14 to 16	24/15	17-14-16-11	S8(0-4") = 2.1 ppm S8(4-15") = 1.6 ppm		S8(0-4"): WIDELY GRADED SAND WITH SILT (SW-SM) ~85% fine to coarse sand, ~10% nonplastic fines, ~5% subangular gravel up to 1/4", brown, wet. SAND. S8(4-15"): WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM) ~60% fine to coarse sand, ~30% subangular gravel up to 3/4", ~10% nonplastic fines, brown, wet. SAND.
80		S9	16 to 18	24/19	23-21-21-18	S9(0-7") = 2.8 ppm S9(7-19") = 1.6 ppm		S9(0-7"): WIDELY GRADED SAND (SW) ~90% fine to coarse, ~10% subangular gravel up to 1/2", brown, wet. SAND. S9(7-19"): WIDELY GRADED SAND WITH GRAVEL (SW) ~60% fine to coarse sand, ~40% subangular gravel up to 1", brown, wet. SAND.
		S10	18 to 20	24/19	14-17-14-12	S10 = 2.7 ppm		S10: WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM) ~50% fine to coarse sand, ~40% subangular gravel up to 1", ~10% nonplastic fines, brown, wet. SAND.
	20	S11	20 to 22	24/19	28-23-24-16	S11(0-5") = 2.0 ppm S11(5-19") = 1.1 ppm		S11(0-5"): WIDELY GRADED SAND (SW) ~100% fine to coarse sand, brown, wet. SAND. S11(5-19"): WIDELY GRADED SAND WITH GRAVEL (SW) ~60% fine to coarse sand, ~35% subangular gravel up to 1-1/4", ~5% nonplastic fines, brown, wet. SAND.
75								Bottom of boring at depth 22 ft.

NOTES: Bottom of boring at 22.0'. Installed monitoring well. Screened 11.0 - 21.0' below ground surface. Environmental samples collected: B308-S2(0-18") for VOCs, B308-S7(0-10") for VOCs, B-308-COMP(0-8') and B308-COMP(8-22') for full disposal suite.

PROJECT NAME: Tremont Crossing Phase II

CITY/STATE: Boston, Massachusetts

GEI PROJECT NUMBER: 1700516

GEI Consultants

TEST PIT LOG

T101

Project	Tremont Crossing Phase II			**PG.**	1 **OF** 1
City/Town	Boston, MA			**Location**	See Plan
Client	Feldco				
Contractor	Northern Drill Services, Inc.			**Ground El.**	
Equipment/Reach	John Deere 310SJ			**Datum**	
Operator	D. Eldiberti	**GEI Rep**	J. Neff	**GEI Proj. No.**	1700516
Weather	40's F, Sunny and Windy			**Date**	2/26/2017

Depth	Sample No. and Type	PID Jar Headspace (ppm)	Soil Description
1.0		0.0 ppm	(0 -10"): WIDELY GRADED SAND WITH SILT (SW-SM) ~80% fine to coarse sand, ~10% nonplastic fines, ~10% subangular gravel up to 1/4", dark brown, dry. Contains roots. TOP SOIL.
2.0		0.0 ppm	(10-32"): WIDELY GRADED SAND WITH GRAVEL (SW) ~60% fine to coarse sand, ~35% subangular gravel up to 6", ~5% nonplastic fines, brown, dry. Contains bricks, brick fragments, concrete fragments. FILL.
3.0		0.0 ppm	(32-42"): SILTY SAND WITH GRAVEL (SM) ~60% fine to coarse sand, ~25% nonplastic fines, ~15% subrounded gravel up to 1/2", brown, moist. Contains brick fragments. FILL.
4.0		0.1 ppm	(42-90"): WIDELY GRADED SAND WITH GRAVEL (SW) ~60% fine to coarse sand, ~30% subangular gravel up to 6", ~10% nonplastic fines, brown, dry. Contains bricks, brick fragments, concrete. FILL.
5.0			
6.0			
7.0		0.0 ppm	(90-96"): WIDELY GRADED SAND (SW) ~100% fine to coarse sand, brown, moist. FILL.
8.0			Bottom of test pit at 8.0'.

Notes: Test pit backfilled with excavated soil upon completion.

Pit Dimensions (ft)

length	10.0
width	3.0
depth	8.0

GEI Consultants

TEST PIT LOG

TP103

Project	Tremont Crossing Phase II			**PG.**	1 **OF** 1
City/Town	Boston, MA			**Location**	See Plan
Client	Feldco				
Contractor	Northern Drill Services, Inc.			**Ground El.**	
Equipment/Reach	John Deere 310SJ			**Datum**	
Operator	D. Eldiberti	**GEI Rep**	J. Neff	**GEI Proj. No.**	1700516
Weather	40's F, Sunny and Windy			**Date**	2/26/2017

Depth	Sample No. and Type	PID Jar Headspace (ppm)	Soil Description
1.0		0.1 ppm	(0 -12"): WIDELY GRADED SAND WITH SILT (SW-SM) ~80% fine to coarse sand, ~10% nonplastic fines, ~10% subangular gravel up to 1/4", dark brown, dry. FILL.
2.0		0. 0 ppm	(12-24"): WIDELY GRADED SAND (SW) ~90% fine to coarse sand, ~5% subrounded gravel up to 1/2", ~5% nonplastic fines, brown, dry. Contains brick fragments. FILL.
3.0		0.1 ppm	(24-36"): SILTY SAND (SM) ~80% fine to coarse sand, ~20% nonplastic fines, brown, dry. Contains brick fragments, concrete fragments. FILL.
4.0		0. 0 ppm	(36-42"): SILTY SAND (SM) ~60% fine to coarse sand, ~40% nonplastic fines, grey, moist. Dense. FILL.
5.0			
6.0		0. 0 ppm	(42-85"): WIDELY GRADED SAND WITH GRAVEL (SW) ~60% fine to coarse sand, ~40% subangular gravel and cobbles up to 18", brown, dry. Contains bricks, brick fragments, concrete. FILL.
7.0			Encountered 15- 18" concrete pipe approximately 7.25 feet below ground surface, running northeast to southwest.
8.0			Bottom of test pit at 7.25'.

Notes: Test pit backfilled with excavated soil upon completion.

Pit Dimensions (ft)

length	13.0
width	4.0
depth	7.25

GEI Consultants

TEST PIT LOG

TP104

Project	Tremont Crossing Phase II			**PG.**	1 **OF** 1
City/Town	Boston, MA			**Location**	See Plan
Client	Feldco				
Contractor	Northern Drill Services, Inc.			**Ground El.**	
Equipment/Reach	John Deere 310SJ			**Datum**	
Operator	D. Eldiberti	**GEI Rep**	J. Neff	**GEI Proj. No.**	1700516
Weather	40's F, Sunny and Windy			**Date**	2/26/2017

Depth	Sample No. and Type	PID Jar Headspace (ppm)	Soil Description
		0.0 ppm	(0 -8"): WIDELY GRADED SAND WITH SILT (SW-SM) ~80% fine to coarse sand, ~10% subrounded gravel up to 1/2", ~10% nonplastic fines, dark brown, dry. FILL.
1.0			
		0.0 ppm	(8-14"): SILTY SAND (SM) ~80% fine to coarse sand, ~15% nonplastic fines, ~5% subangular gravel up to 1/4", brown, dry. Contains brick fragments. FILL.
2.0			
3.0		0.0 ppm	(14-90"): WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM) ~55% fine to coarse sand, ~35% subangular gravel and cobbles up to 12", ~10% nonplastic fines. Contains bricks, brick fragments, concrete fragments. FILL.
4.0			
			Observed a competent brick layer in north sidewall approximately 1.5 - 2.0' below ground surface.
5.0			
6.0			
7.0		0.0 ppm	(90-96"): SILTY SAND (SM) ~65% fine to coarse sand, ~25% nonplastic fines, ~10% subrounded gravel up to 1/2", brown, moist. SAND.
8.0			Bottom of test pit at 8.0'.

Notes: Test pit backfilled with excavated soil upon completion.

Observed a concrete foundation approximately 5.0' northeast of TP104, approximately 16" below ground surface.

Pit Dimensions (ft)

length	9.0
width	3.0
depth	8.0

GEI Consultants

TEST PIT LOG

TP105

Project	Tremont Crossing Phase II			**PG.**	1 **OF** 1
City/Town	Boston, MA			**Location**	See Plan
Client	Feldco				
Contractor	Northern Drill Services, Inc.			**Ground El.**	
Equipment/Reach	John Deere 310SJ			**Datum**	
Operator	D. Eldiberti	**GEI Rep**	J. Neff	**GEI Proj. No.**	1700516
Weather	40's F, Sunny and Windy			**Date**	2/26/2017

Depth	Sample No. and Type	PID Jar Headspace (ppm)	Soil Description
1.0		1.0 ppm	(0 -18"): SILTY SAND WITH GRAVEL (SM) ~60% fine to coarse sand, ~20% subangular gravel up to 6", ~20% nonplastic fines, brown, dry. Contains concrete, bricks, brick fragments. FILL.
2.0		0.2 ppm	(18-60"): WIDELY GRADED SAND WITH GRAVEL (SW) ~50% fine to coarse sand, ~45% subangular gravel and cobbles up to 24", ~5% nonplastic fines, brown, dry. Contains bricks, brick fragments, concrete. FILL.
3.0			
4.0			
5.0			
6.0			
7.0		0.0 ppm	(60-96"): WIDELY GRADED GRAVEL WITH SAND (GW) ~65% subangular gravel up to 42", fine to coarse sand, ~30% subangular gravel up to 6", ~10% nonplastic fines, brown, dry. Contains bricks, brick fragments, concrete. FILL.
8.0			Encountered concrete blocks throughout, maximum approximately 3.5' x 3.0' x 1.0'.

Notes: Test pit backfilled with excavated soil upon completion.

Pit Dimensions (ft)

length	12.0
width	3.5
depth	10.0

GEI Consultants

TEST PIT LOG

TP105

Project	Tremont Crossing Phase II			**PG.**	2 **OF** 2
City/Town	Boston, MA			**Location**	See Plan
Client	Feldco				
Contractor	Northern Drill Services, Inc.			**Ground El.**	
Equipment/Reach	John Deere 310SJ			**Datum**	
Operator	D. Eldiberti	**GEI Rep**	J. Neff	**GEI Proj. No.**	1700516
Weather	40's F, Sunny and Windy			**Date**	2/26/2017

Depth	Sample No. and Type	PID Jar Headspace (ppm)	Soil Description
		0.0 ppm	(96 -120"): WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM) ~70% fine to coarse sand, ~20% subangular gravel, ~ 10% nonplastic fines, dark brown, dry. Contains weathered concrete, concrete fragments, brick fragments. FILL.
9.0			
10.0			Bottom of test pit at 10.0'.
11.0			
12.0			

Notes: Test pit backfilled with excavated soil upon completion.

Pit Dimensions (ft)

length	12.0
width	3.5
depth	10.0

GEI Consultants

TEST PIT LOG

TP106

Project	Tremont Crossing Phase II			**PG.**	1 **OF** 1
City/Town	Boston, MA			**Location**	See Plan
Client	Feldco				
Contractor	Northern Drill Services, Inc.			**Ground El.**	
Equipment/Reach	John Deere 310SJ			**Datum**	
Operator	D. Eldiberti	**GEI Rep**	J. Neff	**GEI Proj. No.**	1700516
Weather	40's F, Sunny and Windy			**Date**	2/26/2017

Depth	Sample No. and Type	PID Jar Headspace (ppm)	Soil Description
		0.0 ppm	(0 -4"): WIDELY GRADED SAND WITH SILT (SW-SM) ~85% fine to coarse sand, ~10% nonplastic fines, ~10% subangular gravel up to 1/4", dark brown, dry. Contains roots, leaves. TOP SOIL.
1.0		0.0 ppm	(4-12"): WIDELY GRADED SAND WITH GRAVEL (SW) ~65% fine to coarse sand, ~30% subangular gravel up to 1", ~5% nonplastic fines, brown, dry. FILL.
3.0		0.0 ppm	(12-24"): WIDELY GRADED SAND (SW) ~85% fine to coarse sand, ~10% subrounded gravel up to 1/2", ~5% nonplastic fines, brown, dry. FILL.
2.0			Bottom of test pit at 2.0'. Encountered 2" steel pipe at 2.0' below ground surface, running north to south.

Notes: Test pit backfilled with excavated soil upon completion.

Pit Dimensions (ft)

length	7.0
width	3.0
depth	2.0

GEI Consultants

TEST PIT LOG

TP107

Project	Tremont Crossing Phase II			**PG.**	1 **OF** 2
City/Town	Boston, MA			**Location**	See Plan
Client	Feldco				
Contractor	Northern Drill Services, Inc.			**Ground El.**	
Equipment/Reach	John Deere 310SJ			**Datum**	
Operator	D. Eldiberti	**GEI Rep**	J. Neff	**GEI Proj. No.**	1700516
Weather	40's F, Sunny and Windy			**Date**	2/26/2017

Depth	Sample No. and Type	PID Jar Headspace (ppm)	Soil Description
1.0		0.1 ppm	(0 -12"): WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM) ~70% fine to coarse sand, ~15% nonplastic fines, ~15% subangular gravel up to 1", brown, dry. FILL.
2.0		0.2 ppm	(12-18"): WIDELY GRADED GRAVEL WITH SAND (GW) ~55% subrounded gravel up to 2", ~45% fine to coarse sand, ilght brown, dry. FILL.
3.0		0.5 ppm	(18-60"): WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM) ~60% fine to coarse sand, ~40% subangular gravel up to 24", brown, dry. Contains brick fragments, bricks, concrete. FILL.
4.0			Encountered a 2" steel pipe approximately 4.0 feet below ground surface, running northeast to southwest. Encountered a 1" copper pipe approximately 5.0 feet below ground surface parallel to steel pipe.
5.0			Encountered a competent brick layer approximately 4.0 feet below ground surface in eastern sidewall. Competent brick to minimum 8.0 feet below ground surface.
6.0			
7.0		0.0 ppm	(60-66"): WIDELY GRADED SAND (SW) ~100% fine to coarse sand, brown, dry. FILL.
8.0			

Notes: Test pit backfilled with excavated soil upon completion.

Pit Dimensions (ft)

length	14.0
width	4.0
depth	10.0

GEI Consultants

TEST PIT LOG

TP107

Project	Tremont Crossing Phase II			**PG.** 2 **OF** 2	
City/Town	Boston, MA			**Location**	See Plan
Client	Feldco				
Contractor	Northern Drill Services, Inc.			**Ground El.**	
Equipment/Reach	John Deere 310SJ			**Datum**	
Operator	D. Eldiberti	**GEI Rep**	J. Neff	**GEI Proj. No.**	1700516
Weather	40's F, Sunny and Windy			**Date**	2/26/2017

Depth	Sample No. and Type	PID Jar Headspace (ppm)	Soil Description
		0.2 ppm	(66 -120"): WIDELY GRADED SAND WITH GRAVEL (SW) ~60% fine to coarse sand, ~40% subangular gravel up to 1", brown, dry. FILL.
9.0			
10.0			Bottom of test pit at 10.0'.
11.0			
12.0			

Notes: Test pit backfilled with excavated soil upon completion.

Pit Dimensions (ft)

length	14.0
width	4.0
depth	10.0

GEI Consultants

TEST PIT LOG

TP108

Project	Tremont Crossing Phase II			**PG.**	1 **OF** 1
City/Town	Boston, MA			**Location**	See Plan
Client	Feldco				
Contractor	Northern Drill Services, Inc.			**Ground El.**	
Equipment/Reach	John Deere 310SJ			**Datum**	
Operator	D. Eldiberti	**GEI Rep**	J. Neff	**GEI Proj. No.**	1700516
Weather	40's F, Sunny and Windy			**Date**	2/26/2017

Depth	Sample No. and Type	PID Jar Headspace (ppm)	Soil Description
1.0		1.2 ppm	(0 -12"): WIDELY GRADED SAND WITH SILT (SW-SM) ~80% fine to coarse sand, ~10% nonplastic fines, ~10% subangular gravel up to 1/4", dark brown, dry. Contains roots. TOP SOIL.
2.0			
3.0		0.0 ppm	(12-90"): WIDELY GRADED SAND WITH SILT GRAVEL (SW-SM) ~55% fine to coarse sand, ~35% subangular gravel up to 36", ~10% nonplastic fines, brown, moist. Contains bricks, brick fragments, concrete. Block of concrete approximately 2.0 feet below ground surface. FILL.
4.0			Encounterd a 4.0' x 3.0' x 1.0' block of concrete.
5.0			
6.0			
7.0		0.0 ppm	(90-96"): SILTY SAND (SM) ~60% fine to coarse sand, ~30% nonplastic fines, ~10% subangular gravel up to 2", olive, moist. SAND.
8.0			Bottom of test pit at 8.0'.

Notes: Test pit backfilled with excavated soil upon completion.

Pit Dimensions (ft)

length	8.0
width	3.0
depth	8.0

GEI Consultants

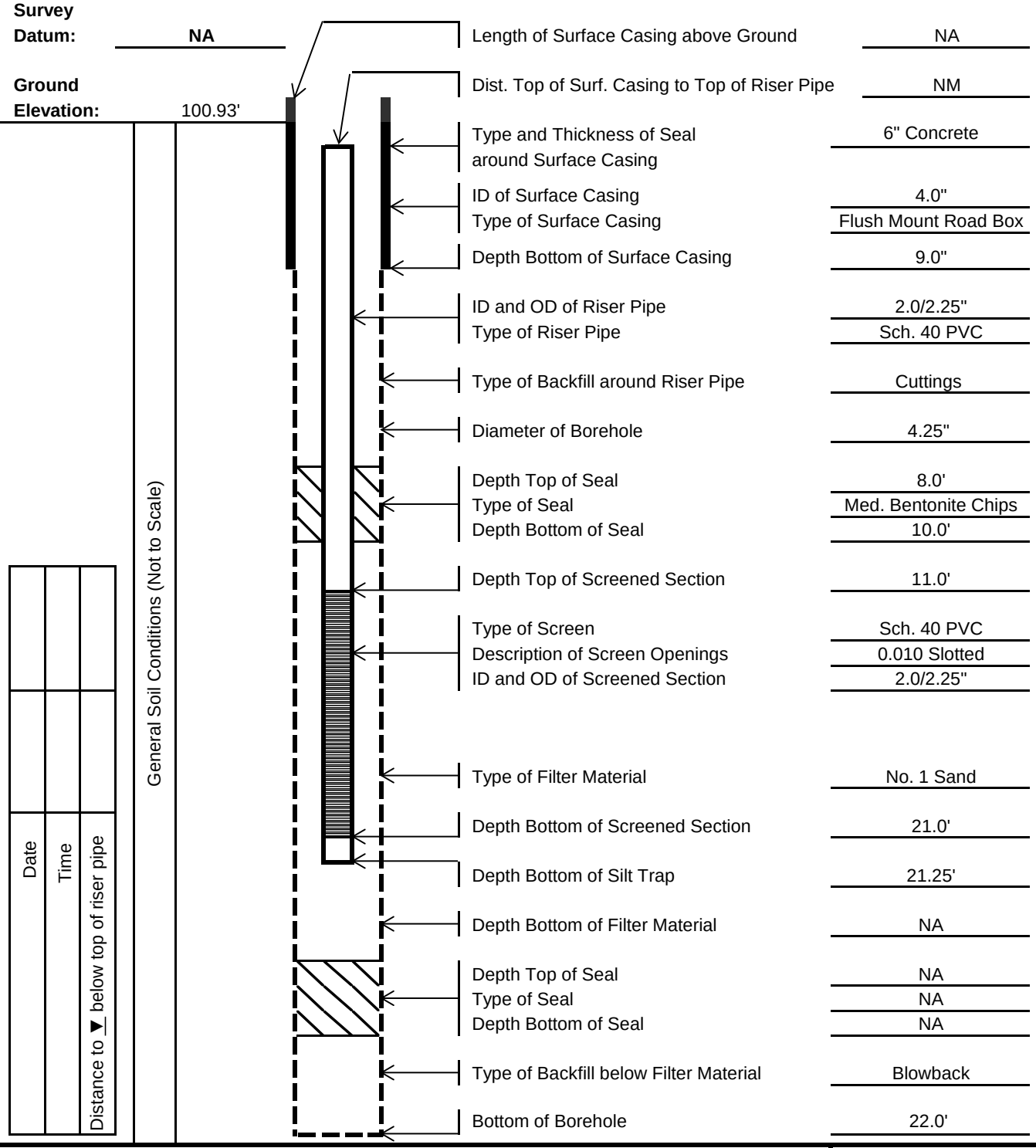
Groundwater Well Installation Log

B(MW)301

Project	Tremont Crossing Phase II ESA	**GEI Proj. No.**	1700516
City / Town	Boston	**Location**	See Plan
Client	Feldco		
Contractor	Northern Drill Service, Inc.		
Driller	C. Beirholm **GEI Rep.** J. Neff	**Install Date**	3/1/2017

Survey Datum: NA

Ground Elevation: 100.93'



Length of Surface Casing above Ground	NA
Dist. Top of Surf. Casing to Top of Riser Pipe	NM
Type and Thickness of Seal around Surface Casing	6" Concrete
ID of Surface Casing	4.0"
Type of Surface Casing	Flush Mount Road Box
Depth Bottom of Surface Casing	9.0"
ID and OD of Riser Pipe	2.0/2.25"
Type of Riser Pipe	Sch. 40 PVC
Type of Backfill around Riser Pipe	Cuttings
Diameter of Borehole	4.25"
Depth Top of Seal	8.0'
Type of Seal	Med. Bentonite Chips
Depth Bottom of Seal	10.0'
Depth Top of Screened Section	11.0'
Type of Screen	Sch. 40 PVC
Description of Screen Openings	0.010 Slotted
ID and OD of Screened Section	2.0/2.25"
Type of Filter Material	No. 1 Sand
Depth Bottom of Screened Section	21.0'
Depth Bottom of Silt Trap	21.25'
Depth Bottom of Filter Material	NA
Depth Top of Seal	NA
Type of Seal	NA
Depth Bottom of Seal	NA
Type of Backfill below Filter Material	Blowback
Bottom of Borehole	22.0'

Notes:

GEI Consultants

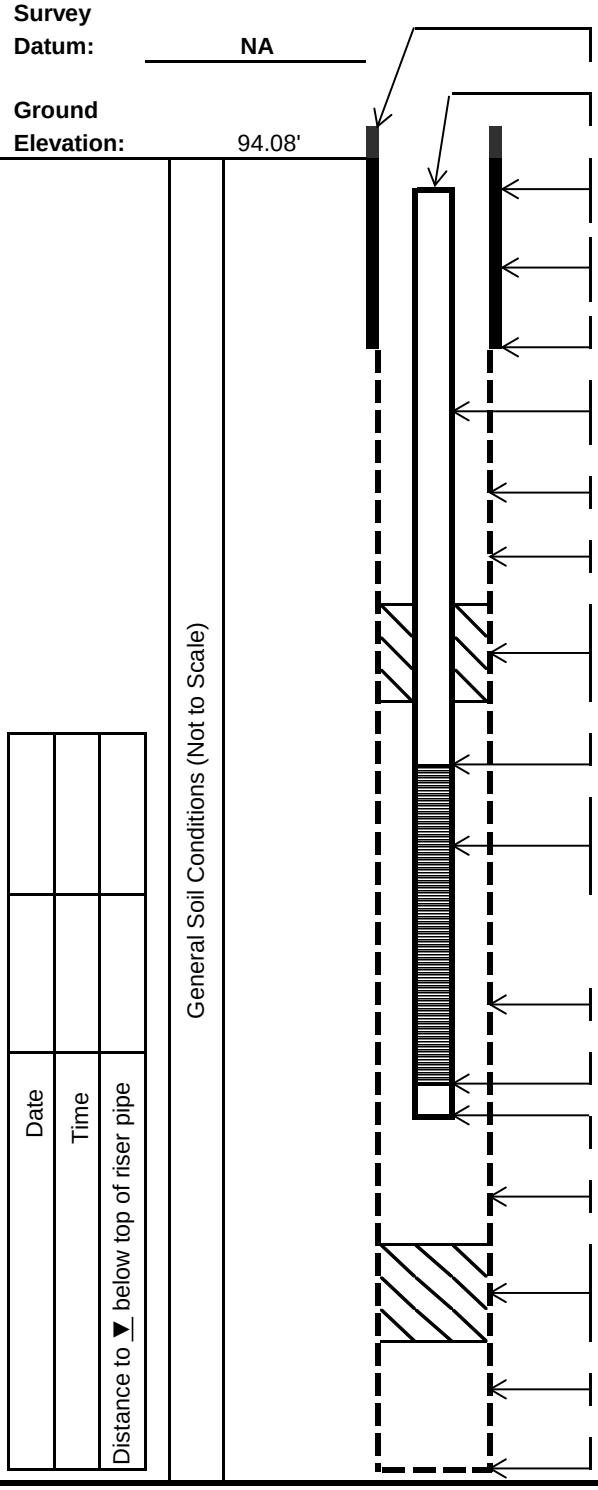
Groundwater Well Installation Log

B(MW)302

Project	Tremont Crossing Phase II ESA	**GEI Proj. No.**	1700516
City / Town	Boston	**Location**	See Plan
Client	Feldco		
Contractor	Northern Drill Service, Inc.		
Driller	C. Beirholm **GEI Rep.** J. Neff	**Install Date**	2/27/2017

Survey Datum: NA

Ground Elevation: 94.08'



Length of Surface Casing above Ground	NA
Dist. Top of Surf. Casing to Top of Riser Pipe	NM
Type and Thickness of Seal around Surface Casing	6" Concrete
ID of Surface Casing	4.0"
Type of Surface Casing	Flush Mount Road Box
Depth Bottom of Surface Casing	9.0"
ID and OD of Riser Pipe	2.0/2.25"
Type of Riser Pipe	Sch. 40 PVC
Type of Backfill around Riser Pipe	Cuttings
Diameter of Borehole	4.25"
Depth Top of Seal	13.0'
Type of Seal	Med. Bentonite Chips
Depth Bottom of Seal	15.0'
Depth Top of Screened Section	16.0'
Type of Screen	Sch. 40 PVC
Description of Screen Openings	0.010 Slotted
ID and OD of Screened Section	2.0/2.25"
Type of Filter Material	No. 1 Sand
Depth Bottom of Screened Section	26.0'
Depth Bottom of Silt Trap	26.25'
Depth Bottom of Filter Material	NA
Depth Top of Seal	NA
Type of Seal	NA
Depth Bottom of Seal	NA
Type of Backfill below Filter Material	Blowback
Bottom of Borehole	26.25'

Notes:

GEI Consultants

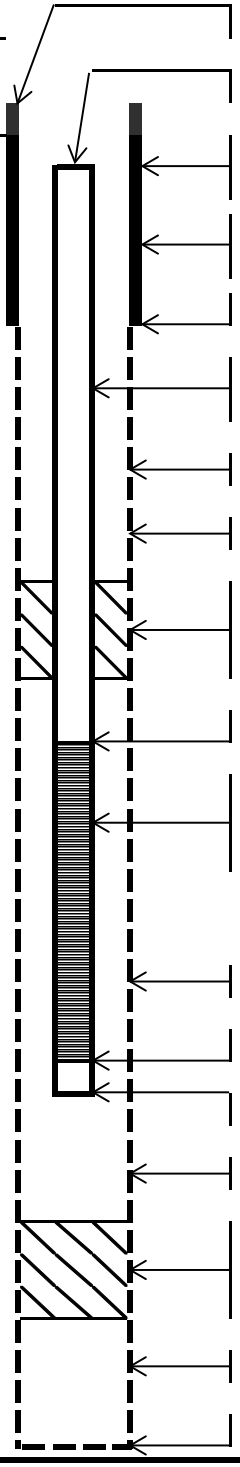
Groundwater Well Installation Log

B(MW)303

Project	Tremont Crossing Phase II ESA	**GEI Proj. No.**	1700516
City / Town	Boston	**Location**	See Plan
Client	Feldco		
Contractor	Northern Drill Service, Inc.		
Driller	C. Beirholm **GEI Rep.** J. Neff	**Install Date**	2/28/2017

Survey Datum: NA

Ground Elevation: 97.53'



Length of Surface Casing above Ground	NA
Dist. Top of Surf. Casing to Top of Riser Pipe	NM
Type and Thickness of Seal around Surface Casing	6" Concrete
ID of Surface Casing	4.0"
Type of Surface Casing	Flush Mount Road Box
Depth Bottom of Surface Casing	9.0"
ID and OD of Riser Pipe	2.0/2.25"
Type of Riser Pipe	Sch. 40 PVC
Type of Backfill around Riser Pipe	Cuttings
Diameter of Borehole	4.25"
Depth Top of Seal	15.0'
Type of Seal	Med. Bentonite Chips
Depth Bottom of Seal	17.0'
Depth Top of Screened Section	18.0'
Type of Screen	Sch. 40 PVC
Description of Screen Openings	0.010 Slotted
ID and OD of Screened Section	2.0/2.25"
Type of Filter Material	No. 1 Sand
Depth Bottom of Screened Section	28.0'
Depth Bottom of Silt Trap	28.25'
Depth Bottom of Filter Material	NA
Depth Top of Seal	NA
Type of Seal	NA
Depth Bottom of Seal	NA
Type of Backfill below Filter Material	Blowback
Bottom of Borehole	28.25'

General Soil Conditions (Not to Scale)

Date	Time	Distance to ▼ below top of riser pipe

Notes:

GEI Consultants

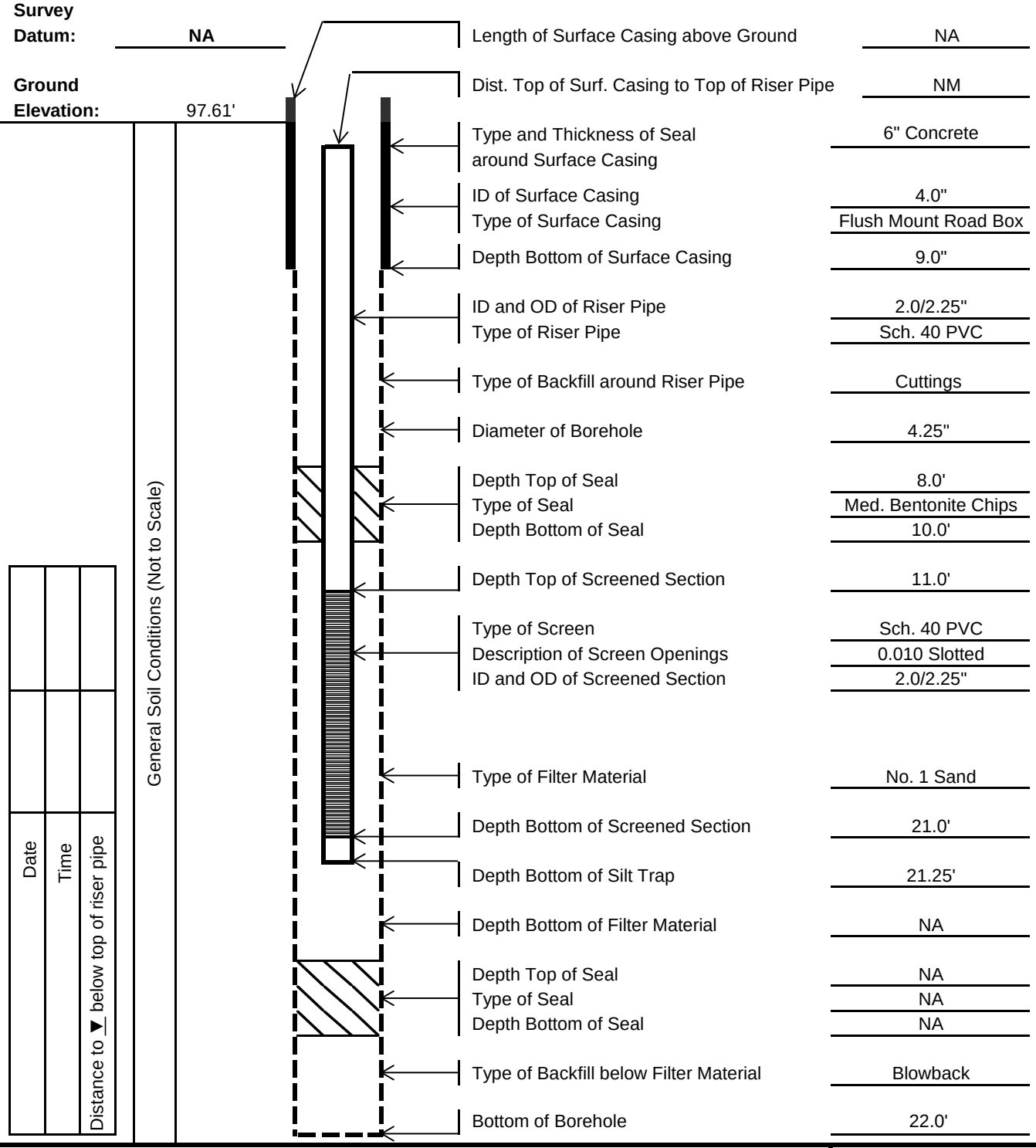
Groundwater Well Installation Log

B(MW)305

Project	Tremont Crossing Phase II ESA	**GEI Proj. No.**	1700516
City / Town	Boston	**Location**	See Plan
Client	Feldco		
Contractor	Northern Drill Service, Inc.		
Driller	C. Beirholm **GEI Rep.** J. Neff	**Install Date**	3/2/2017

Survey Datum: NA

Ground Elevation: 97.61'



Length of Surface Casing above Ground	NA
Dist. Top of Surf. Casing to Top of Riser Pipe	NM
Type and Thickness of Seal around Surface Casing	6" Concrete
ID of Surface Casing	4.0"
Type of Surface Casing	Flush Mount Road Box
Depth Bottom of Surface Casing	9.0"
ID and OD of Riser Pipe	2.0/2.25"
Type of Riser Pipe	Sch. 40 PVC
Type of Backfill around Riser Pipe	Cuttings
Diameter of Borehole	4.25"
Depth Top of Seal	8.0'
Type of Seal	Med. Bentonite Chips
Depth Bottom of Seal	10.0'
Depth Top of Screened Section	11.0'
Type of Screen	Sch. 40 PVC
Description of Screen Openings	0.010 Slotted
ID and OD of Screened Section	2.0/2.25"
Type of Filter Material	No. 1 Sand
Depth Bottom of Screened Section	21.0'
Depth Bottom of Silt Trap	21.25'
Depth Bottom of Filter Material	NA
Depth Top of Seal	NA
Type of Seal	NA
Depth Bottom of Seal	NA
Type of Backfill below Filter Material	Blowback
Bottom of Borehole	22.0'

Notes:

GEI Consultants

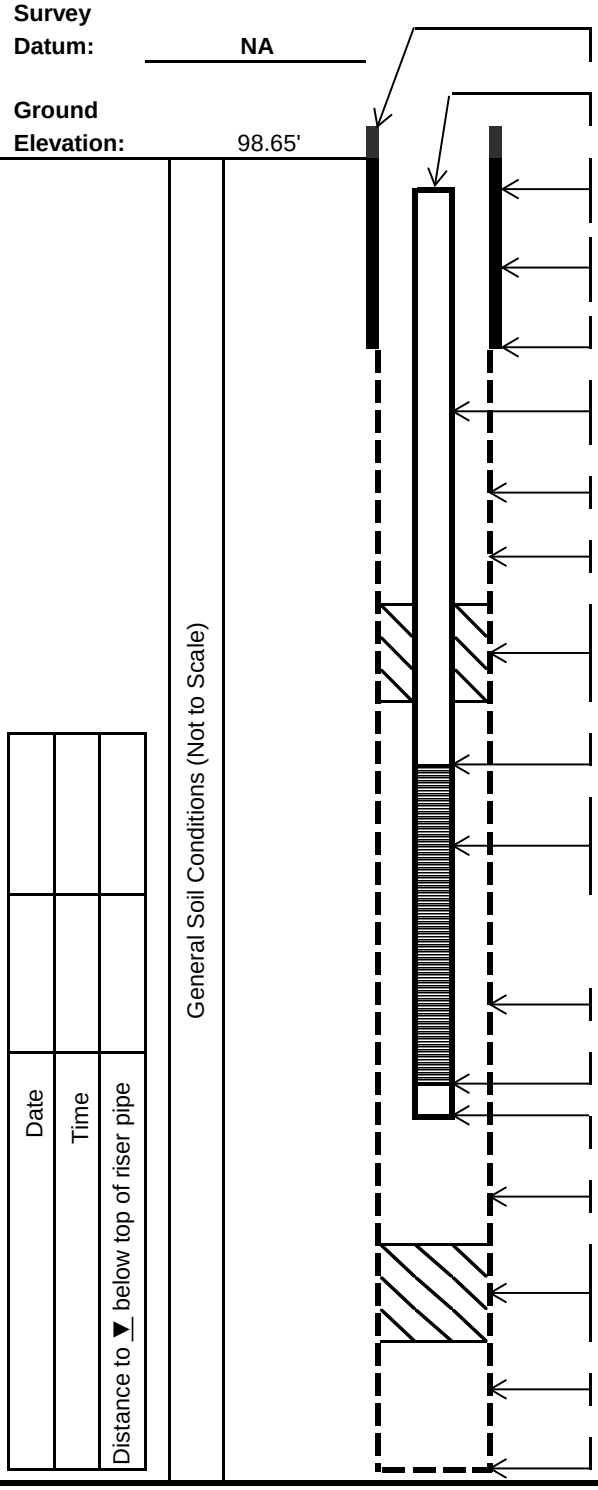
Groundwater Well Installation Log

B(MW)306

Project	Tremont Crossing Phase II ESA	**GEI Proj. No.**	1700516
City / Town	Boston	**Location**	See Plan
Client	Feldco		
Contractor	Northern Drill Service, Inc.		
Driller	C. Beirholm **GEI Rep.** J. Neff	**Install Date**	3/3/2017

Survey Datum: NA

Ground Elevation: 98.65'



Length of Surface Casing above Ground	NA
Dist. Top of Surf. Casing to Top of Riser Pipe	NM
Type and Thickness of Seal around Surface Casing	6" Concrete
ID of Surface Casing	4.0"
Type of Surface Casing	Flush Mount Road Box
Depth Bottom of Surface Casing	9.0"
ID and OD of Riser Pipe	2.0/2.25"
Type of Riser Pipe	Sch. 40 PVC
Type of Backfill around Riser Pipe	Cuttings
Diameter of Borehole	4.25"
Depth Top of Seal	7.0'
Type of Seal	Med. Bentonite Chips
Depth Bottom of Seal	9.0'
Depth Top of Screened Section	10.0'
Type of Screen	Sch. 40 PVC
Description of Screen Openings	0.010 Slotted
ID and OD of Screened Section	2.0/2.25"
Type of Filter Material	No. 1 Sand
Depth Bottom of Screened Section	20.0'
Depth Bottom of Silt Trap	20.25'
Depth Bottom of Filter Material	NA
Depth Top of Seal	NA
Type of Seal	NA
Depth Bottom of Seal	NA
Type of Backfill below Filter Material	Blowback
Bottom of Borehole	22.0'

Notes:

GEI Consultants

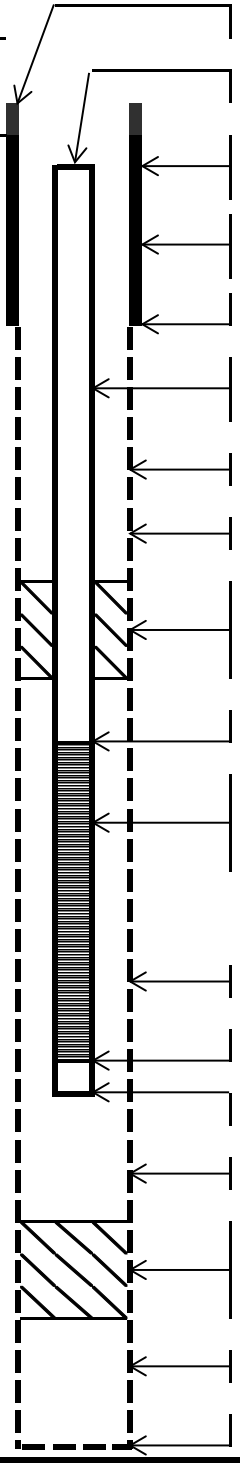
Groundwater Well Installation Log

B(MW)307

Project	Tremont Crossing Phase II ESA	**GEI Proj. No.**	1700516
City / Town	Boston	**Location**	See Plan
Client	Feldco		
Contractor	Northern Drill Service, Inc.		
Driller	C. Beirholm **GEI Rep.** J. Neff	**Install Date**	2/27/2017

Survey Datum: NA

Ground Elevation: 97.50'



Length of Surface Casing above Ground	NA
Dist. Top of Surf. Casing to Top of Riser Pipe	NM
Type and Thickness of Seal around Surface Casing	6" Concrete
ID of Surface Casing	4.0"
Type of Surface Casing	Flush Mount Road Box
Depth Bottom of Surface Casing	9.0"
ID and OD of Riser Pipe	2.0/2.25"
Type of Riser Pipe	Sch. 40 PVC
Type of Backfill around Riser Pipe	Cuttings
Diameter of Borehole	4.25"
Depth Top of Seal	8.0'
Type of Seal	Med. Bentonite Chips
Depth Bottom of Seal	10.0'
Depth Top of Screened Section	11.0'
Type of Screen	Sch. 40 PVC
Description of Screen Openings	0.010 Slotted
ID and OD of Screened Section	2.0/2.25"
Type of Filter Material	No. 1 Sand
Depth Bottom of Screened Section	21.0'
Depth Bottom of Silt Trap	21.25'
Depth Bottom of Filter Material	NA
Depth Top of Seal	NA
Type of Seal	NA
Depth Bottom of Seal	NA
Type of Backfill below Filter Material	Blowback
Bottom of Borehole	22.0'

General Soil Conditions (Not to Scale)

Date	Time	Distance to ▼ below top of riser pipe

Notes:

GEI Consultants

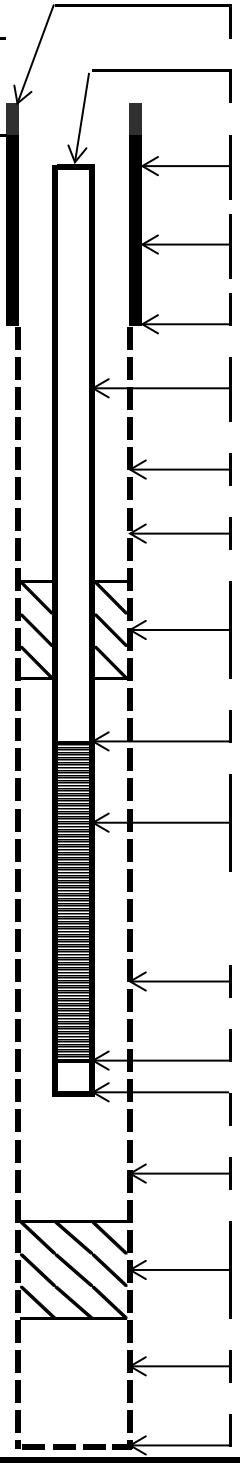
Groundwater Well Installation Log

B(MW)308

Project	Tremont Crossing Phase II ESA	**GEI Proj. No.**	1700516
City / Town	Boston	**Location**	See Plan
Client	Feldco		
Contractor	Northern Drill Service, Inc.		
Driller	C. Beirholm **GEI Rep.** J. Neff	**Install Date**	3/1/2017

Survey Datum: NA

Ground Elevation: 97.73'



Length of Surface Casing above Ground	NA
Dist. Top of Surf. Casing to Top of Riser Pipe	NM
Type and Thickness of Seal around Surface Casing	6" Concrete
ID of Surface Casing	4.0"
Type of Surface Casing	Flush Mount Road Box
Depth Bottom of Surface Casing	9.0"
ID and OD of Riser Pipe	2.0/2.25"
Type of Riser Pipe	Sch. 40 PVC
Type of Backfill around Riser Pipe	Cuttings
Diameter of Borehole	4.25"
Depth Top of Seal	8.0'
Type of Seal	Med. Bentonite Chips
Depth Bottom of Seal	10.0'
Depth Top of Screened Section	11.0'
Type of Screen	Sch. 40 PVC
Description of Screen Openings	0.010 Slotted
ID and OD of Screened Section	2.0/2.25"
Type of Filter Material	No. 1 Sand
Depth Bottom of Screened Section	21.0'
Depth Bottom of Silt Trap	21.25'
Depth Bottom of Filter Material	NA
Depth Top of Seal	NA
Type of Seal	NA
Depth Bottom of Seal	NA
Type of Backfill below Filter Material	Blowback
Bottom of Borehole	22.0'

General Soil Conditions (Not to Scale)

Date	Time	Distance to ▼ below top of riser pipe

Notes:

GEI Consultants

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Appendix F

Laboratory Data Reports

ANALYTICAL REPORT

Lab Number:	L1706654
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Cathy Johnson
Phone:	(781) 721-4000
Project Name:	TREMONT CROSSING
Project Number:	1700516
Report Date:	03/10/17

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

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

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706654
Report Date: 03/10/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1706654-01	1700516-B205 (OW)	WATER	BOSTON, MA	03/02/17 10:15	03/03/17

Project Name: TREMONT CROSSING **Lab Number:** L1706654

Project Number: 1700516 **Report Date:** 03/10/17

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)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

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

Project Name: TREMONT CROSSING **Lab Number:** L1706654
Project Number: 1700516 **Report Date:** 03/10/17

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

Project Name:	TREMONT CROSSING	**Lab Number:**	L1706654
Project Number:	1700516	**Report Date:**	03/10/17

Case Narrative (continued)

MCP Related Narratives

Volatile Organics

In reference to question H:

The initial calibration, associated with L1706654-01, did not meet the method required minimum response factor on the lowest calibration standard for 1,4-dioxane (0.0015), as well as the average response factor for 1,4-dioxane

The continuing calibration standard, associated with L1706654-01, is outside the acceptance criteria for n-Butylbenzene; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

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

Authorized Signature: Melissa Cripps

Title: Technical Director/Representative Date: 03/10/17

ORGANICS

VOLATILES

Project Name: TREMONT CROSSING **Lab Number:** L1706654

Project Number: 1700516 **Report Date:** 03/10/17

SAMPLE RESULTS

Lab ID: L1706654-01
Client ID: 1700516-B205 (OW)
Sample Location: BOSTON, MA
Matrix: Water
Analytical Method: 97,8260C
Analytical Date: 03/06/17 14:24
Analyst: MM

Date Collected: 03/02/17 10:15
Date Received: 03/03/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706654

Project Number: 1700516 **Report Date:** 03/10/17

SAMPLE RESULTS

Lab ID: L1706654-01 Date Collected: 03/02/17 10:15

Client ID: 1700516-B205 (OW) Date Received: 03/03/17

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylene (Total)	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene (total)	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706654

Project Number: 1700516 **Report Date:** 03/10/17

SAMPLE RESULTS

Lab ID: L1706654-01 Date Collected: 03/02/17 10:15

Client ID: 1700516-B205 (OW) Date Received: 03/03/17

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Ethyl ether	ND		ug/l	2.0	--	1
Isopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	85		70-130
Dibromofluoromethane	94		70-130

Project Name: TREMONT CROSSING **Lab Number:** L1706654

Project Number: 1700516 **Report Date:** 03/10/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 03/06/17 06:37
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG983125-5					
Methylene chloride	ND		ug/l	2.0	--
1,1-Dichloroethane	ND		ug/l	1.0	--
Chloroform	ND		ug/l	1.0	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,2-Dichloropropane	ND		ug/l	1.0	--
Dibromochloromethane	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.0	--
Tetrachloroethene	ND		ug/l	1.0	--
Chlorobenzene	ND		ug/l	1.0	--
Trichlorofluoromethane	ND		ug/l	2.0	--
1,2-Dichloroethane	ND		ug/l	1.0	--
1,1,1-Trichloroethane	ND		ug/l	1.0	--
Bromodichloromethane	ND		ug/l	1.0	--
trans-1,3-Dichloropropene	ND		ug/l	0.50	--
cis-1,3-Dichloropropene	ND		ug/l	0.50	--
1,3-Dichloropropene, Total	ND		ug/l	0.50	--
1,1-Dichloropropene	ND		ug/l	2.0	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Chloromethane	ND		ug/l	2.0	--
Bromomethane	ND		ug/l	2.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	2.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
trans-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--

Project Name: TREMONT CROSSING **Lab Number:** L1706654

Project Number: 1700516 **Report Date:** 03/10/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 03/06/17 06:37
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG983125-5					
1,2-Dichlorobenzene	ND		ug/l	1.0	--
1,3-Dichlorobenzene	ND		ug/l	1.0	--
1,4-Dichlorobenzene	ND		ug/l	1.0	--
Methyl tert butyl ether	ND		ug/l	2.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-Xylene	ND		ug/l	1.0	--
Xylene (Total)	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
1,2-Dichloroethene (total)	ND		ug/l	1.0	--
Dibromomethane	ND		ug/l	2.0	--
1,2,3-Trichloropropane	ND		ug/l	2.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	2.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	2.0	--
2-Butanone	ND		ug/l	5.0	--
4-Methyl-2-pentanone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.0	--
Tetrahydrofuran	ND		ug/l	2.0	--
2,2-Dichloropropane	ND		ug/l	2.0	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--
Bromobenzene	ND		ug/l	2.0	--
n-Butylbenzene	ND		ug/l	2.0	--
sec-Butylbenzene	ND		ug/l	2.0	--
tert-Butylbenzene	ND		ug/l	2.0	--
o-Chlorotoluene	ND		ug/l	2.0	--

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706654
Report Date: 03/10/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 03/06/17 06:37
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG983125-5					
p-Chlorotoluene	ND		ug/l	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--
Hexachlorobutadiene	ND		ug/l	0.60	--
Isopropylbenzene	ND		ug/l	2.0	--
p-Isopropyltoluene	ND		ug/l	2.0	--
Naphthalene	ND		ug/l	2.0	--
n-Propylbenzene	ND		ug/l	2.0	--
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--
Ethyl ether	ND		ug/l	2.0	--
Isopropyl Ether	ND		ug/l	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--
1,4-Dioxane	ND		ug/l	250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	94		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706654
Report Date: 03/10/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG983125-3 WG983125-4								
Methylene chloride	100		100		70-130	0		20
1,1-Dichloroethane	100		110		70-130	10		20
Chloroform	99		96		70-130	3		20
Carbon tetrachloride	90		90		70-130	0		20
1,2-Dichloropropane	100		100		70-130	0		20
Dibromochloromethane	100		96		70-130	4		20
1,1,2-Trichloroethane	110		100		70-130	10		20
Tetrachloroethene	110		100		70-130	10		20
Chlorobenzene	110		100		70-130	10		20
Trichlorofluoromethane	97		94		70-130	3		20
1,2-Dichloroethane	100		100		70-130	0		20
1,1,1-Trichloroethane	95		95		70-130	0		20
Bromodichloromethane	99		98		70-130	1		20
trans-1,3-Dichloropropene	110		100		70-130	10		20
cis-1,3-Dichloropropene	99		99		70-130	0		20
1,1-Dichloropropene	97		99		70-130	2		20
Bromoform	98		100		70-130	2		20
1,1,2,2-Tetrachloroethane	110		110		70-130	0		20
Benzene	100		100		70-130	0		20
Toluene	110		100		70-130	10		20
Ethylbenzene	99		94		70-130	5		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706654

Report Date: 03/10/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG983125-3 WG983125-4								
Chloromethane	100		100		70-130	0		20
Bromomethane	110		110		70-130	0		20
Vinyl chloride	100		100		70-130	0		20
Chloroethane	110		120		70-130	9		20
1,1-Dichloroethene	100		100		70-130	0		20
trans-1,2-Dichloroethene	100		100		70-130	0		20
Trichloroethene	98		94		70-130	4		20
1,2-Dichlorobenzene	100		98		70-130	2		20
1,3-Dichlorobenzene	98		99		70-130	1		20
1,4-Dichlorobenzene	99		99		70-130	0		20
Methyl tert butyl ether	98		98		70-130	0		20
p/m-Xylene	105		100		70-130	5		20
o-Xylene	95		95		70-130	0		20
cis-1,2-Dichloroethene	99		97		70-130	2		20
Dibromomethane	98		99		70-130	1		20
1,2,3-Trichloropropane	110		100		70-130	10		20
Styrene	90		80		70-130	12		20
Dichlorodifluoromethane	88		88		70-130	0		20
Acetone	94		100		70-130	6		20
Carbon disulfide	100		100		70-130	0		20
2-Butanone	100		100		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706654
Report Date: 03/10/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG983125-3 WG983125-4								
4-Methyl-2-pentanone	96		94		70-130	2		20
2-Hexanone	91		82		70-130	10		20
Bromochloromethane	100		100		70-130	0		20
Tetrahydrofuran	97		100		70-130	3		20
2,2-Dichloropropane	100		99		70-130	1		20
1,2-Dibromoethane	110		100		70-130	10		20
1,3-Dichloropropane	110		100		70-130	10		20
1,1,1,2-Tetrachloroethane	100		97		70-130	3		20
Bromobenzene	100		98		70-130	2		20
n-Butylbenzene	120		96		70-130	**22**	Q	20
sec-Butylbenzene	110		110		70-130	0		20
tert-Butylbenzene	110		100		70-130	10		20
o-Chlorotoluene	96		95		70-130	1		20
p-Chlorotoluene	95		97		70-130	2		20
1,2-Dibromo-3-chloropropane	98		98		70-130	0		20
Hexachlorobutadiene	110		99		70-130	11		20
Isopropylbenzene	100		100		70-130	0		20
p-Isopropyltoluene	110		100		70-130	10		20
Naphthalene	110		110		70-130	0		20
n-Propylbenzene	100		100		70-130	0		20
1,2,3-Trichlorobenzene	110		110		70-130	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706654

Report Date: 03/10/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG983125-3 WG983125-4								
1,2,4-Trichlorobenzene	100		100		70-130	0		20
1,3,5-Trimethylbenzene	98		91		70-130	7		20
1,2,4-Trimethylbenzene	100		99		70-130	1		20
Ethyl ether	100		100		70-130	0		20
Isopropyl Ether	100		100		70-130	0		20
Ethyl-Tert-Butyl-Ether	98		99		70-130	1		20
Tertiary-Amyl Methyl Ether	99		96		70-130	3		20
1,4-Dioxane	96		94		70-130	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		98		70-130
Toluene-d8	103		101		70-130
4-Bromofluorobenzene	101		103		70-130
Dibromofluoromethane	99		100		70-130

PETROLEUM HYDROCARBONS

Project Name: TREMONT CROSSING **Lab Number:** L1706654

Project Number: 1700516 **Report Date:** 03/10/17

SAMPLE RESULTS

Lab ID:	L1706654-01	Date Collected:	03/02/17 10:15
Client ID:	1700516-B205 (OW)	Date Received:	03/03/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Matrix:	Water		
Analytical Method:	100,VPH-04-1.1		
Analytical Date:	03/07/17 23:35		
Analyst:	KD		

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
Sample Temperature upon receipt:	Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		ug/l	50.0	--	1
C9-C12 Aliphatics	ND		ug/l	50.0	--	1
C9-C10 Aromatics	ND		ug/l	50.0	--	1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0	--	1
Benzene	ND		ug/l	2.00	--	1
Toluene	ND		ug/l	2.00	--	1
Ethylbenzene	ND		ug/l	2.00	--	1
p/m-Xylene	ND		ug/l	2.00	--	1
o-Xylene	ND		ug/l	2.00	--	1
Methyl tert butyl ether	ND		ug/l	3.00	--	1
Naphthalene	ND		ug/l	4.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	84		70-130
2,5-Dibromotoluene-FID	94		70-130

Project Name: TREMONT CROSSING **Lab Number:** L1706654

Project Number: 1700516 **Report Date:** 03/10/17

SAMPLE RESULTS

Lab ID:	L1706654-01			Date Collected:	03/02/17 10:15
Client ID:	1700516-B205 (OW)			Date Received:	03/03/17
Sample Location:	BOSTON, MA			Field Prep:	Not Specified
Matrix:	Water			Extraction Method:	EPA 3510C
Analytical Method:	98,EPH-04-1.1			Extraction Date:	03/06/17 19:02
Analytical Date:	03/08/17 19:39	M.S. Analytical Date:	03/08/17 17:47	Cleanup Method1:	EPH-04-1
Analyst:	EK	M.S. Analyst:	DV	Cleanup Date1:	03/08/17

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
EPH w/MS Targets - Westborough Lab						
C9-C18 Aliphatics	ND		ug/l	100	--	1
C19-C36 Aliphatics	ND		ug/l	100	--	1
C11-C22 Aromatics	ND		ug/l	100	--	1
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--	1
Naphthalene	ND		ug/l	0.400	--	1
2-Methylnaphthalene	ND		ug/l	0.400	--	1
Acenaphthylene	ND		ug/l	0.400	--	1
Acenaphthene	ND		ug/l	0.400	--	1
Fluorene	ND		ug/l	0.400	--	1
Phenanthrene	ND		ug/l	0.400	--	1
Anthracene	ND		ug/l	0.400	--	1
Fluoranthene	ND		ug/l	0.400	--	1
Pyrene	ND		ug/l	0.400	--	1
Benzo(a)anthracene	ND		ug/l	0.400	--	1
Chrysene	ND		ug/l	0.400	--	1
Benzo(b)fluoranthene	ND		ug/l	0.400	--	1
Benzo(k)fluoranthene	ND		ug/l	0.400	--	1
Benzo(a)pyrene	ND		ug/l	0.200	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.400	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.400	--	1
Benzo(ghi)perylene	ND		ug/l	0.400	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706654

Project Number: 1700516 **Report Date:** 03/10/17

SAMPLE RESULTS

Lab ID:	L1706654-01	Date Collected:	03/02/17 10:15
Client ID:	1700516-B205 (OW)	Date Received:	03/03/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

EPH w/MS Targets - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	79		40-140
o-Terphenyl	76		40-140
2-Fluorobiphenyl	79		40-140
2-Bromonaphthalene	81		40-140
O-Terphenyl-MS	84		40-140

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706654
Report Date: 03/10/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 03/08/17 17:46
Analyst: SR
M.S. Analytical Date: 03/08/17 16:33
M.S. Analyst: DV
Extraction Method: EPA 3510C
Extraction Date: 03/06/17 19:02
Cleanup Method: EPH-04-1
Cleanup Date: 03/08/17

Parameter	Result	Qualifier	Units	RL	MDL
EPH w/MS Targets - Westborough Lab for sample(s): 01 Batch: WG983278-1					
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	0.400	--
2-Methylnaphthalene	ND		ug/l	0.400	--
Acenaphthylene	ND		ug/l	0.400	--
Acenaphthene	ND		ug/l	0.400	--
Fluorene	ND		ug/l	0.400	--
Phenanthrene	ND		ug/l	0.400	--
Anthracene	ND		ug/l	0.400	--
Fluoranthene	ND		ug/l	0.400	--
Pyrene	ND		ug/l	0.400	--
Benzo(a)anthracene	ND		ug/l	0.400	--
Chrysene	ND		ug/l	0.400	--
Benzo(b)fluoranthene	ND		ug/l	0.400	--
Benzo(k)fluoranthene	ND		ug/l	0.400	--
Benzo(a)pyrene	ND		ug/l	0.200	--
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.400	--
Dibenzo(a,h)anthracene	ND		ug/l	0.400	--
Benzo(ghi)perylene	ND		ug/l	0.400	--

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706654
Report Date: 03/10/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 03/08/17 17:46
Analyst: SR

03/08/17 16:33
DV

Extraction Method: EPA 3510C
Extraction Date: 03/06/17 19:02
Cleanup Method: EPH-04-1
Cleanup Date: 03/08/17

Parameter	Result	Qualifier	Units	RL	MDL
EPH w/MS Targets - Westborough Lab for sample(s): 01 Batch: WG983278-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	68		40-140
o-Terphenyl	77		40-140
2-Fluorobiphenyl	82		40-140
2-Bromonaphthalene	84		40-140
O-Terphenyl-MS	77		40-140

Project Name: TREMONT CROSSING **Lab Number:** L1706654

Project Number: 1700516 **Report Date:** 03/10/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 100,VPH-04-1.1
Analytical Date: 03/07/17 13:37
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 01 Batch: WG983981-4					
C5-C8 Aliphatics	ND		ug/l	50.0	--
C9-C12 Aliphatics	ND		ug/l	50.0	--
C9-C10 Aromatics	ND		ug/l	50.0	--
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0	--
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0	--
Benzene	ND		ug/l	2.00	--
Toluene	ND		ug/l	2.00	--
Ethylbenzene	ND		ug/l	2.00	--
p/m-Xylene	ND		ug/l	2.00	--
o-Xylene	ND		ug/l	2.00	--
Methyl tert butyl ether	ND		ug/l	3.00	--
Naphthalene	ND		ug/l	4.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	96		70-130
2,5-Dibromotoluene-FID	100		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706654
Report Date: 03/10/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
EPH w/MS Targets - Westborough Lab Associated sample(s): 01 Batch: WG983278-2 WG983278-3								
C9-C18 Aliphatics	62		60		40-140	3		25
C19-C36 Aliphatics	96		98		40-140	2		25
C11-C22 Aromatics	71		79		40-140	11		25
Naphthalene	79		78		40-140	1		25
2-Methylnaphthalene	89		90		40-140	1		25
Acenaphthylene	102		105		40-140	3		25
Acenaphthene	100		103		40-140	3		25
Fluorene	106		112		40-140	6		25
Phenanthrene	99		107		40-140	8		25
Anthracene	109		118		40-140	8		25
Fluoranthene	111		121		40-140	9		25
Pyrene	109		119		40-140	9		25
Benzo(a)anthracene	110		118		40-140	7		25
Chrysene	104		110		40-140	6		25
Benzo(b)fluoranthene	112		125		40-140	11		25
Benzo(k)fluoranthene	108		111		40-140	3		25
Benzo(a)pyrene	112		120		40-140	7		25
Indeno(1,2,3-cd)Pyrene	115		124		40-140	8		25
Dibenzo(a,h)anthracene	117		126		40-140	7		25
Benzo(ghi)perylene	110		120		40-140	9		25
Nonane (C9)	33		**29**	Q	30-140	13		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706654

Report Date: 03/10/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
EPH w/MS Targets - Westborough Lab Associated sample(s): 01 Batch: WG983278-2 WG983278-3								
Decane (C10)	46		42		40-140	9		25
Dodecane (C12)	72		69		40-140	4		25
Tetradecane (C14)	88		86		40-140	2		25
Hexadecane (C16)	94		94		40-140	0		25
Octadecane (C18)	96		97		40-140	1		25
Nonadecane (C19)	96		97		40-140	1		25
Eicosane (C20)	96		97		40-140	1		25
Docosane (C22)	96		98		40-140	2		25
Tetracosane (C24)	94		95		40-140	1		25
Hexacosane (C26)	95		96		40-140	1		25
Octacosane (C28)	95		96		40-140	1		25
Triacontane (C30)	94		94		40-140	0		25
Hexatriacontane (C36)	90		89		40-140	1		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706654
Report Date: 03/10/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
EPH w/MS Targets - Westborough Lab Associated sample(s): 01 Batch: WG983278-2 WG983278-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	77		73		40-140
o-Terphenyl	71		78		40-140
2-Fluorobiphenyl	73		77		40-140
2-Bromonaphthalene	74		81		40-140
O-Terphenyl-MS	113		123		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706654

Report Date: 03/10/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG983981-2 WG983981-3								
C5-C8 Aliphatics	98		97		70-130	2		25
C9-C12 Aliphatics	105		103		70-130	2		25
C9-C10 Aromatics	99		96		70-130	3		25
Benzene	93		91		70-130	2		25
Toluene	94		93		70-130	1		25
Ethylbenzene	95		94		70-130	1		25
p/m-Xylene	97		95		70-130	2		25
o-Xylene	94		92		70-130	2		25
Methyl tert butyl ether	93		92		70-130	1		25
Naphthalene	98		95		70-130	3		25
1,2,4-Trimethylbenzene	99		96		70-130	3		25
Pentane	98		96		70-130	2		25
2-Methylpentane	99		97		70-130	3		25
2,2,4-Trimethylpentane	99		98		70-130	2		25
n-Nonane	104		101		30-130	3		25
n-Decane	107		104		70-130	3		25
n-Butylcyclohexane	105		102		70-130	3		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706654

Report Date: 03/10/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG983981-2 WG983981-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	101		97		70-130
2,5-Dibromotoluene-FID	103		102		70-130

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706654
Report Date: 03/10/17

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1706654-01A	Vial HCl preserved	A	N/A	5.1	Y	Absent	MCP-8260-10(14)
L1706654-01B	Vial HCl preserved	A	N/A	5.1	Y	Absent	MCP-8260-10(14)
L1706654-01C	Vial HCl preserved	A	N/A	5.1	Y	Absent	MCP-8260-10(14)
L1706654-01D	Vial HCl preserved	A	N/A	5.1	Y	Absent	VPH-DELUX-10(14)
L1706654-01E	Vial HCl preserved	A	N/A	5.1	Y	Absent	VPH-DELUX-10(14)
L1706654-01F	Vial HCl preserved	A	N/A	5.1	Y	Absent	VPH-DELUX-10(14)
L1706654-01G	Amber 1000ml HCl preserved	A	<2	5.1	Y	Absent	EPH-MS-10(14),EPHD-GC-10(14)
L1706654-01H	Amber 1000ml HCl preserved	A	<2	5.1	Y	Absent	EPH-MS-10(14),EPHD-GC-10(14)

*Values in parentheses indicate holding time in days

Project Name:	TREMONT CROSSING	**Lab Number:**	L1706654
Project Number:	1700516	**Report Date:**	03/10/17

GLOSSARY

Acronyms

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).
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.
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.
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.
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

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

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.

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.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
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

Report Format: Data Usability Report

Project Name:	TREMONT CROSSING	**Lab Number:**	L1706654
Project Number:	1700516	**Report Date:**	03/10/17

Data Qualifiers

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.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

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.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name: TREMONT CROSSING **Lab Number:** L1706654

Project Number: 1700516 **Report Date:** 03/10/17

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.

100 Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, July 2010.

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: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
SM 2540D: TSS
EPA 3005A NPW
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: 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**
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, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, 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 624: Volatile Halocarbons & Aromatics,
EPA 608: 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: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

Mansfield Facility:

Drinking Water
EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

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, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

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

Chain-of-Custody Record

Laboratory: ALPHA

Laboratory Job # (Lab use only): L1706654

GEI Consultants
400 Unicorn Park Drive
Woburn, MA 01801
PH: 781.721.4000
FX: 781.721.4073

Project Information

Project Name: Tremont Crossing
Project Number: 1700516
Project Location: Boston, MA
Project Manager: Cathy Johnson
Send Report to: Jessica Englehart
Send EDD to: labdata@geiconsultants.com

Page __ of __

MCP PRESUMPTIVE CERTAINTY REQUIRED -- YES (NO) Rush

If Yes, Are MCP Analytical Methods Required?	(YES)	NO	NA
Are Drinking Water Samples Submitted?	YES	(NO)	NA
If Yes, Have Drinking Water Sampling Requirements Been Met?	YES	NO	(NA)

Lab Sample Number	GEI Sample ID	Collection Date	Collection Time	Matrix	No. of Bottles	Sampler(s) Initials	Preservative: HCl	HCl	HCl						Analysis: VOCs	VPH	EPH						Sample Specific Remarks
	1700516-B205(GW)	3/2/17	1015	GW	8	SMT									X	X	X						

Sample Handling

Samples Field Filtered: YES NO NA

Sampled Shipped With Ice: YES NO

MCP Level Needed: GEI requires that, within the specified method, the most stringent Method 1 MCP standard be met for all analytes whenever possible.

	Relinquished by sampler: (signature)	Date:	Time:	Received by: (signature)
1.	Tom Nason	3/2/17	1700	GEI Sample Fridge
2.	~~GEI Sample~~ GEI Fridge	3/3/17	1135	
3.		3/3/17	1135	Rob Mac AM 11:35 3/3/17
4.	Rob Mac	3/3/17	1740	

Turnaround Time (Business days):

Normal X Other ____
10-Day ____ 7-Day ____
5-Day X 3-Day ____

Before submitting rush turnaround samples, you **must** notify the laboratory to confirm that the TAT can be achieved.

Additional Requirements/Comments/Remarks:

Method Blank Summary
Form 4

Client	: GEI Consultants	**Lab Number**	: L1706654
Project Name	: TREMONT CROSSING	**Project Number**	: 1700516
Lab Sample ID	: WG983125-5	**Lab File ID**	: VJ170306A08
Instrument ID	: JACK		
Matrix	: WATER	**Analysis Date**	: 03/06/17 06:37

Client Sample No.	Lab Sample ID	Analysis Date
WG983125-3LCS	WG983125-3	03/06/17 04:57
WG983125-4LCSD	WG983125-4	03/06/17 05:30
1700516-B205 (OW)	L1706654-01	03/06/17 14:24

Continuing Calibration
Form 7

Client	: GEI Consultants	**Lab Number**	: L1706654	
Project Name	: TREMONT CROSSING	**Project Number**	: 1700516	
Instrument ID	: JACK	**Calibration Date**	: 03/06/17 04:57	
Lab File ID	: VJ170306A02	**Init. Calib. Date(s)**	: 02/28/17	02/28/17
Sample No	: WG983125-2	**Init. Calib. Times**	: 07:34	11:28
Channel	:			

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	86	0
Dichlorodifluoromethane	0.467	0.411	-	12	20	75	0
Chloromethane	0.428	0.429	-	-0.2	20	88	.02
Vinyl chloride	0.444	0.464	-	-4.5	20	85	0
Bromomethane	0.229	0.258	-	-12.7	20	106	0
Chloroethane	10	11.378	-	-13.8	20	87	0
Trichlorofluoromethane	0.703	0.684	-	2.7	20	80	-.02
Ethyl ether	0.18	0.181	-	-0.6	20	88	-.02
1,1-Dichloroethene	0.4	0.398	-	0.5	20	85	-.02
Carbon disulfide	1.142	1.149	-	-0.6	20	87	-.02
Methylene chloride	10	10.595	-	-6	20	90	-.02
Acetone	10	9.427	-	5.7	20	89	-.02
trans-1,2-Dichloroethene	0.424	0.44	-	-3.8	20	92	-.02
Methyl tert-butyl ether	0.91	0.894	-	1.8	20	91	0
Diisopropyl ether	1.34	1.39	-	-3.7	20	88	0
1,1-Dichloroethane	0.843	0.854	-	-1.3	20	88	-.02
Ethyl tert-butyl ether	1.072	1.056	-	1.5	20	85	0
cis-1,2-Dichloroethene	0.491	0.485	-	1.2	20	88	-.02
2,2-Dichloropropane	0.717	0.714	-	0.4	20	82	0
Bromochloromethane	0.221	0.227	-	-2.7	20	91	0
Chloroform	0.808	0.803	-	0.6	20	87	0
Carbon tetrachloride	0.658	0.594	-	9.7	20	81	0
Tetrahydrofuran	0.109	0.106	-	2.8	20	92	0
Dibromofluoromethane	0.304	0.3	-	1.3	20	86	0
1,1,1-Trichloroethane	0.735	0.699	-	4.9	20	81	-.02
2-Butanone	0.117	0.118	-	-0.9	20	95	0
1,1-Dichloropropene	0.568	0.553	-	2.6	20	82	0
Benzene	1.575	1.587	-	-0.8	20	86	0
tert-Amyl methyl ether	0.833	0.827	-	0.7	20	85	0
1,2-Dichloroethane-d4	0.326	0.314	-	3.7	20	87	-.02
1,2-Dichloroethane	0.535	0.532	-	0.6	20	88	0
Trichloroethene	0.436	0.428	-	1.8	20	85	0
Dibromomethane	0.212	0.208	-	1.9	20	86	-.02
1,2-Dichloropropane	0.395	0.413	-	-4.6	20	88	0
Bromodichloromethane	0.522	0.518	-	0.8	20	86	0
1,4-Dioxane	0.00145	0.0014*	-	3.4	20	91	0
cis-1,3-Dichloropropene	0.603	0.6	-	0.5	20	85	0
Chlorobenzene-d5	1	1	-	0	20	89	0
Toluene-d8	1.338	1.377	-	-2.9	20	87	0
Toluene	1.245	1.348	-	-8.3	20	88	0
4-Methyl-2-pentanone	0.134	0.129	-	3.7	20	82	0
Tetrachloroethene	0.646	0.69	-	-6.8	20	85	0
trans-1,3-Dichloropropene	0.807	0.857	-	-6.2	20	85	0
1,1,2-Trichloroethane	0.372	0.4	-	-7.5	20	87	0
Chlorodibromomethane	0.573	0.573	-	0	20	83	0

* Value outside of QC limits.

Continuing Calibration
Form 7

Client	: GEI Consultants	**Lab Number**	: L1706654	
Project Name	: TREMONT CROSSING	**Project Number**	: 1700516	
Instrument ID	: JACK	**Calibration Date**	: 03/06/17 04:57	
Lab File ID	: VJ170306A02	**Init. Calib. Date(s)**	: 02/28/17	02/28/17
Sample No	: WG983125-2	**Init. Calib. Times**	: 07:34	11:28
Channel	:			

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,3-Dichloropropane	0.781	0.831	-	-6.4	20	88	0
1,2-Dibromoethane	0.421	0.454	-	-7.8	20	87	0
2-Hexanone	0.245	0.223	-	9	20	82	0
Chlorobenzene	1.301	1.385	-	-6.5	20	89	0
Ethylbenzene	2.08	2.056	-	1.2	20	87	0
1,1,1,2-Tetrachloroethane	0.614	0.613	-	0.2	20	86	0
p/m Xylene	0.623	0.655	-	-5.1	20	99	0
o Xylene	0.655	0.629	-	4	20	100	0
Styrene	1.295	1.147	-	11.4	20	88	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	92	0
Bromoform	0.624	0.613	-	1.8	20	82	0
Isopropylbenzene	5.499	5.74	-	-4.4	20	88	0
4-Bromofluorobenzene	1.073	1.08	-	-0.7	20	92	0
Bromobenzene	1.377	1.452	-	-5.4	20	94	0
n-Propylbenzene	5.077	5.28	-	-4	20	88	0
1,1,2,2-Tetrachloroethane	0.991	1.092	-	-10.2	20	98	0
2-Chlorotoluene	3.328	3.21	-	3.5	20	85	0
1,3,5-Trimethylbenzene	2.276	2.24	-	1.6	20	88	0
1,2,3-Trichloropropane	0.753	0.839	-	-11.4	20	98	0
4-Chlorotoluene	2.894	2.752	-	4.9	20	87	0
tert-Butylbenzene	3.398	3.699	-	-8.9	20	89	0
1,2,4-Trimethylbenzene	2.467	2.485	-	-0.7	20	90	0
sec-Butylbenzene	4.84	5.373	-	-11	20	87	0
p-Isopropyltoluene	3.433	3.732	-	-8.7	20	86	0
1,3-Dichlorobenzene	2.1	2.068	-	1.5	20	84	0
1,4-Dichlorobenzene	1.989	1.968	-	1.1	20	87	0
n-Butylbenzene	2.872	3.493	-	-21.6*	20	83	0
1,2-Dichlorobenzene	1.96	2.008	-	-2.4	20	86	0
1,2-Dibromo-3-chloropropan	10	9.77	-	2.3	20	94	-.01
Hexachlorobutadiene	10	10.608	-	-6.1	20	84	0
1,2,4-Trichlorobenzene	0.686	0.719	-	-4.8	20	82	0
Naphthalene	1.075	1.153	-	-7.3	20	89	0
1,2,3-Trichlorobenzene	0.557	0.6	-	-7.7	20	82	0

* Value outside of QC limits.

ANALYTICAL REPORT

Lab Number:	L1706716
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Cathy Johnson
Phone:	(781) 721-4000
Project Name:	TREMONT CROSSING
Project Number:	1700516
Report Date:	03/12/17

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

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

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706716
Report Date: 03/12/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1706716-01	1700516-B(MW)302	WATER	BOSTON, MA	03/03/17 13:25	03/03/17
L1706716-02	1700516-B(MW)303	WATER	BOSTON, MA	03/03/17 09:20	03/03/17
L1706716-03	1700516-B(MW)305	WATER	BOSTON, MA	03/03/17 12:55	03/03/17
L1706716-04	1700516-B(MW)308	WATER	BOSTON, MA	03/03/17 11:30	03/03/17
L1706716-05	TRIP BLANK	WATER	BOSTON, MA	03/03/17 00:00	03/03/17

Project Name: TREMONT CROSSING **Lab Number:** L1706716

Project Number: 1700516 **Report Date:** 03/12/17

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)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

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

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706716
Report Date: 03/12/17

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

Project Name:	TREMONT CROSSING	**Lab Number:**	L1706716
Project Number:	1700516	**Report Date:**	03/12/17

Case Narrative (continued)

MCP Related Narratives

Volatile Organics

In reference to question H:

The initial calibration, associated with L1706716-01 and -03, did not meet the method required minimum response factor on the lowest calibration standard for 1,4-dioxane (0.0015), as well as the average response factor for 1,4-dioxane.

The initial calibration, associated with L1706716-02 and -04, did not meet the method required minimum response factor on the lowest calibration standard for 1,4-dioxane (0.0020), as well as the average response factor for 2-butanone and 1,4-dioxane.

The continuing calibration standards, associated with L1706716-01 through -04, 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.

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: Lisa Westerlind

Title: Technical Director/Representative Date: 03/12/17

ORGANICS

VOLATILES

Project Name: TREMONT CROSSING **Lab Number:** L1706716

Project Number: 1700516 **Report Date:** 03/12/17

SAMPLE RESULTS

Lab ID: L1706716-01
Client ID: 1700516-B(MW)302
Sample Location: BOSTON, MA
Matrix: Water
Analytical Method: 97,8260C
Analytical Date: 03/06/17 13:17
Analyst: MM

Date Collected: 03/03/17 13:25
Date Received: 03/03/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	19		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1
Trichloroethene	5.0		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706716

Project Number: 1700516 **Report Date:** 03/12/17

SAMPLE RESULTS

Lab ID: L1706716-01 Date Collected: 03/03/17 13:25

Client ID: 1700516-B(MW)302 Date Received: 03/03/17

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylene (Total)	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	7.2		ug/l	1.0	--	1
1,2-Dichloroethene (total)	7.2		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706716

Project Number: 1700516 **Report Date:** 03/12/17

SAMPLE RESULTS

Lab ID: L1706716-01 Date Collected: 03/03/17 13:25

Client ID: 1700516-B(MW)302 Date Received: 03/03/17

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Ethyl ether	ND		ug/l	2.0	--	1
Isopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	86		70-130
Dibromofluoromethane	98		70-130

Project Name: TREMONT CROSSING **Lab Number:** L1706716

Project Number: 1700516 **Report Date:** 03/12/17

SAMPLE RESULTS

Lab ID: L1706716-02
Client ID: 1700516-B(MW)303
Sample Location: BOSTON, MA
Matrix: Water
Analytical Method: 97,8260C
Analytical Date: 03/06/17 13:33
Analyst: MM

Date Collected: 03/03/17 09:20
Date Received: 03/03/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706716

Project Number: 1700516 **Report Date:** 03/12/17

SAMPLE RESULTS

Lab ID: L1706716-02 Date Collected: 03/03/17 09:20

Client ID: 1700516-B(MW)303 Date Received: 03/03/17

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylene (Total)	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene (total)	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706716

Project Number: 1700516 **Report Date:** 03/12/17

SAMPLE RESULTS

Lab ID: L1706716-02 Date Collected: 03/03/17 09:20

Client ID: 1700516-B(MW)303 Date Received: 03/03/17

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Ethyl ether	ND		ug/l	2.0	--	1
Isopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	107		70-130

Project Name: TREMONT CROSSING **Lab Number:** L1706716

Project Number: 1700516 **Report Date:** 03/12/17

SAMPLE RESULTS

Lab ID: L1706716-03
Client ID: 1700516-B(MW)305
Sample Location: BOSTON, MA
Matrix: Water
Analytical Method: 97,8260C
Analytical Date: 03/06/17 13:50
Analyst: MM

Date Collected: 03/03/17 12:55
Date Received: 03/03/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	1.5		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1
Trichloroethene	1.8		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706716

Project Number: 1700516 **Report Date:** 03/12/17

SAMPLE RESULTS

Lab ID: L1706716-03 Date Collected: 03/03/17 12:55

Client ID: 1700516-B(MW)305 Date Received: 03/03/17

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylene (Total)	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene (total)	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706716

Project Number: 1700516 **Report Date:** 03/12/17

SAMPLE RESULTS

Lab ID: L1706716-03 Date Collected: 03/03/17 12:55

Client ID: 1700516-B(MW)305 Date Received: 03/03/17

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Ethyl ether	ND		ug/l	2.0	--	1
Isopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	86		70-130
Dibromofluoromethane	98		70-130

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706716
Report Date: 03/12/17

SAMPLE RESULTS

Lab ID: L1706716-04
Client ID: 1700516-B(MW)308
Sample Location: BOSTON, MA
Matrix: Water
Analytical Method: 97,8260C
Analytical Date: 03/06/17 14:07
Analyst: MM

Date Collected: 03/03/17 11:30
Date Received: 03/03/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	1.0		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1
Trichloroethene	36		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706716

Project Number: 1700516 **Report Date:** 03/12/17

SAMPLE RESULTS

Lab ID: L1706716-04 Date Collected: 03/03/17 11:30

Client ID: 1700516-B(MW)308 Date Received: 03/03/17

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylene (Total)	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	6.2		ug/l	1.0	--	1
1,2-Dichloroethene (total)	6.2		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706716

Project Number: 1700516 **Report Date:** 03/12/17

SAMPLE RESULTS

Lab ID: L1706716-04 Date Collected: 03/03/17 11:30

Client ID: 1700516-B(MW)308 Date Received: 03/03/17

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Ethyl ether	2.4		ug/l	2.0	--	1
Isopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	102		70-130

Project Name: TREMONT CROSSING **Lab Number:** L1706716

Project Number: 1700516 **Report Date:** 03/12/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 03/06/17 06:20
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 02,04 Batch: WG983120-5					
Methylene chloride	ND		ug/l	2.0	--
1,1-Dichloroethane	ND		ug/l	1.0	--
Chloroform	ND		ug/l	1.0	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,2-Dichloropropane	ND		ug/l	1.0	--
Dibromochloromethane	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.0	--
Tetrachloroethene	ND		ug/l	1.0	--
Chlorobenzene	ND		ug/l	1.0	--
Trichlorofluoromethane	ND		ug/l	2.0	--
1,2-Dichloroethane	ND		ug/l	1.0	--
1,1,1-Trichloroethane	ND		ug/l	1.0	--
Bromodichloromethane	ND		ug/l	1.0	--
trans-1,3-Dichloropropene	ND		ug/l	0.50	--
cis-1,3-Dichloropropene	ND		ug/l	0.50	--
1,3-Dichloropropene, Total	ND		ug/l	0.50	--
1,1-Dichloropropene	ND		ug/l	2.0	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Chloromethane	ND		ug/l	2.0	--
Bromomethane	ND		ug/l	2.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	2.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
trans-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--

Project Name: TREMONT CROSSING **Lab Number:** L1706716

Project Number: 1700516 **Report Date:** 03/12/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 03/06/17 06:20
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 02,04 Batch: WG983120-5					
1,2-Dichlorobenzene	ND		ug/l	1.0	--
1,3-Dichlorobenzene	ND		ug/l	1.0	--
1,4-Dichlorobenzene	ND		ug/l	1.0	--
Methyl tert butyl ether	ND		ug/l	2.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-Xylene	ND		ug/l	1.0	--
Xylene (Total)	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
1,2-Dichloroethene (total)	ND		ug/l	1.0	--
Dibromomethane	ND		ug/l	2.0	--
1,2,3-Trichloropropane	ND		ug/l	2.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	2.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	2.0	--
2-Butanone	ND		ug/l	5.0	--
4-Methyl-2-pentanone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.0	--
Tetrahydrofuran	ND		ug/l	2.0	--
2,2-Dichloropropane	ND		ug/l	2.0	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--
Bromobenzene	ND		ug/l	2.0	--
n-Butylbenzene	ND		ug/l	2.0	--
sec-Butylbenzene	ND		ug/l	2.0	--
tert-Butylbenzene	ND		ug/l	2.0	--
o-Chlorotoluene	ND		ug/l	2.0	--

Project Name: TREMONT CROSSING **Lab Number:** L1706716

Project Number: 1700516 **Report Date:** 03/12/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 03/06/17 06:20
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 02,04 Batch: WG983120-5					
p-Chlorotoluene	ND		ug/l	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--
Hexachlorobutadiene	ND		ug/l	0.60	--
Isopropylbenzene	ND		ug/l	2.0	--
p-Isopropyltoluene	ND		ug/l	2.0	--
Naphthalene	ND		ug/l	2.0	--
n-Propylbenzene	ND		ug/l	2.0	--
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--
Ethyl ether	ND		ug/l	2.0	--
Isopropyl Ether	ND		ug/l	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--
1,4-Dioxane	ND		ug/l	250	--
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		ug/l	2.0	--
tert-Butyl Alcohol	ND		ug/l	10	--
2-Chloroethylvinyl ether	ND		ug/l	10	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	102		70-130

Project Name: TREMONT CROSSING **Lab Number:** L1706716

Project Number: 1700516 **Report Date:** 03/12/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 03/06/17 06:37
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01,03 Batch: WG983125-5					
Methylene chloride	ND		ug/l	2.0	--
1,1-Dichloroethane	ND		ug/l	1.0	--
Chloroform	ND		ug/l	1.0	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,2-Dichloropropane	ND		ug/l	1.0	--
Dibromochloromethane	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.0	--
Tetrachloroethene	ND		ug/l	1.0	--
Chlorobenzene	ND		ug/l	1.0	--
Trichlorofluoromethane	ND		ug/l	2.0	--
1,2-Dichloroethane	ND		ug/l	1.0	--
1,1,1-Trichloroethane	ND		ug/l	1.0	--
Bromodichloromethane	ND		ug/l	1.0	--
trans-1,3-Dichloropropene	ND		ug/l	0.50	--
cis-1,3-Dichloropropene	ND		ug/l	0.50	--
1,3-Dichloropropene, Total	ND		ug/l	0.50	--
1,1-Dichloropropene	ND		ug/l	2.0	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Chloromethane	ND		ug/l	2.0	--
Bromomethane	ND		ug/l	2.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	2.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
trans-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--

Project Name: TREMONT CROSSING **Lab Number:** L1706716

Project Number: 1700516 **Report Date:** 03/12/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 03/06/17 06:37
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01,03 Batch: WG983125-5					
1,2-Dichlorobenzene	ND		ug/l	1.0	--
1,3-Dichlorobenzene	ND		ug/l	1.0	--
1,4-Dichlorobenzene	ND		ug/l	1.0	--
Methyl tert butyl ether	ND		ug/l	2.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-Xylene	ND		ug/l	1.0	--
Xylene (Total)	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
1,2-Dichloroethene (total)	ND		ug/l	1.0	--
Dibromomethane	ND		ug/l	2.0	--
1,2,3-Trichloropropane	ND		ug/l	2.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	2.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	2.0	--
2-Butanone	ND		ug/l	5.0	--
4-Methyl-2-pentanone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.0	--
Tetrahydrofuran	ND		ug/l	2.0	--
2,2-Dichloropropane	ND		ug/l	2.0	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--
Bromobenzene	ND		ug/l	2.0	--
n-Butylbenzene	ND		ug/l	2.0	--
sec-Butylbenzene	ND		ug/l	2.0	--
tert-Butylbenzene	ND		ug/l	2.0	--
o-Chlorotoluene	ND		ug/l	2.0	--

Project Name: TREMONT CROSSING **Lab Number:** L1706716

Project Number: 1700516 **Report Date:** 03/12/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 03/06/17 06:37
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01,03 Batch: WG983125-5					
p-Chlorotoluene	ND		ug/l	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--
Hexachlorobutadiene	ND		ug/l	0.60	--
Isopropylbenzene	ND		ug/l	2.0	--
p-Isopropyltoluene	ND		ug/l	2.0	--
Naphthalene	ND		ug/l	2.0	--
n-Propylbenzene	ND		ug/l	2.0	--
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--
Ethyl ether	ND		ug/l	2.0	--
Isopropyl Ether	ND		ug/l	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--
1,4-Dioxane	ND		ug/l	250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	94		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706716
Report Date: 03/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 02,04 Batch: WG983120-3 WG983120-4								
Methylene chloride	100		99		70-130	1		20
1,1-Dichloroethane	110		110		70-130	0		20
Chloroform	110		100		70-130	10		20
Carbon tetrachloride	98		96		70-130	2		20
1,2-Dichloropropane	100		100		70-130	0		20
Dibromochloromethane	96		94		70-130	2		20
1,1,2-Trichloroethane	100		100		70-130	0		20
Tetrachloroethene	100		98		70-130	2		20
Chlorobenzene	100		96		70-130	4		20
Trichlorofluoromethane	100		100		70-130	0		20
1,2-Dichloroethane	100		100		70-130	0		20
1,1,1-Trichloroethane	100		100		70-130	0		20
Bromodichloromethane	96		96		70-130	0		20
trans-1,3-Dichloropropene	100		95		70-130	5		20
cis-1,3-Dichloropropene	100		95		70-130	5		20
1,1-Dichloropropene	100		98		70-130	2		20
Bromoform	88		86		70-130	2		20
1,1,2,2-Tetrachloroethane	97		93		70-130	4		20
Benzene	100		98		70-130	2		20
Toluene	100		100		70-130	0		20
Ethylbenzene	100		96		70-130	4		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706716

Report Date: 03/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 02,04 Batch: WG983120-3 WG983120-4								
Chloromethane	110		100		70-130	10		20
Bromomethane	130		120		70-130	8		20
Vinyl chloride	110		100		70-130	10		20
Chloroethane	120		120		70-130	0		20
1,1-Dichloroethene	100		98		70-130	2		20
trans-1,2-Dichloroethene	110		100		70-130	10		20
Trichloroethene	100		99		70-130	1		20
1,2-Dichlorobenzene	100		100		70-130	0		20
1,3-Dichlorobenzene	99		96		70-130	3		20
1,4-Dichlorobenzene	100		99		70-130	1		20
Methyl tert butyl ether	100		96		70-130	4		20
p/m-Xylene	100		95		70-130	5		20
o-Xylene	100		95		70-130	5		20
cis-1,2-Dichloroethene	110		110		70-130	0		20
Dibromomethane	100		96		70-130	4		20
1,2,3-Trichloropropane	96		98		70-130	2		20
Styrene	100		95		70-130	5		20
Dichlorodifluoromethane	95		94		70-130	1		20
Acetone	99		100		70-130	1		20
Carbon disulfide	100		100		70-130	0		20
2-Butanone	100		95		70-130	5		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706716
Report Date: 03/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 02,04 Batch: WG983120-3 WG983120-4								
4-Methyl-2-pentanone	97		87		70-130	11		20
2-Hexanone	91		85		70-130	7		20
Bromochloromethane	100		100		70-130	0		20
Tetrahydrofuran	120		94		70-130	**24**	Q	20
2,2-Dichloropropane	100		100		70-130	0		20
1,2-Dibromoethane	100		97		70-130	3		20
1,3-Dichloropropane	100		97		70-130	3		20
1,1,1,2-Tetrachloroethane	98		93		70-130	5		20
Bromobenzene	98		93		70-130	5		20
n-Butylbenzene	88		85		70-130	3		20
sec-Butylbenzene	98		93		70-130	5		20
tert-Butylbenzene	99		95		70-130	4		20
o-Chlorotoluene	98		93		70-130	5		20
p-Chlorotoluene	98		95		70-130	3		20
1,2-Dibromo-3-chloropropane	88		91		70-130	3		20
Hexachlorobutadiene	100		100		70-130	0		20
Isopropylbenzene	96		92		70-130	4		20
p-Isopropyltoluene	99		97		70-130	2		20
Naphthalene	90		90		70-130	0		20
n-Propylbenzene	99		95		70-130	4		20
1,2,3-Trichlorobenzene	99		100		70-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706716

Report Date: 03/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 02,04 Batch: WG983120-3 WG983120-4								
1,2,4-Trichlorobenzene	99		100		70-130	1		20
1,3,5-Trimethylbenzene	98		97		70-130	1		20
1,2,4-Trimethylbenzene	100		94		70-130	6		20
Ethyl ether	110		100		70-130	10		20
Isopropyl Ether	110		100		70-130	10		20
Ethyl-Tert-Butyl-Ether	100		98		70-130	2		20
Tertiary-Amyl Methyl Ether	100		98		70-130	2		20
1,4-Dioxane	98		94		70-130	4		20
1,1,2-Trichloro-1,2,2-Trifluoroethane	100		96		70-130	4		20
tert-Butyl Alcohol	104		94		70-130	10		20
2-Chloroethylvinyl ether	73		81		70-130	10		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		97		70-130
Toluene-d8	103		102		70-130
4-Bromofluorobenzene	93		98		70-130
Dibromofluoromethane	102		104		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706716

Report Date: 03/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01,03 Batch: WG983125-3 WG983125-4								
Methylene chloride	100		100		70-130	0		20
1,1-Dichloroethane	100		110		70-130	10		20
Chloroform	99		96		70-130	3		20
Carbon tetrachloride	90		90		70-130	0		20
1,2-Dichloropropane	100		100		70-130	0		20
Dibromochloromethane	100		96		70-130	4		20
1,1,2-Trichloroethane	110		100		70-130	10		20
Tetrachloroethene	110		100		70-130	10		20
Chlorobenzene	110		100		70-130	10		20
Trichlorofluoromethane	97		94		70-130	3		20
1,2-Dichloroethane	100		100		70-130	0		20
1,1,1-Trichloroethane	95		95		70-130	0		20
Bromodichloromethane	99		98		70-130	1		20
trans-1,3-Dichloropropene	110		100		70-130	10		20
cis-1,3-Dichloropropene	99		99		70-130	0		20
1,1-Dichloropropene	97		99		70-130	2		20
Bromoform	98		100		70-130	2		20
1,1,2,2-Tetrachloroethane	110		110		70-130	0		20
Benzene	100		100		70-130	0		20
Toluene	110		100		70-130	10		20
Ethylbenzene	99		94		70-130	5		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706716

Report Date: 03/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01,03 Batch: WG983125-3 WG983125-4								
Chloromethane	100		100		70-130	0		20
Bromomethane	110		110		70-130	0		20
Vinyl chloride	100		100		70-130	0		20
Chloroethane	110		120		70-130	9		20
1,1-Dichloroethene	100		100		70-130	0		20
trans-1,2-Dichloroethene	100		100		70-130	0		20
Trichloroethene	98		94		70-130	4		20
1,2-Dichlorobenzene	100		98		70-130	2		20
1,3-Dichlorobenzene	98		99		70-130	1		20
1,4-Dichlorobenzene	99		99		70-130	0		20
Methyl tert butyl ether	98		98		70-130	0		20
p/m-Xylene	105		100		70-130	5		20
o-Xylene	95		95		70-130	0		20
cis-1,2-Dichloroethene	99		97		70-130	2		20
Dibromomethane	98		99		70-130	1		20
1,2,3-Trichloropropane	110		100		70-130	10		20
Styrene	90		80		70-130	12		20
Dichlorodifluoromethane	88		88		70-130	0		20
Acetone	94		100		70-130	6		20
Carbon disulfide	100		100		70-130	0		20
2-Butanone	100		100		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706716
Report Date: 03/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01,03 Batch: WG983125-3 WG983125-4								
4-Methyl-2-pentanone	96		94		70-130	2		20
2-Hexanone	91		82		70-130	10		20
Bromochloromethane	100		100		70-130	0		20
Tetrahydrofuran	97		100		70-130	3		20
2,2-Dichloropropane	100		99		70-130	1		20
1,2-Dibromoethane	110		100		70-130	10		20
1,3-Dichloropropane	110		100		70-130	10		20
1,1,1,2-Tetrachloroethane	100		97		70-130	3		20
Bromobenzene	100		98		70-130	2		20
n-Butylbenzene	120		96		70-130	**22**	Q	20
sec-Butylbenzene	110		110		70-130	0		20
tert-Butylbenzene	110		100		70-130	10		20
o-Chlorotoluene	96		95		70-130	1		20
p-Chlorotoluene	95		97		70-130	2		20
1,2-Dibromo-3-chloropropane	98		98		70-130	0		20
Hexachlorobutadiene	110		99		70-130	11		20
Isopropylbenzene	100		100		70-130	0		20
p-Isopropyltoluene	110		100		70-130	10		20
Naphthalene	110		110		70-130	0		20
n-Propylbenzene	100		100		70-130	0		20
1,2,3-Trichlorobenzene	110		110		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706716
Report Date: 03/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01,03 Batch: WG983125-3 WG983125-4								
1,2,4-Trichlorobenzene	100		100		70-130	0		20
1,3,5-Trimethylbenzene	98		91		70-130	7		20
1,2,4-Trimethylbenzene	100		99		70-130	1		20
Ethyl ether	100		100		70-130	0		20
Isopropyl Ether	100		100		70-130	0		20
Ethyl-Tert-Butyl-Ether	98		99		70-130	1		20
Tertiary-Amyl Methyl Ether	99		96		70-130	3		20
1,4-Dioxane	96		94		70-130	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		98		70-130
Toluene-d8	103		101		70-130
4-Bromofluorobenzene	101		103		70-130
Dibromofluoromethane	99		100		70-130

PETROLEUM HYDROCARBONS

Project Name: TREMONT CROSSING **Lab Number:** L1706716

Project Number: 1700516 **Report Date:** 03/12/17

SAMPLE RESULTS

Lab ID:	L1706716-01	Date Collected:	03/03/17 13:25
Client ID:	1700516-B(MW)302	Date Received:	03/03/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Matrix:	Water		
Analytical Method:	100,VPH-04-1.1		
Analytical Date:	03/09/17 03:02		
Analyst:	JM		

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
Sample Temperature upon receipt:	Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		ug/l	50.0	--	1
C9-C12 Aliphatics	ND		ug/l	50.0	--	1
C9-C10 Aromatics	ND		ug/l	50.0	--	1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0	--	1
Benzene	ND		ug/l	2.00	--	1
Toluene	ND		ug/l	2.00	--	1
Ethylbenzene	ND		ug/l	2.00	--	1
p/m-Xylene	ND		ug/l	2.00	--	1
o-Xylene	ND		ug/l	2.00	--	1
Methyl tert butyl ether	ND		ug/l	3.00	--	1
Naphthalene	ND		ug/l	4.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	81		70-130
2,5-Dibromotoluene-FID	92		70-130

Project Name: TREMONT CROSSING **Lab Number:** L1706716

Project Number: 1700516 **Report Date:** 03/12/17

SAMPLE RESULTS

Lab ID:	L1706716-01			Date Collected:	03/03/17 13:25
Client ID:	1700516-B(MW)302			Date Received:	03/03/17
Sample Location:	BOSTON, MA			Field Prep:	Not Specified
Matrix:	Water			Extraction Method:	EPA 3510C
Analytical Method:	98,EPH-04-1.1			Extraction Date:	03/06/17 19:03
Analytical Date:	03/09/17 16:17	M.S. Analytical Date:	03/09/17 12:27	Cleanup Method1:	EPH-04-1
Analyst:	SR	M.S. Analyst:	DV	Cleanup Date1:	03/08/17

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
EPH w/MS Targets - Westborough Lab						
C9-C18 Aliphatics	ND		ug/l	100	--	1
C19-C36 Aliphatics	ND		ug/l	100	--	1
C11-C22 Aromatics	ND		ug/l	100	--	1
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--	1
Naphthalene	ND		ug/l	0.400	--	1
2-Methylnaphthalene	ND		ug/l	0.400	--	1
Acenaphthylene	ND		ug/l	0.400	--	1
Acenaphthene	ND		ug/l	0.400	--	1
Fluorene	ND		ug/l	0.400	--	1
Phenanthrene	ND		ug/l	0.400	--	1
Anthracene	ND		ug/l	0.400	--	1
Fluoranthene	ND		ug/l	0.400	--	1
Pyrene	ND		ug/l	0.400	--	1
Benzo(a)anthracene	ND		ug/l	0.400	--	1
Chrysene	ND		ug/l	0.400	--	1
Benzo(b)fluoranthene	ND		ug/l	0.400	--	1
Benzo(k)fluoranthene	ND		ug/l	0.400	--	1
Benzo(a)pyrene	ND		ug/l	0.200	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.400	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.400	--	1
Benzo(ghi)perylene	ND		ug/l	0.400	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706716

Project Number: 1700516 **Report Date:** 03/12/17

SAMPLE RESULTS

Lab ID:	L1706716-01	Date Collected:	03/03/17 13:25
Client ID:	1700516-B(MW)302	Date Received:	03/03/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

EPH w/MS Targets - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	83		40-140
o-Terphenyl	85		40-140
2-Fluorobiphenyl	88		40-140
2-Bromonaphthalene	90		40-140
O-Terphenyl-MS	79		40-140

Project Name: TREMONT CROSSING **Lab Number:** L1706716

Project Number: 1700516 **Report Date:** 03/12/17

SAMPLE RESULTS

Lab ID:	L1706716-02	Date Collected:	03/03/17 09:20
Client ID:	1700516-B(MW)303	Date Received:	03/03/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Matrix:	Water		
Analytical Method:	100,VPH-04-1.1		
Analytical Date:	03/09/17 03:41		
Analyst:	JM		

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
Sample Temperature upon receipt:	Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		ug/l	50.0	--	1
C9-C12 Aliphatics	ND		ug/l	50.0	--	1
C9-C10 Aromatics	ND		ug/l	50.0	--	1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0	--	1
Benzene	ND		ug/l	2.00	--	1
Toluene	ND		ug/l	2.00	--	1
Ethylbenzene	ND		ug/l	2.00	--	1
p/m-Xylene	ND		ug/l	2.00	--	1
o-Xylene	ND		ug/l	2.00	--	1
Methyl tert butyl ether	ND		ug/l	3.00	--	1
Naphthalene	ND		ug/l	4.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	79		70-130
2,5-Dibromotoluene-FID	90		70-130

Project Name: TREMONT CROSSING **Lab Number:** L1706716

Project Number: 1700516 **Report Date:** 03/12/17

SAMPLE RESULTS

Lab ID:	L1706716-02			Date Collected:	03/03/17 09:20
Client ID:	1700516-B(MW)303			Date Received:	03/03/17
Sample Location:	BOSTON, MA			Field Prep:	Not Specified
Matrix:	Water			Extraction Method:	EPA 3510C
Analytical Method:	98,EPH-04-1.1			Extraction Date:	03/06/17 19:03
Analytical Date:	03/09/17 16:56	M.S. Analytical Date:	03/09/17 12:52	Cleanup Method1:	EPH-04-1
Analyst:	SR	M.S. Analyst:	DV	Cleanup Date1:	03/08/17

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
EPH w/MS Targets - Westborough Lab						
C9-C18 Aliphatics	ND		ug/l	100	--	1
C19-C36 Aliphatics	ND		ug/l	100	--	1
C11-C22 Aromatics	ND		ug/l	100	--	1
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--	1
Naphthalene	ND		ug/l	0.400	--	1
2-Methylnaphthalene	ND		ug/l	0.400	--	1
Acenaphthylene	ND		ug/l	0.400	--	1
Acenaphthene	ND		ug/l	0.400	--	1
Fluorene	ND		ug/l	0.400	--	1
Phenanthrene	ND		ug/l	0.400	--	1
Anthracene	ND		ug/l	0.400	--	1
Fluoranthene	ND		ug/l	0.400	--	1
Pyrene	ND		ug/l	0.400	--	1
Benzo(a)anthracene	ND		ug/l	0.400	--	1
Chrysene	ND		ug/l	0.400	--	1
Benzo(b)fluoranthene	ND		ug/l	0.400	--	1
Benzo(k)fluoranthene	ND		ug/l	0.400	--	1
Benzo(a)pyrene	ND		ug/l	0.200	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.400	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.400	--	1
Benzo(ghi)perylene	ND		ug/l	0.400	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706716

Project Number: 1700516 **Report Date:** 03/12/17

SAMPLE RESULTS

Lab ID:	L1706716-02	Date Collected:	03/03/17 09:20
Client ID:	1700516-B(MW)303	Date Received:	03/03/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

EPH w/MS Targets - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	91		40-140
o-Terphenyl	92		40-140
2-Fluorobiphenyl	93		40-140
2-Bromonaphthalene	95		40-140
O-Terphenyl-MS	81		40-140

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706716
Report Date: 03/12/17

SAMPLE RESULTS

Lab ID:	L1706716-03	Date Collected:	03/03/17 12:55
Client ID:	1700516-B(MW)305	Date Received:	03/03/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Matrix:	Water		
Analytical Method:	100,VPH-04-1.1		
Analytical Date:	03/09/17 04:20		
Analyst:	JM		

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
Sample Temperature upon receipt:	Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		ug/l	50.0	--	1
C9-C12 Aliphatics	ND		ug/l	50.0	--	1
C9-C10 Aromatics	ND		ug/l	50.0	--	1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0	--	1
Benzene	ND		ug/l	2.00	--	1
Toluene	ND		ug/l	2.00	--	1
Ethylbenzene	ND		ug/l	2.00	--	1
p/m-Xylene	ND		ug/l	2.00	--	1
o-Xylene	ND		ug/l	2.00	--	1
Methyl tert butyl ether	ND		ug/l	3.00	--	1
Naphthalene	ND		ug/l	4.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	84		70-130
2,5-Dibromotoluene-FID	94		70-130

Project Name: TREMONT CROSSING **Lab Number:** L1706716

Project Number: 1700516 **Report Date:** 03/12/17

SAMPLE RESULTS

Lab ID:	L1706716-03			Date Collected:	03/03/17 12:55
Client ID:	1700516-B(MW)305			Date Received:	03/03/17
Sample Location:	BOSTON, MA			Field Prep:	Not Specified
Matrix:	Water			Extraction Method:	EPA 3510C
Analytical Method:	98,EPH-04-1.1			Extraction Date:	03/06/17 19:09
Analytical Date:	03/08/17 17:33	M.S. Analytical Date:	03/08/17 09:28	Cleanup Method1:	EPH-04-1
Analyst:	NS	M.S. Analyst:	DV	Cleanup Date1:	03/08/17

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
EPH w/MS Targets - Westborough Lab						
C9-C18 Aliphatics	ND		ug/l	100	--	1
C19-C36 Aliphatics	ND		ug/l	100	--	1
C11-C22 Aromatics	ND		ug/l	100	--	1
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--	1
Naphthalene	0.708		ug/l	0.400	--	1
2-Methylnaphthalene	ND		ug/l	0.400	--	1
Acenaphthylene	ND		ug/l	0.400	--	1
Acenaphthene	ND		ug/l	0.400	--	1
Fluorene	ND		ug/l	0.400	--	1
Phenanthrene	0.840		ug/l	0.400	--	1
Anthracene	ND		ug/l	0.400	--	1
Fluoranthene	ND		ug/l	0.400	--	1
Pyrene	ND		ug/l	0.400	--	1
Benzo(a)anthracene	ND		ug/l	0.400	--	1
Chrysene	ND		ug/l	0.400	--	1
Benzo(b)fluoranthene	ND		ug/l	0.400	--	1
Benzo(k)fluoranthene	ND		ug/l	0.400	--	1
Benzo(a)pyrene	ND		ug/l	0.200	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.400	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.400	--	1
Benzo(ghi)perylene	ND		ug/l	0.400	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706716

Project Number: 1700516 **Report Date:** 03/12/17

SAMPLE RESULTS

Lab ID:	L1706716-03	Date Collected:	03/03/17 12:55
Client ID:	1700516-B(MW)305	Date Received:	03/03/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

EPH w/MS Targets - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	77		40-140
o-Terphenyl	90		40-140
2-Fluorobiphenyl	82		40-140
2-Bromonaphthalene	84		40-140
O-Terphenyl-MS	93		40-140

Project Name: TREMONT CROSSING **Lab Number:** L1706716

Project Number: 1700516 **Report Date:** 03/12/17

SAMPLE RESULTS

Lab ID:	L1706716-04	Date Collected:	03/03/17 11:30
Client ID:	1700516-B(MW)308	Date Received:	03/03/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Matrix:	Water		
Analytical Method:	100,VPH-04-1.1		
Analytical Date:	03/09/17 04:59		
Analyst:	JM		

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
Sample Temperature upon receipt:	Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		ug/l	50.0	--	1
C9-C12 Aliphatics	ND		ug/l	50.0	--	1
C9-C10 Aromatics	ND		ug/l	50.0	--	1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0	--	1
Benzene	ND		ug/l	2.00	--	1
Toluene	ND		ug/l	2.00	--	1
Ethylbenzene	ND		ug/l	2.00	--	1
p/m-Xylene	ND		ug/l	2.00	--	1
o-Xylene	ND		ug/l	2.00	--	1
Methyl tert butyl ether	ND		ug/l	3.00	--	1
Naphthalene	ND		ug/l	4.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	83		70-130
2,5-Dibromotoluene-FID	94		70-130

Project Name: TREMONT CROSSING **Lab Number:** L1706716

Project Number: 1700516 **Report Date:** 03/12/17

SAMPLE RESULTS

Lab ID:	L1706716-04			Date Collected:	03/03/17 11:30
Client ID:	1700516-B(MW)308			Date Received:	03/03/17
Sample Location:	BOSTON, MA			Field Prep:	Not Specified
Matrix:	Water			Extraction Method:	EPA 3510C
Analytical Method:	98,EPH-04-1.1			Extraction Date:	03/06/17 19:09
Analytical Date:	03/08/17 18:05	M.S. Analytical Date:	03/08/17 09:53	Cleanup Method1:	EPH-04-1
Analyst:	NS	M.S. Analyst:	DV	Cleanup Date1:	03/08/17

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
EPH w/MS Targets - Westborough Lab						
C9-C18 Aliphatics	ND		ug/l	100	--	1
C19-C36 Aliphatics	ND		ug/l	100	--	1
C11-C22 Aromatics	ND		ug/l	100	--	1
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--	1
Naphthalene	0.502		ug/l	0.400	--	1
2-Methylnaphthalene	ND		ug/l	0.400	--	1
Acenaphthylene	ND		ug/l	0.400	--	1
Acenaphthene	ND		ug/l	0.400	--	1
Fluorene	ND		ug/l	0.400	--	1
Phenanthrene	ND		ug/l	0.400	--	1
Anthracene	ND		ug/l	0.400	--	1
Fluoranthene	ND		ug/l	0.400	--	1
Pyrene	ND		ug/l	0.400	--	1
Benzo(a)anthracene	ND		ug/l	0.400	--	1
Chrysene	ND		ug/l	0.400	--	1
Benzo(b)fluoranthene	ND		ug/l	0.400	--	1
Benzo(k)fluoranthene	ND		ug/l	0.400	--	1
Benzo(a)pyrene	ND		ug/l	0.200	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.400	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.400	--	1
Benzo(ghi)perylene	ND		ug/l	0.400	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706716

Project Number: 1700516 **Report Date:** 03/12/17

SAMPLE RESULTS

Lab ID:	L1706716-04	Date Collected:	03/03/17 11:30
Client ID:	1700516-B(MW)308	Date Received:	03/03/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

EPH w/MS Targets - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	64		40-140
o-Terphenyl	79		40-140
2-Fluorobiphenyl	82		40-140
2-Bromonaphthalene	83		40-140
O-Terphenyl-MS	86		40-140

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706716
Report Date: 03/12/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 03/08/17 17:46
Analyst: SR
M.S. Analytical Date: 03/08/17 16:33
M.S. Analyst: DV
Extraction Method: EPA 3510C
Extraction Date: 03/06/17 19:02
Cleanup Method: EPH-04-1
Cleanup Date: 03/08/17

Parameter	Result	Qualifier	Units	RL	MDL
EPH w/MS Targets - Westborough Lab for sample(s): 01-02 Batch: WG983278-1					
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	0.400	--
2-Methylnaphthalene	ND		ug/l	0.400	--
Acenaphthylene	ND		ug/l	0.400	--
Acenaphthene	ND		ug/l	0.400	--
Fluorene	ND		ug/l	0.400	--
Phenanthrene	ND		ug/l	0.400	--
Anthracene	ND		ug/l	0.400	--
Fluoranthene	ND		ug/l	0.400	--
Pyrene	ND		ug/l	0.400	--
Benzo(a)anthracene	ND		ug/l	0.400	--
Chrysene	ND		ug/l	0.400	--
Benzo(b)fluoranthene	ND		ug/l	0.400	--
Benzo(k)fluoranthene	ND		ug/l	0.400	--
Benzo(a)pyrene	ND		ug/l	0.200	--
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.400	--
Dibenzo(a,h)anthracene	ND		ug/l	0.400	--
Benzo(ghi)perylene	ND		ug/l	0.400	--

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706716
Report Date: 03/12/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 03/08/17 17:46 03/08/17 16:33
Analyst: SR DV

Extraction Method: EPA 3510C
Extraction Date: 03/06/17 19:02
Cleanup Method: EPH-04-1
Cleanup Date: 03/08/17

Parameter	Result	Qualifier	Units	RL	MDL
EPH w/MS Targets - Westborough Lab for sample(s): 01-02 Batch: WG983278-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	68		40-140
o-Terphenyl	77		40-140
2-Fluorobiphenyl	82		40-140
2-Bromonaphthalene	84		40-140
O-Terphenyl-MS	77		40-140

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706716
Report Date: 03/12/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 03/08/17 20:12
Analyst: NS
M.S. Analytical Date: 03/08/17 08:14
M.S. Analyst: DV
Extraction Method: EPA 3510C
Extraction Date: 03/06/17 13:34
Cleanup Method: EPH-04-1
Cleanup Date: 03/08/17

Parameter	Result	Qualifier	Units	RL	MDL
EPH w/MS Targets - Westborough Lab for sample(s): 03-04 Batch: WG983280-1					
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	0.400	--
2-Methylnaphthalene	ND		ug/l	0.400	--
Acenaphthylene	ND		ug/l	0.400	--
Acenaphthene	ND		ug/l	0.400	--
Fluorene	ND		ug/l	0.400	--
Phenanthrene	ND		ug/l	0.400	--
Anthracene	ND		ug/l	0.400	--
Fluoranthene	ND		ug/l	0.400	--
Pyrene	ND		ug/l	0.400	--
Benzo(a)anthracene	ND		ug/l	0.400	--
Chrysene	ND		ug/l	0.400	--
Benzo(b)fluoranthene	ND		ug/l	0.400	--
Benzo(k)fluoranthene	ND		ug/l	0.400	--
Benzo(a)pyrene	ND		ug/l	0.200	--
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.400	--
Dibenzo(a,h)anthracene	ND		ug/l	0.400	--
Benzo(ghi)perylene	ND		ug/l	0.400	--

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706716
Report Date: 03/12/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 03/08/17 20:12 03/08/17 08:14
Analyst: NS DV

Extraction Method: EPA 3510C
Extraction Date: 03/06/17 13:34
Cleanup Method: EPH-04-1
Cleanup Date: 03/08/17

Parameter	Result	Qualifier	Units	RL	MDL
EPH w/MS Targets - Westborough Lab for sample(s): 03-04 Batch: WG983280-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	71		40-140
o-Terphenyl	67		40-140
2-Fluorobiphenyl	74		40-140
2-Bromonaphthalene	74		40-140
O-Terphenyl-MS	71		40-140

Project Name: TREMONT CROSSING **Lab Number:** L1706716

Project Number: 1700516 **Report Date:** 03/12/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 100,VPH-04-1.1
Analytical Date: 03/08/17 12:35
Analyst: JM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-04 Batch: WG984223-3					
C5-C8 Aliphatics	ND		ug/l	50.0	--
C9-C12 Aliphatics	ND		ug/l	50.0	--
C9-C10 Aromatics	ND		ug/l	50.0	--
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0	--
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0	--
Benzene	ND		ug/l	2.00	--
Toluene	ND		ug/l	2.00	--
Ethylbenzene	ND		ug/l	2.00	--
p/m-Xylene	ND		ug/l	2.00	--
o-Xylene	ND		ug/l	2.00	--
Methyl tert butyl ether	ND		ug/l	3.00	--
Naphthalene	ND		ug/l	4.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	91		70-130
2,5-Dibromotoluene-FID	99		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706716
Report Date: 03/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
EPH w/MS Targets - Westborough Lab Associated sample(s): 01-02 Batch: WG983278-2 WG983278-3								
C9-C18 Aliphatics	62		60		40-140	3		25
C19-C36 Aliphatics	96		98		40-140	2		25
C11-C22 Aromatics	71		79		40-140	11		25
Naphthalene	79		78		40-140	1		25
2-Methylnaphthalene	89		90		40-140	1		25
Acenaphthylene	102		105		40-140	3		25
Acenaphthene	100		103		40-140	3		25
Fluorene	106		112		40-140	6		25
Phenanthrene	99		107		40-140	8		25
Anthracene	109		118		40-140	8		25
Fluoranthene	111		121		40-140	9		25
Pyrene	109		119		40-140	9		25
Benzo(a)anthracene	110		118		40-140	7		25
Chrysene	104		110		40-140	6		25
Benzo(b)fluoranthene	112		125		40-140	11		25
Benzo(k)fluoranthene	108		111		40-140	3		25
Benzo(a)pyrene	112		120		40-140	7		25
Indeno(1,2,3-cd)Pyrene	115		124		40-140	8		25
Dibenzo(a,h)anthracene	117		126		40-140	7		25
Benzo(ghi)perylene	110		120		40-140	9		25
Nonane (C9)	33		**29**	Q	30-140	13		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706716

Report Date: 03/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
EPH w/MS Targets - Westborough Lab Associated sample(s): 01-02 Batch: WG983278-2 WG983278-3								
Decane (C10)	46		42		40-140	9		25
Dodecane (C12)	72		69		40-140	4		25
Tetradecane (C14)	88		86		40-140	2		25
Hexadecane (C16)	94		94		40-140	0		25
Octadecane (C18)	96		97		40-140	1		25
Nonadecane (C19)	96		97		40-140	1		25
Eicosane (C20)	96		97		40-140	1		25
Docosane (C22)	96		98		40-140	2		25
Tetracosane (C24)	94		95		40-140	1		25
Hexacosane (C26)	95		96		40-140	1		25
Octacosane (C28)	95		96		40-140	1		25
Triacontane (C30)	94		94		40-140	0		25
Hexatriacontane (C36)	90		89		40-140	1		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706716

Report Date: 03/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
EPH w/MS Targets - Westborough Lab Associated sample(s): 01-02 Batch: WG983278-2 WG983278-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	77		73		40-140
o-Terphenyl	71		78		40-140
2-Fluorobiphenyl	73		77		40-140
2-Bromonaphthalene	74		81		40-140
O-Terphenyl-MS	113		123		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706716
Report Date: 03/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
EPH w/MS Targets - Westborough Lab Associated sample(s): 03-04 Batch: WG983280-2 WG983280-3								
C9-C18 Aliphatics	75		76		40-140	1		25
C19-C36 Aliphatics	94		87		40-140	8		25
C11-C22 Aromatics	80		90		40-140	12		25
Naphthalene	75		77		40-140	3		25
2-Methylnaphthalene	82		84		40-140	2		25
Acenaphthylene	93		95		40-140	2		25
Acenaphthene	89		91		40-140	2		25
Fluorene	94		97		40-140	3		25
Phenanthrene	88		94		40-140	7		25
Anthracene	98		106		40-140	8		25
Fluoranthene	97		107		40-140	10		25
Pyrene	96		105		40-140	9		25
Benzo(a)anthracene	98		108		40-140	10		25
Chrysene	88		97		40-140	10		25
Benzo(b)fluoranthene	103		114		40-140	10		25
Benzo(k)fluoranthene	90		99		40-140	10		25
Benzo(a)pyrene	97		107		40-140	10		25
Indeno(1,2,3-cd)Pyrene	96		110		40-140	14		25
Dibenzo(a,h)anthracene	94		128		40-140	**31**	Q	25
Benzo(ghi)perylene	92		101		40-140	9		25
Nonane (C9)	51		52		30-140	2		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706716

Report Date: 03/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
EPH w/MS Targets - Westborough Lab Associated sample(s): 03-04 Batch: WG983280-2 WG983280-3								
Decane (C10)	62		62		40-140	0		25
Dodecane (C12)	70		69		40-140	1		25
Tetradecane (C14)	77		74		40-140	4		25
Hexadecane (C16)	81		81		40-140	0		25
Octadecane (C18)	85		87		40-140	2		25
Nonadecane (C19)	85		87		40-140	2		25
Eicosane (C20)	85		89		40-140	5		25
Docosane (C22)	86		90		40-140	5		25
Tetracosane (C24)	86		89		40-140	3		25
Hexacosane (C26)	85		89		40-140	5		25
Octacosane (C28)	85		89		40-140	5		25
Triacontane (C30)	84		88		40-140	5		25
Hexatriacontane (C36)	83		86		40-140	4		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706716

Report Date: 03/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
EPH w/MS Targets - Westborough Lab Associated sample(s): 03-04 Batch: WG983280-2 WG983280-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	85		85		40-140
o-Terphenyl	80		92		40-140
2-Fluorobiphenyl	75		85		40-140
2-Bromonaphthalene	76		87		40-140
O-Terphenyl-MS	103		111		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706716
Report Date: 03/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-04 Batch: WG984223-1 WG984223-2								
C5-C8 Aliphatics	97		98		70-130	1		25
C9-C12 Aliphatics	108		108		70-130	0		25
C9-C10 Aromatics	97		97		70-130	1		25
Benzene	90		88		70-130	1		25
Toluene	92		92		70-130	0		25
Ethylbenzene	93		93		70-130	0		25
p/m-Xylene	95		95		70-130	0		25
o-Xylene	92		92		70-130	0		25
Methyl tert butyl ether	87		90		70-130	4		25
Naphthalene	89		95		70-130	7		25
1,2,4-Trimethylbenzene	97		97		70-130	0		25
Pentane	94		94		70-130	0		25
2-Methylpentane	97		97		70-130	1		25
2,2,4-Trimethylpentane	100		100		70-130	0		25
n-Nonane	106		106		30-130	0		25
n-Decane	111		110		70-130	1		25
n-Butylcyclohexane	108		107		70-130	1		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706716
Report Date: 03/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-04 Batch: WG984223-1 WG984223-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	95		96		70-130
2,5-Dibromotoluene-FID	102		105		70-130

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706716
Report Date: 03/12/17

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1706716-01A	Vial HCl preserved	A	N/A	5.3	Y	Absent	MCP-8260-10(14)
L1706716-01B	Vial HCl preserved	A	N/A	5.3	Y	Absent	MCP-8260-10(14)
L1706716-01C	Vial HCl preserved	A	N/A	5.3	Y	Absent	MCP-8260-10(14)
L1706716-01D	Vial HCl preserved	A	N/A	5.3	Y	Absent	VPH-DELUX-10(14)
L1706716-01E	Vial HCl preserved	A	N/A	5.3	Y	Absent	VPH-DELUX-10(14)
L1706716-01F	Vial HCl preserved	A	N/A	5.3	Y	Absent	VPH-DELUX-10(14)
L1706716-01G	Amber 1000ml HCl preserved	A	<2	5.3	Y	Absent	EPH-MS-10(14),EPHD-GC-10(14)
L1706716-01H	Amber 1000ml HCl preserved	A	<2	5.3	Y	Absent	EPH-MS-10(14),EPHD-GC-10(14)
L1706716-02A	Vial HCl preserved	A	N/A	5.3	Y	Absent	MCP-8260-10(14)
L1706716-02B	Vial HCl preserved	A	N/A	5.3	Y	Absent	MCP-8260-10(14)
L1706716-02C	Vial HCl preserved	A	N/A	5.3	Y	Absent	MCP-8260-10(14)
L1706716-02D	Vial HCl preserved	A	N/A	5.3	Y	Absent	VPH-DELUX-10(14)
L1706716-02E	Vial HCl preserved	A	N/A	5.3	Y	Absent	VPH-DELUX-10(14)
L1706716-02F	Vial HCl preserved	A	N/A	5.3	Y	Absent	VPH-DELUX-10(14)
L1706716-02G	Amber 1000ml HCl preserved	A	<2	5.3	Y	Absent	EPH-MS-10(14),EPHD-GC-10(14)
L1706716-02H	Amber 1000ml HCl preserved	A	<2	5.3	Y	Absent	EPH-MS-10(14),EPHD-GC-10(14)
L1706716-03A	Vial HCl preserved	A	N/A	5.3	Y	Absent	MCP-8260-10(14)
L1706716-03B	Vial HCl preserved	A	N/A	5.3	Y	Absent	MCP-8260-10(14)
L1706716-03C	Vial HCl preserved	A	N/A	5.3	Y	Absent	MCP-8260-10(14)
L1706716-03D	Vial HCl preserved	A	N/A	5.3	Y	Absent	VPH-DELUX-10(14)
L1706716-03E	Vial HCl preserved	A	N/A	5.3	Y	Absent	VPH-DELUX-10(14)
L1706716-03F	Vial HCl preserved	A	N/A	5.3	Y	Absent	VPH-DELUX-10(14)
L1706716-03G	Amber 1000ml HCl preserved	A	<2	5.3	Y	Absent	EPH-MS-10(14),EPHD-GC-10(14)
L1706716-03H	Amber 1000ml HCl preserved	A	<2	5.3	Y	Absent	EPH-MS-10(14),EPHD-GC-10(14)
L1706716-04A	Vial HCl preserved	A	N/A	5.3	Y	Absent	MCP-8260-10(14)
L1706716-04B	Vial HCl preserved	A	N/A	5.3	Y	Absent	MCP-8260-10(14)
L1706716-04C	Vial HCl preserved	A	N/A	5.3	Y	Absent	MCP-8260-10(14)

*Values in parentheses indicate holding time in days

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706716
Report Date: 03/12/17

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1706716-04D	Vial HCl preserved	A	N/A	5.3	Y	Absent	VPH-DELUX-10(14)
L1706716-04E	Vial HCl preserved	A	N/A	5.3	Y	Absent	VPH-DELUX-10(14)
L1706716-04F	Vial HCl preserved	A	N/A	5.3	Y	Absent	VPH-DELUX-10(14)
L1706716-04G	Amber 1000ml HCl preserved	A	<2	5.3	Y	Absent	EPH-MS-10(14),EPHD-GC-10(14)
L1706716-04H	Amber 1000ml HCl preserved	A	<2	5.3	Y	Absent	EPH-MS-10(14),EPHD-GC-10(14)
L1706716-05A	Vial HCl preserved	A	N/A	5.3	Y	Absent	HOLD-VPH(14)
L1706716-05B	Vial HCl preserved	A	N/A	5.3	Y	Absent	HOLD-VPH(14)
L1706716-05C	Vial HCl preserved	NA	NA		Y	Absent	-

*Values in parentheses indicate holding time in days

Project Name:	TREMONT CROSSING	**Lab Number:**	L1706716
Project Number:	1700516	**Report Date:**	03/12/17

GLOSSARY

Acronyms

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).
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.
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.
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.
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

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

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.

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.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
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

Report Format: Data Usability Report

Project Name:	TREMONT CROSSING	**Lab Number:**	L1706716
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Data Qualifiers

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.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

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.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name:	TREMONT CROSSING	**Lab Number:**	L1706716
Project Number:	1700516	**Report Date:**	03/12/17

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.

100 Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, July 2010.

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: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
SM 2540D: TSS
EPA 3005A NPW
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: 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**
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, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, 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 624: Volatile Halocarbons & Aromatics,
EPA 608: 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: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

Mansfield Facility:

Drinking Water
EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

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, Pb, Mn, Ni, Se, Ag, 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

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: 03/03/17

ALPHA Job #: L1706716

Client Information

Client: GEI Consultants, Inc.
Address: 400 Unicorn Park Dr
Woburn, MA
Phone: 781-721-4000
Email: jenschart@geiconsultants.com

Project Information

Project Name: Tremont Crossing
Project Location: Boston, MA
Project #: 1700516
Project Manager: Cathy Johnson
ALPHA Quote #:

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: 5 day TAT

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 MCL + TICs
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 608
TPH: ☑ Quant Only ☐ Fingerprint 1664 or 1
TSS-2540, Hex Cr, TRC-4500 Cl
8260 BTEX TCL-SIM
TPHENOL
Total RCP Metals
TCN
504

SAMPLE INFO
Filtration
☐ Field
☐ Lab to do
Preservation
☐ Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Sample Comments	TOTAL # BOTTLES
01716-01	1700516-B(MW)302	3/3/17	1325	GW	SMT		8
02	1700516-B(MW)303	3/3/17	0920	GW	SMT		8
03	1700516-B(MW)305	3/3/17	1255	GW	RAM		8
~~—~~	~~1700516-B(MW)307~~	~~3/3/17~~	~~0950~~	~~GW~~	~~RAM~~		~~8~~
04	1700516-B(MW)308	3/3/17	1130	GW	SMT		8

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																	
Preservative																	

Relinquished By:	Date/Time	Received By:	Date/Time
	3/3/17 1610	AAL	3/3/17 1610

All samples submitted are subject to Alpha's Terms and Conditions.
See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

ALPHA ANALYTICAL
8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 03/03/17

ALPHA Job #: L1706716

Client Information

Client: GEI Consultants, Inc.
Address: 400 Unicorn Park Dr, Woburn, MA
Phone: 781-721-4000
Email: jengelhart@geiconsultants.com

Additional Project Information:

Project Information

Project Name: Tremont Crossing
Project Location: Boston, MA
Project #: 1700516
Project Manager: Cathy Johnson
ALPHA Quote #:

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: 5 day TAT

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

Columns: (1) VOC: ☑ 8260 ☐ 624 ☐ 524.2 VOC SIM; (2) SVOC: ☐ ABN ☐ PAH; (3) METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15; (4) METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13; (5) EPH: ☑ Ranges & Targets ☐ Ranges Only; (6) VPH: ☑ Ranges & Targets ☐ Ranges Only; (7) ☑ PCB ☐ PEST 608; (8) TPH: ☑ Quant Only ☐ Fingerprint 1664; (9) TSS-2540, HexCr, TRC-4500 Cl; (10) 8270, 8270 TCL-SIM; (11) TPHENOL; (12) Total RGP Metals; (13) TCN; (14) 504

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	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Sample Comments	Total # Bottles
06716-01	1700516-B(MW)302	3/3/17	1325	GW	SMT	X				X	X										8
02	1700516-B(MW)303	3/3/17	0920	GW	SMT	X				X	X										8
03	1700516-B(MW)305	3/3/17	1255	GW	RAM	X				X	X										8
~~—~~	1700516-B(MW)307	3/3/17	0950	GW	RAM	X				X	X	X	X	X	X	X	X	X	X		
04	1700516-B(MW)308	3/3/17	1130	GW	SMT	X				X	X										8

Container Type:
Preservative:

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]	3/3/17 1610	[signature] AAL	3/3/17 1610

FORM NO: 01-01 (rev. 12-Mar-2012)

Method Blank Summary
Form 4

Client	: GEI Consultants	**Lab Number**	: L1706716
Project Name	: TREMONT CROSSING	**Project Number**	: 1700516
Lab Sample ID	: WG983120-5	**Lab File ID**	: VJ170306A07
Instrument ID	: JACK		
Matrix	: WATER	**Analysis Date**	: 03/06/17 06:20

Client Sample No.	Lab Sample ID	Analysis Date
WG983120-3LCS	WG983120-3	03/06/17 04:40
WG983120-4LCSD	WG983120-4	03/06/17 05:13
1700516-B(MW)303	L1706716-02	03/06/17 13:33
1700516-B(MW)308	L1706716-04	03/06/17 14:07

Method Blank Summary
Form 4

Client	: GEI Consultants	**Lab Number**	: L1706716
Project Name	: TREMONT CROSSING	**Project Number**	: 1700516
Lab Sample ID	: WG983125-5	**Lab File ID**	: VJ170306A08
Instrument ID	: JACK		
Matrix	: WATER	**Analysis Date**	: 03/06/17 06:37

Client Sample No.	Lab Sample ID	Analysis Date
WG983125-3LCS	WG983125-3	03/06/17 04:57
WG983125-4LCSD	WG983125-4	03/06/17 05:30
1700516-B(MW)302	L1706716-01	03/06/17 13:17
1700516-B(MW)305	L1706716-03	03/06/17 13:50

Continuing Calibration
Form 7

Client	: GEI Consultants	**Lab Number**	: L1706716	
Project Name	: TREMONT CROSSING	**Project Number**	: 1700516	
Instrument ID	: JACK	**Calibration Date**	: 03/06/17 04:40	
Lab File ID	: VJ170306A01	**Init. Calib. Date(s)**	: 02/28/17	02/28/17
Sample No	: WG983120-2	**Init. Calib. Times**	: 07:17	11:10
Channel	:			

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	10	10	-	0	20	96	0
Dichlorodifluoromethane	0.343	0.326	-	5	20	86	0
Chloromethane	0.387	0.419	-	-8.3	20	101	0
Vinyl chloride	0.354	0.383	-	-8.2	20	102	0
Bromomethane	10	12.669	-	-26.7*	20	130	0
Chloroethane	10	11.941	-	-19.4	20	102	0
Trichlorofluoromethane	0.431	0.434	-	-0.7	20	92	0
Ethyl ether	0.11	0.117	-	-6.4	20	97	0
1,1-Dichloroethene	0.258	0.266	-	-3.1	20	98	0
Carbon disulfide	0.716	0.746	-	-4.2	20	96	0
Freon-113	0.245	0.247	-	-0.8	20	89	0
Methylene chloride	0.272	0.276	-	-1.5	20	93	0
Acetone	10	9.91	-	0.9	20	98	0
trans-1,2-Dichloroethene	0.274	0.302	-	-10.2	20	103	0
Methyl tert-butyl ether	0.592	0.611	-	-3.2	20	99	0
tert-Butyl alcohol	50	52.092	-	-4.2	20	98	0
Diisopropyl ether	1.053	1.139	-	-8.2	20	105	0
1,1-Dichloroethane	0.52	0.581	-	-11.7	20	103	0
Ethyl tert-butyl ether	0.803	0.836	-	-4.1	20	101	0
cis-1,2-Dichloroethene	0.315	0.335	-	-6.3	20	102	0
2,2-Dichloropropane	0.504	0.524	-	-4	20	97	0
Bromochloromethane	0.139	0.145	-	-4.3	20	100	0
Chloroform	0.522	0.563	-	-7.9	20	101	0
Carbon tetrachloride	0.451	0.44	-	2.4	20	93	0
Tetrahydrofuran	0.069	0.079	-	-14.5	20	115	0
Dibromofluoromethane	0.23	0.234	-	-1.7	20	95	0
1,1,1-Trichloroethane	0.52	0.521	-	-0.2	20	94	0
2-Butanone	0.086	0.086*	-	0	20	94	0
1,1-Dichloropropene	0.432	0.444	-	-2.8	20	98	0
Benzene	1.271	1.311	-	-3.1	20	99	0
tert-Amyl methyl ether	0.658	0.674	-	-2.4	20	102	0
1,2-Dichloroethane-d4	0.252	0.244	-	3.2	20	86	0
1,2-Dichloroethane	0.361	0.378	-	-4.7	20	99	0
Trichloroethene	0.348	0.351	-	-0.9	20	99	0
Dibromomethane	0.153	0.153	-	0	20	96	0
1,2-Dichloropropane	0.318	0.333	-	-4.7	20	102	0
2-Chloroethyl vinyl ether	0.128	0.094	-	26.6*	20	73	0
Bromodichloromethane	0.423	0.408	-	3.5	20	96	0
1,4-Dioxane	0.00199	0.00196*	-	1.5	20	103	0
cis-1,3-Dichloropropene	0.533	0.533	-	0	20	98	0
Chlorobenzene-d5	1	1	-	0	20	96	0
Toluene-d8	1.129	1.167	-	-3.4	20	97	0
Toluene	0.968	1.013	-	-4.6	20	99	0
4-Methyl-2-pentanone	10	9.693	-	3.1	20	92	0
Tetrachloroethene	0.46	0.485	-	-5.4	20	100	0

* Value outside of QC limits.

Continuing Calibration
Form 7

Client	: GEI Consultants	**Lab Number**	: L1706716	
Project Name	: TREMONT CROSSING	**Project Number**	: 1700516	
Instrument ID	: JACK	**Calibration Date**	: 03/06/17 04:40	
Lab File ID	: VJ170306A01	**Init. Calib. Date(s)**	: 02/28/17	02/28/17
Sample No	: WG983120-2	**Init. Calib. Times**	: 07:17	11:10
Channel	:			

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
trans-1,3-Dichloropropene	0.442	0.444	-	-0.5	20	96	0
1,1,2-Trichloroethane	0.199	0.208	-	-4.5	20	97	0
Chlorodibromomethane	0.342	0.33	-	3.5	20	94	0
1,3-Dichloropropane	0.424	0.422	-	0.5	20	96	0
1,2-Dibromoethane	0.254	0.253	-	0.4	20	96	-.01
2-Hexanone	0.158	0.144	-	8.9	20	96	0
Chlorobenzene	1.194	1.217	-	-1.9	20	99	0
Ethylbenzene	2.148	2.17	-	-1	20	97	0
1,1,1,2-Tetrachloroethane	0.431	0.422	-	2.1	20	99	0
p/m Xylene	0.885	0.902	-	-1.9	20	97	0
o Xylene	0.863	0.858	-	0.6	20	96	0
Styrene	1.466	1.479	-	-0.9	20	99	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	97	0
Bromoform	0.35	0.307	-	12.3	20	89	0
Isopropylbenzene	4.14	3.988	-	3.7	20	95	0
4-Bromofluorobenzene	0.831	0.776	-	6.6	20	95	0
Bromobenzene	0.894	0.876	-	2	20	97	0
n-Propylbenzene	4.705	4.653	-	1.1	20	97	-.01
1,1,2,2-Tetrachloroethane	0.502	0.487	-	3	20	97	0
2-Chlorotoluene	3.056	2.997	-	1.9	20	98	0
1,3,5-Trimethylbenzene	3.429	3.379	-	1.5	20	98	0
1,2,3-Trichloropropane	0.405	0.391	-	3.5	20	99	0
4-Chlorotoluene	2.773	2.711	-	2.2	20	98	0
tert-Butylbenzene	3.024	2.987	-	1.2	20	97	0
1,2,4-Trimethylbenzene	3.345	3.34	-	0.1	20	98	0
sec-Butylbenzene	4.403	4.33	-	1.7	20	97	0
p-Isopropyltoluene	3.735	3.691	-	1.2	20	94	0
1,3-Dichlorobenzene	1.869	1.852	-	0.9	20	99	0
1,4-Dichlorobenzene	1.754	1.772	-	-1	20	99	0
n-Butylbenzene	10	8.844	-	11.6	20	79	0
1,2-Dichlorobenzene	1.587	1.596	-	-0.6	20	93	0
1,2-Dibromo-3-chloropropan	10	8.839	-	11.6	20	88	-.01
Hexachlorobutadiene	0.418	0.426	-	-1.9	20	92	0
1,2,4-Trichlorobenzene	0.785	0.779	-	0.8	20	94	0
Naphthalene	10	9.02	-	9.8	20	92	0
1,2,3-Trichlorobenzene	10	9.906	-	0.9	20	96	0

* Value outside of QC limits.

Continuing Calibration
Form 7

Client	: GEI Consultants	**Lab Number**	: L1706716	
Project Name	: TREMONT CROSSING	**Project Number**	: 1700516	
Instrument ID	: JACK	**Calibration Date**	: 03/06/17 04:57	
Lab File ID	: VJ170306A02	**Init. Calib. Date(s)**	: 02/28/17	02/28/17
Sample No	: WG983125-2	**Init. Calib. Times**	: 07:34	11:28
Channel	:			

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	86	0
Dichlorodifluoromethane	0.467	0.411	-	12	20	75	0
Chloromethane	0.428	0.429	-	-0.2	20	88	.02
Vinyl chloride	0.444	0.464	-	-4.5	20	85	0
Bromomethane	0.229	0.258	-	-12.7	20	106	0
Chloroethane	10	11.378	-	-13.8	20	87	0
Trichlorofluoromethane	0.703	0.684	-	2.7	20	80	-.02
Ethyl ether	0.18	0.181	-	-0.6	20	88	-.02
1,1-Dichloroethene	0.4	0.398	-	0.5	20	85	-.02
Carbon disulfide	1.142	1.149	-	-0.6	20	87	-.02
Methylene chloride	10	10.595	-	-6	20	90	-.02
Acetone	10	9.427	-	5.7	20	89	-.02
trans-1,2-Dichloroethene	0.424	0.44	-	-3.8	20	92	-.02
Methyl tert-butyl ether	0.91	0.894	-	1.8	20	91	0
Diisopropyl ether	1.34	1.39	-	-3.7	20	88	0
1,1-Dichloroethane	0.843	0.854	-	-1.3	20	88	-.02
Ethyl tert-butyl ether	1.072	1.056	-	1.5	20	85	0
cis-1,2-Dichloroethene	0.491	0.485	-	1.2	20	88	-.02
2,2-Dichloropropane	0.717	0.714	-	0.4	20	82	0
Bromochloromethane	0.221	0.227	-	-2.7	20	91	0
Chloroform	0.808	0.803	-	0.6	20	87	0
Carbon tetrachloride	0.658	0.594	-	9.7	20	81	0
Tetrahydrofuran	0.109	0.106	-	2.8	20	92	0
Dibromofluoromethane	0.304	0.3	-	1.3	20	86	0
1,1,1-Trichloroethane	0.735	0.699	-	4.9	20	81	-.02
2-Butanone	0.117	0.118	-	-0.9	20	95	0
1,1-Dichloropropene	0.568	0.553	-	2.6	20	82	0
Benzene	1.575	1.587	-	-0.8	20	86	0
tert-Amyl methyl ether	0.833	0.827	-	0.7	20	85	0
1,2-Dichloroethane-d4	0.326	0.314	-	3.7	20	87	-.02
1,2-Dichloroethane	0.535	0.532	-	0.6	20	88	0
Trichloroethene	0.436	0.428	-	1.8	20	85	0
Dibromomethane	0.212	0.208	-	1.9	20	86	-.02
1,2-Dichloropropane	0.395	0.413	-	-4.6	20	88	0
Bromodichloromethane	0.522	0.518	-	0.8	20	86	0
1,4-Dioxane	0.00145	0.0014*	-	3.4	20	91	0
cis-1,3-Dichloropropene	0.603	0.6	-	0.5	20	85	0
Chlorobenzene-d5	1	1	-	0	20	89	0
Toluene-d8	1.338	1.377	-	-2.9	20	87	0
Toluene	1.245	1.348	-	-8.3	20	88	0
4-Methyl-2-pentanone	0.134	0.129	-	3.7	20	82	0
Tetrachloroethene	0.646	0.69	-	-6.8	20	85	0
trans-1,3-Dichloropropene	0.807	0.857	-	-6.2	20	85	0
1,1,2-Trichloroethane	0.372	0.4	-	-7.5	20	87	0
Chlorodibromomethane	0.573	0.573	-	0	20	83	0

* Value outside of QC limits.

Continuing Calibration
Form 7

Client	: GEI Consultants	**Lab Number**	: L1706716	
Project Name	: TREMONT CROSSING	**Project Number**	: 1700516	
Instrument ID	: JACK	**Calibration Date**	: 03/06/17 04:57	
Lab File ID	: VJ170306A02	**Init. Calib. Date(s)**	: 02/28/17	02/28/17
Sample No	: WG983125-2	**Init. Calib. Times**	: 07:34	11:28
Channel	:			

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,3-Dichloropropane	0.781	0.831	-	-6.4	20	88	0
1,2-Dibromoethane	0.421	0.454	-	-7.8	20	87	0
2-Hexanone	0.245	0.223	-	9	20	82	0
Chlorobenzene	1.301	1.385	-	-6.5	20	89	0
Ethylbenzene	2.08	2.056	-	1.2	20	87	0
1,1,1,2-Tetrachloroethane	0.614	0.613	-	0.2	20	86	0
p/m Xylene	0.623	0.655	-	-5.1	20	99	0
o Xylene	0.655	0.629	-	4	20	100	0
Styrene	1.295	1.147	-	11.4	20	88	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	92	0
Bromoform	0.624	0.613	-	1.8	20	82	0
Isopropylbenzene	5.499	5.74	-	-4.4	20	88	0
4-Bromofluorobenzene	1.073	1.08	-	-0.7	20	92	0
Bromobenzene	1.377	1.452	-	-5.4	20	94	0
n-Propylbenzene	5.077	5.28	-	-4	20	88	0
1,1,2,2-Tetrachloroethane	0.991	1.092	-	-10.2	20	98	0
2-Chlorotoluene	3.328	3.21	-	3.5	20	85	0
1,3,5-Trimethylbenzene	2.276	2.24	-	1.6	20	88	0
1,2,3-Trichloropropane	0.753	0.839	-	-11.4	20	98	0
4-Chlorotoluene	2.894	2.752	-	4.9	20	87	0
tert-Butylbenzene	3.398	3.699	-	-8.9	20	89	0
1,2,4-Trimethylbenzene	2.467	2.485	-	-0.7	20	90	0
sec-Butylbenzene	4.84	5.373	-	-11	20	87	0
p-Isopropyltoluene	3.433	3.732	-	-8.7	20	86	0
1,3-Dichlorobenzene	2.1	2.068	-	1.5	20	84	0
1,4-Dichlorobenzene	1.989	1.968	-	1.1	20	87	0
n-Butylbenzene	2.872	3.493	-	-21.6*	20	83	0
1,2-Dichlorobenzene	1.96	2.008	-	-2.4	20	86	0
1,2-Dibromo-3-chloropropan	10	9.77	-	2.3	20	94	-.01
Hexachlorobutadiene	10	10.608	-	-6.1	20	84	0
1,2,4-Trichlorobenzene	0.686	0.719	-	-4.8	20	82	0
Naphthalene	1.075	1.153	-	-7.3	20	89	0
1,2,3-Trichlorobenzene	0.557	0.6	-	-7.7	20	82	0

* Value outside of QC limits.

ANALYTICAL REPORT

Lab Number:	L1706724
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Cathy Johnson
Phone:	(781) 721-4000
Project Name:	TREMONT CROSSING
Project Number:	1700516
Report Date:	03/13/17

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

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

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706724
Report Date: 03/13/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1706724-01	1700516-B(MW)307	WATER	BOSTON, MA	03/03/17 09:50	03/03/17
L1706724-02	TRIP BLANK	WATER	BOSTON, MA	03/03/17 00:00	03/03/17

Project Name: TREMONT CROSSING **Lab Number:** L1706724
Project Number: 1700516 **Report Date:** 03/13/17

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

Project Name: TREMONT CROSSING **Lab Number:** L1706724
Project Number: 1700516 **Report Date:** 03/13/17

Case Narrative (continued)

Sample Receipt

A Trip Blank was received in the laboratory, but not listed on the Chain of Custody, and was not analyzed.

Semivolatile Organics

The WG983147-3 LCSD recovery, associated with L1706724-01, is below the acceptance criteria for benzidine (7%); however, it has been identified as a "difficult" analyte. The results of the associated sample 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: Melissa Cripps

Title: Technical Director/Representative Date: 03/13/17

ORGANICS

VOLATILES

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706724
Report Date: 03/13/17

SAMPLE RESULTS

Lab ID: L1706724-01
Client ID: 1700516-B(MW)307
Sample Location: BOSTON, MA
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 03/07/17 10:47
Analyst: MM

Date Collected: 03/03/17 09:50
Date Received: 03/03/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	--	1
1,1-Dichloroethane	ND		ug/l	0.75	--	1
Chloroform	ND		ug/l	0.75	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.8	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	0.75	--	1
Tetrachloroethene	0.92		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	0.50	--	1
Trichlorofluoromethane	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	0.50	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.5	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	0.75	--	1
Ethylbenzene	ND		ug/l	0.50	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
1,2-Dichloroethene, Total	ND		ug/l	0.50	--	1
Trichloroethene	1.3		ug/l	0.50	--	1
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706724

Project Number: 1700516 **Report Date:** 03/13/17

SAMPLE RESULTS

Lab ID: L1706724-01 Date Collected: 03/03/17 09:50

Client ID: 1700516-B(MW)307 Date Received: 03/03/17

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1
1,4-Dichlorobenzene	ND		ug/l	2.5	--	1
Methyl tert butyl ether	ND		ug/l	1.0	--	1
p/m-Xylene	ND		ug/l	1.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	--	1
Dibromomethane	ND		ug/l	5.0	--	1
1,4-Dichlorobutane	ND		ug/l	5.0	--	1
1,2,3-Trichloropropane	ND		ug/l	5.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	5.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	5.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
Vinyl acetate	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Ethyl methacrylate	ND		ug/l	5.0	--	1
Acrylonitrile	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.5	--	1
Tetrahydrofuran	ND		ug/l	5.0	--	1
2,2-Dichloropropane	ND		ug/l	2.5	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Bromobenzene	ND		ug/l	2.5	--	1
n-Butylbenzene	ND		ug/l	0.50	--	1
sec-Butylbenzene	ND		ug/l	0.50	--	1
tert-Butylbenzene	ND		ug/l	2.5	--	1
o-Chlorotoluene	ND		ug/l	2.5	--	1
p-Chlorotoluene	ND		ug/l	2.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Isopropylbenzene	ND		ug/l	0.50	--	1
p-Isopropyltoluene	0.55		ug/l	0.50	--	1
Naphthalene	ND		ug/l	2.5	--	1
n-Propylbenzene	ND		ug/l	0.50	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706724

Project Number: 1700516 **Report Date:** 03/13/17

SAMPLE RESULTS

Lab ID: L1706724-01 Date Collected: 03/03/17 09:50

Client ID: 1700516-B(MW)307 Date Received: 03/03/17

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	--	1
Ethyl ether	ND		ug/l	2.5	--	1
Tert-Butyl Alcohol	ND		ug/l	10	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	104		70-130

Project Name: TREMONT CROSSING
Lab Number: L1706724
Project Number: 1700516
Report Date: 03/13/17

SAMPLE RESULTS

Lab ID: L1706724-01
Client ID: 1700516-B(MW)307
Sample Location: BOSTON, MA
Matrix: Water
Analytical Method: 1,8260C-SIM(M)
Analytical Date: 03/07/17 10:47
Analyst: MM

Date Collected: 03/03/17 09:50
Date Received: 03/03/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-SIM - Westborough Lab						
1,4-Dioxane	ND		ug/l	3.0	--	1

Project Name: TREMONT CROSSING
Lab Number: L1706724
Project Number: 1700516
Report Date: 03/13/17

SAMPLE RESULTS

Lab ID: L1706724-01
Client ID: 1700516-B(MW)307
Sample Location: BOSTON, MA
Matrix: Water
Analytical Method: 14,504.1
Analytical Date: 03/08/17 11:33
Analyst: NS

Date Collected: 03/03/17 09:50
Date Received: 03/03/17
Field Prep: Not Specified
Extraction Method: EPA 504.1
Extraction Date: 03/07/17 13:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	--	1	B

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706724
Report Date: 03/13/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 14,504.1
Analytical Date: 03/07/17 16:23
Analyst: NS

Extraction Method: EPA 504.1
Extraction Date: 03/07/17 13:40

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 01 Batch: WG983549-1						
1,2-Dibromoethane	ND		ug/l	0.010	--	B

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706724
Report Date: 03/13/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C-SIM(M)
Analytical Date: 03/07/17 08:00
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG983718-5					
1,4-Dioxane	ND		ug/l	3.0	--

Project Name: TREMONT CROSSING **Lab Number:** L1706724

Project Number: 1700516 **Report Date:** 03/13/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 03/07/17 08:00
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG983724-5					
Methylene chloride	ND		ug/l	3.0	--
1,1-Dichloroethane	ND		ug/l	0.75	--
Chloroform	ND		ug/l	0.75	--
Carbon tetrachloride	ND		ug/l	0.50	--
1,2-Dichloropropane	ND		ug/l	1.8	--
Dibromochloromethane	ND		ug/l	0.50	--
1,1,2-Trichloroethane	ND		ug/l	0.75	--
Tetrachloroethene	ND		ug/l	0.50	--
Chlorobenzene	ND		ug/l	0.50	--
Trichlorofluoromethane	ND		ug/l	2.5	--
1,2-Dichloroethane	ND		ug/l	0.50	--
1,1,1-Trichloroethane	ND		ug/l	0.50	--
Bromodichloromethane	ND		ug/l	0.50	--
trans-1,3-Dichloropropene	ND		ug/l	0.50	--
cis-1,3-Dichloropropene	ND		ug/l	0.50	--
1,3-Dichloropropene, Total	ND		ug/l	0.50	--
1,1-Dichloropropene	ND		ug/l	2.5	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	0.75	--
Ethylbenzene	ND		ug/l	0.50	--
Chloromethane	ND		ug/l	2.5	--
Bromomethane	ND		ug/l	1.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	1.0	--
1,1-Dichloroethene	ND		ug/l	0.50	--
1,2-Dichloroethene, Total	ND		ug/l	0.50	--
Trichloroethene	ND		ug/l	0.50	--

Project Name: TREMONT CROSSING **Lab Number:** L1706724

Project Number: 1700516 **Report Date:** 03/13/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 03/07/17 08:00
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG983724-5					
1,2-Dichlorobenzene	ND		ug/l	2.5	--
1,3-Dichlorobenzene	ND		ug/l	2.5	--
1,4-Dichlorobenzene	ND		ug/l	2.5	--
Methyl tert butyl ether	ND		ug/l	1.0	--
p/m-Xylene	ND		ug/l	1.0	--
o-Xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	0.50	--
Dibromomethane	ND		ug/l	5.0	--
1,4-Dichlorobutane	ND		ug/l	5.0	--
1,2,3-Trichloropropane	ND		ug/l	5.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	5.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	5.0	--
2-Butanone	ND		ug/l	5.0	--
Vinyl acetate	ND		ug/l	5.0	--
4-Methyl-2-pentanone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Ethyl methacrylate	ND		ug/l	5.0	--
Acrylonitrile	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.5	--
Tetrahydrofuran	ND		ug/l	5.0	--
2,2-Dichloropropane	ND		ug/l	2.5	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.5	--
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--
Bromobenzene	ND		ug/l	2.5	--
n-Butylbenzene	ND		ug/l	0.50	--

Project Name: TREMONT CROSSING **Lab Number:** L1706724

Project Number: 1700516 **Report Date:** 03/13/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 03/07/17 08:00
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG983724-5					
sec-Butylbenzene	ND		ug/l	0.50	--
tert-Butylbenzene	ND		ug/l	2.5	--
o-Chlorotoluene	ND		ug/l	2.5	--
p-Chlorotoluene	ND		ug/l	2.5	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--
Hexachlorobutadiene	ND		ug/l	0.50	--
Isopropylbenzene	ND		ug/l	0.50	--
p-Isopropyltoluene	ND		ug/l	0.50	--
Naphthalene	ND		ug/l	2.5	--
n-Propylbenzene	ND		ug/l	0.50	--
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	--
Ethyl ether	ND		ug/l	2.5	--
Tert-Butyl Alcohol	ND		ug/l	10	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	106		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706724

Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 01		Batch: WG983549-2						
1,2-Dibromoethane	101		-		70-130	-			B

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706724

Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG983718-3 WG983718-4								
1,4-Dioxane	90		97		70-130	7		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706724
Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG983724-3 WG983724-4								
Methylene chloride	100		98		70-130	2		20
1,1-Dichloroethane	99		110		70-130	11		20
Chloroform	100		100		70-130	0		20
Carbon tetrachloride	93		94		63-132	1		20
1,2-Dichloropropane	100		99		70-130	1		20
Dibromochloromethane	88		90		63-130	2		20
1,1,2-Trichloroethane	100		100		70-130	0		20
Tetrachloroethene	97		97		70-130	0		20
Chlorobenzene	97		97		75-130	0		25
Trichlorofluoromethane	100		100		62-150	0		20
1,2-Dichloroethane	100		100		70-130	0		20
1,1,1-Trichloroethane	98		97		67-130	1		20
Bromodichloromethane	93		93		67-130	0		20
trans-1,3-Dichloropropene	88		87		70-130	1		20
cis-1,3-Dichloropropene	95		93		70-130	2		20
1,1-Dichloropropene	100		99		70-130	1		20
Bromoform	83		83		54-136	0		20
1,1,2,2-Tetrachloroethane	99		94		67-130	5		20
Benzene	100		99		70-130	1		25
Toluene	98		98		70-130	0		25
Ethylbenzene	96		94		70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706724
Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG983724-3 WG983724-4								
Chloromethane	100		100		64-130	0		20
Bromomethane	130		130		39-139	0		20
Vinyl chloride	100		110		55-140	10		20
Chloroethane	120		120		55-138	0		20
1,1-Dichloroethene	100		100		61-145	0		25
Trichloroethene	98		97		70-130	1		25
1,2-Dichlorobenzene	100		97		70-130	3		20
1,3-Dichlorobenzene	97		93		70-130	4		20
1,4-Dichlorobenzene	98		95		70-130	3		20
Methyl tert butyl ether	93		100		63-130	7		20
p/m-Xylene	95		95		70-130	0		20
o-Xylene	95		90		70-130	5		20
cis-1,2-Dichloroethene	100		100		70-130	0		20
Dibromomethane	95		98		70-130	3		20
1,4-Dichlorobutane	94		92		70-130	2		20
1,2,3-Trichloropropane	99		98		64-130	1		20
Styrene	95		95		70-130	0		20
Dichlorodifluoromethane	98		98		36-147	0		20
Acetone	93		88		58-148	6		20
Carbon disulfide	110		110		51-130	0		20
2-Butanone	95		91		63-138	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706724
Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG983724-3 WG983724-4								
Vinyl acetate	98		100		70-130	2		20
4-Methyl-2-pentanone	84		80		59-130	5		20
2-Hexanone	92		90		57-130	2		20
Ethyl methacrylate	94		94		70-130	0		20
Acrylonitrile	100		100		70-130	0		20
Bromochloromethane	100		100		70-130	0		20
Tetrahydrofuran	97		100		58-130	3		20
2,2-Dichloropropane	96		95		63-133	1		20
1,2-Dibromoethane	96		94		70-130	2		20
1,3-Dichloropropane	98		95		70-130	3		20
1,1,1,2-Tetrachloroethane	90		89		64-130	1		20
Bromobenzene	94		92		70-130	2		20
n-Butylbenzene	86		84		53-136	2		20
sec-Butylbenzene	98		93		70-130	5		20
tert-Butylbenzene	96		93		70-130	3		20
o-Chlorotoluene	97		93		70-130	4		20
p-Chlorotoluene	95		92		70-130	3		20
1,2-Dibromo-3-chloropropane	92		95		41-144	3		20
Hexachlorobutadiene	100		100		63-130	0		20
Isopropylbenzene	96		93		70-130	3		20
p-Isopropyltoluene	98		96		70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706724
Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG983724-3 WG983724-4								
Naphthalene	93		92		70-130	1		20
n-Propylbenzene	97		93		69-130	4		20
1,2,3-Trichlorobenzene	94		94		70-130	0		20
1,2,4-Trichlorobenzene	100		100		70-130	0		20
1,3,5-Trimethylbenzene	96		93		64-130	3		20
1,2,4-Trimethylbenzene	98		93		70-130	5		20
trans-1,4-Dichloro-2-butene	97		93		70-130	4		20
Ethyl ether	100		100		59-134	0		20
Tert-Butyl Alcohol	94		98		70-130	4		20
Tertiary-Amyl Methyl Ether	95		98		66-130	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	106		107		70-130
Toluene-d8	100		98		70-130
4-Bromofluorobenzene	97		99		70-130
Dibromofluoromethane	99		102		70-130

SEMIVOLATILES

Project Name: TREMONT CROSSING **Lab Number:** L1706724

Project Number: 1700516 **Report Date:** 03/13/17

SAMPLE RESULTS

Lab ID: L1706724-01
Client ID: 1700516-B(MW)307
Sample Location: BOSTON, MA
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 03/07/17 21:45
Analyst: SZ

Date Collected: 03/03/17 09:50
Date Received: 03/03/17
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 03/06/17 10:56

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	--	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	--	1
1,2-Dichlorobenzene	ND		ug/l	2.0	--	1
1,3-Dichlorobenzene	ND		ug/l	2.0	--	1
1,4-Dichlorobenzene	ND		ug/l	2.0	--	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	--	1
2,4-Dinitrotoluene	ND		ug/l	5.0	--	1
2,6-Dinitrotoluene	ND		ug/l	5.0	--	1
Azobenzene	ND		ug/l	2.0	--	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	--	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	--	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	--	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	--	1
Hexachlorocyclopentadiene	ND		ug/l	20	--	1
Isophorone	ND		ug/l	5.0	--	1
Nitrobenzene	ND		ug/l	2.0	--	1
NDPA/DPA	ND		ug/l	2.0	--	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	--	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
Biphenyl	ND		ug/l	2.0	--	1
Aniline	ND		ug/l	2.0	--	1
4-Chloroaniline	ND		ug/l	5.0	--	1
2-Nitroaniline	ND		ug/l	5.0	--	1
3-Nitroaniline	ND		ug/l	5.0	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706724

Project Number: 1700516 **Report Date:** 03/13/17

SAMPLE RESULTS

Lab ID: L1706724-01 Date Collected: 03/03/17 09:50

Client ID: 1700516-B(MW)307 Date Received: 03/03/17

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
4-Nitroaniline	ND		ug/l	5.0	--	1
Dibenzofuran	ND		ug/l	2.0	--	1
n-Nitrosodimethylamine	ND		ug/l	2.0	--	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	--	1
p-Chloro-m-cresol	ND		ug/l	2.0	--	1
2-Chlorophenol	ND		ug/l	2.0	--	1
2,4-Dichlorophenol	ND		ug/l	5.0	--	1
2,4-Dimethylphenol	ND		ug/l	5.0	--	1
2-Nitrophenol	ND		ug/l	10	--	1
4-Nitrophenol	ND		ug/l	10	--	1
2,4-Dinitrophenol	ND		ug/l	20	--	1
4,6-Dinitro-o-cresol	ND		ug/l	10	--	1
Phenol	ND		ug/l	5.0	--	1
2-Methylphenol	ND		ug/l	5.0	--	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	--	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	--	1
Benzoic Acid	ND		ug/l	50	--	1
Benzyl Alcohol	ND		ug/l	2.0	--	1
Carbazole	ND		ug/l	2.0	--	1
Pyridine	ND		ug/l	3.5	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	28		21-120
Phenol-d6	20		10-120
Nitrobenzene-d5	57		23-120
2-Fluorobiphenyl	52		15-120
2,4,6-Tribromophenol	51		10-120
4-Terphenyl-d14	60		41-149

Project Name: TREMONT CROSSING
Lab Number: L1706724
Project Number: 1700516
Report Date: 03/13/17

SAMPLE RESULTS

Lab ID: L1706724-01
Client ID: 1700516-B(MW)307
Sample Location: BOSTON, MA
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 03/10/17 14:49
Analyst: DV

Date Collected: 03/03/17 09:50
Date Received: 03/03/17
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 03/06/17 10:57

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	1.6		ug/l	0.10	--	1
2-Chloronaphthalene	ND		ug/l	0.20	--	1
Fluoranthene	1.2		ug/l	0.20	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	0.20	--	1
Benzo(a)anthracene	ND		ug/l	0.20	--	1
Benzo(a)pyrene	ND		ug/l	0.20	--	1
Benzo(b)fluoranthene	ND		ug/l	0.20	--	1
Benzo(k)fluoranthene	ND		ug/l	0.20	--	1
Chrysene	ND		ug/l	0.20	--	1
Acenaphthylene	ND		ug/l	0.20	--	1
Anthracene	0.89		ug/l	0.20	--	1
Benzo(ghi)perylene	ND		ug/l	0.20	--	1
Fluorene	1.5		ug/l	0.20	--	1
Phenanthrene	4.3		ug/l	0.20	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.20	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.20	--	1
Pyrene	0.76		ug/l	0.20	--	1
1-Methylnaphthalene	0.40		ug/l	0.20	--	1
2-Methylnaphthalene	ND		ug/l	0.20	--	1
Pentachlorophenol	ND		ug/l	0.80	--	1
Hexachlorobenzene	ND		ug/l	0.80	--	1
Hexachloroethane	ND		ug/l	0.80	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706724

Project Number: 1700516 **Report Date:** 03/13/17

SAMPLE RESULTS

Lab ID: L1706724-01 Date Collected: 03/03/17 09:50

Client ID: 1700516-B(MW)307 Date Received: 03/03/17

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS-SIM - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	30		21-120
Phenol-d6	22		10-120
Nitrobenzene-d5	53		23-120
2-Fluorobiphenyl	47		15-120
2,4,6-Tribromophenol	65		10-120
4-Terphenyl-d14	74		41-149

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706724
Report Date: 03/13/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 03/07/17 13:15
Analyst: SZ

Extraction Method: EPA 3510C
Extraction Date: 03/06/17 10:56

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG983147-1					
Acenaphthene	ND		ug/l	2.0	--
Benzidine	ND		ug/l	20	--
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--
Hexachlorobenzene	ND		ug/l	2.0	--
Bis(2-chloroethyl)ether	ND		ug/l	2.0	--
2-Chloronaphthalene	ND		ug/l	2.0	--
1,2-Dichlorobenzene	ND		ug/l	2.0	--
1,3-Dichlorobenzene	ND		ug/l	2.0	--
1,4-Dichlorobenzene	ND		ug/l	2.0	--
3,3'-Dichlorobenzidine	ND		ug/l	5.0	--
2,4-Dinitrotoluene	ND		ug/l	5.0	--
2,6-Dinitrotoluene	ND		ug/l	5.0	--
Azobenzene	ND		ug/l	2.0	--
Fluoranthene	ND		ug/l	2.0	--
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	--
4-Bromophenyl phenyl ether	ND		ug/l	2.0	--
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	--
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	--
Hexachlorobutadiene	ND		ug/l	2.0	--
Hexachlorocyclopentadiene	ND		ug/l	20	--
Hexachloroethane	ND		ug/l	2.0	--
Isophorone	ND		ug/l	5.0	--
Naphthalene	ND		ug/l	2.0	--
Nitrobenzene	ND		ug/l	2.0	--
NDPA/DPA	ND		ug/l	2.0	--
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	--
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	--
Butyl benzyl phthalate	ND		ug/l	5.0	--
Di-n-butylphthalate	ND		ug/l	5.0	--

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706724
Report Date: 03/13/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 03/07/17 13:15
Analyst: SZ

Extraction Method: EPA 3510C
Extraction Date: 03/06/17 10:56

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG983147-1					
Di-n-octylphthalate	ND		ug/l	5.0	--
Diethyl phthalate	ND		ug/l	5.0	--
Dimethyl phthalate	ND		ug/l	5.0	--
Benzo(a)anthracene	ND		ug/l	2.0	--
Benzo(a)pyrene	ND		ug/l	2.0	--
Benzo(b)fluoranthene	ND		ug/l	2.0	--
Benzo(k)fluoranthene	ND		ug/l	2.0	--
Chrysene	ND		ug/l	2.0	--
Acenaphthylene	ND		ug/l	2.0	--
Anthracene	ND		ug/l	2.0	--
Benzo(ghi)perylene	ND		ug/l	2.0	--
Fluorene	ND		ug/l	2.0	--
Phenanthrene	ND		ug/l	2.0	--
Dibenzo(a,h)anthracene	ND		ug/l	2.0	--
Indeno(1,2,3-cd)pyrene	ND		ug/l	2.0	--
Pyrene	ND		ug/l	2.0	--
Biphenyl	ND		ug/l	2.0	--
Aniline	ND		ug/l	2.0	--
4-Chloroaniline	ND		ug/l	5.0	--
1-Methylnaphthalene	ND		ug/l	2.0	--
2-Nitroaniline	ND		ug/l	5.0	--
3-Nitroaniline	ND		ug/l	5.0	--
4-Nitroaniline	ND		ug/l	5.0	--
Dibenzofuran	ND		ug/l	2.0	--
2-Methylnaphthalene	ND		ug/l	2.0	--
n-Nitrosodimethylamine	ND		ug/l	2.0	--
2,4,6-Trichlorophenol	ND		ug/l	5.0	--
p-Chloro-m-cresol	ND		ug/l	2.0	--
2-Chlorophenol	ND		ug/l	2.0	--

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706724
Report Date: 03/13/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 03/07/17 13:15
Analyst: SZ

Extraction Method: EPA 3510C
Extraction Date: 03/06/17 10:56

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG983147-1					
2,4-Dichlorophenol	ND		ug/l	5.0	--
2,4-Dimethylphenol	ND		ug/l	5.0	--
2-Nitrophenol	ND		ug/l	10	--
4-Nitrophenol	ND		ug/l	10	--
2,4-Dinitrophenol	ND		ug/l	20	--
4,6-Dinitro-o-cresol	ND		ug/l	10	--
Pentachlorophenol	ND		ug/l	10	--
Phenol	ND		ug/l	5.0	--
2-Methylphenol	ND		ug/l	5.0	--
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	--
2,4,5-Trichlorophenol	ND		ug/l	5.0	--
Benzoic Acid	ND		ug/l	50	--
Benzyl Alcohol	ND		ug/l	2.0	--
Carbazole	ND		ug/l	2.0	--
Pyridine	ND		ug/l	3.5	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	50		21-120
Phenol-d6	34		10-120
Nitrobenzene-d5	93		23-120
2-Fluorobiphenyl	72		15-120
2,4,6-Tribromophenol	65		10-120
4-Terphenyl-d14	72		41-149

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706724
Report Date: 03/13/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 03/07/17 12:29
Analyst: KL

Extraction Method: EPA 3510C
Extraction Date: 03/06/17 10:57

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG983149-1					
Acenaphthene	ND		ug/l	0.10	--
2-Chloronaphthalene	ND		ug/l	0.20	--
Fluoranthene	ND		ug/l	0.20	--
Hexachlorobutadiene	ND		ug/l	0.50	--
Naphthalene	ND		ug/l	0.20	--
Benzo(a)anthracene	ND		ug/l	0.20	--
Benzo(a)pyrene	ND		ug/l	0.20	--
Benzo(b)fluoranthene	ND		ug/l	0.20	--
Benzo(k)fluoranthene	ND		ug/l	0.20	--
Chrysene	ND		ug/l	0.20	--
Acenaphthylene	ND		ug/l	0.20	--
Anthracene	ND		ug/l	0.20	--
Benzo(ghi)perylene	ND		ug/l	0.20	--
Fluorene	ND		ug/l	0.20	--
Phenanthrene	ND		ug/l	0.20	--
Dibenzo(a,h)anthracene	ND		ug/l	0.20	--
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.20	--
Pyrene	ND		ug/l	0.20	--
1-Methylnaphthalene	ND		ug/l	0.20	--
2-Methylnaphthalene	ND		ug/l	0.20	--
Pentachlorophenol	ND		ug/l	0.80	--
Hexachlorobenzene	ND		ug/l	0.80	--
Hexachloroethane	ND		ug/l	0.80	--

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706724
Report Date: 03/13/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 03/07/17 12:29
Analyst: KL

Extraction Method: EPA 3510C
Extraction Date: 03/06/17 10:57

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG983149-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	42		21-120
Phenol-d6	29		10-120
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	73		15-120
2,4,6-Tribromophenol	81		10-120
4-Terphenyl-d14	75		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706724
Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG983147-2 WG983147-3								
Acenaphthene	79		76		37-111	4		30
Benzidine	17		**7**	Q	10-75	**88**	Q	30
1,2,4-Trichlorobenzene	72		69		39-98	4		30
Hexachlorobenzene	66		64		40-140	3		30
Bis(2-chloroethyl)ether	84		80		40-140	5		30
2-Chloronaphthalene	77		74		40-140	4		30
1,2-Dichlorobenzene	76		70		40-140	8		30
1,3-Dichlorobenzene	73		69		40-140	6		30
1,4-Dichlorobenzene	74		70		36-97	6		30
3,3'-Dichlorobenzidine	46		49		40-140	6		30
2,4-Dinitrotoluene	85		83		48-143	2		30
2,6-Dinitrotoluene	92		90		40-140	2		30
Azobenzene	97		94		40-140	3		30
Fluoranthene	78		77		40-140	1		30
4-Chlorophenyl phenyl ether	71		70		40-140	1		30
4-Bromophenyl phenyl ether	68		67		40-140	1		30
Bis(2-chloroisopropyl)ether	96		91		40-140	5		30
Bis(2-chloroethoxy)methane	86		83		40-140	4		30
Hexachlorobutadiene	70		65		40-140	7		30
Hexachlorocyclopentadiene	70		67		40-140	4		30
Hexachloroethane	82		76		40-140	8		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706724
Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG983147-2 WG983147-3								
Isophorone	88		85		40-140	3		30
Naphthalene	77		71		40-140	8		30
Nitrobenzene	98		93		40-140	5		30
NDPA/DPA	77		75		40-140	3		30
n-Nitrosodi-n-propylamine	90		87		29-132	3		30
Bis(2-ethylhexyl)phthalate	91		89		40-140	2		30
Butyl benzyl phthalate	87		83		40-140	5		30
Di-n-butylphthalate	87		84		40-140	4		30
Di-n-octylphthalate	92		89		40-140	3		30
Diethyl phthalate	79		79		40-140	0		30
Dimethyl phthalate	79		76		40-140	4		30
Benzo(a)anthracene	78		75		40-140	4		30
Benzo(a)pyrene	74		70		40-140	6		30
Benzo(b)fluoranthene	74		71		40-140	4		30
Benzo(k)fluoranthene	73		70		40-140	4		30
Chrysene	76		73		40-140	4		30
Acenaphthylene	79		76		45-123	4		30
Anthracene	81		79		40-140	3		30
Benzo(ghi)perylene	73		69		40-140	6		30
Fluorene	78		75		40-140	4		30
Phenanthrene	80		78		40-140	3		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706724
Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG983147-2 WG983147-3								
Dibenzo(a,h)anthracene	72		68		40-140	6		30
Indeno(1,2,3-cd)pyrene	73		69		40-140	6		30
Pyrene	78		76		26-127	3		30
Biphenyl	80		76		40-140	5		30
Aniline	**26**	Q	**17**	Q	40-140	**42**	Q	30
4-Chloroaniline	70		57		40-140	20		30
1-Methylnaphthalene	88		83		41-103	6		30
2-Nitroaniline	95		91		52-143	4		30
3-Nitroaniline	65		63		25-145	3		30
4-Nitroaniline	80		80		51-143	0		30
Dibenzofuran	76		74		40-140	3		30
2-Methylnaphthalene	78		74		40-140	5		30
n-Nitrosodimethylamine	56		51		22-74	9		30
2,4,6-Trichlorophenol	80		77		30-130	4		30
p-Chloro-m-cresol	86		82		23-97	5		30
2-Chlorophenol	79		74		27-123	7		30
2,4-Dichlorophenol	83		82		30-130	1		30
2,4-Dimethylphenol	92		86		30-130	7		30
2-Nitrophenol	93		89		30-130	4		30
4-Nitrophenol	78		72		10-80	8		30
2,4-Dinitrophenol	85		84		20-130	1		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706724

Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG983147-2 WG983147-3								
4,6-Dinitro-o-cresol	90		89		20-164	1		30
Pentachlorophenol	64		62		9-103	3		30
Phenol	43		37		12-110	15		30
2-Methylphenol	81		74		30-130	9		30
3-Methylphenol/4-Methylphenol	81		74		30-130	9		30
2,4,5-Trichlorophenol	78		76		30-130	3		30
Benzoic Acid	18		24		10-164	29		30
Benzyl Alcohol	78		73		26-116	7		30
Carbazole	82		80		55-144	2		30
Pyridine	30		12		10-66	**86**	Q	30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	56		49		21-120
Phenol-d6	41		36		10-120
Nitrobenzene-d5	90		86		23-120
2-Fluorobiphenyl	70		67		15-120
2,4,6-Tribromophenol	62		62		10-120
4-Terphenyl-d14	63		61		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706724
Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG983149-2 WG983149-3								
Acenaphthene	59		64		37-111	8		40
2-Chloronaphthalene	66		71		40-140	7		40
Fluoranthene	66		73		40-140	10		40
Hexachlorobutadiene	62		63		40-140	2		40
Naphthalene	62		64		40-140	3		40
Benzo(a)anthracene	61		67		40-140	9		40
Benzo(a)pyrene	69		78		40-140	12		40
Benzo(b)fluoranthene	64		72		40-140	12		40
Benzo(k)fluoranthene	68		76		40-140	11		40
Chrysene	62		68		40-140	9		40
Acenaphthylene	72		77		40-140	7		40
Anthracene	66		72		40-140	9		40
Benzo(ghi)perylene	70		80		40-140	13		40
Fluorene	64		70		40-140	9		40
Phenanthrene	58		63		40-140	8		40
Dibenzo(a,h)anthracene	69		79		40-140	14		40
Indeno(1,2,3-cd)pyrene	70		80		40-140	13		40
Pyrene	65		72		26-127	10		40
1-Methylnaphthalene	66		70		40-140	6		40
2-Methylnaphthalene	64		68		40-140	6		40
Pentachlorophenol	62		66		9-103	6		40

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706724

Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG983149-2 WG983149-3								
Hexachlorobenzene	64		70		40-140	9		40
Hexachloroethane	61		59		40-140	3		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	40		40		21-120
Phenol-d6	28		28		10-120
Nitrobenzene-d5	71		72		23-120
2-Fluorobiphenyl	65		69		15-120
2,4,6-Tribromophenol	76		82		10-120
4-Terphenyl-d14	63		72		41-149

PETROLEUM HYDROCARBONS

Project Name: TREMONT CROSSING **Lab Number:** L1706724

Project Number: 1700516 **Report Date:** 03/13/17

SAMPLE RESULTS

Lab ID:	L1706724-01	Date Collected:	03/03/17 09:50
Client ID:	1700516-B(MW)307	Date Received:	03/03/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Matrix:	Water		
Analytical Method:	100,VPH-04-1.1		
Analytical Date:	03/09/17 05:38		
Analyst:	JM		

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
Sample Temperature upon receipt:	Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		ug/l	50.0	--	1
C9-C12 Aliphatics	ND		ug/l	50.0	--	1
C9-C10 Aromatics	ND		ug/l	50.0	--	1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0	--	1
Benzene	ND		ug/l	2.00	--	1
Toluene	ND		ug/l	2.00	--	1
Ethylbenzene	ND		ug/l	2.00	--	1
p/m-Xylene	ND		ug/l	2.00	--	1
o-Xylene	ND		ug/l	2.00	--	1
Methyl tert butyl ether	ND		ug/l	3.00	--	1
Naphthalene	ND		ug/l	4.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	79		70-130
2,5-Dibromotoluene-FID	89		70-130

Project Name: TREMONT CROSSING **Lab Number:** L1706724

Project Number: 1700516 **Report Date:** 03/13/17

SAMPLE RESULTS

Lab ID:	L1706724-01			Date Collected:	03/03/17 09:50
Client ID:	1700516-B(MW)307			Date Received:	03/03/17
Sample Location:	BOSTON, MA			Field Prep:	Not Specified
Matrix:	Water			Extraction Method:	EPA 3510C
Analytical Method:	98,EPH-04-1.1			Extraction Date:	03/06/17 19:09
Analytical Date:	03/08/17 18:37	M.S. Analytical Date:	03/08/17 10:18	Cleanup Method1:	EPH-04-1
Analyst:	NS	M.S. Analyst:	DV	Cleanup Date1:	03/08/17

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
EPH w/MS Targets - Westborough Lab						
C9-C18 Aliphatics	ND		ug/l	100	--	1
C19-C36 Aliphatics	ND		ug/l	100	--	1
C11-C22 Aromatics	ND		ug/l	100	--	1
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--	1
Naphthalene	1.45		ug/l	0.400	--	1
2-Methylnaphthalene	0.652		ug/l	0.400	--	1
Acenaphthylene	ND		ug/l	0.400	--	1
Acenaphthene	2.25		ug/l	0.400	--	1
Fluorene	2.10		ug/l	0.400	--	1
Phenanthrene	5.53		ug/l	0.400	--	1
Anthracene	0.994		ug/l	0.400	--	1
Fluoranthene	1.57		ug/l	0.400	--	1
Pyrene	0.942		ug/l	0.400	--	1
Benzo(a)anthracene	ND		ug/l	0.400	--	1
Chrysene	ND		ug/l	0.400	--	1
Benzo(b)fluoranthene	ND		ug/l	0.400	--	1
Benzo(k)fluoranthene	ND		ug/l	0.400	--	1
Benzo(a)pyrene	ND		ug/l	0.200	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.400	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.400	--	1
Benzo(ghi)perylene	ND		ug/l	0.400	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706724

Project Number: 1700516 **Report Date:** 03/13/17

SAMPLE RESULTS

Lab ID:	L1706724-01	Date Collected:	03/03/17 09:50
Client ID:	1700516-B(MW)307	Date Received:	03/03/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

EPH w/MS Targets - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	70		40-140
o-Terphenyl	88		40-140
2-Fluorobiphenyl	87		40-140
2-Bromonaphthalene	90		40-140
O-Terphenyl-MS	85		40-140

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706724
Report Date: 03/13/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 03/08/17 20:12
Analyst: NS
M.S. Analytical Date: 03/08/17 08:14
M.S. Analyst: DV
Extraction Method: EPA 3510C
Extraction Date: 03/06/17 13:34
Cleanup Method: EPH-04-1
Cleanup Date: 03/08/17

Parameter	Result	Qualifier	Units	RL	MDL
EPH w/MS Targets - Westborough Lab for sample(s): 01 Batch: WG983280-1					
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	0.400	--
2-Methylnaphthalene	ND		ug/l	0.400	--
Acenaphthylene	ND		ug/l	0.400	--
Acenaphthene	ND		ug/l	0.400	--
Fluorene	ND		ug/l	0.400	--
Phenanthrene	ND		ug/l	0.400	--
Anthracene	ND		ug/l	0.400	--
Fluoranthene	ND		ug/l	0.400	--
Pyrene	ND		ug/l	0.400	--
Benzo(a)anthracene	ND		ug/l	0.400	--
Chrysene	ND		ug/l	0.400	--
Benzo(b)fluoranthene	ND		ug/l	0.400	--
Benzo(k)fluoranthene	ND		ug/l	0.400	--
Benzo(a)pyrene	ND		ug/l	0.200	--
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.400	--
Dibenzo(a,h)anthracene	ND		ug/l	0.400	--
Benzo(ghi)perylene	ND		ug/l	0.400	--

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706724
Report Date: 03/13/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 03/08/17 20:12
Analyst: NS

03/08/17 08:14
DV

Extraction Method: EPA 3510C
Extraction Date: 03/06/17 13:34
Cleanup Method: EPH-04-1
Cleanup Date: 03/08/17

Parameter	Result	Qualifier	Units	RL	MDL
EPH w/MS Targets - Westborough Lab for sample(s): 01 Batch: WG983280-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	71		40-140
o-Terphenyl	67		40-140
2-Fluorobiphenyl	74		40-140
2-Bromonaphthalene	74		40-140
O-Terphenyl-MS	71		40-140

Project Name: TREMONT CROSSING **Lab Number:** L1706724

Project Number: 1700516 **Report Date:** 03/13/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 100,VPH-04-1.1
Analytical Date: 03/08/17 12:35
Analyst: JM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 01 Batch: WG984223-3					
C5-C8 Aliphatics	ND		ug/l	50.0	--
C9-C12 Aliphatics	ND		ug/l	50.0	--
C9-C10 Aromatics	ND		ug/l	50.0	--
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0	--
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0	--
Benzene	ND		ug/l	2.00	--
Toluene	ND		ug/l	2.00	--
Ethylbenzene	ND		ug/l	2.00	--
p/m-Xylene	ND		ug/l	2.00	--
o-Xylene	ND		ug/l	2.00	--
Methyl tert butyl ether	ND		ug/l	3.00	--
Naphthalene	ND		ug/l	4.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	91		70-130
2,5-Dibromotoluene-FID	99		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706724
Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
EPH w/MS Targets - Westborough Lab Associated sample(s): 01 Batch: WG983280-2 WG983280-3								
C9-C18 Aliphatics	75		76		40-140	1		25
C19-C36 Aliphatics	94		87		40-140	8		25
C11-C22 Aromatics	80		90		40-140	12		25
Naphthalene	75		77		40-140	3		25
2-Methylnaphthalene	82		84		40-140	2		25
Acenaphthylene	93		95		40-140	2		25
Acenaphthene	89		91		40-140	2		25
Fluorene	94		97		40-140	3		25
Phenanthrene	88		94		40-140	7		25
Anthracene	98		106		40-140	8		25
Fluoranthene	97		107		40-140	10		25
Pyrene	96		105		40-140	9		25
Benzo(a)anthracene	98		108		40-140	10		25
Chrysene	88		97		40-140	10		25
Benzo(b)fluoranthene	103		114		40-140	10		25
Benzo(k)fluoranthene	90		99		40-140	10		25
Benzo(a)pyrene	97		107		40-140	10		25
Indeno(1,2,3-cd)Pyrene	96		110		40-140	14		25
Dibenzo(a,h)anthracene	94		128		40-140	**31**	Q	25
Benzo(ghi)perylene	92		101		40-140	9		25
Nonane (C9)	51		52		30-140	2		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706724

Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
EPH w/MS Targets - Westborough Lab Associated sample(s): 01 Batch: WG983280-2 WG983280-3								
Decane (C10)	62		62		40-140	0		25
Dodecane (C12)	70		69		40-140	1		25
Tetradecane (C14)	77		74		40-140	4		25
Hexadecane (C16)	81		81		40-140	0		25
Octadecane (C18)	85		87		40-140	2		25
Nonadecane (C19)	85		87		40-140	2		25
Eicosane (C20)	85		89		40-140	5		25
Docosane (C22)	86		90		40-140	5		25
Tetracosane (C24)	86		89		40-140	3		25
Hexacosane (C26)	85		89		40-140	5		25
Octacosane (C28)	85		89		40-140	5		25
Triacontane (C30)	84		88		40-140	5		25
Hexatriacontane (C36)	83		86		40-140	4		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706724

Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
EPH w/MS Targets - Westborough Lab Associated sample(s): 01 Batch: WG983280-2 WG983280-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	85		85		40-140
o-Terphenyl	80		92		40-140
2-Fluorobiphenyl	75		85		40-140
2-Bromonaphthalene	76		87		40-140
O-Terphenyl-MS	103		111		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706724

Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG984223-1 WG984223-2								
C5-C8 Aliphatics	97		98		70-130	1		25
C9-C12 Aliphatics	108		108		70-130	0		25
C9-C10 Aromatics	97		97		70-130	1		25
Benzene	90		88		70-130	1		25
Toluene	92		92		70-130	0		25
Ethylbenzene	93		93		70-130	0		25
p/m-Xylene	95		95		70-130	0		25
o-Xylene	92		92		70-130	0		25
Methyl tert butyl ether	87		90		70-130	4		25
Naphthalene	89		95		70-130	7		25
1,2,4-Trimethylbenzene	97		97		70-130	0		25
Pentane	94		94		70-130	0		25
2-Methylpentane	97		97		70-130	1		25
2,2,4-Trimethylpentane	100		100		70-130	0		25
n-Nonane	106		106		30-130	0		25
n-Decane	111		110		70-130	1		25
n-Butylcyclohexane	108		107		70-130	1		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706724

Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG984223-1 WG984223-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	95		96		70-130
2,5-Dibromotoluene-FID	102		105		70-130

PCBS

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706724
Report Date: 03/13/17

SAMPLE RESULTS

Lab ID: L1706724-01
Client ID: 1700516-B(MW)307
Sample Location: BOSTON, MA
Matrix: Water
Analytical Method: 5,608
Analytical Date: 03/07/17 10:54
Analyst: JW

Date Collected: 03/03/17 09:50
Date Received: 03/03/17
Field Prep: Not Specified
Extraction Method: EPA 608
Extraction Date: 03/06/17 01:42
Cleanup Method: EPA 3665A
Cleanup Date: 03/06/17
Cleanup Method: EPA 3660B
Cleanup Date: 03/06/17

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	81		30-150	A
Decachlorobiphenyl	63		30-150	A

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706724
Report Date: 03/13/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 5,608
Analytical Date: 03/07/17 11:07
Analyst: JW

Extraction Method: EPA 608
Extraction Date: 03/06/17 01:42
Cleanup Method: EPA 3665A
Cleanup Date: 03/06/17
Cleanup Method: EPA 3660B
Cleanup Date: 03/06/17

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01 Batch: WG983054-1						
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	85		30-150	A
Decachlorobiphenyl	64		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706724

Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 Batch: WG983054-2									
Aroclor 1016	83		-		40-140	-		50	A
Aroclor 1260	73		-		40-140	-		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	92				30-150	A
Decachlorobiphenyl	70				30-150	A

Matrix Spike Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706724
Report Date: 03/13/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG983054-3 QC Sample: L1706499-01 Client ID: MS Sample													
Aroclor 1016	ND	1	0.861	86		-	-		40-140	-		50	A
Aroclor 1260	0.203	1	0.603	40		-	-		40-140	-		50	A

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	83				30-150	A
Decachlorobiphenyl	48				30-150	A

Lab Duplicate Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706724
Report Date: 03/13/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits	
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG983054-4 QC Sample: L1706499-02 Client ID: DUP Sample							
Aroclor 1016	ND	ND	ug/l	NC		50	A
Aroclor 1221	ND	ND	ug/l	NC		50	A
Aroclor 1232	ND	ND	ug/l	NC		50	A
Aroclor 1242	ND	ND	ug/l	NC		50	A
Aroclor 1248	ND	ND	ug/l	NC		50	A
Aroclor 1254	ND	ND	ug/l	NC		50	A
Aroclor 1260	ND	ND	ug/l	NC		50	A

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	53		52		30-150	A
Decachlorobiphenyl	42		56		30-150	A

METALS

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706724
Report Date: 03/13/17

SAMPLE RESULTS

Lab ID: L1706724-01
Client ID: 1700516-B(MW)307
Sample Location: BOSTON, MA
Matrix: Water
Date Collected: 03/03/17 09:50
Date Received: 03/03/17
Field Prep: Not Specified

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	03/07/17 11:38	03/08/17 10:44	EPA 3005A	1,6020A	AM
Arsenic, Total	ND		mg/l	0.00050	--	1	03/07/17 11:38	03/08/17 10:44	EPA 3005A	1,6020A	AM
Cadmium, Total	0.00041		mg/l	0.00020	--	1	03/07/17 11:38	03/08/17 10:44	EPA 3005A	1,6020A	AM
Chromium, Total	ND		mg/l	0.00100	--	1	03/07/17 11:38	03/08/17 10:44	EPA 3005A	1,6020A	AM
Copper, Total	0.00149		mg/l	0.00100	--	1	03/07/17 11:38	03/08/17 10:44	EPA 3005A	1,6020A	AM
Iron, Total	ND		mg/l	0.050	--	1	03/07/17 11:38	03/08/17 15:42	EPA 3005A	19,200.7	PS
Lead, Total	ND		mg/l	0.00050	--	1	03/07/17 11:38	03/08/17 10:44	EPA 3005A	1,6020A	AM
Mercury, Total	ND		mg/l	0.00020	--	1	03/06/17 11:14	03/06/17 19:59	EPA 245.1	3,245.1	EA
Nickel, Total	0.00245		mg/l	0.00200	--	1	03/07/17 11:38	03/08/17 10:44	EPA 3005A	1,6020A	AM
Selenium, Total	ND		mg/l	0.00500	--	1	03/07/17 11:38	03/08/17 10:44	EPA 3005A	1,6020A	AM
Silver, Total	ND		mg/l	0.00040	--	1	03/07/17 11:38	03/08/17 10:44	EPA 3005A	1,6020A	AM
Zinc, Total	ND		mg/l	0.01000	--	1	03/07/17 11:38	03/08/17 10:44	EPA 3005A	1,6020A	AM

Project Name: TREMONT CROSSING **Lab Number:** L1706724

Project Number: 1700516 **Report Date:** 03/13/17

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG983130-1										
Mercury, Total	ND		mg/l	0.0002	--	1	03/06/17 11:14	03/06/17 19:50	3,245.1	EA

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): 01 Batch: WG983485-1										
Iron, Total	ND		mg/l	0.050	--	1	03/07/17 11:38	03/08/17 15:16	19,200.7	PS

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): 01 Batch: WG983488-1										
Antimony, Total	ND		mg/l	0.00400	--	1	03/07/17 11:38	03/08/17 10:22	1,6020A	AM
Arsenic, Total	ND		mg/l	0.00050	--	1	03/07/17 11:38	03/08/17 10:22	1,6020A	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	03/07/17 11:38	03/08/17 10:22	1,6020A	AM
Chromium, Total	ND		mg/l	0.00100	--	1	03/07/17 11:38	03/08/17 10:22	1,6020A	AM
Copper, Total	ND		mg/l	0.00100	--	1	03/07/17 11:38	03/08/17 10:22	1,6020A	AM
Lead, Total	ND		mg/l	0.00050	--	1	03/07/17 11:38	03/08/17 10:22	1,6020A	AM
Nickel, Total	ND		mg/l	0.00200	--	1	03/07/17 11:38	03/08/17 10:22	1,6020A	AM
Selenium, Total	ND		mg/l	0.00500	--	1	03/07/17 11:38	03/08/17 10:22	1,6020A	AM
Silver, Total	ND		mg/l	0.00040	--	1	03/07/17 11:38	03/08/17 10:22	1,6020A	AM
Zinc, Total	ND		mg/l	0.01000	--	1	03/07/17 11:38	03/08/17 10:22	1,6020A	AM

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706724

Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG983130-2								
Mercury, Total	104		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG983485-2								
Iron, Total	102		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG983488-2								
Antimony, Total	97		-		80-120	-		
Arsenic, Total	108		-		80-120	-		
Cadmium, Total	109		-		80-120	-		
Chromium, Total	99		-		80-120	-		
Copper, Total	102		-		80-120	-		
Lead, Total	110		-		80-120	-		
Nickel, Total	104		-		80-120	-		
Selenium, Total	106		-		80-120	-		
Silver, Total	108		-		80-120	-		
Zinc, Total	107		-		80-120	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706724
Report Date: 03/13/17

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): 01 QC Batch ID: WG983130-3 QC Sample: L1706719-01 Client ID: MS Sample												
Mercury, Total	0.00026	0.005	0.0054	102		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG983130-5 QC Sample: L1706724-01 Client ID: 1700516-B(MW)307												
Mercury, Total	ND	0.005	0.0048	97		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG983485-3 QC Sample: L1706436-01 Client ID: MS Sample												
Iron, Total	0.239	1	1.27	103		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG983485-7 QC Sample: L1706724-01 Client ID: 1700516-B(MW)307												
Iron, Total	ND	1	1.04	104		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG983488-3 QC Sample: L1706724-01 Client ID: 1700516-B(MW)307												
Antimony, Total	ND	0.5	0.5640	113		-	-		75-125	-		20
Arsenic, Total	ND	0.12	0.1279	106		-	-		75-125	-		20
Cadmium, Total	0.00041	0.051	0.05311	103		-	-		75-125	-		20
Chromium, Total	ND	0.2	0.1990	100		-	-		75-125	-		20
Copper, Total	0.00149	0.25	0.2578	102		-	-		75-125	-		20
Lead, Total	ND	0.51	0.5571	109		-	-		75-125	-		20
Nickel, Total	0.00245	0.5	0.5075	101		-	-		75-125	-		20
Selenium, Total	ND	0.12	0.124	103		-	-		75-125	-		20
Silver, Total	ND	0.05	0.04998	100		-	-		75-125	-		20
Zinc, Total	ND	0.5	0.5144	103		-	-		75-125	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706724
Report Date: 03/13/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG983130-4 QC Sample: L1706719-01 Client ID: DUP Sample						
Mercury, Total	0.00026	0.0003	mg/l	2		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG983130-6 QC Sample: L1706724-01 Client ID: 1700516-B(MW)307						
Mercury, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG983485-8 QC Sample: L1706724-01 Client ID: 1700516-B(MW)307						
Iron, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG983488-4 QC Sample: L1706724-01 Client ID: 1700516-B(MW)307						
Antimony, Total	ND	ND	mg/l	NC		20
Arsenic, Total	ND	ND	mg/l	NC		20
Cadmium, Total	0.00041	0.00037	mg/l	8		20
Chromium, Total	ND	ND	mg/l	NC		20
Copper, Total	0.00149	0.00145	mg/l	3		20
Lead, Total	ND	ND	mg/l	NC		20
Nickel, Total	0.00245	0.00245	mg/l	0		20
Selenium, Total	ND	ND	mg/l	NC		20
Silver, Total	ND	ND	mg/l	NC		20
Zinc, Total	ND	ND	mg/l	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706724
Report Date: 03/13/17

SAMPLE RESULTS

Lab ID: L1706724-01
Client ID: 1700516-B(MW)307
Sample Location: BOSTON, MA
Matrix: Water

Date Collected: 03/03/17 09:50
Date Received: 03/03/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	03/06/17 15:05	121,2540D	SG
Cyanide, Total	ND		mg/l	0.005	--	1	03/06/17 09:50	03/06/17 21:58	121,4500CN-CE	AT
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	03/03/17 22:56	121,4500CL-D	AS
TPH, SGT-HEM	ND		mg/l	4.00	--	1	03/06/17 16:00	03/06/17 21:30	74,1664A	ML
Phenolics, Total	ND		mg/l	0.030	--	1	03/08/17 11:22	03/08/17 14:36	4,420.1	AW
Chromium, Hexavalent	ND		mg/l	0.010	--	1	03/03/17 22:40	03/03/17 23:15	121,3500CR-B	JC
Anions by Ion Chromatography - Westborough Lab										
Chloride	1200		mg/l	50.0	--	100	-	03/06/17 21:43	44,300.0	AU

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706724
Report Date: 03/13/17

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG982838-1										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	03/03/17 22:56	121,4500CL-D	AS
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG982846-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	03/03/17 22:40	03/03/17 23:14	121,3500CR-B	JC
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG983088-1										
Cyanide, Total	ND		mg/l	0.005	--	1	03/06/17 09:50	03/06/17 22:04	121,4500CN-CE	AT
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG983091-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	03/06/17 15:05	121,2540D	SG
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG983241-1										
TPH, SGT-HEM	ND		mg/l	4.00	--	1	03/06/17 16:00	03/06/17 21:30	74,1664A	ML
Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG983326-1										
Chloride	ND		mg/l	0.500	--	1	-	03/06/17 19:07	44,300.0	AU
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG983858-1										
Phenolics, Total	ND		mg/l	0.030	--	1	03/08/17 11:22	03/08/17 14:33	4,420.1	AW

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706724
Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG982838-2								
Chlorine, Total Residual	105		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG982846-2								
Chromium, Hexavalent	102		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG983088-2								
Cyanide, Total	100		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG983241-2								
TPH	90		-		64-132	-		34
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG983326-2								
Chloride	100		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG983858-2								
Phenolics, Total	94		-		70-130	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706724
Report Date: 03/13/17

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): 01 QC Batch ID: WG982846-3 QC Sample: L1706724-01 Client ID: 1700516-B(MW)307												
Chromium, Hexavalent	ND	0.1	0.107	107		-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG983088-4 QC Sample: L1706418-01 Client ID: MS Sample												
Cyanide, Total	0.010	0.2	0.180	**85**	Q	-	-		90-110	-		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG983241-4 QC Sample: L1706789-03 Client ID: MS Sample												
TPH	ND	25	24.4	98		-	-		64-132	-		34
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG983326-3 QC Sample: L1706828-02 Client ID: MS Sample												
Chloride	ND	4	3.87	97		-	-		40-151	-		18
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG983858-4 QC Sample: L1706807-02 Client ID: MS Sample												
Phenolics, Total	ND	0.4	0.38	95		-	-		70-130	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706724
Report Date: 03/13/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG982838-3 QC Sample: L1706776-01 Client ID: DUP Sample						
Chlorine, Total Residual	1.0	1.0	mg/l	0		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG982846-4 QC Sample: L1706724-01 Client ID: 1700516-B(MW)307						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG983088-3 QC Sample: L1706415-01 Client ID: DUP Sample						
Cyanide, Total	ND	ND	mg/l	NC		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG983091-2 QC Sample: L1706581-01 Client ID: DUP Sample						
Solids, Total Suspended	400	420	mg/l	5		29
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG983241-3 QC Sample: L1706789-02 Client ID: DUP Sample						
TPH	ND	ND	mg/l	NC		34
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG983326-4 QC Sample: L1706828-02 Client ID: DUP Sample						
Chloride	ND	ND	mg/l	NC		18
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG983858-3 QC Sample: L1706807-02 Client ID: DUP Sample						
Phenolics, Total	ND	ND	mg/l	NC		20

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706724
Report Date: 03/13/17

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler	
B	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1706724-01A	Vial HCl preserved	B	N/A	5.9	Y	Absent	8260-SIM(14),8260(14)
L1706724-01B	Vial HCl preserved	B	N/A	5.9	Y	Absent	8260-SIM(14),8260(14)
L1706724-01C	Vial HCl preserved	B	N/A	5.9	Y	Absent	8260-SIM(14),8260(14)
L1706724-01D	Vial Na2S2O3 preserved	B	N/A	5.9	Y	Absent	504(14)
L1706724-01E	Vial Na2S2O3 preserved	B	N/A	5.9	Y	Absent	504(14)
L1706724-01F	Plastic 950ml unpreserved	B	7	5.9	Y	Absent	CL-300(28),HEXCR-3500(1),TRC-4500(1)
L1706724-01G	Plastic 250ml NaOH preserved	B	>12	5.9	Y	Absent	TCN-4500(14)
L1706724-01H	Plastic 250ml HNO3 preserved	B	<2	5.9	Y	Absent	SE-6020T(180),CR-6020T(180),NI-6020T(180),CU-6020T(180),ZN-6020T(180),FE-UI(180),PB-6020T(180),HG-U(28),AS-6020T(180),SB-6020T(180),AG-6020T(180),CD-6020T(180)
L1706724-01I	Amber 1000ml Na2S2O3	B	7	5.9	Y	Absent	PCB-608(7)
L1706724-01J	Amber 1000ml Na2S2O3	B	7	5.9	Y	Absent	PCB-608(7)
L1706724-01K	Amber 1000ml unpreserved	B	7	5.9	Y	Absent	8270TCL(7),8270TCL-SIM(7)
L1706724-01L	Amber 1000ml unpreserved	B	7	5.9	Y	Absent	8270TCL(7),8270TCL-SIM(7)
L1706724-01M	Amber 1000ml HCl preserved	B	N/A	5.9	Y	Absent	TPH-1664(28)
L1706724-01N	Amber 1000ml HCl preserved	B	N/A	5.9	Y	Absent	TPH-1664(28)
L1706724-01O	Amber 950ml H2SO4 preserved	B	<2	5.9	Y	Absent	TPHENOL-420(28)
L1706724-01P	Plastic 950ml unpreserved	B	7	5.9	Y	Absent	TSS-2540(7)
L1706724-01Q	Vial HCl preserved	B	N/A	5.9	Y	Absent	VPH-DELUX-10(14)
L1706724-01R	Vial HCl preserved	B	N/A	5.9	Y	Absent	VPH-DELUX-10(14)
L1706724-01S	Vial HCl preserved	B	N/A	5.9	Y	Absent	VPH-DELUX-10(14)
L1706724-01T	Amber 1000ml HCl preserved	B	<2	5.9	Y	Absent	EPH-MS-10(14),EPHD-GC-10(14)
L1706724-01U	Amber 1000ml HCl preserved	B	<2	5.9	Y	Absent	EPH-MS-10(14),EPHD-GC-10(14)
L1706724-02A	Vial Na2S2O3 preserved	B	N/A	5.9	Y	Absent	HOLD-504/8011(14)
L1706724-02B	Vial Na2S2O3 preserved	B	N/A	5.9	Y	Absent	HOLD-504/8011(14)

*Values in parentheses indicate holding time in days

Project Name:	TREMONT CROSSING	**Lab Number:**	L1706724
Project Number:	1700516	**Report Date:**	03/13/17

GLOSSARY

Acronyms

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).
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.
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.
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.
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

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

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.

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.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
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

Report Format: Data Usability Report

Project Name:	TREMONT CROSSING	**Lab Number:**	L1706724
Project Number:	1700516	**Report Date:**	03/13/17

Data Qualifiers

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.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

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.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name:	TREMONT CROSSING	**Lab Number:**	L1706724
Project Number:	1700516	**Report Date:**	03/13/17

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.

5 Methods for the Organic Chemical Analysis of Municipal and Industrial Wastewater. Appendix A, Part 136, 40 CFR (Code of Federal Regulations).

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.

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.

100 Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility
EPA 624: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
SM 2540D: TSS
EPA 3005A NPW
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: 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**
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, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, 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 624: Volatile Halocarbons & Aromatics,
EPA 608: 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: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

Mansfield Facility:

Drinking Water
EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

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, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

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

coc edited 3/9/17-KER

Serial_No:03131710:20

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: 03/03/17

ALPHA Job #: L1706724

Client Information

Client: GEI Consultants, Inc.

Address: 400 Unicorn Park Dr
Woburn, MA

Phone: 781-721-4000

Email: jengelhart@geiconsultants.com

Project Information

Project Name: Tremont Crossing

Project Location: Boston, MA

Project #: 1700516

Project Manager: Cathy Johnson

ALPHA Quote #:

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 5 day TAT

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

1. VOC: ☑ 8260 ☐ 624 ☐ 524.2 8260-SIM
2. SVOC: ☐ ABN ☐ PAH
3. METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15
4. METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13
5. EPH: ☑ Ranges & Targets ☐ Ranges Only
6. VPH: ☑ Ranges & Targets ☐ Ranges Only
7. ☑ PCB ☐ PEST 608
8. TPH: ☑ Quant Only ☐ Fingerprint 1664
9. TSS-2540; HexCr, TRC-4500, Cl
10. 8270; 8270 TCL-SIM
11. TPHENOL
12. Total RGP Metals
13. TCN
14. 504

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	1 VOC	2 SVOC	3 METALS	4 METALS	5 EPH	6 VPH	7 PCB/PEST	8 TPH	9	10	11	12	13	14	Sample Comments	Total # Bottles
	~~1700516-B(MW)302~~	3/3/17	1325	GW	SMT	X				X	X										8
	~~1700516-B(MW)303~~	3/3/17	0920	GW	SMT	X				X	X										8
	~~1700516-B(MW)305~~	3/3/17	1255	GW	RAM	X				X	X										8
06724-01	1700516-B(MW)307	3/3/17	0950	GW	RAM	X				X	X	X	X	X	X	X	X	X	X		
	~~1700516-B(MW)308~~	3/3/17	1130	GW	SMT	X				X	X										8

Container Type	
Preservative	

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]	3/3/17 1610	[signature] AAL	3/3/17 1610

FORM NO: 01-01 (rev. 12-Mar-2012)

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: 03/03/17

ALPHA Job #: L1706724

Project Information

Project Name: Tremont Crossing
Project Location: Boston, MA
Project #: 1700516
Project Manager: Cathy Johnson
ALPHA Quote #:

Report Information - Data Deliverables

☐ ADEx ☑ EMAIL

Billing Information

☑ Same as Client info PO #:

Client Information

Client: GEI Consultants, Inc.
Address: 400 Unicorn Park Dr, Woburn, MA
Phone: 781-721-4000
Email: jengelhart@geiconsultants.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: 5 day TAT

Additional Project Information:

ANALYSIS columns:
1. VOC: ☑ 8260 ☐ 624 ☐ 524.2 8260-SIM
2. SVOC: ☐ ABN ☐ PAH
3. METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15
4. METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13
5. EPH: ☑ Ranges & Targets ☐ Ranges Only
6. VPH: ☑ Ranges & Targets ☐ Ranges Only
7. ☑ PCB ☐ PEST 608
8. TPH: ☑ Quant Only ☐ Fingerprint 1664
9. TSS-2540; HexCr, TRC-4500, Cl
10. 8270, 8270 TCL-SIM
11. TPHENOL
12. Total RGP Metals
13. TCN
14. SO4

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	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Sample Comments	Total # Bottles
	1700516-B(MW)302	3/3/17	1325	GW	SMT	X				X	X										8
	1700516-B(MW)303	3/3/17	0920	GW	SMT	X				X	X										8
	1700516-B(MW)305	3/3/17	1255	GW	RAM	X				X	X										8
06724-01	1700516-B(MW)307	3/3/17	0950	GW	RAM	X				X	X	X	X	X	X	X	X	X	X		
	1700516-B(MW)308	3/3/17	1130	GW	SMT	X				X	X										8

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	
Preservative	

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	3/3/17 1610	[signature] AAL	3/3/17 1610

FORM NO: 01-01 (rev. 12-Mar-2012)

ANALYTICAL REPORT

Lab Number:	L1706853
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Cathy Johnson
Phone:	(781) 721-4000
Project Name:	TREMONT CROSSING
Project Number:	1700516
Report Date:	03/13/17

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

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

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706853
Report Date: 03/13/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1706853-01	1700516-B(MW)301	WATER	BOSTON, MA	03/05/17 15:22	03/06/17
L1706853-02	1700516-B(MW)306	WATER	BOSTON, MA	03/05/17 13:38	03/06/17

Project Name: TREMONT CROSSING **Lab Number:** L1706853

Project Number: 1700516 **Report Date:** 03/13/17

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)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

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

Project Name: TREMONT CROSSING **Lab Number:** L1706853
Project Number: 1700516 **Report Date:** 03/13/17

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

Project Name:	TREMONT CROSSING	**Lab Number:**	L1706853
Project Number:	1700516	**Report Date:**	03/13/17

Case Narrative (continued)

MCP Related Narratives

Volatile Organics

A copy of the continuing calibration standard is included as an addendum to this report.

In reference to question H:

The initial calibration, associated with L1706853-01 and -02, did not meet the method required minimum response factor on the lowest calibration standard for 4-methyl-2-pentanone (0.0761) and 1,4-dioxane (0.0017), as well as the average response factor for 4-methyl-2-pentanone and 1,4-dioxane.

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 Cripps

Title: Technical Director/Representative Date: 03/13/17

ORGANICS

VOLATILES

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706853
Report Date: 03/13/17

SAMPLE RESULTS

Lab ID: L1706853-01
Client ID: 1700516-B(MW)301
Sample Location: BOSTON, MA
Matrix: Water
Analytical Method: 97,8260C
Analytical Date: 03/09/17 08:21
Analyst: MM

Date Collected: 03/05/17 15:22
Date Received: 03/06/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706853

Project Number: 1700516 **Report Date:** 03/13/17

SAMPLE RESULTS

Lab ID: L1706853-01 Date Collected: 03/05/17 15:22

Client ID: 1700516-B(MW)301 Date Received: 03/06/17

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylene (Total)	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene (total)	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706853

Project Number: 1700516 **Report Date:** 03/13/17

SAMPLE RESULTS

Lab ID: L1706853-01 Date Collected: 03/05/17 15:22

Client ID: 1700516-B(MW)301 Date Received: 03/06/17

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Ethyl ether	ND		ug/l	2.0	--	1
Isopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	91		70-130
Dibromofluoromethane	99		70-130

Project Name: TREMONT CROSSING **Lab Number:** L1706853

Project Number: 1700516 **Report Date:** 03/13/17

SAMPLE RESULTS

Lab ID: L1706853-02
Client ID: 1700516-B(MW)306
Sample Location: BOSTON, MA
Matrix: Water
Analytical Method: 97,8260C
Analytical Date: 03/09/17 08:52
Analyst: MM

Date Collected: 03/05/17 13:38
Date Received: 03/06/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	3.2		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	6.3		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1
Trichloroethene	93		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706853

Project Number: 1700516 **Report Date:** 03/13/17

SAMPLE RESULTS

Lab ID: L1706853-02 Date Collected: 03/05/17 13:38

Client ID: 1700516-B(MW)306 Date Received: 03/06/17

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylene (Total)	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	64		ug/l	1.0	--	1
1,2-Dichloroethene (total)	64		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706853

Project Number: 1700516 **Report Date:** 03/13/17

SAMPLE RESULTS

Lab ID: L1706853-02 Date Collected: 03/05/17 13:38

Client ID: 1700516-B(MW)306 Date Received: 03/06/17

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Ethyl ether	ND		ug/l	2.0	--	1
Isopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	98		70-130

Project Name: TREMONT CROSSING **Lab Number:** L1706853

Project Number: 1700516 **Report Date:** 03/13/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 03/09/17 07:18
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG984166-5					
Methylene chloride	ND		ug/l	2.0	--
1,1-Dichloroethane	ND		ug/l	1.0	--
Chloroform	ND		ug/l	1.0	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,2-Dichloropropane	ND		ug/l	1.0	--
Dibromochloromethane	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.0	--
Tetrachloroethene	ND		ug/l	1.0	--
Chlorobenzene	ND		ug/l	1.0	--
Trichlorofluoromethane	ND		ug/l	2.0	--
1,2-Dichloroethane	ND		ug/l	1.0	--
1,1,1-Trichloroethane	ND		ug/l	1.0	--
Bromodichloromethane	ND		ug/l	1.0	--
trans-1,3-Dichloropropene	ND		ug/l	0.50	--
cis-1,3-Dichloropropene	ND		ug/l	0.50	--
1,3-Dichloropropene, Total	ND		ug/l	0.50	--
1,1-Dichloropropene	ND		ug/l	2.0	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Chloromethane	ND		ug/l	2.0	--
Bromomethane	ND		ug/l	2.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	2.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
trans-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--

Project Name: TREMONT CROSSING **Lab Number:** L1706853

Project Number: 1700516 **Report Date:** 03/13/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 03/09/17 07:18
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG984166-5					
1,2-Dichlorobenzene	ND		ug/l	1.0	--
1,3-Dichlorobenzene	ND		ug/l	1.0	--
1,4-Dichlorobenzene	ND		ug/l	1.0	--
Methyl tert butyl ether	ND		ug/l	2.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-Xylene	ND		ug/l	1.0	--
Xylene (Total)	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
1,2-Dichloroethene (total)	ND		ug/l	1.0	--
Dibromomethane	ND		ug/l	2.0	--
1,2,3-Trichloropropane	ND		ug/l	2.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	2.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	2.0	--
2-Butanone	ND		ug/l	5.0	--
4-Methyl-2-pentanone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.0	--
Tetrahydrofuran	ND		ug/l	2.0	--
2,2-Dichloropropane	ND		ug/l	2.0	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--
Bromobenzene	ND		ug/l	2.0	--
n-Butylbenzene	ND		ug/l	2.0	--
sec-Butylbenzene	ND		ug/l	2.0	--
tert-Butylbenzene	ND		ug/l	2.0	--
o-Chlorotoluene	ND		ug/l	2.0	--

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706853
Report Date: 03/13/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 03/09/17 07:18
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG984166-5					
p-Chlorotoluene	ND		ug/l	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--
Hexachlorobutadiene	ND		ug/l	0.60	--
Isopropylbenzene	ND		ug/l	2.0	--
p-Isopropyltoluene	ND		ug/l	2.0	--
Naphthalene	ND		ug/l	2.0	--
n-Propylbenzene	ND		ug/l	2.0	--
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--
Ethyl ether	ND		ug/l	2.0	--
Isopropyl Ether	ND		ug/l	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--
1,4-Dioxane	ND		ug/l	250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	90		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	97		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706853
Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG984166-3 WG984166-4								
Methylene chloride	100		100		70-130	0		20
1,1-Dichloroethane	100		98		70-130	2		20
Chloroform	100		100		70-130	0		20
Carbon tetrachloride	98		95		70-130	3		20
1,2-Dichloropropane	100		100		70-130	0		20
Dibromochloromethane	98		100		70-130	2		20
1,1,2-Trichloroethane	99		99		70-130	0		20
Tetrachloroethene	110		100		70-130	10		20
Chlorobenzene	100		99		70-130	1		20
Trichlorofluoromethane	110		100		70-130	10		20
1,2-Dichloroethane	96		95		70-130	1		20
1,1,1-Trichloroethane	100		100		70-130	0		20
Bromodichloromethane	100		100		70-130	0		20
trans-1,3-Dichloropropene	87		88		70-130	1		20
cis-1,3-Dichloropropene	91		90		70-130	1		20
1,1-Dichloropropene	100		100		70-130	0		20
Bromoform	86		90		70-130	5		20
1,1,2,2-Tetrachloroethane	96		100		70-130	4		20
Benzene	100		100		70-130	0		20
Toluene	100		99		70-130	1		20
Ethylbenzene	98		96		70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706853

Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG984166-3 WG984166-4								
Chloromethane	89		86		70-130	3		20
Bromomethane	92		87		70-130	6		20
Vinyl chloride	100		100		70-130	0		20
Chloroethane	100		110		70-130	10		20
1,1-Dichloroethene	110		100		70-130	10		20
trans-1,2-Dichloroethene	100		100		70-130	0		20
Trichloroethene	100		100		70-130	0		20
1,2-Dichlorobenzene	100		100		70-130	0		20
1,3-Dichlorobenzene	99		99		70-130	0		20
1,4-Dichlorobenzene	98		100		70-130	2		20
Methyl tert butyl ether	94		96		70-130	2		20
p/m-Xylene	95		95		70-130	0		20
o-Xylene	95		95		70-130	0		20
cis-1,2-Dichloroethene	110		100		70-130	10		20
Dibromomethane	100		100		70-130	0		20
1,2,3-Trichloropropane	91		98		70-130	7		20
Styrene	100		95		70-130	5		20
Dichlorodifluoromethane	95		90		70-130	5		20
Acetone	90		97		70-130	7		20
Carbon disulfide	100		97		70-130	3		20
2-Butanone	90		93		70-130	3		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706853

Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG984166-3 WG984166-4								
4-Methyl-2-pentanone	86		89		70-130	3		20
2-Hexanone	87		91		70-130	4		20
Bromochloromethane	100		100		70-130	0		20
Tetrahydrofuran	88		91		70-130	3		20
2,2-Dichloropropane	94		93		70-130	1		20
1,2-Dibromoethane	96		98		70-130	2		20
1,3-Dichloropropane	93		96		70-130	3		20
1,1,1,2-Tetrachloroethane	100		100		70-130	0		20
Bromobenzene	98		99		70-130	1		20
n-Butylbenzene	97		99		70-130	2		20
sec-Butylbenzene	96		98		70-130	2		20
tert-Butylbenzene	96		96		70-130	0		20
o-Chlorotoluene	93		94		70-130	1		20
p-Chlorotoluene	91		92		70-130	1		20
1,2-Dibromo-3-chloropropane	100		100		70-130	0		20
Hexachlorobutadiene	100		110		70-130	10		20
Isopropylbenzene	96		96		70-130	0		20
p-Isopropyltoluene	96		99		70-130	3		20
Naphthalene	98		100		70-130	2		20
n-Propylbenzene	94		94		70-130	0		20
1,2,3-Trichlorobenzene	100		110		70-130	10		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706853

Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG984166-3 WG984166-4								
1,2,4-Trichlorobenzene	100		110		70-130	10		20
1,3,5-Trimethylbenzene	93		94		70-130	1		20
1,2,4-Trimethylbenzene	94		97		70-130	3		20
Ethyl ether	100		100		70-130	0		20
Isopropyl Ether	94		94		70-130	0		20
Ethyl-Tert-Butyl-Ether	96		97		70-130	1		20
Tertiary-Amyl Methyl Ether	96		99		70-130	3		20
1,4-Dioxane	102		116		70-130	13		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	88		89		70-130
Toluene-d8	96		95		70-130
4-Bromofluorobenzene	94		95		70-130
Dibromofluoromethane	99		98		70-130

PETROLEUM HYDROCARBONS

Project Name: TREMONT CROSSING **Lab Number:** L1706853

Project Number: 1700516 **Report Date:** 03/13/17

SAMPLE RESULTS

Lab ID:	L1706853-01	Date Collected:	03/05/17 15:22
Client ID:	1700516-B(MW)301	Date Received:	03/06/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Matrix:	Water		
Analytical Method:	100,VPH-04-1.1		
Analytical Date:	03/09/17 22:02		
Analyst:	JM		

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
Sample Temperature upon receipt:	Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		ug/l	50.0	--	1
C9-C12 Aliphatics	ND		ug/l	50.0	--	1
C9-C10 Aromatics	ND		ug/l	50.0	--	1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0	--	1
Benzene	ND		ug/l	2.00	--	1
Toluene	ND		ug/l	2.00	--	1
Ethylbenzene	ND		ug/l	2.00	--	1
p/m-Xylene	ND		ug/l	2.00	--	1
o-Xylene	ND		ug/l	2.00	--	1
Methyl tert butyl ether	ND		ug/l	3.00	--	1
Naphthalene	ND		ug/l	4.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	95		70-130
2,5-Dibromotoluene-FID	98		70-130

Project Name: TREMONT CROSSING **Lab Number:** L1706853

Project Number: 1700516 **Report Date:** 03/13/17

SAMPLE RESULTS

Lab ID:	L1706853-01			Date Collected:	03/05/17 15:22
Client ID:	1700516-B(MW)301			Date Received:	03/06/17
Sample Location:	BOSTON, MA			Field Prep:	Not Specified
Matrix:	Water			Extraction Method:	EPA 3510C
Analytical Method:	98,EPH-04-1.1			Extraction Date:	03/08/17 12:49
Analytical Date:	03/09/17 21:56	M.S. Analytical Date:	03/09/17 16:05	Cleanup Method1:	EPH-04-1
Analyst:	EK	M.S. Analyst:	DV	Cleanup Date1:	03/09/17

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
EPH w/MS Targets - Westborough Lab						
C9-C18 Aliphatics	ND		ug/l	100	--	1
C19-C36 Aliphatics	ND		ug/l	100	--	1
C11-C22 Aromatics	ND		ug/l	100	--	1
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--	1
Naphthalene	ND		ug/l	0.412	--	1
2-Methylnaphthalene	ND		ug/l	0.412	--	1
Acenaphthylene	ND		ug/l	0.412	--	1
Acenaphthene	ND		ug/l	0.412	--	1
Fluorene	ND		ug/l	0.412	--	1
Phenanthrene	ND		ug/l	0.412	--	1
Anthracene	ND		ug/l	0.412	--	1
Fluoranthene	ND		ug/l	0.412	--	1
Pyrene	ND		ug/l	0.412	--	1
Benzo(a)anthracene	ND		ug/l	0.412	--	1
Chrysene	ND		ug/l	0.412	--	1
Benzo(b)fluoranthene	ND		ug/l	0.412	--	1
Benzo(k)fluoranthene	ND		ug/l	0.412	--	1
Benzo(a)pyrene	ND		ug/l	0.206	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.412	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.412	--	1
Benzo(ghi)perylene	ND		ug/l	0.412	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706853

Project Number: 1700516 **Report Date:** 03/13/17

SAMPLE RESULTS

Lab ID:	L1706853-01	Date Collected:	03/05/17 15:22
Client ID:	1700516-B(MW)301	Date Received:	03/06/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

EPH w/MS Targets - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	68		40-140
o-Terphenyl	109		40-140
2-Fluorobiphenyl	111		40-140
2-Bromonaphthalene	114		40-140
O-Terphenyl-MS	108		40-140

Project Name: TREMONT CROSSING **Lab Number:** L1706853

Project Number: 1700516 **Report Date:** 03/13/17

SAMPLE RESULTS

Lab ID:	L1706853-02	Date Collected:	03/05/17 13:38
Client ID:	1700516-B(MW)306	Date Received:	03/06/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Matrix:	Water		
Analytical Method:	100,VPH-04-1.1		
Analytical Date:	03/09/17 22:41		
Analyst:	JM		

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
Sample Temperature upon receipt:	Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		ug/l	50.0	--	1
C9-C12 Aliphatics	ND		ug/l	50.0	--	1
C9-C10 Aromatics	ND		ug/l	50.0	--	1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0	--	1
Benzene	ND		ug/l	2.00	--	1
Toluene	ND		ug/l	2.00	--	1
Ethylbenzene	ND		ug/l	2.00	--	1
p/m-Xylene	ND		ug/l	2.00	--	1
o-Xylene	ND		ug/l	2.00	--	1
Methyl tert butyl ether	ND		ug/l	3.00	--	1
Naphthalene	ND		ug/l	4.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	99		70-130
2,5-Dibromotoluene-FID	102		70-130

Project Name: TREMONT CROSSING **Lab Number:** L1706853

Project Number: 1700516 **Report Date:** 03/13/17

SAMPLE RESULTS

Lab ID:	L1706853-02			Date Collected:	03/05/17 13:38
Client ID:	1700516-B(MW)306			Date Received:	03/06/17
Sample Location:	BOSTON, MA			Field Prep:	Not Specified
Matrix:	Water			Extraction Method:	EPA 3510C
Analytical Method:	98,EPH-04-1.1			Extraction Date:	03/08/17 12:49
Analytical Date:	03/09/17 22:38	M.S. Analytical Date:	03/09/17 16:34	Cleanup Method1:	EPH-04-1
Analyst:	EK	M.S. Analyst:	DV	Cleanup Date1:	03/09/17

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
EPH w/MS Targets - Westborough Lab						
C9-C18 Aliphatics	ND		ug/l	100	--	1
C19-C36 Aliphatics	ND		ug/l	100	--	1
C11-C22 Aromatics	ND		ug/l	100	--	1
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--	1
Naphthalene	ND		ug/l	0.417	--	1
2-Methylnaphthalene	ND		ug/l	0.417	--	1
Acenaphthylene	ND		ug/l	0.417	--	1
Acenaphthene	ND		ug/l	0.417	--	1
Fluorene	ND		ug/l	0.417	--	1
Phenanthrene	ND		ug/l	0.417	--	1
Anthracene	ND		ug/l	0.417	--	1
Fluoranthene	ND		ug/l	0.417	--	1
Pyrene	ND		ug/l	0.417	--	1
Benzo(a)anthracene	ND		ug/l	0.417	--	1
Chrysene	ND		ug/l	0.417	--	1
Benzo(b)fluoranthene	ND		ug/l	0.417	--	1
Benzo(k)fluoranthene	ND		ug/l	0.417	--	1
Benzo(a)pyrene	ND		ug/l	0.208	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.417	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.417	--	1
Benzo(ghi)perylene	ND		ug/l	0.417	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706853

Project Number: 1700516 **Report Date:** 03/13/17

SAMPLE RESULTS

Lab ID:	L1706853-02	Date Collected:	03/05/17 13:38
Client ID:	1700516-B(MW)306	Date Received:	03/06/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

EPH w/MS Targets - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	69		40-140
o-Terphenyl	97		40-140
2-Fluorobiphenyl	103		40-140
2-Bromonaphthalene	105		40-140
O-Terphenyl-MS	111		40-140

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706853
Report Date: 03/13/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 03/09/17 19:50
Analyst: EK
M.S. Analytical Date: 03/09/17 13:44
M.S. Analyst: DV
Extraction Method: EPA 3510C
Extraction Date: 03/08/17 12:49
Cleanup Method: EPH-04-1
Cleanup Date: 03/09/17

Parameter	Result	Qualifier	Units	RL	MDL
EPH w/MS Targets - Westborough Lab for sample(s): 01-02 Batch: WG983885-1					
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	0.400	--
2-Methylnaphthalene	ND		ug/l	0.400	--
Acenaphthylene	ND		ug/l	0.400	--
Acenaphthene	ND		ug/l	0.400	--
Fluorene	ND		ug/l	0.400	--
Phenanthrene	ND		ug/l	0.400	--
Anthracene	ND		ug/l	0.400	--
Fluoranthene	ND		ug/l	0.400	--
Pyrene	ND		ug/l	0.400	--
Benzo(a)anthracene	ND		ug/l	0.400	--
Chrysene	ND		ug/l	0.400	--
Benzo(b)fluoranthene	ND		ug/l	0.400	--
Benzo(k)fluoranthene	ND		ug/l	0.400	--
Benzo(a)pyrene	ND		ug/l	0.200	--
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.400	--
Dibenzo(a,h)anthracene	ND		ug/l	0.400	--
Benzo(ghi)perylene	ND		ug/l	0.400	--

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706853
Report Date: 03/13/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 03/09/17 19:50
Analyst: EK

03/09/17 13:44
DV

Extraction Method: EPA 3510C
Extraction Date: 03/08/17 12:49
Cleanup Method: EPH-04-1
Cleanup Date: 03/09/17

Parameter	Result	Qualifier	Units	RL	MDL
EPH w/MS Targets - Westborough Lab for sample(s): 01-02 Batch: WG983885-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	71		40-140
o-Terphenyl	102		40-140
2-Fluorobiphenyl	110		40-140
2-Bromonaphthalene	112		40-140
O-Terphenyl-MS	111		40-140

Project Name: TREMONT CROSSING **Lab Number:** L1706853

Project Number: 1700516 **Report Date:** 03/13/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 100,VPH-04-1.1
Analytical Date: 03/09/17 09:34
Analyst: JM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-02 Batch: WG984456-3					
C5-C8 Aliphatics	ND		ug/l	50.0	--
C9-C12 Aliphatics	ND		ug/l	50.0	--
C9-C10 Aromatics	ND		ug/l	50.0	--
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0	--
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0	--
Benzene	ND		ug/l	2.00	--
Toluene	ND		ug/l	2.00	--
Ethylbenzene	ND		ug/l	2.00	--
p/m-Xylene	ND		ug/l	2.00	--
o-Xylene	ND		ug/l	2.00	--
Methyl tert butyl ether	ND		ug/l	3.00	--
Naphthalene	ND		ug/l	4.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	103		70-130
2,5-Dibromotoluene-FID	102		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706853
Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
EPH w/MS Targets - Westborough Lab Associated sample(s): 01-02 Batch: WG983885-2 WG983885-3								
C9-C18 Aliphatics	78		79		40-140	1		25
C19-C36 Aliphatics	88		87		40-140	1		25
C11-C22 Aromatics	99		95		40-140	4		25
Naphthalene	95		100		40-140	5		25
2-Methylnaphthalene	94		98		40-140	4		25
Acenaphthylene	107		108		40-140	1		25
Acenaphthene	118		115		40-140	3		25
Fluorene	117		114		40-140	3		25
Phenanthrene	109		107		40-140	2		25
Anthracene	119		111		40-140	7		25
Fluoranthene	117		110		40-140	6		25
Pyrene	115		108		40-140	6		25
Benzo(a)anthracene	114		112		40-140	2		25
Chrysene	126		122		40-140	3		25
Benzo(b)fluoranthene	114		115		40-140	1		25
Benzo(k)fluoranthene	113		113		40-140	0		25
Benzo(a)pyrene	114		114		40-140	0		25
Indeno(1,2,3-cd)Pyrene	119		118		40-140	1		25
Dibenzo(a,h)anthracene	123		125		40-140	2		25
Benzo(ghi)perylene	110		109		40-140	1		25
Nonane (C9)	59		61		30-140	3		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706853

Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
EPH w/MS Targets - Westborough Lab Associated sample(s): 01-02 Batch: WG983885-2 WG983885-3								
Decane (C10)	67		69		40-140	3		25
Dodecane (C12)	74		75		40-140	1		25
Tetradecane (C14)	80		80		40-140	0		25
Hexadecane (C16)	86		84		40-140	2		25
Octadecane (C18)	87		85		40-140	2		25
Nonadecane (C19)	88		86		40-140	2		25
Eicosane (C20)	86		85		40-140	1		25
Docosane (C22)	86		85		40-140	1		25
Tetracosane (C24)	86		84		40-140	2		25
Hexacosane (C26)	85		83		40-140	2		25
Octacosane (C28)	83		81		40-140	2		25
Triacontane (C30)	83		82		40-140	1		25
Hexatriacontane (C36)	83		80		40-140	4		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706853

Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
EPH w/MS Targets - Westborough Lab Associated sample(s): 01-02 Batch: WG983885-2 WG983885-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	77		77		40-140
o-Terphenyl	100		94		40-140
2-Fluorobiphenyl	100		97		40-140
2-Bromonaphthalene	104		99		40-140
O-Terphenyl-MS	**144**	Q	125		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706853

Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-02 Batch: WG984456-1 WG984456-2								
C5-C8 Aliphatics	93		99		70-130	6		25
C9-C12 Aliphatics	100		105		70-130	5		25
C9-C10 Aromatics	98		105		70-130	7		25
Benzene	92		97		70-130	6		25
Toluene	93		100		70-130	7		25
Ethylbenzene	95		102		70-130	7		25
p/m-Xylene	97		103		70-130	6		25
o-Xylene	94		101		70-130	7		25
Methyl tert butyl ether	92		101		70-130	9		25
Naphthalene	95		104		70-130	9		25
1,2,4-Trimethylbenzene	98		105		70-130	7		25
Pentane	92		98		70-130	6		25
2-Methylpentane	94		99		70-130	6		25
2,2,4-Trimethylpentane	95		101		70-130	6		25
n-Nonane	99		104		30-130	5		25
n-Decane	102		107		70-130	5		25
n-Butylcyclohexane	100		106		70-130	6		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706853

Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-02 Batch: WG984456-1 WG984456-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	96		105		70-130
2,5-Dibromotoluene-FID	98		105		70-130

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706853
Report Date: 03/13/17

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1706853-01A	Vial HCl preserved	A	N/A	2.9	Y	Absent	MCP-8260-10(14)
L1706853-01B	Vial HCl preserved	A	N/A	2.9	Y	Absent	MCP-8260-10(14)
L1706853-01C	Vial HCl preserved	A	N/A	2.9	Y	Absent	MCP-8260-10(14)
L1706853-01D	Vial HCl preserved	A	N/A	2.9	Y	Absent	VPH-DELUX-10(14)
L1706853-01E	Vial HCl preserved	A	N/A	2.9	Y	Absent	VPH-DELUX-10(14)
L1706853-01F	Vial HCl preserved	A	N/A	2.9	Y	Absent	VPH-DELUX-10(14)
L1706853-01G	Amber 1000ml HCl preserved	A	<2	2.9	Y	Absent	EPH-MS-10(14),EPHD-GC-10(14)
L1706853-01H	Amber 1000ml HCl preserved	A	<2	2.9	Y	Absent	EPH-MS-10(14),EPHD-GC-10(14)
L1706853-02A	Vial HCl preserved	A	N/A	2.9	Y	Absent	MCP-8260-10(14)
L1706853-02B	Vial HCl preserved	A	N/A	2.9	Y	Absent	MCP-8260-10(14)
L1706853-02C	Vial HCl preserved	A	N/A	2.9	Y	Absent	MCP-8260-10(14)
L1706853-02D	Vial HCl preserved	A	N/A	2.9	Y	Absent	VPH-DELUX-10(14)
L1706853-02E	Vial HCl preserved	A	N/A	2.9	Y	Absent	VPH-DELUX-10(14)
L1706853-02F	Vial HCl preserved	A	N/A	2.9	Y	Absent	VPH-DELUX-10(14)
L1706853-02G	Amber 1000ml HCl preserved	A	<2	2.9	Y	Absent	EPH-MS-10(14),EPHD-GC-10(14)
L1706853-02H	Amber 1000ml HCl preserved	A	<2	2.9	Y	Absent	EPH-MS-10(14),EPHD-GC-10(14)

*Values in parentheses indicate holding time in days

Project Name:	TREMONT CROSSING	**Lab Number:**	L1706853
Project Number:	1700516	**Report Date:**	03/13/17

GLOSSARY

Acronyms

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).
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.
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.
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.
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

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

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.

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.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
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

Report Format: Data Usability Report

Project Name:	TREMONT CROSSING	**Lab Number:**	L1706853
Project Number:	1700516	**Report Date:**	03/13/17

Data Qualifiers

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.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

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.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name:	TREMONT CROSSING	**Lab Number:**	L1706853
Project Number:	1700516	**Report Date:**	03/13/17

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.

100 Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, July 2010.

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: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
SM 2540D: TSS
EPA 3005A NPW
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: 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**
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, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, 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 624: Volatile Halocarbons & Aromatics,
EPA 608: 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: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

Mansfield Facility:

Drinking Water
EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

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, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

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

Chain-of-Custody Record

Laboratory: ALPHA

Laboratory Job # (Lab use only): L1706853

GEI Consultants
400 Unicorn Park Drive
Woburn, MA 01801
PH: 781.721.4000
FX: 781.721.4073

Project Information

Project Name: Tremont Crossing
Project Number: 1700516
Project Location: Boston, MA
Project Manager: C. Johnson
Send Report to: Jessica Englehart
Send EDD to: labdata@geiconsultants.com

Page 1 of 1

MCP PRESUMPTIVE CERTAINTY REQUIRED -- (YES) NO

If Yes, Are MCP Analytical Methods Required? (YES) NO NA
Are Drinking Water Samples Submitted? YES (NO) NA
If Yes, Have Drinking Water Sampling Requirements Been Met? YES NO (NA)

Lab Sample Number	GEI Sample ID	Collection Date	Collection Time	Matrix	No. of Bottles	Sampler(s) Initials	Preservative	Preservative	Preservative	Analysis: VOCs	Analysis: VPH	Analysis: EPH
06853-01	1700516-B(MW)-301	3.5.17	1522	GW	8	JTN	HCl	HCl	HCl	X	X	X
-02	1700516-B(MW)-306	3.5.17	1338	GW	8	JTN	HCl	HCl	HCl	X	X	X

Sample Handling

Samples Field Filtered: YES (NO) NA

Sampled Shipped With Ice: (YES) NO

Sample Specific Remarks

MCP Level Needed: GEI requires that, within the specified method, the most stringent Method 1 MCP standard be met for all analytes whenever possible.

	Relinquished by sampler: (signature)	Date:	Time:	Received by: (signature)
1.	[signature]	3.5.17	1700	1. GEI Sample Fridge
2.	GEI Sample Fridg	3.6.17	1246	2. [signature]
3.	[signature]	3.6.17	1246	3. [signature]
4.	[signature]	3-6-17	17:25	4. [signature]

Turnaround Time (Business days):

Normal X Other ____
10-Day ____ 7-Day ____
5-Day X 3-Day ____

Before submitting rush turnaround samples, you **must** notify the laboratory to confirm that the TAT can be achieved.

Additional Requirements/Comments/Remarks:

Method Blank Summary
Form 4

Client	: GEI Consultants	**Lab Number**	: L1706853
Project Name	: TREMONT CROSSING	**Project Number**	: 1700516
Lab Sample ID	: WG984166-5	**Lab File ID**	: VQ170309A06
Instrument ID	: QUIMBY		
Matrix	: WATER	**Analysis Date**	: 03/09/17 07:18

Client Sample No.	Lab Sample ID	Analysis Date
WG984166-3LCS	WG984166-3	03/09/17 05:13
WG984166-4LCSD	WG984166-4	03/09/17 05:44
1700516-B(MW)301	L1706853-01	03/09/17 08:21
1700516-B(MW)306	L1706853-02	03/09/17 08:52

Continuing Calibration
Form 7

Client	: GEI Consultants	**Lab Number**	: L1706853	
Project Name	: TREMONT CROSSING	**Project Number**	: 1700516	
Instrument ID	: QUIMBY	**Calibration Date**	: 03/09/17 05:13	
Lab File ID	: VQ170309A02	**Init. Calib. Date(s)**	: 01/30/17	01/30/17
Sample No	: WG984166-2	**Init. Calib. Times**	: 09:04	12:43
Channel	:			

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	87	0
Dichlorodifluoromethane	0.503	0.478	-	5	20	75	0
Chloromethane	0.631	0.561	-	11.1	20	76	0
Vinyl chloride	0.559	0.589	-	-5.4	20	83	0
Bromomethane	10	9.171	-	8.3	20	92	0
Chloroethane	0.348	0.352	-	-1.1	20	83	0
Trichlorofluoromethane	0.574	0.62	-	-8	20	89	0
Ethyl ether	0.155	0.162	-	-4.5	20	86	0
1,1-Dichloroethene	0.338	0.372	-	-10.1	20	91	0
Carbon disulfide	1.059	1.064	-	-0.5	20	87	0
Methylene chloride	0.411	0.421	-	-2.4	20	86	0
Acetone	10	9.047	-	9.5	20	76	0
trans-1,2-Dichloroethene	0.389	0.407	-	-4.6	20	89	0
Methyl tert-butyl ether	0.749	0.706	-	5.7	20	81	0
Diisopropyl ether	1.331	1.255	-	5.7	20	79	0
1,1-Dichloroethane	0.778	0.778	-	0	20	84	0
Ethyl tert-butyl ether	1.054	1.008	-	4.4	20	82	0
cis-1,2-Dichloroethene	0.412	0.439	-	-6.6	20	89	0
2,2-Dichloropropane	10	9.397	-	6	20	92	0
Bromochloromethane	0.151	0.159	-	-5.3	20	89	0
Chloroform	0.689	0.701	-	-1.7	20	86	0
Carbon tetrachloride	10	9.802	-	2	20	94	0
Tetrahydrofuran	0.059	0.052	-	11.9	20	75	0
Dibromofluoromethane	0.21	0.208	-	1	20	86	0
1,1,1-Trichloroethane	0.632	0.66	-	-4.4	20	89	0
2-Butanone	10	9.002	-	10	20	78	0
1,1-Dichloropropene	0.606	0.633	-	-4.5	20	88	0
Benzene	1.714	1.772	-	-3.4	20	87	0
tert-Amyl methyl ether	0.802	0.77	-	4	20	83	0
1,2-Dichloroethane-d4	0.238	0.21	-	11.8	20	75	0
1,2-Dichloroethane	0.495	0.476	-	3.8	20	80	0
Trichloroethene	0.447	0.457	-	-2.2	20	88	0
Dibromomethane	0.175	0.177	-	-1.1	20	84	0
1,2-Dichloropropane	0.427	0.429	-	-0.5	20	85	0
Bromodichloromethane	0.495	0.495	-	0	20	86	0
1,4-Dioxane	0.00158	0.00163*	-	-3.2	20	88	0
cis-1,3-Dichloropropene	10	9.14	-	8.6	20	87	0
Chlorobenzene-d5	1	1	-	0	20	95	0
Toluene-d8	1.284	1.238	-	3.6	20	89	0
Toluene	1.445	1.451	-	-0.4	20	89	0
4-Methyl-2-pentanone	0.093	0.08*	-	14	20	82	0
Tetrachloroethene	0.548	0.585	-	-6.8	20	98	0
trans-1,3-Dichloropropene	10	8.7	-	13	20	90	0
1,1,2-Trichloroethane	0.253	0.25	-	1.2	20	90	0
Chlorodibromomethane	0.338	0.331	-	2.1	20	93	0

* Value outside of QC limits.

Continuing Calibration
Form 7

Client	: GEI Consultants	**Lab Number**	: L1706853	
Project Name	: TREMONT CROSSING	**Project Number**	: 1700516	
Instrument ID	: QUIMBY	**Calibration Date**	: 03/09/17 05:13	
Lab File ID	: VQ170309A02	**Init. Calib. Date(s)**	: 01/30/17	01/30/17
Sample No	: WG984166-2	**Init. Calib. Times**	: 09:04	12:43
Channel	:			

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,3-Dichloropropane	0.569	0.531	-	6.7	20	85	0
1,2-Dibromoethane	0.287	0.275	-	4.2	20	88	0
2-Hexanone	0.154	0.134	-	13	20	82	0
Chlorobenzene	1.54	1.543	-	-0.2	20	91	0
Ethylbenzene	2.868	2.799	-	2.4	20	90	0
1,1,1,2-Tetrachloroethane	0.436	0.451	-	-3.4	20	98	0
p/m Xylene	0.941	0.905	-	3.8	20	92	0
o Xylene	0.866	0.839	-	3.1	20	91	0
Styrene	1.41	1.388	-	1.6	20	91	.01
1,4-Dichlorobenzene-d4	1	1	-	0	20	102	.01
Bromoform	10	8.637	-	13.6	20	98	0
Isopropylbenzene	6.841	6.604	-	3.5	20	92	0
4-Bromofluorobenzene	1.26	1.186	-	5.9	20	94	0
Bromobenzene	1.437	1.408	-	2	20	94	0
n-Propylbenzene	7.306	6.86	-	6.1	20	90	.01
1,1,2,2-Tetrachloroethane	0.921	0.885	-	3.9	20	90	0
2-Chlorotoluene	4.784	4.444	-	7.1	20	90	0
1,3,5-Trimethylbenzene	3.558	3.321	-	6.7	20	93	0
1,2,3-Trichloropropane	0.74	0.674	-	8.9	20	86	0
4-Chlorotoluene	4.168	3.807	-	8.7	20	90	0
tert-Butylbenzene	4.306	4.133	-	4	20	92	0
1,2,4-Trimethylbenzene	3.397	3.208	-	5.6	20	92	0
sec-Butylbenzene	6.45	6.229	-	3.4	20	91	.01
p-Isopropyltoluene	4.434	4.278	-	3.5	20	91	0
1,3-Dichlorobenzene	2.477	2.443	-	1.4	20	96	.01
1,4-Dichlorobenzene	2.309	2.272	-	1.6	20	95	.01
n-Butylbenzene	4.424	4.292	-	3	20	87	.01
1,2-Dichlorobenzene	2.116	2.108	-	0.4	20	96	0
1,2-Dibromo-3-chloropropan	10	10.318	-	-3.2	20	101	0
Hexachlorobutadiene	0.697	0.723	-	-3.7	20	98	0
1,2,4-Trichlorobenzene	0.844	0.87	-	-3.1	20	95	0
Naphthalene	1.311	1.279	-	2.4	20	89	.01
1,2,3-Trichlorobenzene	0.713	0.744	-	-4.3	20	94	0

* Value outside of QC limits.

ANALYTICAL REPORT

Lab Number:	L1705986
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Cathy Johnson
Phone:	(781) 721-4000
Project Name:	TREMONT CROSSING PHASE II
Project Number:	1700516
Report Date:	03/06/17

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

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

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516

Lab Number: L1705986
Report Date: 03/06/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1705986-01	1700516-TP-101(0-3')	SOIL	BOSTON, MASSACHUSETTS	02/26/17 12:55	02/27/17
L1705986-02	1700516-TP-103(0-3')	SOIL	BOSTON, MASSACHUSETTS	02/26/17 09:00	02/27/17
L1705986-03	1700516-TP-104(0-3')	SOIL	BOSTON, MASSACHUSETTS	02/26/17 09:30	02/27/17
L1705986-04	1700516-TP-105(10')	SOIL	BOSTON, MASSACHUSETTS	02/26/17 13:25	02/27/17
L1705986-05	1700516-TP-105(0-10')	SOIL	BOSTON, MASSACHUSETTS	02/26/17 13:30	02/27/17
L1705986-06	1700516-TP-106(0-2')	SOIL	BOSTON, MASSACHUSETTS	02/26/17 07:40	02/27/17
L1705986-07	1700516-TP-107(0-3')	SOIL	BOSTON, MASSACHUSETTS	02/26/17 10:55	02/27/17
L1705986-08	1700516-TP-108(8')	SOIL	BOSTON, MASSACHUSETTS	02/26/17 11:50	02/27/17
L1705986-09	1700516-TP-108(0-8')	SOIL	BOSTON, MASSACHUSETTS	02/26/17 12:05	02/27/17

Project Name:	TREMONT CROSSING PHASE II	**Lab Number:**	L1705986
Project Number:	1700516	**Report Date:**	03/06/17

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:	TREMONT CROSSING PHASE II	**Lab Number:**	L1705986
Project Number:	1700516	**Report Date:**	03/06/17

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

Project Name:	TREMONT CROSSING PHASE II	**Lab Number:**	L1705986
Project Number:	1700516	**Report Date:**	03/06/17

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

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

Volatile Organics

In reference to question G:

L1705986-04: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The initial calibration, associated with L1705986-04, did not meet the method required minimum response factor on the lowest calibration standard for acetone (0.0788), 2-butanone (0.0798), 4-methyl-2-pentanone (0.0579) and 1,4-dioxane (0.0021), as well as the average response factor for acetone, 2-butanone, 4-methyl-2-pentanone and 1,4-dioxane.

The continuing calibration standard, associated with L1705986-04, 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.

Pesticides

A copy of the Degradation Standards for 4,4'-DDT and Endrin breakdown products is included as an addendum.

In reference to question G:

L1705986-05: One or more of the target analytes did not achieve the requested CAM reporting limits.

Herbicides

In reference to question H:

The WG981666-2/-3 LCS/LCSD recoveries, associated with L1705986-05, are below the acceptance criteria for dinoseb (5%/3%); however, the recoveries are due to a noted method interference caused by the hydrolysis step of the extraction procedure. The results of the associated sample are reported; however, all results are

Project Name:	TREMONT CROSSING PHASE II	**Lab Number:**	L1705986
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Case Narrative (continued)

considered to have a potentially low bias for this compound.

Metals

In reference to question I:

L1705986-02, -03, -06 and -09 were analyzed for a subset of MCP analytes per the Chain of Custody.

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

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 03/06/17

ORGANICS

VOLATILES

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1705986

Project Number: 1700516 **Report Date:** 03/06/17

SAMPLE RESULTS

Lab ID: L1705986-04
Client ID: 1700516-TP-105(10')
Sample Location: BOSTON, MASSACHUSETTS
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 03/02/17 09:56
Analyst: MV
Percent Solids: 80%

Date Collected: 02/26/17 13:25
Date Received: 02/27/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	640	--	1
1,1-Dichloroethane	ND		ug/kg	97	--	1
Chloroform	ND		ug/kg	97	--	1
Carbon tetrachloride	ND		ug/kg	64	--	1
1,2-Dichloropropane	ND		ug/kg	230	--	1
Dibromochloromethane	ND		ug/kg	64	--	1
1,1,2-Trichloroethane	ND		ug/kg	97	--	1
Tetrachloroethene	ND		ug/kg	64	--	1
Chlorobenzene	ND		ug/kg	64	--	1
Trichlorofluoromethane	ND		ug/kg	260	--	1
1,2-Dichloroethane	ND		ug/kg	64	--	1
1,1,1-Trichloroethane	ND		ug/kg	64	--	1
Bromodichloromethane	ND		ug/kg	64	--	1
trans-1,3-Dichloropropene	ND		ug/kg	64	--	1
cis-1,3-Dichloropropene	ND		ug/kg	64	--	1
1,3-Dichloropropene, Total	ND		ug/kg	64	--	1
1,1-Dichloropropene	ND		ug/kg	260	--	1
Bromoform	ND		ug/kg	260	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	64	--	1
Benzene	ND		ug/kg	64	--	1
Toluene	ND		ug/kg	97	--	1
Ethylbenzene	ND		ug/kg	64	--	1
Chloromethane	ND		ug/kg	260	--	1
Bromomethane	ND		ug/kg	130	--	1
Vinyl chloride	ND		ug/kg	130	--	1
Chloroethane	ND		ug/kg	130	--	1
1,1-Dichloroethene	ND		ug/kg	64	--	1
trans-1,2-Dichloroethene	ND		ug/kg	97	--	1
Trichloroethene	ND		ug/kg	64	--	1
1,2-Dichlorobenzene	ND		ug/kg	260	--	1

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1705986

Project Number: 1700516 **Report Date:** 03/06/17

SAMPLE RESULTS

Lab ID: L1705986-04 Date Collected: 02/26/17 13:25

Client ID: 1700516-TP-105(10') Date Received: 02/27/17

Sample Location: BOSTON, MASSACHUSETTS Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 5035 High - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	260	--	1
1,4-Dichlorobenzene	ND		ug/kg	260	--	1
Methyl tert butyl ether	ND		ug/kg	130	--	1
p/m-Xylene	ND		ug/kg	130	--	1
o-Xylene	ND		ug/kg	130	--	1
Xylenes, Total	ND		ug/kg	130	--	1
cis-1,2-Dichloroethene	ND		ug/kg	64	--	1
1,2-Dichloroethene, Total	ND		ug/kg	64	--	1
Dibromomethane	ND		ug/kg	260	--	1
1,2,3-Trichloropropane	ND		ug/kg	260	--	1
Styrene	ND		ug/kg	130	--	1
Dichlorodifluoromethane	ND		ug/kg	640	--	1
Acetone	ND		ug/kg	2300	--	1
Carbon disulfide	ND		ug/kg	260	--	1
Methyl ethyl ketone	ND		ug/kg	640	--	1
Methyl isobutyl ketone	ND		ug/kg	640	--	1
2-Hexanone	ND		ug/kg	640	--	1
Bromochloromethane	ND		ug/kg	260	--	1
Tetrahydrofuran	ND		ug/kg	260	--	1
2,2-Dichloropropane	ND		ug/kg	320	--	1
1,2-Dibromoethane	ND		ug/kg	260	--	1
1,3-Dichloropropane	ND		ug/kg	260	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	64	--	1
Bromobenzene	ND		ug/kg	320	--	1
n-Butylbenzene	ND		ug/kg	64	--	1
sec-Butylbenzene	ND		ug/kg	64	--	1
tert-Butylbenzene	ND		ug/kg	260	--	1
o-Chlorotoluene	ND		ug/kg	260	--	1
p-Chlorotoluene	ND		ug/kg	260	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	260	--	1
Hexachlorobutadiene	ND		ug/kg	260	--	1
Isopropylbenzene	ND		ug/kg	64	--	1
p-Isopropyltoluene	ND		ug/kg	64	--	1
Naphthalene	ND		ug/kg	260	--	1
n-Propylbenzene	ND		ug/kg	64	--	1
1,2,3-Trichlorobenzene	ND		ug/kg	260	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	260	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	260	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	260	--	1

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1705986

Project Number: 1700516 **Report Date:** 03/06/17

SAMPLE RESULTS

Lab ID: L1705986-04 Date Collected: 02/26/17 13:25

Client ID: 1700516-TP-105(10') Date Received: 02/27/17

Sample Location: BOSTON, MASSACHUSETTS Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 5035 High - Westborough Lab						
Diethyl ether	ND		ug/kg	320	--	1
Diisopropyl Ether	ND		ug/kg	260	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	260	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	260	--	1
1,4-Dioxane	ND		ug/kg	2600	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	89		70-130

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1705986

Project Number: 1700516 **Report Date:** 03/06/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 03/02/17 08:38
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 04 Batch: WG982317-5					
Methylene chloride	ND		ug/kg	500	--
1,1-Dichloroethane	ND		ug/kg	75	--
Chloroform	ND		ug/kg	75	--
Carbon tetrachloride	ND		ug/kg	50	--
1,2-Dichloropropane	ND		ug/kg	180	--
Dibromochloromethane	ND		ug/kg	50	--
1,1,2-Trichloroethane	ND		ug/kg	75	--
Tetrachloroethene	ND		ug/kg	50	--
Chlorobenzene	ND		ug/kg	50	--
Trichlorofluoromethane	ND		ug/kg	200	--
1,2-Dichloroethane	ND		ug/kg	50	--
1,1,1-Trichloroethane	ND		ug/kg	50	--
Bromodichloromethane	ND		ug/kg	50	--
trans-1,3-Dichloropropene	ND		ug/kg	50	--
cis-1,3-Dichloropropene	ND		ug/kg	50	--
1,3-Dichloropropene, Total	ND		ug/kg	50	--
1,1-Dichloropropene	ND		ug/kg	200	--
Bromoform	ND		ug/kg	200	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	50	--
Benzene	ND		ug/kg	50	--
Toluene	ND		ug/kg	75	--
Ethylbenzene	ND		ug/kg	50	--
Chloromethane	ND		ug/kg	200	--
Bromomethane	ND		ug/kg	100	--
Vinyl chloride	ND		ug/kg	100	--
Chloroethane	ND		ug/kg	100	--
1,1-Dichloroethene	ND		ug/kg	50	--
trans-1,2-Dichloroethene	ND		ug/kg	75	--
Trichloroethene	ND		ug/kg	50	--

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1705986

Project Number: 1700516 **Report Date:** 03/06/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 03/02/17 08:38
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 04 Batch: WG982317-5					
1,2-Dichlorobenzene	ND		ug/kg	200	--
1,3-Dichlorobenzene	ND		ug/kg	200	--
1,4-Dichlorobenzene	ND		ug/kg	200	--
Methyl tert butyl ether	ND		ug/kg	100	--
p/m-Xylene	ND		ug/kg	100	--
o-Xylene	ND		ug/kg	100	--
Xylenes, Total	ND		ug/kg	100	--
cis-1,2-Dichloroethene	ND		ug/kg	50	--
1,2-Dichloroethene, Total	ND		ug/kg	50	--
Dibromomethane	ND		ug/kg	200	--
1,2,3-Trichloropropane	ND		ug/kg	200	--
Styrene	ND		ug/kg	100	--
Dichlorodifluoromethane	ND		ug/kg	500	--
Acetone	ND		ug/kg	1800	--
Carbon disulfide	ND		ug/kg	200	--
Methyl ethyl ketone	ND		ug/kg	500	--
Methyl isobutyl ketone	ND		ug/kg	500	--
2-Hexanone	ND		ug/kg	500	--
Bromochloromethane	ND		ug/kg	200	--
Tetrahydrofuran	ND		ug/kg	200	--
2,2-Dichloropropane	ND		ug/kg	250	--
1,2-Dibromoethane	ND		ug/kg	200	--
1,3-Dichloropropane	ND		ug/kg	200	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	50	--
Bromobenzene	ND		ug/kg	250	--
n-Butylbenzene	ND		ug/kg	50	--
sec-Butylbenzene	ND		ug/kg	50	--
tert-Butylbenzene	ND		ug/kg	200	--
o-Chlorotoluene	ND		ug/kg	200	--

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1705986

Project Number: 1700516 **Report Date:** 03/06/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 03/02/17 08:38
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 04 Batch: WG982317-5					
p-Chlorotoluene	ND		ug/kg	200	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	200	--
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	200	--
1,2,4-Trichlorobenzene	ND		ug/kg	200	--
1,3,5-Trimethylbenzene	ND		ug/kg	200	--
1,2,4-Trimethylbenzene	ND		ug/kg	200	--
Diethyl ether	ND		ug/kg	250	--
Diisopropyl Ether	ND		ug/kg	200	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	200	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	200	--
1,4-Dioxane	ND		ug/kg	2000	--
2-Chloroethylvinyl ether	ND		ug/kg	1000	--
Halothane	ND		ug/kg	2000	--
Ethyl Acetate	ND		ug/kg	1000	--
Freon-113	ND		ug/kg	1000	--
Vinyl acetate	ND		ug/kg	500	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	91		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516

Lab Number: L1705986
Report Date: 03/06/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 04 Batch: WG982317-3 WG982317-4								
Methylene chloride	95		98		70-130	3		20
1,1-Dichloroethane	108		106		70-130	2		20
Chloroform	100		101		70-130	1		20
Carbon tetrachloride	106		105		70-130	1		20
1,2-Dichloropropane	99		103		70-130	4		20
Dibromochloromethane	88		89		70-130	1		20
1,1,2-Trichloroethane	96		98		70-130	2		20
Tetrachloroethene	102		102		70-130	0		20
Chlorobenzene	96		96		70-130	0		20
Trichlorofluoromethane	105		103		70-130	2		20
1,2-Dichloroethane	94		95		70-130	1		20
1,1,1-Trichloroethane	108		107		70-130	1		20
Bromodichloromethane	90		92		70-130	2		20
trans-1,3-Dichloropropene	101		102		70-130	1		20
cis-1,3-Dichloropropene	92		95		70-130	3		20
1,1-Dichloropropene	112		112		70-130	0		20
Bromoform	82		86		70-130	5		20
1,1,2,2-Tetrachloroethane	92		95		70-130	3		20
Benzene	104		104		70-130	0		20
Toluene	102		101		70-130	1		20
Ethylbenzene	104		104		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516

Lab Number: L1705986
Report Date: 03/06/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 04 Batch: WG982317-3 WG982317-4								
Chloromethane	114		106		70-130	7		20
Bromomethane	97		93		70-130	4		20
Vinyl chloride	110		104		70-130	6		20
Chloroethane	92		91		70-130	1		20
1,1-Dichloroethene	113		109		70-130	4		20
trans-1,2-Dichloroethene	109		106		70-130	3		20
Trichloroethene	101		102		70-130	1		20
1,2-Dichlorobenzene	92		93		70-130	1		20
1,3-Dichlorobenzene	96		96		70-130	0		20
1,4-Dichlorobenzene	93		94		70-130	1		20
Methyl tert butyl ether	109		109		70-130	0		20
p/m-Xylene	105		106		70-130	1		20
o-Xylene	104		105		70-130	1		20
cis-1,2-Dichloroethene	105		104		70-130	1		20
Dibromomethane	92		94		70-130	2		20
1,2,3-Trichloropropane	94		96		70-130	2		20
Styrene	98		100		70-130	2		20
Dichlorodifluoromethane	115		106		70-130	8		20
Acetone	116		112		70-130	4		20
Carbon disulfide	86		82		70-130	5		20
Methyl ethyl ketone	82		86		70-130	5		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516

Lab Number: L1705986
Report Date: 03/06/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 04 Batch: WG982317-3 WG982317-4								
Methyl isobutyl ketone	91		92		70-130	1		20
2-Hexanone	76		80		70-130	5		20
Bromochloromethane	99		100		70-130	1		20
Tetrahydrofuran	122		123		70-130	1		20
2,2-Dichloropropane	121		118		70-130	3		20
1,2-Dibromoethane	95		98		70-130	3		20
1,3-Dichloropropane	97		98		70-130	1		20
1,1,1,2-Tetrachloroethane	93		94		70-130	1		20
Bromobenzene	95		95		70-130	0		20
n-Butylbenzene	108		106		70-130	2		20
sec-Butylbenzene	108		107		70-130	1		20
tert-Butylbenzene	107		107		70-130	0		20
o-Chlorotoluene	103		102		70-130	1		20
p-Chlorotoluene	103		102		70-130	1		20
1,2-Dibromo-3-chloropropane	82		86		70-130	5		20
Hexachlorobutadiene	96		98		70-130	2		20
Isopropylbenzene	110		109		70-130	1		20
p-Isopropyltoluene	106		106		70-130	0		20
Naphthalene	85		87		70-130	2		20
n-Propylbenzene	107		106		70-130	1		20
1,2,3-Trichlorobenzene	93		94		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1705986
Report Date: 03/06/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 04 Batch: WG982317-3 WG982317-4								
1,2,4-Trichlorobenzene	96		96		70-130	0		20
1,3,5-Trimethylbenzene	106		105		70-130	1		20
1,2,4-Trimethylbenzene	106		105		70-130	1		20
Diethyl ether	92		94		70-130	2		20
Diisopropyl Ether	111		111		70-130	0		20
Ethyl-Tert-Butyl-Ether	113		112		70-130	1		20
Tertiary-Amyl Methyl Ether	112		114		70-130	2		20
1,4-Dioxane	94		106		70-130	12		20
2-Chloroethylvinyl ether	83		81		70-130	2		20
Halothane	106		105		70-130	1		20
Ethyl Acetate	102		106		70-130	4		20
Freon-113	115		110		70-130	4		20
Vinyl acetate	95		97		70-130	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	94		96		70-130
Toluene-d8	102		102		70-130
4-Bromofluorobenzene	106		105		70-130
Dibromofluoromethane	98		98		70-130

SEMIVOLATILES

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1705986

Project Number: 1700516 **Report Date:** 03/06/17

SAMPLE RESULTS

Lab ID: L1705986-05 D
Client ID: 1700516-TP-105(0-10')
Sample Location: BOSTON, MASSACHUSETTS
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 03/01/17 15:09
Analyst: RC
Percent Solids: 85%

Date Collected: 02/26/17 13:30
Date Received: 02/27/17
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 02/28/17 09:22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	1100		ug/kg	310	--	2
1,2,4-Trichlorobenzene	ND		ug/kg	380	--	2
Hexachlorobenzene	ND		ug/kg	230	--	2
Bis(2-chloroethyl)ether	ND		ug/kg	350	--	2
2-Chloronaphthalene	ND		ug/kg	380	--	2
1,2-Dichlorobenzene	ND		ug/kg	380	--	2
1,3-Dichlorobenzene	ND		ug/kg	380	--	2
1,4-Dichlorobenzene	ND		ug/kg	380	--	2
3,3'-Dichlorobenzidine	ND		ug/kg	380	--	2
2,4-Dinitrotoluene	ND		ug/kg	380	--	2
2,6-Dinitrotoluene	ND		ug/kg	380	--	2
Azobenzene	ND		ug/kg	380	--	2
Fluoranthene	11000		ug/kg	230	--	2
4-Bromophenyl phenyl ether	ND		ug/kg	380	--	2
Bis(2-chloroisopropyl)ether	ND		ug/kg	460	--	2
Bis(2-chloroethoxy)methane	ND		ug/kg	420	--	2
Hexachlorobutadiene	ND		ug/kg	380	--	2
Hexachloroethane	ND		ug/kg	310	--	2
Isophorone	ND		ug/kg	350	--	2
Naphthalene	660		ug/kg	380	--	2
Nitrobenzene	ND		ug/kg	350	--	2
Bis(2-ethylhexyl)phthalate	ND		ug/kg	380	--	2
Butyl benzyl phthalate	ND		ug/kg	380	--	2
Di-n-butylphthalate	ND		ug/kg	380	--	2
Di-n-octylphthalate	ND		ug/kg	380	--	2
Diethyl phthalate	ND		ug/kg	380	--	2
Dimethyl phthalate	ND		ug/kg	380	--	2
Benzo(a)anthracene	5500		ug/kg	230	--	2
Benzo(a)pyrene	5100		ug/kg	310	--	2
Benzo(b)fluoranthene	6300		ug/kg	230	--	2

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1705986

Project Number: 1700516 **Report Date:** 03/06/17

SAMPLE RESULTS

Lab ID: L1705986-05 D Date Collected: 02/26/17 13:30

Client ID: 1700516-TP-105(0-10') Date Received: 02/27/17

Sample Location: BOSTON, MASSACHUSETTS Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(k)fluoranthene	2200		ug/kg	230	--	2
Chrysene	5000		ug/kg	230	--	2
Acenaphthylene	ND		ug/kg	310	--	2
Anthracene	2300		ug/kg	230	--	2
Benzo(ghi)perylene	2500		ug/kg	310	--	2
Fluorene	980		ug/kg	380	--	2
Phenanthrene	9800		ug/kg	230	--	2
Dibenzo(a,h)anthracene	660		ug/kg	230	--	2
Indeno(1,2,3-cd)pyrene	2900		ug/kg	310	--	2
Pyrene	9600		ug/kg	230	--	2
Aniline	ND		ug/kg	460	--	2
4-Chloroaniline	ND		ug/kg	380	--	2
Dibenzofuran	740		ug/kg	380	--	2
2-Methylnaphthalene	ND		ug/kg	460	--	2
Acetophenone	ND		ug/kg	380	--	2
2,4,6-Trichlorophenol	ND		ug/kg	230	--	2
2-Chlorophenol	ND		ug/kg	380	--	2
2,4-Dichlorophenol	ND		ug/kg	350	--	2
2,4-Dimethylphenol	ND		ug/kg	380	--	2
2-Nitrophenol	ND		ug/kg	830	--	2
4-Nitrophenol	ND		ug/kg	540	--	2
2,4-Dinitrophenol	ND		ug/kg	1800	--	2
Pentachlorophenol	ND		ug/kg	770	--	2
Phenol	ND		ug/kg	380	--	2
2-Methylphenol	ND		ug/kg	380	--	2
3-Methylphenol/4-Methylphenol	ND		ug/kg	550	--	2
2,4,5-Trichlorophenol	ND		ug/kg	380	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	55		30-130
Phenol-d6	61		30-130
Nitrobenzene-d5	50		30-130
2-Fluorobiphenyl	64		30-130
2,4,6-Tribromophenol	64		30-130
4-Terphenyl-d14	49		30-130

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1705986
Report Date: 03/06/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 03/01/17 00:53
Analyst: ALS

Extraction Method: EPA 3546
Extraction Date: 02/28/17 09:22

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 05 Batch: WG981537-1					
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: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1705986
Report Date: 03/06/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 03/01/17 00:53
Analyst: ALS

Extraction Method: EPA 3546
Extraction Date: 02/28/17 09:22

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 05 Batch: WG981537-1					
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	--

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1705986
Report Date: 03/06/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 03/01/17 00:53
Analyst: ALS

Extraction Method: EPA 3546
Extraction Date: 02/28/17 09:22

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 05 Batch: WG981537-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	65		30-130
Phenol-d6	73		30-130
Nitrobenzene-d5	75		30-130
2-Fluorobiphenyl	77		30-130
2,4,6-Tribromophenol	71		30-130
4-Terphenyl-d14	81		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516

Lab Number: L1705986
Report Date: 03/06/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 05 Batch: WG981537-2 WG981537-3								
Acenaphthene	76		72		40-140	5		30
1,2,4-Trichlorobenzene	79		68		40-140	15		30
Hexachlorobenzene	77		72		40-140	7		30
Bis(2-chloroethyl)ether	75		63		40-140	17		30
2-Chloronaphthalene	85		80		40-140	6		30
1,2-Dichlorobenzene	75		60		40-140	22		30
1,3-Dichlorobenzene	72		58		40-140	22		30
1,4-Dichlorobenzene	74		60		40-140	21		30
3,3'-Dichlorobenzidine	64		61		40-140	5		30
2,4-Dinitrotoluene	82		80		40-140	2		30
2,6-Dinitrotoluene	91		89		40-140	2		30
Azobenzene	85		81		40-140	5		30
Fluoranthene	84		78		40-140	7		30
4-Bromophenyl phenyl ether	85		81		40-140	5		30
Bis(2-chloroisopropyl)ether	118		98		40-140	19		30
Bis(2-chloroethoxy)methane	82		75		40-140	9		30
Hexachlorobutadiene	84		70		40-140	18		30
Hexachloroethane	74		61		40-140	19		30
Isophorone	93		85		40-140	9		30
Naphthalene	79		68		40-140	15		30
Nitrobenzene	86		77		40-140	11		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516

Lab Number: L1705986
Report Date: 03/06/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 05 Batch: WG981537-2 WG981537-3								
Bis(2-ethylhexyl)phthalate	76		71		40-140	7		30
Butyl benzyl phthalate	86		78		40-140	10		30
Di-n-butylphthalate	81		76		40-140	6		30
Di-n-octylphthalate	79		72		40-140	9		30
Diethyl phthalate	79		75		40-140	5		30
Dimethyl phthalate	90		88		40-140	2		30
Benzo(a)anthracene	74		70		40-140	6		30
Benzo(a)pyrene	81		74		40-140	9		30
Benzo(b)fluoranthene	77		72		40-140	7		30
Benzo(k)fluoranthene	74		70		40-140	6		30
Chrysene	77		72		40-140	7		30
Acenaphthylene	84		80		40-140	5		30
Anthracene	82		78		40-140	5		30
Benzo(ghi)perylene	77		73		40-140	5		30
Fluorene	80		76		40-140	5		30
Phenanthrene	79		75		40-140	5		30
Dibenzo(a,h)anthracene	77		73		40-140	5		30
Indeno(1,2,3-cd)pyrene	77		74		40-140	4		30
Pyrene	86		80		40-140	7		30
Aniline	58		51		40-140	13		30
4-Chloroaniline	84		82		40-140	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING PHASE II

Project Number: 1700516

Lab Number: L1705986

Report Date: 03/06/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 05 Batch: WG981537-2 WG981537-3								
Dibenzofuran	78		74		40-140	5		30
2-Methylnaphthalene	78		72		40-140	8		30
Acetophenone	87		76		40-140	13		30
2,4,6-Trichlorophenol	90		87		30-130	3		30
2-Chlorophenol	79		70		30-130	12		30
2,4-Dichlorophenol	88		84		30-130	5		30
2,4-Dimethylphenol	94		90		30-130	4		30
2-Nitrophenol	79		72		30-130	9		30
4-Nitrophenol	93		93		30-130	0		30
2,4-Dinitrophenol	41		36		30-130	13		30
Pentachlorophenol	64		61		30-130	5		30
Phenol	77		70		30-130	10		30
2-Methylphenol	86		80		30-130	7		30
3-Methylphenol/4-Methylphenol	92		87		30-130	6		30
2,4,5-Trichlorophenol	95		96		30-130	1		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING PHASE II

Project Number: 1700516

Lab Number: L1705986

Report Date: 03/06/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 05 Batch: WG981537-2 WG981537-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	80		67		30-130
Phenol-d6	88		80		30-130
Nitrobenzene-d5	91		81		30-130
2-Fluorobiphenyl	89		83		30-130
2,4,6-Tribromophenol	78		75		30-130
4-Terphenyl-d14	83		77		30-130

PETROLEUM HYDROCARBONS

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1705986

Project Number: 1700516 **Report Date:** 03/06/17

SAMPLE RESULTS

Lab ID:	L1705986-05	Date Collected:	02/26/17 13:30
Client ID:	1700516-TP-105(0-10')	Date Received:	02/27/17
Sample Location:	BOSTON, MASSACHUSETTS	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8015C(M)	Extraction Date:	03/01/17 07:27
Analytical Date:	03/01/17 21:48		
Analyst:	DG		
Percent Solids:	85%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	330000		ug/kg	37000	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	82		40-140

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1705986
Report Date: 03/06/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015C(M)
Analytical Date: 03/01/17 22:54
Analyst: DG

Extraction Method: EPA 3546
Extraction Date: 03/01/17 07:27

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 05 Batch: WG981837-1					
TPH	ND		ug/kg	31900	--

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

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING PHASE II

Project Number: 1700516

Lab Number: L1705986

Report Date: 03/06/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 05 Batch: WG981837-2								
TPH	89		-		40-140	-		40

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

Lab Duplicate Analysis
Batch Quality Control

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516

Lab Number: L1705986
Report Date: 03/06/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 05 QC Batch ID: WG981837-3 QC Sample: L1705986-05 Client ID: 1700516-TP-105(0-10')						
TPH	330000	327000	ug/kg	1		40

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	82		64		40-140

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1705986

Project Number: 1700516 **Report Date:** 03/06/17

SAMPLE RESULTS

Lab ID:	L1705986-08	Date Collected:	02/26/17 11:50
Client ID:	1700516-TP-108(8')	Date Received:	02/27/17
Sample Location:	BOSTON, MASSACHUSETTS	Field Prep:	Not Specified
Matrix:	Soil		
Analytical Method:	100,VPH-04-1.1		
Analytical Date:	03/04/17 10:24		
Analyst:	JM		
Percent Solids:	82%		

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Covering the Soil
Methanol ratio:	1:1.5

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	2.69	--	1
C9-C12 Aliphatics	ND		mg/kg	2.69	--	1
C9-C10 Aromatics	ND		mg/kg	2.69	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	2.69	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	2.69	--	1
Benzene	ND		mg/kg	0.108	--	1
Toluene	ND		mg/kg	0.108	--	1
Ethylbenzene	ND		mg/kg	0.108	--	1
p/m-Xylene	ND		mg/kg	0.108	--	1
o-Xylene	ND		mg/kg	0.108	--	1
Methyl tert butyl ether	ND		mg/kg	0.054	--	1
Naphthalene	ND		mg/kg	0.215	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	89		70-130
2,5-Dibromotoluene-FID	92		70-130

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1705986

Project Number: 1700516 **Report Date:** 03/06/17

SAMPLE RESULTS

Lab ID:	L1705986-08	Date Collected:	02/26/17 11:50
Client ID:	1700516-TP-108(8')	Date Received:	02/27/17
Sample Location:	BOSTON, MASSACHUSETTS	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	03/01/17 12:30
Analytical Date:	03/03/17 01:05	Cleanup Method1:	EPH-04-1
Analyst:	NS	Cleanup Date1:	03/01/17
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	7.74	--	1
C19-C36 Aliphatics	20.2		mg/kg	7.74	--	1
C11-C22 Aromatics	58.1		mg/kg	7.74	--	1
C11-C22 Aromatics, Adjusted	40.8		mg/kg	7.74	--	1
Naphthalene	ND		mg/kg	0.387	--	1
2-Methylnaphthalene	ND		mg/kg	0.387	--	1
Acenaphthylene	ND		mg/kg	0.387	--	1
Acenaphthene	ND		mg/kg	0.387	--	1
Fluorene	ND		mg/kg	0.387	--	1
Phenanthrene	2.01		mg/kg	0.387	--	1
Anthracene	0.465		mg/kg	0.387	--	1
Fluoranthene	3.33		mg/kg	0.387	--	1
Pyrene	2.79		mg/kg	0.387	--	1
Benzo(a)anthracene	1.37		mg/kg	0.387	--	1
Chrysene	1.64		mg/kg	0.387	--	1
Benzo(b)fluoranthene	1.11		mg/kg	0.387	--	1
Benzo(k)fluoranthene	1.27		mg/kg	0.387	--	1
Benzo(a)pyrene	1.41		mg/kg	0.387	--	1
Indeno(1,2,3-cd)Pyrene	1.04		mg/kg	0.387	--	1
Dibenzo(a,h)anthracene	ND		mg/kg	0.387	--	1
Benzo(ghi)perylene	0.902		mg/kg	0.387	--	1

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1705986

Project Number: 1700516 **Report Date:** 03/06/17

SAMPLE RESULTS

Lab ID:	L1705986-08	Date Collected:	02/26/17 11:50
Client ID:	1700516-TP-108(8')	Date Received:	02/27/17
Sample Location:	BOSTON, MASSACHUSETTS	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	78		40-140
o-Terphenyl	86		40-140
2-Fluorobiphenyl	77		40-140
2-Bromonaphthalene	77		40-140

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1705986
Report Date: 03/06/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 03/01/17 23:25
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 03/01/17 00:39
Cleanup Method: EPH-04-1
Cleanup Date: 03/01/17

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 08 Batch: WG981781-1					
C9-C18 Aliphatics	ND		mg/kg	6.58	--
C19-C36 Aliphatics	ND		mg/kg	6.58	--
C11-C22 Aromatics	ND		mg/kg	6.58	--
C11-C22 Aromatics, Adjusted	ND		mg/kg	6.58	--
Naphthalene	ND		mg/kg	0.329	--
2-Methylnaphthalene	ND		mg/kg	0.329	--
Acenaphthylene	ND		mg/kg	0.329	--
Acenaphthene	ND		mg/kg	0.329	--
Fluorene	ND		mg/kg	0.329	--
Phenanthrene	ND		mg/kg	0.329	--
Anthracene	ND		mg/kg	0.329	--
Fluoranthene	ND		mg/kg	0.329	--
Pyrene	ND		mg/kg	0.329	--
Benzo(a)anthracene	ND		mg/kg	0.329	--
Chrysene	ND		mg/kg	0.329	--
Benzo(b)fluoranthene	ND		mg/kg	0.329	--
Benzo(k)fluoranthene	ND		mg/kg	0.329	--
Benzo(a)pyrene	ND		mg/kg	0.329	--
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.329	--
Dibenzo(a,h)anthracene	ND		mg/kg	0.329	--
Benzo(ghi)perylene	ND		mg/kg	0.329	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	82		40-140
o-Terphenyl	86		40-140
2-Fluorobiphenyl	92		40-140
2-Bromonaphthalene	92		40-140

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1705986

Project Number: 1700516 **Report Date:** 03/06/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 100,VPH-04-1.1
Analytical Date: 03/04/17 09:33
Analyst: JM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 08 Batch: WG982951-3					
C5-C8 Aliphatics	ND		mg/kg	2.67	--
C9-C12 Aliphatics	ND		mg/kg	2.67	--
C9-C10 Aromatics	ND		mg/kg	2.67	--
C5-C8 Aliphatics, Adjusted	ND		mg/kg	2.67	--
C9-C12 Aliphatics, Adjusted	ND		mg/kg	2.67	--
Benzene	ND		mg/kg	0.107	--
Toluene	ND		mg/kg	0.107	--
Ethylbenzene	ND		mg/kg	0.107	--
p/m-Xylene	ND		mg/kg	0.107	--
o-Xylene	ND		mg/kg	0.107	--
Methyl tert butyl ether	ND		mg/kg	0.053	--
Naphthalene	ND		mg/kg	0.213	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	99		70-130
2,5-Dibromotoluene-FID	102		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516

Lab Number: L1705986
Report Date: 03/06/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 08 Batch: WG981781-2 WG981781-3								
C9-C18 Aliphatics	80		83		40-140	4		25
C19-C36 Aliphatics	113		117		40-140	3		25
C11-C22 Aromatics	118		105		40-140	12		25
Naphthalene	91		80		40-140	13		25
2-Methylnaphthalene	97		85		40-140	13		25
Acenaphthylene	103		92		40-140	11		25
Acenaphthene	107		96		40-140	11		25
Fluorene	114		102		40-140	11		25
Phenanthrene	118		105		40-140	12		25
Anthracene	118		105		40-140	12		25
Fluoranthene	124		109		40-140	13		25
Pyrene	122		107		40-140	13		25
Benzo(a)anthracene	118		104		40-140	13		25
Chrysene	125		110		40-140	13		25
Benzo(b)fluoranthene	119		103		40-140	14		25
Benzo(k)fluoranthene	121		108		40-140	11		25
Benzo(a)pyrene	114		101		40-140	12		25
Indeno(1,2,3-cd)Pyrene	112		101		40-140	10		25
Dibenzo(a,h)anthracene	118		109		40-140	8		25
Benzo(ghi)perylene	112		101		40-140	10		25
Nonane (C9)	70		72		30-140	3		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1705986
Report Date: 03/06/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 08 Batch: WG981781-2 WG981781-3								
Decane (C10)	83		86		40-140	4		25
Dodecane (C12)	91		95		40-140	4		25
Tetradecane (C14)	99		104		40-140	5		25
Hexadecane (C16)	106		110		40-140	4		25
Octadecane (C18)	111		114		40-140	3		25
Nonadecane (C19)	111		115		40-140	4		25
Eicosane (C20)	112		115		40-140	3		25
Docosane (C22)	112		116		40-140	4		25
Tetracosane (C24)	110		113		40-140	3		25
Hexacosane (C26)	112		115		40-140	3		25
Octacosane (C28)	111		115		40-140	4		25
Triacontane (C30)	110		114		40-140	4		25
Hexatriacontane (C36)	106		112		40-140	6		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	86		83		40-140
o-Terphenyl	102		87		40-140
2-Fluorobiphenyl	107		89		40-140
2-Bromonaphthalene	108		90		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING PHASE II

Project Number: 1700516

Lab Number: L1705986

Report Date: 03/06/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 08 Batch: WG982951-1 WG982951-2								
C5-C8 Aliphatics	99		105		70-130	6		25
C9-C12 Aliphatics	100		106		70-130	6		25
C9-C10 Aromatics	93		99		70-130	7		25
Benzene	92		98		70-130	6		25
Toluene	92		98		70-130	6		25
Ethylbenzene	92		98		70-130	7		25
p/m-Xylene	93		99		70-130	6		25
o-Xylene	92		98		70-130	6		25
Methyl tert butyl ether	94		98		70-130	5		25
Naphthalene	92		96		70-130	5		25
1,2,4-Trimethylbenzene	93		99		70-130	7		25
Pentane	96		101		70-130	5		25
2-Methylpentane	97		103		70-130	6		25
2,2,4-Trimethylpentane	100		106		70-130	6		25
n-Nonane	100		106		30-130	6		25
n-Decane	99		106		70-130	7		25
n-Butylcyclohexane	100		107		70-130	7		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING PHASE II

Project Number: 1700516

Lab Number: L1705986

Report Date: 03/06/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 08 Batch: WG982951-1 WG982951-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	91		96		70-130
2,5-Dibromotoluene-FID	92		98		70-130

PCBS

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1705986

Project Number: 1700516 **Report Date:** 03/06/17

SAMPLE RESULTS

Lab ID:	L1705986-01	Date Collected:	02/26/17 12:55
Client ID:	1700516-TP-101(0-3')	Date Received:	02/27/17
Sample Location:	BOSTON, MASSACHUSETTS	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	97,8082A	Extraction Date:	03/01/17 00:05
Analytical Date:	03/02/17 04:14	Cleanup Method:	EPA 3665A
Analyst:	JA	Cleanup Date:	03/01/17
Percent Solids:	84%	Cleanup Method:	EPA 3660B
		Cleanup Date:	03/01/17

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	A
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	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	88		30-150	A
Decachlorobiphenyl	81		30-150	A
2,4,5,6-Tetrachloro-m-xylene	65		30-150	B
Decachlorobiphenyl	56		30-150	B

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1705986

Project Number: 1700516 **Report Date:** 03/06/17

SAMPLE RESULTS

Lab ID:	L1705986-02	Date Collected:	02/26/17 09:00
Client ID:	1700516-TP-103(0-3')	Date Received:	02/27/17
Sample Location:	BOSTON, MASSACHUSETTS	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	97,8082A	Extraction Date:	03/01/17 00:05
Analytical Date:	03/02/17 04:27	Cleanup Method:	EPA 3665A
Analyst:	JA	Cleanup Date:	03/01/17
Percent Solids:	92%	Cleanup Method:	EPA 3660B
		Cleanup Date:	03/01/17

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	77		30-150	A
Decachlorobiphenyl	75		30-150	A
2,4,5,6-Tetrachloro-m-xylene	64		30-150	B
Decachlorobiphenyl	51		30-150	B

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1705986

Project Number: 1700516 **Report Date:** 03/06/17

SAMPLE RESULTS

Lab ID:	L1705986-03	Date Collected:	02/26/17 09:30
Client ID:	1700516-TP-104(0-3')	Date Received:	02/27/17
Sample Location:	BOSTON, MASSACHUSETTS	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	97,8082A	Extraction Date:	03/01/17 00:05
Analytical Date:	03/02/17 04:41	Cleanup Method:	EPA 3665A
Analyst:	JA	Cleanup Date:	03/01/17
Percent Solids:	85%	Cleanup Method:	EPA 3660B
		Cleanup Date:	03/01/17

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	39.0	--	1	A
Aroclor 1221	ND		ug/kg	39.0	--	1	A
Aroclor 1232	ND		ug/kg	39.0	--	1	A
Aroclor 1242	ND		ug/kg	39.0	--	1	A
Aroclor 1248	ND		ug/kg	39.0	--	1	A
Aroclor 1254	ND		ug/kg	39.0	--	1	B
Aroclor 1260	ND		ug/kg	39.0	--	1	A
Aroclor 1262	ND		ug/kg	39.0	--	1	A
Aroclor 1268	ND		ug/kg	39.0	--	1	A
PCBs, Total	ND		ug/kg	39.0	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	90		30-150	A
Decachlorobiphenyl	77		30-150	A
2,4,5,6-Tetrachloro-m-xylene	74		30-150	B
Decachlorobiphenyl	53		30-150	B

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1705986

Project Number: 1700516 **Report Date:** 03/06/17

SAMPLE RESULTS

Lab ID:	L1705986-05	Date Collected:	02/26/17 13:30
Client ID:	1700516-TP-105(0-10')	Date Received:	02/27/17
Sample Location:	BOSTON, MASSACHUSETTS	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	97,8082A	Extraction Date:	03/01/17 00:05
Analytical Date:	03/02/17 04:54	Cleanup Method:	EPA 3665A
Analyst:	JA	Cleanup Date:	03/01/17
Percent Solids:	85%	Cleanup Method:	EPA 3660B
		Cleanup Date:	03/01/17

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	75.9		ug/kg	37.4	--	1	B
Aroclor 1260	ND		ug/kg	37.4	--	1	A
Aroclor 1262	ND		ug/kg	37.4	--	1	A
Aroclor 1268	ND		ug/kg	37.4	--	1	A
PCBs, Total	75.9		ug/kg	37.4	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	76		30-150	A
Decachlorobiphenyl	73		30-150	A
2,4,5,6-Tetrachloro-m-xylene	62		30-150	B
Decachlorobiphenyl	57		30-150	B

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1705986

Project Number: 1700516 **Report Date:** 03/06/17

SAMPLE RESULTS

Lab ID:	L1705986-06	Date Collected:	02/26/17 07:40
Client ID:	1700516-TP-106(0-2')	Date Received:	02/27/17
Sample Location:	BOSTON, MASSACHUSETTS	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	97,8082A	Extraction Date:	03/01/17 00:05
Analytical Date:	03/02/17 05:08	Cleanup Method:	EPA 3665A
Analyst:	JA	Cleanup Date:	03/01/17
Percent Solids:	87%	Cleanup Method:	EPA 3660B
		Cleanup Date:	03/01/17

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	38.0	--	1	A
Aroclor 1221	ND		ug/kg	38.0	--	1	A
Aroclor 1232	ND		ug/kg	38.0	--	1	A
Aroclor 1242	ND		ug/kg	38.0	--	1	A
Aroclor 1248	ND		ug/kg	38.0	--	1	A
Aroclor 1254	ND		ug/kg	38.0	--	1	A
Aroclor 1260	ND		ug/kg	38.0	--	1	A
Aroclor 1262	ND		ug/kg	38.0	--	1	A
Aroclor 1268	ND		ug/kg	38.0	--	1	A
PCBs, Total	ND		ug/kg	38.0	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	86		30-150	A
Decachlorobiphenyl	82		30-150	A
2,4,5,6-Tetrachloro-m-xylene	65		30-150	B
Decachlorobiphenyl	56		30-150	B

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1705986

Project Number: 1700516 **Report Date:** 03/06/17

SAMPLE RESULTS

Lab ID:	L1705986-07	Date Collected:	02/26/17 10:55
Client ID:	1700516-TP-107(0-3')	Date Received:	02/27/17
Sample Location:	BOSTON, MASSACHUSETTS	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	97,8082A	Extraction Date:	03/01/17 00:05
Analytical Date:	03/02/17 05:21	Cleanup Method:	EPA 3665A
Analyst:	JA	Cleanup Date:	03/01/17
Percent Solids:	87%	Cleanup Method:	EPA 3660B
		Cleanup Date:	03/01/17

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	37.7	--	1	A
Aroclor 1221	ND		ug/kg	37.7	--	1	A
Aroclor 1232	ND		ug/kg	37.7	--	1	A
Aroclor 1242	ND		ug/kg	37.7	--	1	A
Aroclor 1248	ND		ug/kg	37.7	--	1	A
Aroclor 1254	ND		ug/kg	37.7	--	1	A
Aroclor 1260	ND		ug/kg	37.7	--	1	A
Aroclor 1262	ND		ug/kg	37.7	--	1	A
Aroclor 1268	ND		ug/kg	37.7	--	1	A
PCBs, Total	ND		ug/kg	37.7	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	83		30-150	A
Decachlorobiphenyl	76		30-150	A
2,4,5,6-Tetrachloro-m-xylene	63		30-150	B
Decachlorobiphenyl	53		30-150	B

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1705986

Project Number: 1700516 **Report Date:** 03/06/17

SAMPLE RESULTS

Lab ID:	L1705986-09	Date Collected:	02/26/17 12:05
Client ID:	1700516-TP-108(0-8')	Date Received:	02/27/17
Sample Location:	BOSTON, MASSACHUSETTS	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	97,8082A	Extraction Date:	03/01/17 00:05
Analytical Date:	03/02/17 05:34	Cleanup Method:	EPA 3665A
Analyst:	JA	Cleanup Date:	03/01/17
Percent Solids:	86%	Cleanup Method:	EPA 3660B
		Cleanup Date:	03/01/17

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	38.3	--	1	A
Aroclor 1221	ND		ug/kg	38.3	--	1	A
Aroclor 1232	ND		ug/kg	38.3	--	1	A
Aroclor 1242	ND		ug/kg	38.3	--	1	A
Aroclor 1248	ND		ug/kg	38.3	--	1	A
Aroclor 1254	ND		ug/kg	38.3	--	1	A
Aroclor 1260	ND		ug/kg	38.3	--	1	A
Aroclor 1262	ND		ug/kg	38.3	--	1	A
Aroclor 1268	ND		ug/kg	38.3	--	1	A
PCBs, Total	ND		ug/kg	38.3	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	80		30-150	A
Decachlorobiphenyl	74		30-150	A
2,4,5,6-Tetrachloro-m-xylene	56		30-150	B
Decachlorobiphenyl	51		30-150	B

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1705986
Report Date: 03/06/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 03/02/17 03:34
Analyst: JA

Extraction Method: EPA 3546
Extraction Date: 03/01/17 00:05
Cleanup Method: EPA 3665A
Cleanup Date: 03/01/17
Cleanup Method: EPA 3660B
Cleanup Date: 03/01/17

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01-03,05-07,09 Batch: WG981776-1						
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	80		30-150	A
Decachlorobiphenyl	72		30-150	A
2,4,5,6-Tetrachloro-m-xylene	78		30-150	B
Decachlorobiphenyl	54		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING PHASE II

Project Number: 1700516

Lab Number: L1705986

Report Date: 03/06/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab	Associated sample(s):	01-03,05-07,09	Batch:	WG981776-2	WG981776-3				
Aroclor 1016	90		86		40-140	5		30	A
Aroclor 1260	89		82		40-140	8		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	89		82		30-150	A
Decachlorobiphenyl	80		73		30-150	A
2,4,5,6-Tetrachloro-m-xylene	84		77		30-150	B
Decachlorobiphenyl	58		52		30-150	B

PESTICIDES

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1705986

Project Number: 1700516 **Report Date:** 03/06/17

SAMPLE RESULTS

Lab ID: L1705986-05
Client ID: 1700516-TP-105(0-10')
Sample Location: BOSTON, MASSACHUSETTS
Matrix: Soil
Analytical Method: 97,8081B
Analytical Date: 03/05/17 21:08
Analyst: KEG
Percent Solids: 85%

Date Collected: 02/26/17 13:30
Date Received: 02/27/17
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 03/01/17 10:30
Cleanup Method: EPA 3620B
Cleanup Date: 03/02/17

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Organochlorine Pesticides - Westborough Lab							
Delta-BHC	ND		ug/kg	9.26	--	1	A
Lindane	ND		ug/kg	3.09	--	1	A
Alpha-BHC	ND		ug/kg	3.86	--	1	A
Beta-BHC	ND		ug/kg	9.26	--	1	A
Heptachlor	ND		ug/kg	4.63	--	1	A
Aldrin	ND		ug/kg	9.26	--	1	A
Heptachlor epoxide	ND		ug/kg	17.4	--	1	A
Endrin	ND		ug/kg	3.86	--	1	A
Endrin ketone	ND		ug/kg	9.26	--	1	A
Dieldrin	ND		ug/kg	5.79	--	1	A
4,4'-DDE	ND		ug/kg	9.26	--	1	A
4,4'-DDD	ND		ug/kg	9.26	--	1	A
4,4'-DDT	ND		ug/kg	17.4	--	1	A
Endosulfan I	ND		ug/kg	9.26	--	1	A
Endosulfan II	25.7	P	ug/kg	9.26	--	1	B
Endosulfan sulfate	ND		ug/kg	3.86	--	1	A
Methoxychlor	ND		ug/kg	17.4	--	1	A
Chlordane	ND		ug/kg	75.2	--	1	A
Hexachlorobenzene	ND		ug/kg	9.26	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	74		30-150	B
Decachlorobiphenyl	76		30-150	B
2,4,5,6-Tetrachloro-m-xylene	93		30-150	A
Decachlorobiphenyl	113		30-150	A

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1705986

Project Number: 1700516 **Report Date:** 03/06/17

SAMPLE RESULTS

Lab ID: L1705986-05
Client ID: 1700516-TP-105(0-10')
Sample Location: BOSTON, MASSACHUSETTS
Matrix: Soil
Analytical Method: 97,8151A
Analytical Date: 03/02/17 21:40
Analyst: KEG
Percent Solids: 85%
Methylation Date: 03/01/17 21:13

Date Collected: 02/26/17 13:30
Date Received: 02/27/17
Field Prep: Not Specified
Extraction Method: EPA 8151A
Extraction Date: 02/28/17 15:00

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	105		30-150	A
DCAA	82		30-150	B

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1705986
Report Date: 03/06/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8151A
Analytical Date: 03/02/17 20:21
Analyst: DM

Extraction Method: EPA 8151A
Extraction Date: 02/28/17 15:00

Methylation Date: 03/01/17 21:13

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Chlorinated Herbicides - Westborough Lab for sample(s): 05 Batch: WG981666-1						
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
Dinoseb	ND		ug/kg	33	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	89		30-150	A
DCAA	66		30-150	B

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1705986
Report Date: 03/06/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8081B
Analytical Date: 03/05/17 20:30
Analyst: KEG

Extraction Method: EPA 3546
Extraction Date: 03/01/17 10:30
Cleanup Method: EPA 3620B
Cleanup Date: 03/02/17

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Organochlorine Pesticides - Westborough Lab for sample(s): 05 Batch: WG981906-1						
Delta-BHC	ND		ug/kg	7.71	--	A
Lindane	ND		ug/kg	2.57	--	A
Alpha-BHC	ND		ug/kg	3.21	--	A
Beta-BHC	ND		ug/kg	7.71	--	A
Heptachlor	ND		ug/kg	3.86	--	A
Aldrin	ND		ug/kg	7.71	--	A
Heptachlor epoxide	ND		ug/kg	14.5	--	A
Endrin	ND		ug/kg	3.21	--	A
Endrin ketone	ND		ug/kg	7.71	--	A
Dieldrin	ND		ug/kg	4.82	--	A
4,4'-DDE	ND		ug/kg	7.71	--	A
4,4'-DDD	ND		ug/kg	7.71	--	A
4,4'-DDT	ND		ug/kg	14.5	--	A
Endosulfan I	ND		ug/kg	7.71	--	A
Endosulfan II	ND		ug/kg	7.71	--	A
Endosulfan sulfate	ND		ug/kg	3.21	--	A
Methoxychlor	ND		ug/kg	14.5	--	A
Chlordane	ND		ug/kg	62.7	--	A
Hexachlorobenzene	ND		ug/kg	7.71	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	80		30-150	B
Decachlorobiphenyl	65		30-150	B
2,4,5,6-Tetrachloro-m-xylene	89		30-150	A
Decachlorobiphenyl	91		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING PHASE II

Project Number: 1700516

Lab Number: L1705986

Report Date: 03/06/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Chlorinated Herbicides - Westborough Lab Associated sample(s): 05 Batch: WG981666-2 WG981666-3									
MCPP	112		75		40-140	**40**	Q	30	A
MCPA	93		64		40-140	**37**	Q	30	A
Dalapon	67		50		40-140	29		30	A
Dicamba	82		60		40-140	**31**	Q	30	A
Dichloroprop	134		94		40-140	**35**	Q	30	A
2,4-D	92		67		40-140	**31**	Q	30	A
2,4-DB	110		76		40-140	**37**	Q	30	A
2,4,5-T	88		68		40-140	26		30	A
2,4,5-TP (Silvex)	82		60		40-140	**31**	Q	30	A
Dinoseb	**5**	Q	**3**	Q	40-140	**59**	Q	30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	104		75		30-150	A
DCAA	89		64		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING PHASE II

Project Number: 1700516

Lab Number: L1705986

Report Date: 03/06/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 05 Batch: WG981906-2 WG981906-3									
Delta-BHC	84		96		40-140	13		30	A
Lindane	84		93		40-140	10		30	A
Alpha-BHC	94		106		40-140	12		30	A
Beta-BHC	95		107		40-140	12		30	A
Heptachlor	87		102		40-140	16		30	A
Aldrin	92		110		40-140	18		30	A
Heptachlor epoxide	93		104		40-140	11		30	A
Endrin	88		102		40-140	15		30	A
Endrin ketone	84		92		40-140	9		30	A
Dieldrin	95		109		40-140	14		30	A
4,4'-DDE	91		105		40-140	14		30	A
4,4'-DDD	93		103		40-140	10		30	A
4,4'-DDT	95		103		40-140	8		30	A
Endosulfan I	91		102		40-140	11		30	A
Endosulfan II	94		105		40-140	11		30	A
Endosulfan sulfate	74		80		40-140	8		30	A
Methoxychlor	95		108		40-140	13		30	A
Hexachlorobenzene	82		89		40-140	8		30	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING PHASE II

Project Number: 1700516

Lab Number: L1705986

Report Date: 03/06/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 05 Batch: WG981906-2 WG981906-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	83		86		30-150	B
Decachlorobiphenyl	69		70		30-150	B
2,4,5,6-Tetrachloro-m-xylene	91		97		30-150	A
Decachlorobiphenyl	94		100		30-150	A

METALS

Project Name: TREMONT CROSSING PHASE II
Lab Number: L1705986
Project Number: 1700516
Report Date: 03/06/17

SAMPLE RESULTS

Lab ID: L1705986-01
Client ID: 1700516-TP-101(0-3')
Sample Location: BOSTON, MASSACHUSETTS
Matrix: Soil
Percent Solids: 84%

Date Collected: 02/26/17 12:55
Date Received: 02/27/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.3	--	1	02/28/17 23:00	03/01/17 22:17	EPA 3050B	97,6010C	AB
Arsenic, Total	5.1		mg/kg	0.46	--	1	02/28/17 23:00	03/01/17 22:17	EPA 3050B	97,6010C	AB
Barium, Total	54		mg/kg	0.46	--	1	02/28/17 23:00	03/01/17 22:17	EPA 3050B	97,6010C	AB
Beryllium, Total	0.36		mg/kg	0.23	--	1	02/28/17 23:00	03/01/17 22:17	EPA 3050B	97,6010C	AB
Cadmium, Total	ND		mg/kg	0.46	--	1	02/28/17 23:00	03/01/17 22:17	EPA 3050B	97,6010C	AB
Chromium, Total	11		mg/kg	0.46	--	1	02/28/17 23:00	03/01/17 22:17	EPA 3050B	97,6010C	AB
Lead, Total	130		mg/kg	2.3	--	1	02/28/17 23:00	03/01/17 22:17	EPA 3050B	97,6010C	AB
Mercury, Total	0.417		mg/kg	0.075	--	1	03/01/17 08:40	03/02/17 10:58	EPA 7471B	97,7471B	BV
Nickel, Total	8.3		mg/kg	1.2	--	1	02/28/17 23:00	03/01/17 22:17	EPA 3050B	97,6010C	AB
Selenium, Total	ND		mg/kg	2.3	--	1	02/28/17 23:00	03/01/17 22:17	EPA 3050B	97,6010C	AB
Silver, Total	ND		mg/kg	0.46	--	1	02/28/17 23:00	03/01/17 22:17	EPA 3050B	97,6010C	AB
Thallium, Total	ND		mg/kg	2.3	--	1	02/28/17 23:00	03/01/17 22:17	EPA 3050B	97,6010C	AB
Vanadium, Total	21		mg/kg	0.46	--	1	02/28/17 23:00	03/01/17 22:17	EPA 3050B	97,6010C	AB
Zinc, Total	100		mg/kg	2.3	--	1	02/28/17 23:00	03/01/17 22:17	EPA 3050B	97,6010C	AB

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1705986

Project Number: 1700516 **Report Date:** 03/06/17

SAMPLE RESULTS

Lab ID: L1705986-02 Date Collected: 02/26/17 09:00

Client ID: 1700516-TP-103(0-3') Date Received: 02/27/17

Sample Location: BOSTON, MASSACHUSETTS Field Prep: Not Specified

Matrix: Soil

Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Arsenic, Total	5.2		mg/kg	0.43	--	1	02/28/17 23:00	03/01/17 22:22	EPA 3050B	97,6010C	AB
Barium, Total	34		mg/kg	0.43	--	1	02/28/17 23:00	03/01/17 22:22	EPA 3050B	97,6010C	AB
Cadmium, Total	ND		mg/kg	0.43	--	1	02/28/17 23:00	03/01/17 22:22	EPA 3050B	97,6010C	AB
Chromium, Total	13		mg/kg	0.43	--	1	02/28/17 23:00	03/01/17 22:22	EPA 3050B	97,6010C	AB
Lead, Total	38		mg/kg	2.2	--	1	02/28/17 23:00	03/01/17 22:22	EPA 3050B	97,6010C	AB
Mercury, Total	0.326		mg/kg	0.071	--	1	03/01/17 08:40	03/02/17 11:00	EPA 7471B	97,7471B	BV
Selenium, Total	ND		mg/kg	2.2	--	1	02/28/17 23:00	03/01/17 22:22	EPA 3050B	97,6010C	AB
Silver, Total	ND		mg/kg	0.43	--	1	02/28/17 23:00	03/01/17 22:22	EPA 3050B	97,6010C	AB

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1705986

Project Number: 1700516 **Report Date:** 03/06/17

SAMPLE RESULTS

Lab ID: L1705986-03 Date Collected: 02/26/17 09:30

Client ID: 1700516-TP-104(0-3') Date Received: 02/27/17

Sample Location: BOSTON, MASSACHUSETTS Field Prep: Not Specified

Matrix: Soil

Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Arsenic, Total	7.1		mg/kg	0.47	--	1	02/28/17 23:00	03/01/17 22:26	EPA 3050B	97,6010C	AB
Barium, Total	47		mg/kg	0.47	--	1	02/28/17 23:00	03/01/17 22:26	EPA 3050B	97,6010C	AB
Cadmium, Total	ND		mg/kg	0.47	--	1	02/28/17 23:00	03/01/17 22:26	EPA 3050B	97,6010C	AB
Chromium, Total	15		mg/kg	0.47	--	1	02/28/17 23:00	03/01/17 22:26	EPA 3050B	97,6010C	AB
Lead, Total	97		mg/kg	2.3	--	1	02/28/17 23:00	03/01/17 22:26	EPA 3050B	97,6010C	AB
Mercury, Total	0.420		mg/kg	0.078	--	1	03/01/17 08:40	03/02/17 11:02	EPA 7471B	97,7471B	BV
Selenium, Total	ND		mg/kg	2.3	--	1	02/28/17 23:00	03/01/17 22:26	EPA 3050B	97,6010C	AB
Silver, Total	ND		mg/kg	0.47	--	1	02/28/17 23:00	03/01/17 22:26	EPA 3050B	97,6010C	AB

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1705986

Project Number: 1700516 **Report Date:** 03/06/17

SAMPLE RESULTS

Lab ID: L1705986-05 Date Collected: 02/26/17 13:30

Client ID: 1700516-TP-105(0-10') Date Received: 02/27/17

Sample Location: BOSTON, MASSACHUSETTS Field Prep: Not Specified

Matrix: Soil

Percent Solids: 85%

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	2.3	--	1	02/28/17 23:00	03/01/17 22:30	EPA 3050B	97,6010C	AB
Arsenic, Total	12		mg/kg	0.45	--	1	02/28/17 23:00	03/01/17 22:30	EPA 3050B	97,6010C	AB
Barium, Total	79		mg/kg	0.45	--	1	02/28/17 23:00	03/01/17 22:30	EPA 3050B	97,6010C	AB
Beryllium, Total	0.33		mg/kg	0.23	--	1	02/28/17 23:00	03/01/17 22:30	EPA 3050B	97,6010C	AB
Cadmium, Total	ND		mg/kg	0.45	--	1	02/28/17 23:00	03/01/17 22:30	EPA 3050B	97,6010C	AB
Chromium, Total	12		mg/kg	0.45	--	1	02/28/17 23:00	03/01/17 22:30	EPA 3050B	97,6010C	AB
Lead, Total	270		mg/kg	2.3	--	1	02/28/17 23:00	03/01/17 22:30	EPA 3050B	97,6010C	AB
Mercury, Total	0.532		mg/kg	0.078	--	1	03/01/17 08:40	03/02/17 11:06	EPA 7471B	97,7471B	BV
Nickel, Total	24		mg/kg	1.1	--	1	02/28/17 23:00	03/01/17 22:30	EPA 3050B	97,6010C	AB
Selenium, Total	ND		mg/kg	2.3	--	1	02/28/17 23:00	03/01/17 22:30	EPA 3050B	97,6010C	AB
Silver, Total	ND		mg/kg	0.45	--	1	02/28/17 23:00	03/01/17 22:30	EPA 3050B	97,6010C	AB
Thallium, Total	ND		mg/kg	2.3	--	1	02/28/17 23:00	03/01/17 22:30	EPA 3050B	97,6010C	AB
Vanadium, Total	23		mg/kg	0.45	--	1	02/28/17 23:00	03/01/17 22:30	EPA 3050B	97,6010C	AB
Zinc, Total	190		mg/kg	2.3	--	1	02/28/17 23:00	03/01/17 22:30	EPA 3050B	97,6010C	AB

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1705986

Project Number: 1700516 **Report Date:** 03/06/17

SAMPLE RESULTS

Lab ID: L1705986-06 Date Collected: 02/26/17 07:40

Client ID: 1700516-TP-106(0-2') Date Received: 02/27/17

Sample Location: BOSTON, MASSACHUSETTS Field Prep: Not Specified

Matrix: Soil

Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Arsenic, Total	4.3		mg/kg	0.45	--	1	02/28/17 23:00	03/01/17 22:35	EPA 3050B	97,6010C	AB
Barium, Total	24		mg/kg	0.45	--	1	02/28/17 23:00	03/01/17 22:35	EPA 3050B	97,6010C	AB
Cadmium, Total	ND		mg/kg	0.45	--	1	02/28/17 23:00	03/01/17 22:35	EPA 3050B	97,6010C	AB
Chromium, Total	6.8		mg/kg	0.45	--	1	02/28/17 23:00	03/01/17 22:35	EPA 3050B	97,6010C	AB
Lead, Total	52		mg/kg	2.2	--	1	02/28/17 23:00	03/01/17 22:35	EPA 3050B	97,6010C	AB
Mercury, Total	0.262		mg/kg	0.072	--	1	03/01/17 08:40	03/02/17 11:07	EPA 7471B	97,7471B	BV
Selenium, Total	ND		mg/kg	2.2	--	1	02/28/17 23:00	03/01/17 22:35	EPA 3050B	97,6010C	AB
Silver, Total	ND		mg/kg	0.45	--	1	02/28/17 23:00	03/01/17 22:35	EPA 3050B	97,6010C	AB

Project Name: TREMONT CROSSING PHASE II
Lab Number: L1705986
Project Number: 1700516
Report Date: 03/06/17

SAMPLE RESULTS

Lab ID: L1705986-07
Client ID: 1700516-TP-107(0-3')
Sample Location: BOSTON, MASSACHUSETTS
Matrix: Soil
Percent Solids: 87%

Date Collected: 02/26/17 10:55
Date Received: 02/27/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.2	--	1	02/28/17 23:00	03/01/17 22:39	EPA 3050B	97,6010C	AB
Arsenic, Total	8.2		mg/kg	0.45	--	1	02/28/17 23:00	03/01/17 22:39	EPA 3050B	97,6010C	AB
Barium, Total	98		mg/kg	0.45	--	1	02/28/17 23:00	03/01/17 22:39	EPA 3050B	97,6010C	AB
Beryllium, Total	0.36		mg/kg	0.22	--	1	02/28/17 23:00	03/01/17 22:39	EPA 3050B	97,6010C	AB
Cadmium, Total	ND		mg/kg	0.45	--	1	02/28/17 23:00	03/01/17 22:39	EPA 3050B	97,6010C	AB
Chromium, Total	17		mg/kg	0.45	--	1	02/28/17 23:00	03/01/17 22:39	EPA 3050B	97,6010C	AB
Lead, Total	290		mg/kg	2.2	--	1	02/28/17 23:00	03/01/17 22:39	EPA 3050B	97,6010C	AB
Mercury, Total	1.25		mg/kg	0.073	--	1	03/01/17 08:40	03/02/17 11:09	EPA 7471B	97,7471B	BV
Nickel, Total	11		mg/kg	1.1	--	1	02/28/17 23:00	03/01/17 22:39	EPA 3050B	97,6010C	AB
Selenium, Total	ND		mg/kg	2.2	--	1	02/28/17 23:00	03/01/17 22:39	EPA 3050B	97,6010C	AB
Silver, Total	ND		mg/kg	0.45	--	1	02/28/17 23:00	03/01/17 22:39	EPA 3050B	97,6010C	AB
Thallium, Total	ND		mg/kg	2.2	--	1	02/28/17 23:00	03/01/17 22:39	EPA 3050B	97,6010C	AB
Vanadium, Total	21		mg/kg	0.45	--	1	02/28/17 23:00	03/01/17 22:39	EPA 3050B	97,6010C	AB
Zinc, Total	110		mg/kg	2.2	--	1	02/28/17 23:00	03/01/17 22:39	EPA 3050B	97,6010C	AB

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1705986

Project Number: 1700516 **Report Date:** 03/06/17

SAMPLE RESULTS

Lab ID: L1705986-09 Date Collected: 02/26/17 12:05

Client ID: 1700516-TP-108(0-8') Date Received: 02/27/17

Sample Location: BOSTON, MASSACHUSETTS Field Prep: Not Specified

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											
Arsenic, Total	5.0		mg/kg	0.46	--	1	02/28/17 23:00	03/01/17 22:43	EPA 3050B	97,6010C	AB
Barium, Total	42		mg/kg	0.46	--	1	02/28/17 23:00	03/01/17 22:43	EPA 3050B	97,6010C	AB
Cadmium, Total	ND		mg/kg	0.46	--	1	02/28/17 23:00	03/01/17 22:43	EPA 3050B	97,6010C	AB
Chromium, Total	12		mg/kg	0.46	--	1	02/28/17 23:00	03/01/17 22:43	EPA 3050B	97,6010C	AB
Lead, Total	80		mg/kg	2.3	--	1	02/28/17 23:00	03/01/17 22:43	EPA 3050B	97,6010C	AB
Mercury, Total	0.460		mg/kg	0.074	--	1	03/01/17 08:40	03/02/17 11:11	EPA 7471B	97,7471B	BV
Selenium, Total	ND		mg/kg	2.3	--	1	02/28/17 23:00	03/01/17 22:43	EPA 3050B	97,6010C	AB
Silver, Total	ND		mg/kg	0.46	--	1	02/28/17 23:00	03/01/17 22:43	EPA 3050B	97,6010C	AB

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1705986

Project Number: 1700516 **Report Date:** 03/06/17

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): 01-03,05-07,09 Batch: WG981726-1										
Antimony, Total	ND		mg/kg	2.0	--	1	02/28/17 23:00	03/01/17 21:15	97,6010C	AB
Arsenic, Total	ND		mg/kg	0.40	--	1	02/28/17 23:00	03/01/17 21:15	97,6010C	AB
Barium, Total	ND		mg/kg	0.40	--	1	02/28/17 23:00	03/01/17 21:15	97,6010C	AB
Beryllium, Total	ND		mg/kg	0.20	--	1	02/28/17 23:00	03/01/17 21:15	97,6010C	AB
Cadmium, Total	ND		mg/kg	0.40	--	1	02/28/17 23:00	03/01/17 21:15	97,6010C	AB
Chromium, Total	ND		mg/kg	0.40	--	1	02/28/17 23:00	03/01/17 21:15	97,6010C	AB
Lead, Total	ND		mg/kg	2.0	--	1	02/28/17 23:00	03/01/17 21:15	97,6010C	AB
Nickel, Total	ND		mg/kg	1.0	--	1	02/28/17 23:00	03/01/17 21:15	97,6010C	AB
Selenium, Total	ND		mg/kg	2.0	--	1	02/28/17 23:00	03/01/17 21:15	97,6010C	AB
Silver, Total	ND		mg/kg	0.40	--	1	02/28/17 23:00	03/01/17 21:15	97,6010C	AB
Thallium, Total	ND		mg/kg	2.0	--	1	02/28/17 23:00	03/01/17 21:15	97,6010C	AB
Vanadium, Total	ND		mg/kg	0.40	--	1	02/28/17 23:00	03/01/17 21:15	97,6010C	AB
Zinc, Total	ND		mg/kg	2.0	--	1	02/28/17 23:00	03/01/17 21:15	97,6010C	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): 01-03,05-07,09 Batch: WG981806-1										
Mercury, Total	ND		mg/kg	0.083	--	1	03/01/17 08:40	03/02/17 10:49	97,7471B	BV

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING PHASE II

Project Number: 1700516

Lab Number: L1705986

Report Date: 03/06/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01-03,05-07,09 Batch: WG981726-2 WG981726-3 SRM Lot Number: D091-540								
Antimony, Total	138		146		1-200	6		30
Arsenic, Total	96		103		80-121	7		30
Barium, Total	91		96		84-117	5		30
Beryllium, Total	92		99		83-117	7		30
Cadmium, Total	92		100		83-117	8		30
Chromium, Total	91		91		80-119	0		30
Lead, Total	89		96		82-118	8		30
Nickel, Total	93		101		83-117	8		30
Selenium, Total	90		96		79-121	6		30
Silver, Total	102		102		76-124	0		30
Thallium, Total	92		99		80-121	7		30
Vanadium, Total	87		96		78-122	10		30
Zinc, Total	93		98		82-118	5		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01-03,05-07,09 Batch: WG981806-2 WG981806-3 SRM Lot Number: D091-540								
Mercury, Total	104		97		72-128	7		30

INORGANICS
&
MISCELLANEOUS

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1705986
Report Date: 03/06/17

SAMPLE RESULTS

Lab ID: L1705986-05
Client ID: 1700516-TP-105(0-10')
Sample Location: BOSTON, MASSACHUSETTS
Matrix: Soil
Date Collected: 02/26/17 13:30
Date Received: 02/27/17
Field Prep: Not Specified

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	02/27/17 20:36	1,1030	JC

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1705986
Report Date: 03/06/17

SAMPLE RESULTS

Lab ID: L1705986-01
Client ID: 1700516-TP-101(0-3')
Sample Location: BOSTON, MASSACHUSETTS
Matrix: Soil

Date Collected: 02/26/17 12:55
Date Received: 02/27/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.4		%	0.100	NA	1	-	02/27/17 19:59	121,2540G	SB

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1705986
Report Date: 03/06/17

SAMPLE RESULTS

Lab ID: L1705986-02
Client ID: 1700516-TP-103(0-3')
Sample Location: BOSTON, MASSACHUSETTS
Matrix: Soil
Date Collected: 02/26/17 09:00
Date Received: 02/27/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.7		%	0.100	NA	1	-	02/27/17 19:59	121,2540G	SB

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1705986
Report Date: 03/06/17

SAMPLE RESULTS

Lab ID: L1705986-03
Client ID: 1700516-TP-104(0-3')
Sample Location: BOSTON, MASSACHUSETTS
Matrix: Soil

Date Collected: 02/26/17 09:30
Date Received: 02/27/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.7		%	0.100	NA	1	-	02/27/17 19:59	121,2540G	SB

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1705986
Report Date: 03/06/17

SAMPLE RESULTS

Lab ID: L1705986-04
Client ID: 1700516-TP-105(10')
Sample Location: BOSTON, MASSACHUSETTS
Matrix: Soil

Date Collected: 02/26/17 13:25
Date Received: 02/27/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.0		%	0.100	NA	1	-	02/27/17 19:59	121,2540G	SB

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1705986
Report Date: 03/06/17

SAMPLE RESULTS

Lab ID: L1705986-05
Client ID: 1700516-TP-105(0-10')
Sample Location: BOSTON, MASSACHUSETTS
Matrix: Soil
Date Collected: 02/26/17 13:30
Date Received: 02/27/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	110		umhos/cm	10	--	1	-	02/28/17 01:26	1,9050A	KA
Solids, Total	85.3		%	0.100	NA	1	-	02/27/17 19:59	121,2540G	SB
pH (H)	8.1		SU	-	NA	1	-	02/27/17 20:48	1,9045D	AS
Cyanide, Reactive	ND		mg/kg	10	--	1	03/01/17 18:15	03/01/17 19:55	1,7.3	TL
Sulfide, Reactive	ND		mg/kg	10	--	1	03/01/17 18:15	03/01/17 19:46	1,7.3	TL
Oxidation/Reduction Potential	190		mv	-	NA	1	-	02/28/17 03:29	68,1498	KA
Paint Filter Liquid	NEGATIVE		-	0	NA	1	-	03/01/17 16:29	1,9095B	AS

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1705986
Report Date: 03/06/17

SAMPLE RESULTS

Lab ID: L1705986-06
Client ID: 1700516-TP-106(0-2')
Sample Location: BOSTON, MASSACHUSETTS
Matrix: Soil

Date Collected: 02/26/17 07:40
Date Received: 02/27/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.3		%	0.100	NA	1	-	02/27/17 19:59	121,2540G	SB

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1705986
Report Date: 03/06/17

SAMPLE RESULTS

Lab ID: L1705986-07
Client ID: 1700516-TP-107(0-3')
Sample Location: BOSTON, MASSACHUSETTS
Matrix: Soil

Date Collected: 02/26/17 10:55
Date Received: 02/27/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.7		%	0.100	NA	1	-	02/27/17 19:59	121,2540G	SB

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1705986
Report Date: 03/06/17

SAMPLE RESULTS

Lab ID: L1705986-08
Client ID: 1700516-TP-108(8')
Sample Location: BOSTON, MASSACHUSETTS
Matrix: Soil

Date Collected: 02/26/17 11:50
Date Received: 02/27/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.8		%	0.100	NA	1	-	02/27/17 19:59	121,2540G	SB

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1705986
Report Date: 03/06/17

SAMPLE RESULTS

Lab ID: L1705986-09
Client ID: 1700516-TP-108(0-8')
Sample Location: BOSTON, MASSACHUSETTS
Matrix: Soil

Date Collected: 02/26/17 12:05
Date Received: 02/27/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.5		%	0.100	NA	1	-	02/27/17 19:59	121,2540G	SB

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1705986

Project Number: 1700516 **Report Date:** 03/06/17

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: WG982029-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	03/01/17 18:15	03/01/17 19:54	1,7.3	TL
General Chemistry - Westborough Lab for sample(s): 05 Batch: WG982032-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	03/01/17 18:15	03/01/17 19:45	1,7.3	TL

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING PHASE II

Project Number: 1700516

Lab Number: L1705986

Report Date: 03/06/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 05 Batch: WG981411-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 05 Batch: WG981443-1								
Specific Conductance	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 05 Batch: WG981444-1								
Oxidation/Reduction Potential	99		-		90-110	-		20
General Chemistry - Westborough Lab Associated sample(s): 05 Batch: WG982029-2								
Cyanide, Reactive	41		-		30-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 05 Batch: WG982032-2								
Sulfide, Reactive	84		-		60-125	-		40

Lab Duplicate Analysis
Batch Quality Control

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516

Lab Number: L1705986
Report Date: 03/06/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 05 QC Batch ID: WG981444-2 QC Sample: L1705986-05 Client ID: 1700516-TP-105(0-10')						
Oxidation/Reduction Potential	190	200	mv	5		20

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516

Lab Number: L1705986
Report Date: 03/06/17

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1705986-01A	Glass 120ml/4oz unpreserved	A	N/A	2.4	Y	Absent	MCP-8082-10(365),TS(7)
L1705986-01B	Glass 60ml unpreserved split	A	N/A	2.4	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)
L1705986-01C	Glass 60mL/2oz unpreserved	A	N/A	2.4	Y	Absent	HEXCR-RELOG()
L1705986-02A	Glass 120ml/4oz unpreserved	A	N/A	2.4	Y	Absent	MCP-8082-10(365),TS(7)
L1705986-02B	Glass 60ml unpreserved split	A	N/A	2.4	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)
L1705986-02C	Glass 60mL/2oz unpreserved	A	N/A	2.4	Y	Absent	HEXCR-RELOG()
L1705986-03A	Glass 120ml/4oz unpreserved	A	N/A	2.4	Y	Absent	MCP-8082-10(365),TS(7)
L1705986-03B	Glass 60ml unpreserved split	A	N/A	2.4	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)
L1705986-03C	Glass 60mL/2oz unpreserved	A	N/A	2.4	Y	Absent	HEXCR-RELOG()
L1705986-04A	Vial MeOH preserved	A	N/A	2.4	Y	Absent	MCP-8260H-10(14)
L1705986-04D	Plastic 2oz unpreserved for TS	A	N/A	2.4	Y	Absent	TS(7)
L1705986-05A	Glass 500ml/16oz unpreserved	A	N/A	2.4	Y	Absent	HEXCR-RELOG()

*Values in parentheses indicate holding time in days

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516

Lab Number: L1705986
Report Date: 03/06/17

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1705986-05B	Glass 60mL/2oz unpreserved	A	N/A	2.4	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)
L1705986-05C	Glass 500ml/16oz unpreserved	A	N/A	2.4	Y	Absent	IGNIT-1030(14),MCP-8082-10(365),ORP-9045(1),REACTS(14),MCP-8081-10(14),MCP-8151-10(14),MCP-8270-10(14),TS(7),PH-9045(1),PAINTF(),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L1705986-06A	Glass 120ml/4oz unpreserved	A	N/A	2.4	Y	Absent	MCP-8082-10(365),TS(7)
L1705986-06B	Glass 60ml unpreserved split	A	N/A	2.4	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)
L1705986-06C	Glass 60mL/2oz unpreserved	A	N/A	2.4	Y	Absent	HEXCR-RELOG()
L1705986-07A	Glass 120ml/4oz unpreserved	A	N/A	2.4	Y	Absent	MCP-8082-10(365),TS(7)
L1705986-07B	Glass 60ml unpreserved split	A	N/A	2.4	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)
L1705986-07C	Glass 60mL/2oz unpreserved	A	N/A	2.4	Y	Absent	HEXCR-RELOG()
L1705986-08A	Vial MeOH preserved	A	N/A	2.4	Y	Absent	VPH-DELUX-10(28)
L1705986-08B	Plastic 2oz unpreserved for TS	A	N/A	2.4	Y	Absent	TS(7)
L1705986-08C	Glass 120ml/4oz unpreserved	A	N/A	2.4	Y	Absent	EPH-DELUX-10(14)
L1705986-09A	Glass 120ml/4oz unpreserved	A	N/A	2.4	Y	Absent	MCP-8082-10(365),TS(7)

*Values in parentheses indicate holding time in days

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516

Lab Number: L1705986
Report Date: 03/06/17

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1705986-09B	Glass 60ml unpreserved split	A	N/A	2.4	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)
L1705986-09C	Glass 60mL/2oz unpreserved	A	N/A	2.4	Y	Absent	HEXCR-RELOG()

*Values in parentheses indicate holding time in days

Project Name:	TREMONT CROSSING PHASE II	**Lab Number:**	L1705986
Project Number:	1700516	**Report Date:**	03/06/17

GLOSSARY

Acronyms

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).
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.
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.
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.
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

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

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.

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.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
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

Report Format: Data Usability Report

Project Name:	TREMONT CROSSING PHASE II	**Lab Number:**	L1705986
Project Number:	1700516	**Report Date:**	03/06/17

Data Qualifiers

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.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

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.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name:	TREMONT CROSSING PHASE II	**Lab Number:**	L1705986
Project Number:	1700516	**Report Date:**	03/06/17

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

68 Annual Book of ASTM (American Society for Testing and Materials) Standards following extraction by SW-846 EPA Method 9045C under the requirements of MADEP BWSC, WSC-CAM-VIB. August 2004.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

98 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, July 2010.

100 Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility
EPA 624: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
SM 2540D: TSS
EPA 3005A NPW
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: 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**
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, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, 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 624: Volatile Halocarbons & Aromatics,
EPA 608: 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: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

Mansfield Facility:

Drinking Water
EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

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, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

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

Serial No:03061715:20

L1705966

coc edited 3/3/17-KER

Chain-of-Custody Record

Laboratory: ALPHA

Laboratory Job # (Lab use only)

GEI Consultants

400 Unicorn Park Drive
Woburn, MA 01801
PH: 781.721.4000
FX: 781.721.4073

Project Information

Project Name: Tremont Crossing Phase II

Project Number: 1700516

Project Location: Boston, Massachusetts

Project Manager: Cathy Johnson
(o) 781-721-4093 (c)781-424-9912

Send Report to: Jess Englehart

Send EDD to: labdata@geiconsultants.com

MCP PRESUMPTIVE CERTAINTY REQUIRED -- YES (NO)

If Yes, Are MCP Analytical Methods Required? (YES) NO NA

If Yes, Are Drinking Water Samples Submitted? YES (NO) NA

If Yes, Have You Met Minimum Field QC Requirements? YES NO (NA)

Sample Handling

Samples Field Filtered: YES NO (NA)

Sampled Shipped With Ice: (YES) NO

Lab Sample Number	GEI Sample ID	Collection Date	Collection Time	Matrix	No. of Bottles	Sampler(s) Initials	Preservative	VOCs 8260, % Solids	VPH, % Solids	EPH	SVOCs 8270	Total Petroleum Hydrocarbons (TPH)	Polychlorinated Biphenyls (PCBs)	MCP 14 Total Metals	RCRA 8 Metals	Conductivity, ignitability	Pesticides, Herbicides	Free liquids	Sulfide/Cyanide Reactivity	pH/ORP	Sample Specific Remarks
							MeOH / None	Analysis													
	1700516-TP-101 (0-3')	2/26/2017	12:55	SO	2	JTN							x	x							
	1700516-TP-103 (0-3')	2/26/2017	9:00	SO	2	JTN							x		x						
	1700516-TP-104 (0-3')	2/26/2017	9:30	SO	2	JTN							x		x						
	1700516-TP-105 (10')	2/26/2017	13:25	SO	2	JTN		x													
	1700516-TP-105 (0-10')	2/26/2017	13:30	SO	4	JTN					x	x	x	x		x	x	x	x	x	
	1700516-TP-106 (0-2')	2/26/2017	7:40	SO	2	JTN							x		x						
	1700516-TP-107 (0-3')	2/26/2017	10:55	SO	2	JTN							x	x							
	1700516-TP-108 (8')	2/26/2017	11:50	SO	3	JTN			x	x											
	1700516-TP-108 (0-8')	2/26/2017	12:05	SO	2	JTN							x		x						

MCP Level Needed: GEI requires the most stringent Method 1 MCP standard be met for all analytes whenever possible.

Relinquished by sampler: (signature)	Date:	Time:	Received by: (signature)
1.	2/26/2017	15:25	1. GEI Sample Fridge
2. GEI SAMPLE FRIDGE	2/27/17	13:25	2. C. Malagrida
3. C. Malagrida	2/27/17	13:25	3. Rob Maesto AAL
4. Rob Maesto	2/27/17	18:35	4.

Turnaround Time (Business days):

Normal _X__ Other ____

10-Day ____ 7-Day ____

5-Day _X__ 3-Day ____

Additional Requirements/Comments/Remarks:

Please run TCLP if any metals exceed 20x rule.

Please run hexavalent chromium if total chromium exceeds 100 mg/kg.

Serial No:03061715:20

L1705966

Chain-of-Custody Record

Laboratory: ALPHA

Laboratory Job # (Lab use only)

GEI Consultants

400 Unicorn Park Drive
Woburn, MA 01801
PH: 781.721.4000
FX: 781.721.4073

Project Information

Project Name: Tremont Crossing Phase II

Project Number: 1700516

Project Location: Boston, Massachusetts

Project Manager: Cathy Johnson
(o) 781-721-4093 (c)781-424-9912

Send Report to: Jess Englehart

Send EDD to: labdata@geiconsultants.com

MCP PRESUMPTIVE CERTAINTY REQUIRED -- YES (NO)

If Yes, Are MCP Analytical Methods Required? (YES) NO NA

If Yes, Are Drinking Water Samples Submitted? YES (NO) NA

If Yes, Have You Met Minimum Field QC Requirements? YES NO (NA)

Sample Handling

Samples Field Filtered: YES NO (NA)

Sampled Shipped With Ice: (YES) NO

Lab Sample Number	GEI Sample ID	Collection Date	Collection Time	Matrix	No. of Bottles	Sampler(s) Initials	Preservative	VOCs 8260, % Solids	VPH, % Solids	EPH	SVOCs 8270	Total Petroleum Hydrocarbons (TPH)	Polychlorinated Biphenyls (PCBs)	MCP 14 Total Metals	RCRA 8 Metals	Conductivity, ignitability	Pesticides, Herbicides	Free liquids	Sulfide/Cyanide Reactivity	pH/ORP	Sample Specific Remarks
							MeOH / None	Analysis													
	1700516-TP-101 (0-3')	2/26/2017	12:55	SO	2	JTN							x	x							
	1700516-TP-103 (0-3')	2/26/2017	9:00	SO	2	JTN							x		x						
	1700516-TP-104 (0-3')	2/26/2017	9:30	SO	2	JTN							x		x						
	1700516-TP-105 (10')	2/26/2017	13:25	SO	2	JTN		x													
	1700516-TP-105 (0-10')	2/26/2017	13:30	SO	4	JTN					x	x	x	x		x	x	x	x	x	
	1700516-TP-106 (0-2')	2/26/2017	7:40	SO	2	JTN							x		x						
	1700516-TP-107 (0-3')	2/26/2017	10:55	SO	2	JTN							x	x							
	1700516-TP-108 (8')	2/26/2017	11:50	SO	3	JTN			x	x											
	1700516-TP-108 (0-8')	2/26/2017	12:05	SO	2	JTN							x		x						

MCP Level Needed: GEI requires the most stringent Method 1 MCP standard be met for all analytes whenever possible.

Relinquished by sampler: (signature)	Date:	Time:	Received by: (signature)
1.	2/26/2017	15:25	1. GEI Sample Fridge
2. GEI SAMPLE FRIDGE	2/27/17	13:25	2. C. Malagrida
3. C. Malagrida	2/27/17	13:25	3. Rob Maesto AAL
4. Rob Maesto	2/27/17	18:35	4.

Turnaround Time (Business days):

Normal _X__ Other ____

10-Day ____ 7-Day ____

5-Day _X__ 3-Day ____

Additional Requirements/Comments/Remarks:

Please run TCLP if any metals exceed 20x rule.

Please run hexavalent chromium if total chromium exceeds 100 mg/kg.

Method Blank Summary
Form 4

Client	: GEI Consultants	**Lab Number**	: L1705986
Project Name	: TREMONT CROSSING PHASE II	**Project Number**	: 1700516
Lab Sample ID	: WG982317-5	**Lab File ID**	: V10170302A05
Instrument ID	: VOA110		
Matrix	: SOIL	**Analysis Date**	: 03/02/17 08:38

Client Sample No.	Lab Sample ID	Analysis Date
WG982317-3LCS	WG982317-3	03/02/17 06:54
WG982317-4LCSD	WG982317-4	03/02/17 07:20
1700516-TP-105(10')	L1705986-04	03/02/17 09:56

Continuing Calibration
Form 7

Client	: GEI Consultants	Lab Number	: L1705986	
Project Name	: TREMONT CROSSING PHASE II	Project Number	: 1700516	
Instrument ID	: VOA110	Calibration Date	: 03/02/17 06:54	
Lab File ID	: V10170302A01	Init. Calib. Date(s)	: 02/21/17	02/21/17
Sample No	: WG982317-2	Init. Calib. Times	: 16:17	19:20
Channel	:			

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	138	0
Dichlorodifluoromethane	0.351	0.404	-	-15.1	20	164	0
Chloromethane	0.269	0.307	-	-14.1	20	158	0
Vinyl chloride	0.267	0.295	-	-10.5	20	156	0
Bromomethane	0.202	0.195	-	3.5	20	143	.01
Chloroethane	0.168	0.154	-	8.3	20	127	.04
Trichlorofluoromethane	0.445	0.466	-	-4.7	20	139	.04
Ethyl ether	0.158	0.146	-	7.6	20	132	0
1,1-Dichloroethene	0.221	0.25	-	-13.1	20	163	.01
Carbon disulfide	20	17.279	-	13.6	20	125	.02
Freon-113	0.206	0.236	-	-14.6	20	160	.02
Acrolein	0.046	0.045	-	2.2	20	151	0
Methylene chloride	20	18.966	-	5.2	20	139	0
Acetone	0.056	0.066	-	-17.9	20	169	0
trans-1,2-Dichloroethene	0.25	0.272	-	-8.8	20	154	0
Methyl acetate	0.153	0.147	-	3.9	20	139	0
Methyl tert-butyl ether	0.676	0.736	-	-8.9	20	158	0
tert-Butyl alcohol	0.018	0.02	-	-11.1	20	160	-.01
Diisopropyl ether	0.758	0.841	-	-10.9	20	154	0
1,1-Dichloroethane	0.425	0.458	-	-7.8	20	148	0
Halothane	0.17	0.181	-	-6.5	20	150	0
Acrylonitrile	20	18.959	-	5.2	20	138	0
Ethyl tert-butyl ether	0.616	0.695	-	-12.8	20	160	0
Vinyl acetate	20	19.066	-	4.7	20	146	0
cis-1,2-Dichloroethene	0.269	0.283	-	-5.2	20	146	0
2,2-Dichloropropane	0.313	0.377	-	-20.4*	20	177	0
Bromochloromethane	0.128	0.127	-	0.8	20	135	0
Cyclohexane	0.342	0.411	-	-20.2*	20	168	0
Chloroform	0.457	0.459	-	-0.4	20	137	0
Ethyl acetate	0.204	0.207	-	-1.5	20	142	0
Carbon tetrachloride	0.32	0.338	-	-5.6	20	153	0
Tetrahydrofuran	0.072	0.088	-	-22.2*	20	166	0
Dibromofluoromethane	0.256	0.25	-	2.3	20	133	0
1,1,1-Trichloroethane	0.393	0.425	-	-8.1	20	152	0
2-Butanone	0.09	0.074	-	17.8	20	126	.01
1,1-Dichloropropene	0.31	0.349	-	-12.6	20	155	0
Benzene	0.996	1.034	-	-3.8	20	143	0
tert-Amyl methyl ether	0.54	0.606	-	-12.2	20	164	0
1,2-Dichloroethane-d4	0.27	0.254	-	5.9	20	129	0
1,2-Dichloroethane	0.339	0.32	-	5.6	20	129	0
Methyl cyclohexane	0.35	0.396	-	-13.1	20	167	0
Trichloroethene	0.262	0.265	-	-1.1	20	141	0
Dibromomethane	0.151	0.139	-	7.9	20	128	0
1,2-Dichloropropane	0.232	0.23	-	0.9	20	138	0
2-Chloroethyl vinyl ether	20	16.654	-	16.7	20	146	0

* Value outside of QC limits.

Continuing Calibration
Form 7

Client	: GEI Consultants	Lab Number	: L1705986	
Project Name	: TREMONT CROSSING PHASE II	Project Number	: 1700516	
Instrument ID	: VOA110	Calibration Date	: 03/02/17 06:54	
Lab File ID	: V10170302A01	Init. Calib. Date(s)	: 02/21/17	02/21/17
Sample No	: WG982317-2	Init. Calib. Times	: 16:17	19:20
Channel	:			

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Bromodichloromethane	0.337	0.303	-	10.1	20	127	0
1,4-Dioxane	0.00229	0.00216	-	5.7	20	136	0
cis-1,3-Dichloropropene	20	18.345	-	8.3	20	145	0
Chlorobenzene-d5	1	1	-	0	20	137	0
Toluene-d8	1.233	1.264	-	-2.5	20	138	0
Toluene	0.846	0.86	-	-1.7	20	138	0
4-Methyl-2-pentanone	0.089	0.08	-	10.1	20	149	0
Tetrachloroethene	0.33	0.338	-	-2.4	20	143	0
trans-1,3-Dichloropropene	0.402	0.405	-	-0.7	20	143	0
Ethyl methacrylate	20	16.61	-	17	20	139	0
1,1,2-Trichloroethane	0.243	0.234	-	3.7	20	130	0
Chlorodibromomethane	0.324	0.284	-	12.3	20	125	0
1,3-Dichloropropane	0.472	0.457	-	3.2	20	132	0
1,2-Dibromoethane	0.267	0.253	-	5.2	20	131	0
2-Hexanone	20	15.221	-	23.9*	20	144	0
Chlorobenzene	0.965	0.923	-	4.4	20	130	0
Ethylbenzene	1.513	1.568	-	-3.6	20	137	0
1,1,1,2-Tetrachloroethane	0.334	0.312	-	6.6	20	128	0
p/m Xylene	0.58	0.61	-	-5.2	20	135	0
o Xylene	0.54	0.563	-	-4.3	20	135	0
Styrene	0.952	0.933	-	2	20	126	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	128	0
Bromoform	0.396	0.326	-	17.7	20	116	0
Isopropylbenzene	2.879	3.172	-	-10.2	20	141	0
4-Bromofluorobenzene	0.867	0.919	-	-6	20	138	0
Bromobenzene	0.743	0.709	-	4.6	20	126	0
n-Propylbenzene	3.513	3.767	-	-7.2	20	136	0
1,4-Dichlorobutane	0.894	0.902	-	-0.9	20	130	0
1,1,2,2-Tetrachloroethane	0.714	0.657	-	8	20	122	0
4-Ethyltoluene	2.879	3.092	-	-7.4	20	134	0
2-Chlorotoluene	2.146	2.211	-	-3	20	129	0
1,3,5-Trimethylbenzene	2.51	2.652	-	-5.7	20	130	0
1,2,3-Trichloropropane	0.577	0.541	-	6.2	20	125	0
trans-1,4-Dichloro-2-buten	0.175	0.16	-	8.6	20	120	0
4-Chlorotoluene	2.122	2.195	-	-3.4	20	130	0
tert-Butylbenzene	2.051	2.2	-	-7.3	20	138	0
1,2,4-Trimethylbenzene	2.467	2.604	-	-5.6	20	130	0
sec-Butylbenzene	3.173	3.434	-	-8.2	20	136	0
p-Isopropyltoluene	2.626	2.798	-	-6.5	20	135	0
1,3-Dichlorobenzene	1.484	1.425	-	4	20	124	0
1,4-Dichlorobenzene	1.534	1.423	-	7.2	20	121	0
p-Diethylbenzene	1.524	1.6	-	-5	20	134	0
n-Butylbenzene	2.502	2.691	-	-7.6	20	134	0
1,2-Dichlorobenzene	1.392	1.279	-	8.1	20	122	0
1,2,4,5-Tetramethylbenzene	20	17.973	-	10.1	20	130	0

* Value outside of QC limits.

Continuing Calibration
Form 7

Client	: GEI Consultants	**Lab Number**	: L1705986	
Project Name	: TREMONT CROSSING PHASE II	**Project Number**	: 1700516	
Instrument ID	: VOA110	**Calibration Date**	: 03/02/17 06:54	
Lab File ID	: V10170302A01	**Init. Calib. Date(s)**	: 02/21/17	02/21/17
Sample No	: WG982317-2	**Init. Calib. Times**	: 16:17	19:20
Channel	:			

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dibromo-3-chloropropan	0.09	0.074	-	17.8	20	115	0
1,3,5-Trichlorobenzene	1.022	0.971	-	5	20	123	0
Hexachlorobutadiene	0.493	0.474	-	3.9	20	134	0
1,2,4-Trichlorobenzene	0.876	0.839	-	4.2	20	127	0
Naphthalene	20	16.947	-	15.3	20	124	0
1,2,3-Trichlorobenzene	0.839	0.783	-	6.7	20	123	0

*** Value outside of QC limits.**

I:\Pest18\170305a\18170305a-01.d

Data File Name	**18170305a-01.d**
Data File Path	**I:\Pest18\170305a**
Operator	**PEST18:RLLOADED**
Date Acquired	**3/5/2017 15:40**
Acq. Method File	**PEST.M**
Sample Name	**deg std pp7743**
Instrument Name	**Pest 18**

Name	Ret Time	Response	
Endrin	4.62	219619712.7	% Breakdown
Endrin Aldehyde	5.07	987037.33	
Endrin Ketone	5.58	2407069.085	1.52%
4,4'-DDT	4.68	417950479.9	% Breakdown
4,4'-DDE	4.89	730446.415	
4,4'-DDD	4.68	957828.207	0.40%
Endrin #2	5.23	86461154.37	% Breakdown
Endrin Aldehyde #2	5.60	801660.04	
Endrin Ketone #2	6.16	853836.172	1.88%
4,4'-DDT #2	5.60	158556907.4	% Breakdown
4,4'-DDE #2	4.87	362250.074	
4,4'-DDD #2	5.29	984909.046	0.84%

######### Data File Path **I:\Pest17\150918**

wg981906-1,2,3
L1705986-05

ANALYTICAL REPORT

Lab Number:	L1706294
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Cathy Johnson
Phone:	(781) 721-4000
Project Name:	TREMONT CROSSING
Project Number:	1700516
Report Date:	03/08/17

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

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

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706294
Report Date: 03/08/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1706294-01	1700516-B302-S4 (0-8")	SOIL	BOSTON, MA	02/27/17 23:50	03/01/17
L1706294-02	1700516-B307-S7 (6-18")	SOIL	BOSTON, MA	02/27/17 19:40	03/01/17

Project Name: TREMONT CROSSING **Lab Number:** L1706294

Project Number: 1700516 **Report Date:** 03/08/17

MADEP MCP Response Action Analytical Report Certification

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

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	YES
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

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

Project Name: TREMONT CROSSING **Lab Number:** L1706294
Project Number: 1700516 **Report Date:** 03/08/17

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

Project Name:	TREMONT CROSSING	**Lab Number:**	L1706294
Project Number:	1700516	**Report Date:**	03/08/17

Case Narrative (continued)

MCP Related Narratives

Volatile Organics

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:

The initial calibration, associated with L1706294-01 and -02, did not meet the method required minimum response factor on the lowest calibration standard for acetone (0.0788), 2-butanone (0.0798), 4-methyl-2-pentanone (0.0579), and 1,4-dioxane (0.0021), as well as the average response factor for acetone, 2-butanone, 4-methyl-2-pentanone, and 1,4-dioxane.

The continuing calibration standard, associated with L1706294-01 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.

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: 03/08/17

ORGANICS

VOLATILES

Project Name: TREMONT CROSSING **Lab Number:** L1706294

Project Number: 1700516 **Report Date:** 03/08/17

SAMPLE RESULTS

Lab ID: L1706294-01
Client ID: 1700516-B302-S4 (0-8")
Sample Location: BOSTON, MA
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 03/05/17 11:04
Analyst: MV
Percent Solids: 79%

Date Collected: 02/27/17 23:50
Date Received: 03/01/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	500	--	1
1,1-Dichloroethane	ND		ug/kg	75	--	1
Chloroform	ND		ug/kg	75	--	1
Carbon tetrachloride	ND		ug/kg	50	--	1
1,2-Dichloropropane	ND		ug/kg	180	--	1
Dibromochloromethane	ND		ug/kg	50	--	1
1,1,2-Trichloroethane	ND		ug/kg	75	--	1
Tetrachloroethene	ND		ug/kg	50	--	1
Chlorobenzene	ND		ug/kg	50	--	1
Trichlorofluoromethane	ND		ug/kg	200	--	1
1,2-Dichloroethane	ND		ug/kg	50	--	1
1,1,1-Trichloroethane	ND		ug/kg	50	--	1
Bromodichloromethane	ND		ug/kg	50	--	1
trans-1,3-Dichloropropene	ND		ug/kg	50	--	1
cis-1,3-Dichloropropene	ND		ug/kg	50	--	1
1,3-Dichloropropene, Total	ND		ug/kg	50	--	1
1,1-Dichloropropene	ND		ug/kg	200	--	1
Bromoform	ND		ug/kg	200	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	50	--	1
Benzene	ND		ug/kg	50	--	1
Toluene	ND		ug/kg	75	--	1
Ethylbenzene	ND		ug/kg	50	--	1
Chloromethane	ND		ug/kg	200	--	1
Bromomethane	ND		ug/kg	100	--	1
Vinyl chloride	ND		ug/kg	100	--	1
Chloroethane	ND		ug/kg	100	--	1
1,1-Dichloroethene	ND		ug/kg	50	--	1
trans-1,2-Dichloroethene	ND		ug/kg	75	--	1
Trichloroethene	ND		ug/kg	50	--	1
1,2-Dichlorobenzene	ND		ug/kg	200	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706294

Project Number: 1700516 **Report Date:** 03/08/17

SAMPLE RESULTS

Lab ID: L1706294-01 Date Collected: 02/27/17 23:50

Client ID: 1700516-B302-S4 (0-8") Date Received: 03/01/17

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 5035 High - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	200	--	1
1,4-Dichlorobenzene	ND		ug/kg	200	--	1
Methyl tert butyl ether	ND		ug/kg	100	--	1
p/m-Xylene	ND		ug/kg	100	--	1
o-Xylene	ND		ug/kg	100	--	1
Xylenes, Total	ND		ug/kg	100	--	1
cis-1,2-Dichloroethene	ND		ug/kg	50	--	1
1,2-Dichloroethene, Total	ND		ug/kg	50	--	1
Dibromomethane	ND		ug/kg	200	--	1
1,2,3-Trichloropropane	ND		ug/kg	200	--	1
Styrene	ND		ug/kg	100	--	1
Dichlorodifluoromethane	ND		ug/kg	500	--	1
Acetone	ND		ug/kg	1800	--	1
Carbon disulfide	ND		ug/kg	200	--	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	200	--	1
Tetrahydrofuran	ND		ug/kg	200	--	1
2,2-Dichloropropane	ND		ug/kg	250	--	1
1,2-Dibromoethane	ND		ug/kg	200	--	1
1,3-Dichloropropane	ND		ug/kg	200	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	50	--	1
Bromobenzene	ND		ug/kg	250	--	1
n-Butylbenzene	ND		ug/kg	50	--	1
sec-Butylbenzene	ND		ug/kg	50	--	1
tert-Butylbenzene	ND		ug/kg	200	--	1
o-Chlorotoluene	ND		ug/kg	200	--	1
p-Chlorotoluene	ND		ug/kg	200	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	200	--	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
1,2,3-Trichlorobenzene	ND		ug/kg	200	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	200	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	200	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	200	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706294

Project Number: 1700516 **Report Date:** 03/08/17

SAMPLE RESULTS

Lab ID: L1706294-01 Date Collected: 02/27/17 23:50

Client ID: 1700516-B302-S4 (0-8") Date Received: 03/01/17

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 5035 High - Westborough Lab						
Diethyl ether	ND		ug/kg	250	--	1
Diisopropyl Ether	ND		ug/kg	200	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	200	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	200	--	1
1,4-Dioxane	ND		ug/kg	2000	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	95		70-130

Project Name: TREMONT CROSSING **Lab Number:** L1706294

Project Number: 1700516 **Report Date:** 03/08/17

SAMPLE RESULTS

Lab ID: L1706294-02
Client ID: 1700516-B307-S7 (6-18")
Sample Location: BOSTON, MA
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 03/05/17 11:29
Analyst: MV
Percent Solids: 81%

Date Collected: 02/27/17 19:40
Date Received: 03/01/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	530	--	1
1,1-Dichloroethane	ND		ug/kg	80	--	1
Chloroform	ND		ug/kg	80	--	1
Carbon tetrachloride	ND		ug/kg	53	--	1
1,2-Dichloropropane	ND		ug/kg	180	--	1
Dibromochloromethane	ND		ug/kg	53	--	1
1,1,2-Trichloroethane	ND		ug/kg	80	--	1
Tetrachloroethene	ND		ug/kg	53	--	1
Chlorobenzene	ND		ug/kg	53	--	1
Trichlorofluoromethane	ND		ug/kg	210	--	1
1,2-Dichloroethane	ND		ug/kg	53	--	1
1,1,1-Trichloroethane	ND		ug/kg	53	--	1
Bromodichloromethane	ND		ug/kg	53	--	1
trans-1,3-Dichloropropene	ND		ug/kg	53	--	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	210	--	1
Bromoform	ND		ug/kg	210	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	53	--	1
Benzene	ND		ug/kg	53	--	1
Toluene	ND		ug/kg	80	--	1
Ethylbenzene	ND		ug/kg	53	--	1
Chloromethane	ND		ug/kg	210	--	1
Bromomethane	ND		ug/kg	110	--	1
Vinyl chloride	ND		ug/kg	110	--	1
Chloroethane	ND		ug/kg	110	--	1
1,1-Dichloroethene	ND		ug/kg	53	--	1
trans-1,2-Dichloroethene	ND		ug/kg	80	--	1
Trichloroethene	ND		ug/kg	53	--	1
1,2-Dichlorobenzene	ND		ug/kg	210	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706294

Project Number: 1700516 **Report Date:** 03/08/17

SAMPLE RESULTS

Lab ID: L1706294-02 Date Collected: 02/27/17 19:40

Client ID: 1700516-B307-S7 (6-18") Date Received: 03/01/17

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 5035 High - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	210	--	1
1,4-Dichlorobenzene	ND		ug/kg	210	--	1
Methyl tert butyl ether	ND		ug/kg	110	--	1
p/m-Xylene	ND		ug/kg	110	--	1
o-Xylene	ND		ug/kg	110	--	1
Xylenes, Total	ND		ug/kg	110	--	1
cis-1,2-Dichloroethene	ND		ug/kg	53	--	1
1,2-Dichloroethene, Total	ND		ug/kg	53	--	1
Dibromomethane	ND		ug/kg	210	--	1
1,2,3-Trichloropropane	ND		ug/kg	210	--	1
Styrene	ND		ug/kg	110	--	1
Dichlorodifluoromethane	ND		ug/kg	530	--	1
Acetone	ND		ug/kg	1900	--	1
Carbon disulfide	ND		ug/kg	210	--	1
Methyl ethyl ketone	ND		ug/kg	530	--	1
Methyl isobutyl ketone	ND		ug/kg	530	--	1
2-Hexanone	ND		ug/kg	530	--	1
Bromochloromethane	ND		ug/kg	210	--	1
Tetrahydrofuran	ND		ug/kg	210	--	1
2,2-Dichloropropane	ND		ug/kg	260	--	1
1,2-Dibromoethane	ND		ug/kg	210	--	1
1,3-Dichloropropane	ND		ug/kg	210	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	53	--	1
Bromobenzene	ND		ug/kg	260	--	1
n-Butylbenzene	ND		ug/kg	53	--	1
sec-Butylbenzene	ND		ug/kg	53	--	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	210	--	1
Hexachlorobutadiene	ND		ug/kg	210	--	1
Isopropylbenzene	ND		ug/kg	53	--	1
p-Isopropyltoluene	ND		ug/kg	53	--	1
Naphthalene	ND		ug/kg	210	--	1
n-Propylbenzene	ND		ug/kg	53	--	1
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

Project Name: TREMONT CROSSING **Lab Number:** L1706294

Project Number: 1700516 **Report Date:** 03/08/17

SAMPLE RESULTS

Lab ID: L1706294-02 Date Collected: 02/27/17 19:40

Client ID: 1700516-B307-S7 (6-18") Date Received: 03/01/17

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 5035 High - Westborough Lab						
Diethyl ether	ND		ug/kg	260	--	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	2100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	94		70-130

Project Name: TREMONT CROSSING **Lab Number:** L1706294

Project Number: 1700516 **Report Date:** 03/08/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 03/05/17 09:46
Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01-02 Batch: WG983145-5					
Methylene chloride	ND		ug/kg	500	--
1,1-Dichloroethane	ND		ug/kg	75	--
Chloroform	ND		ug/kg	75	--
Carbon tetrachloride	ND		ug/kg	50	--
1,2-Dichloropropane	ND		ug/kg	180	--
Dibromochloromethane	ND		ug/kg	50	--
1,1,2-Trichloroethane	ND		ug/kg	75	--
Tetrachloroethene	ND		ug/kg	50	--
Chlorobenzene	ND		ug/kg	50	--
Trichlorofluoromethane	ND		ug/kg	200	--
1,2-Dichloroethane	ND		ug/kg	50	--
1,1,1-Trichloroethane	ND		ug/kg	50	--
Bromodichloromethane	ND		ug/kg	50	--
trans-1,3-Dichloropropene	ND		ug/kg	50	--
cis-1,3-Dichloropropene	ND		ug/kg	50	--
1,3-Dichloropropene, Total	ND		ug/kg	50	--
1,1-Dichloropropene	ND		ug/kg	200	--
Bromoform	ND		ug/kg	200	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	50	--
Benzene	ND		ug/kg	50	--
Toluene	ND		ug/kg	75	--
Ethylbenzene	ND		ug/kg	50	--
Chloromethane	ND		ug/kg	200	--
Bromomethane	ND		ug/kg	100	--
Vinyl chloride	ND		ug/kg	100	--
Chloroethane	ND		ug/kg	100	--
1,1-Dichloroethene	ND		ug/kg	50	--
trans-1,2-Dichloroethene	ND		ug/kg	75	--
Trichloroethene	ND		ug/kg	50	--

Project Name: TREMONT CROSSING **Lab Number:** L1706294

Project Number: 1700516 **Report Date:** 03/08/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 03/05/17 09:46
Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01-02 Batch: WG983145-5					
1,2-Dichlorobenzene	ND		ug/kg	200	--
1,3-Dichlorobenzene	ND		ug/kg	200	--
1,4-Dichlorobenzene	ND		ug/kg	200	--
Methyl tert butyl ether	ND		ug/kg	100	--
p/m-Xylene	ND		ug/kg	100	--
o-Xylene	ND		ug/kg	100	--
Xylenes, Total	ND		ug/kg	100	--
cis-1,2-Dichloroethene	ND		ug/kg	50	--
1,2-Dichloroethene, Total	ND		ug/kg	50	--
Dibromomethane	ND		ug/kg	200	--
1,2,3-Trichloropropane	ND		ug/kg	200	--
Styrene	ND		ug/kg	100	--
Dichlorodifluoromethane	ND		ug/kg	500	--
Acetone	ND		ug/kg	1800	--
Carbon disulfide	ND		ug/kg	200	--
Methyl ethyl ketone	ND		ug/kg	500	--
Methyl isobutyl ketone	ND		ug/kg	500	--
2-Hexanone	ND		ug/kg	500	--
Bromochloromethane	ND		ug/kg	200	--
Tetrahydrofuran	ND		ug/kg	200	--
2,2-Dichloropropane	ND		ug/kg	250	--
1,2-Dibromoethane	ND		ug/kg	200	--
1,3-Dichloropropane	ND		ug/kg	200	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	50	--
Bromobenzene	ND		ug/kg	250	--
n-Butylbenzene	ND		ug/kg	50	--
sec-Butylbenzene	ND		ug/kg	50	--
tert-Butylbenzene	ND		ug/kg	200	--
o-Chlorotoluene	ND		ug/kg	200	--

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706294
Report Date: 03/08/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 03/05/17 09:46
Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01-02 Batch: WG983145-5					
p-Chlorotoluene	ND		ug/kg	200	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	200	--
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	200	--
1,2,4-Trichlorobenzene	ND		ug/kg	200	--
1,3,5-Trimethylbenzene	ND		ug/kg	200	--
1,2,4-Trimethylbenzene	ND		ug/kg	200	--
Diethyl ether	ND		ug/kg	250	--
Diisopropyl Ether	ND		ug/kg	200	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	200	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	200	--
1,4-Dioxane	ND		ug/kg	2000	--
2-Chloroethylvinyl ether	ND		ug/kg	1000	--
Halothane	ND		ug/kg	2000	--
Ethyl Acetate	ND		ug/kg	1000	--
Freon-113	ND		ug/kg	1000	--
Vinyl acetate	ND		ug/kg	500	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	101		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706294
Report Date: 03/08/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01-02 Batch: WG983145-3 WG983145-4								
Methylene chloride	91		89		70-130	2		20
1,1-Dichloroethane	104		98		70-130	6		20
Chloroform	100		97		70-130	3		20
Carbon tetrachloride	106		100		70-130	6		20
1,2-Dichloropropane	99		94		70-130	5		20
Dibromochloromethane	90		88		70-130	2		20
1,1,2-Trichloroethane	96		93		70-130	3		20
Tetrachloroethene	97		93		70-130	4		20
Chlorobenzene	93		90		70-130	3		20
Trichlorofluoromethane	106		99		70-130	7		20
1,2-Dichloroethane	97		94		70-130	3		20
1,1,1-Trichloroethane	107		101		70-130	6		20
Bromodichloromethane	94		91		70-130	3		20
trans-1,3-Dichloropropene	99		95		70-130	4		20
cis-1,3-Dichloropropene	89		84		70-130	6		20
1,1-Dichloropropene	106		99		70-130	7		20
Bromoform	86		83		70-130	4		20
1,1,2,2-Tetrachloroethane	92		91		70-130	1		20
Benzene	101		97		70-130	4		20
Toluene	97		93		70-130	4		20
Ethylbenzene	100		95		70-130	5		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706294
Report Date: 03/08/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01-02 Batch: WG983145-3 WG983145-4								
Chloromethane	103		98		70-130	5		20
Bromomethane	96		97		70-130	1		20
Vinyl chloride	98		92		70-130	6		20
Chloroethane	89		86		70-130	3		20
1,1-Dichloroethene	104		98		70-130	6		20
trans-1,2-Dichloroethene	101		94		70-130	7		20
Trichloroethene	102		96		70-130	6		20
1,2-Dichlorobenzene	90		88		70-130	2		20
1,3-Dichlorobenzene	93		89		70-130	4		20
1,4-Dichlorobenzene	90		86		70-130	5		20
Methyl tert butyl ether	104		101		70-130	3		20
p/m-Xylene	102		96		70-130	6		20
o-Xylene	100		95		70-130	5		20
cis-1,2-Dichloroethene	100		97		70-130	3		20
Dibromomethane	94		93		70-130	1		20
1,2,3-Trichloropropane	92		92		70-130	0		20
Styrene	96		93		70-130	3		20
Dichlorodifluoromethane	103		97		70-130	6		20
Acetone	115		112		70-130	3		20
Carbon disulfide	81		76		70-130	6		20
Methyl ethyl ketone	94		97		70-130	3		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706294
Report Date: 03/08/17

MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01-02 Batch: WG983145-3 WG983145-4

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Methyl isobutyl ketone	82		80		70-130	2		20
2-Hexanone	**69**	Q	71		70-130	3		20
Bromochloromethane	100		95		70-130	5		20
Tetrahydrofuran	117		115		70-130	2		20
2,2-Dichloropropane	115		109		70-130	5		20
1,2-Dibromoethane	92		92		70-130	0		20
1,3-Dichloropropane	96		93		70-130	3		20
1,1,1,2-Tetrachloroethane	94		91		70-130	3		20
Bromobenzene	92		89		70-130	3		20
n-Butylbenzene	100		95		70-130	5		20
sec-Butylbenzene	101		96		70-130	5		20
tert-Butylbenzene	99		95		70-130	4		20
o-Chlorotoluene	98		95		70-130	3		20
p-Chlorotoluene	97		94		70-130	3		20
1,2-Dibromo-3-chloropropane	86		84		70-130	2		20
Hexachlorobutadiene	91		87		70-130	4		20
Isopropylbenzene	99		94		70-130	5		20
p-Isopropyltoluene	98		94		70-130	4		20
Naphthalene	80		78		70-130	3		20
n-Propylbenzene	99		94		70-130	5		20
1,2,3-Trichlorobenzene	90		87		70-130	3		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706294
Report Date: 03/08/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01-02 Batch: WG983145-3 WG983145-4								
1,2,4-Trichlorobenzene	91		87		70-130	4		20
1,3,5-Trimethylbenzene	99		95		70-130	4		20
1,2,4-Trimethylbenzene	99		95		70-130	4		20
Diethyl ether	91		93		70-130	2		20
Diisopropyl Ether	104		101		70-130	3		20
Ethyl-Tert-Butyl-Ether	106		103		70-130	3		20
Tertiary-Amyl Methyl Ether	108		106		70-130	2		20
1,4-Dioxane	87		87		70-130	0		20
2-Chloroethylvinyl ether	**46**	Q	**24**	Q	70-130	**63**	Q	20
Halothane	103		98		70-130	5		20
Ethyl Acetate	99		99		70-130	0		20
Freon-113	106		100		70-130	6		20
Vinyl acetate	94		92		70-130	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	100		100		70-130
Toluene-d8	100		98		70-130
4-Bromofluorobenzene	100		103		70-130
Dibromofluoromethane	103		102		70-130

PETROLEUM HYDROCARBONS

Project Name: TREMONT CROSSING **Lab Number:** L1706294

Project Number: 1700516 **Report Date:** 03/08/17

SAMPLE RESULTS

Lab ID:	L1706294-01	Date Collected:	02/27/17 23:50
Client ID:	1700516-B302-S4 (0-8")	Date Received:	03/01/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Matrix:	Soil		
Analytical Method:	100,VPH-04-1.1		
Analytical Date:	03/06/17 23:29		
Analyst:	KD		
Percent Solids:	79%		

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Covering the Soil
Methanol ratio:	1:1.7

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	2.62	--	1
C9-C12 Aliphatics	ND		mg/kg	2.62	--	1
C9-C10 Aromatics	ND		mg/kg	2.62	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	2.62	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	2.62	--	1
Benzene	ND		mg/kg	0.105	--	1
Toluene	ND		mg/kg	0.105	--	1
Ethylbenzene	ND		mg/kg	0.105	--	1
p/m-Xylene	ND		mg/kg	0.105	--	1
o-Xylene	ND		mg/kg	0.105	--	1
Methyl tert butyl ether	ND		mg/kg	0.053	--	1
Naphthalene	ND		mg/kg	0.210	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	117		70-130
2,5-Dibromotoluene-FID	122		70-130

Project Name: TREMONT CROSSING **Lab Number:** L1706294

Project Number: 1700516 **Report Date:** 03/08/17

SAMPLE RESULTS

Lab ID:	L1706294-01	Date Collected:	02/27/17 23:50
Client ID:	1700516-B302-S4 (0-8")	Date Received:	03/01/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	03/02/17 10:00
Analytical Date:	03/04/17 07:31	Cleanup Method1:	EPH-04-1
Analyst:	SR	Cleanup Date1:	03/03/17
Percent Solids:	79%		

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Sample Extraction method:	Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	8.14	--	1
C19-C36 Aliphatics	ND		mg/kg	8.14	--	1
C11-C22 Aromatics	ND		mg/kg	8.14	--	1
C11-C22 Aromatics, Adjusted	ND		mg/kg	8.14	--	1
Naphthalene	ND		mg/kg	0.407	--	1
2-Methylnaphthalene	ND		mg/kg	0.407	--	1
Acenaphthylene	ND		mg/kg	0.407	--	1
Acenaphthene	ND		mg/kg	0.407	--	1
Fluorene	ND		mg/kg	0.407	--	1
Phenanthrene	ND		mg/kg	0.407	--	1
Anthracene	ND		mg/kg	0.407	--	1
Fluoranthene	ND		mg/kg	0.407	--	1
Pyrene	ND		mg/kg	0.407	--	1
Benzo(a)anthracene	ND		mg/kg	0.407	--	1
Chrysene	ND		mg/kg	0.407	--	1
Benzo(b)fluoranthene	ND		mg/kg	0.407	--	1
Benzo(k)fluoranthene	ND		mg/kg	0.407	--	1
Benzo(a)pyrene	ND		mg/kg	0.407	--	1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.407	--	1
Dibenzo(a,h)anthracene	ND		mg/kg	0.407	--	1
Benzo(ghi)perylene	ND		mg/kg	0.407	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706294

Project Number: 1700516 **Report Date:** 03/08/17

SAMPLE RESULTS

Lab ID:	L1706294-01	Date Collected:	02/27/17 23:50
Client ID:	1700516-B302-S4 (0-8")	Date Received:	03/01/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	65		40-140
o-Terphenyl	80		40-140
2-Fluorobiphenyl	91		40-140
2-Bromonaphthalene	92		40-140

Project Name: TREMONT CROSSING **Lab Number:** L1706294

Project Number: 1700516 **Report Date:** 03/08/17

SAMPLE RESULTS

Lab ID:	L1706294-02	Date Collected:	02/27/17 19:40
Client ID:	1700516-B307-S7 (6-18")	Date Received:	03/01/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Matrix:	Soil		
Analytical Method:	100,VPH-04-1.1		
Analytical Date:	03/07/17 00:09		
Analyst:	KD		
Percent Solids:	81%		

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Covering the Soil
Methanol ratio:	1:1.5

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	2.82	--	1
C9-C12 Aliphatics	ND		mg/kg	2.82	--	1
C9-C10 Aromatics	ND		mg/kg	2.82	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	2.82	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	2.82	--	1
Benzene	ND		mg/kg	0.113	--	1
Toluene	ND		mg/kg	0.113	--	1
Ethylbenzene	ND		mg/kg	0.113	--	1
p/m-Xylene	ND		mg/kg	0.113	--	1
o-Xylene	ND		mg/kg	0.113	--	1
Methyl tert butyl ether	ND		mg/kg	0.056	--	1
Naphthalene	ND		mg/kg	0.226	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	103		70-130
2,5-Dibromotoluene-FID	108		70-130

Project Name: TREMONT CROSSING **Lab Number:** L1706294

Project Number: 1700516 **Report Date:** 03/08/17

SAMPLE RESULTS

Lab ID:	L1706294-02	Date Collected:	02/27/17 19:40
Client ID:	1700516-B307-S7 (6-18")	Date Received:	03/01/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	03/02/17 10:00
Analytical Date:	03/04/17 08:13	Cleanup Method1:	EPH-04-1
Analyst:	SR	Cleanup Date1:	03/03/17
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	8.21	--	1
C19-C36 Aliphatics	ND		mg/kg	8.21	--	1
C11-C22 Aromatics	ND		mg/kg	8.21	--	1
C11-C22 Aromatics, Adjusted	ND		mg/kg	8.21	--	1
Naphthalene	ND		mg/kg	0.410	--	1
2-Methylnaphthalene	ND		mg/kg	0.410	--	1
Acenaphthylene	ND		mg/kg	0.410	--	1
Acenaphthene	ND		mg/kg	0.410	--	1
Fluorene	ND		mg/kg	0.410	--	1
Phenanthrene	ND		mg/kg	0.410	--	1
Anthracene	ND		mg/kg	0.410	--	1
Fluoranthene	ND		mg/kg	0.410	--	1
Pyrene	ND		mg/kg	0.410	--	1
Benzo(a)anthracene	ND		mg/kg	0.410	--	1
Chrysene	ND		mg/kg	0.410	--	1
Benzo(b)fluoranthene	ND		mg/kg	0.410	--	1
Benzo(k)fluoranthene	ND		mg/kg	0.410	--	1
Benzo(a)pyrene	ND		mg/kg	0.410	--	1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.410	--	1
Dibenzo(a,h)anthracene	ND		mg/kg	0.410	--	1
Benzo(ghi)perylene	ND		mg/kg	0.410	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706294

Project Number: 1700516 **Report Date:** 03/08/17

SAMPLE RESULTS

Lab ID:	L1706294-02	Date Collected:	02/27/17 19:40
Client ID:	1700516-B307-S7 (6-18")	Date Received:	03/01/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	62		40-140
o-Terphenyl	83		40-140
2-Fluorobiphenyl	92		40-140
2-Bromonaphthalene	93		40-140

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706294
Report Date: 03/08/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 03/04/17 00:07
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 03/02/17 10:00
Cleanup Method: EPH-04-1
Cleanup Date: 03/03/17

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-02 Batch: WG982202-1					
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	--
Naphthalene	ND		mg/kg	0.321	--
2-Methylnaphthalene	ND		mg/kg	0.321	--
Acenaphthylene	ND		mg/kg	0.321	--
Acenaphthene	ND		mg/kg	0.321	--
Fluorene	ND		mg/kg	0.321	--
Phenanthrene	ND		mg/kg	0.321	--
Anthracene	ND		mg/kg	0.321	--
Fluoranthene	ND		mg/kg	0.321	--
Pyrene	ND		mg/kg	0.321	--
Benzo(a)anthracene	ND		mg/kg	0.321	--
Chrysene	ND		mg/kg	0.321	--
Benzo(b)fluoranthene	ND		mg/kg	0.321	--
Benzo(k)fluoranthene	ND		mg/kg	0.321	--
Benzo(a)pyrene	ND		mg/kg	0.321	--
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.321	--
Dibenzo(a,h)anthracene	ND		mg/kg	0.321	--
Benzo(ghi)perylene	ND		mg/kg	0.321	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	44		40-140
o-Terphenyl	69		40-140
2-Fluorobiphenyl	69		40-140
2-Bromonaphthalene	70		40-140

Project Name: TREMONT CROSSING **Lab Number:** L1706294

Project Number: 1700516 **Report Date:** 03/08/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 100,VPH-04-1.1
Analytical Date: 03/06/17 18:27
Analyst: KD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-02 Batch: WG983639-4					
C5-C8 Aliphatics	ND		mg/kg	2.67	--
C9-C12 Aliphatics	ND		mg/kg	2.67	--
C9-C10 Aromatics	ND		mg/kg	2.67	--
C5-C8 Aliphatics, Adjusted	ND		mg/kg	2.67	--
C9-C12 Aliphatics, Adjusted	ND		mg/kg	2.67	--
Benzene	ND		mg/kg	0.107	--
Toluene	ND		mg/kg	0.107	--
Ethylbenzene	ND		mg/kg	0.107	--
p/m-Xylene	ND		mg/kg	0.107	--
o-Xylene	ND		mg/kg	0.107	--
Methyl tert butyl ether	ND		mg/kg	0.053	--
Naphthalene	ND		mg/kg	0.213	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	89		70-130
2,5-Dibromotoluene-FID	93		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706294
Report Date: 03/08/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-02 Batch: WG982202-2 WG982202-3								
C9-C18 Aliphatics	43		61		40-140	**35**	Q	25
C19-C36 Aliphatics	48		69		40-140	**36**	Q	25
C11-C22 Aromatics	81		69		40-140	16		25
Naphthalene	68		55		40-140	21		25
2-Methylnaphthalene	69		55		40-140	23		25
Acenaphthylene	72		58		40-140	22		25
Acenaphthene	74		60		40-140	21		25
Fluorene	76		63		40-140	19		25
Phenanthrene	77		66		40-140	15		25
Anthracene	82		71		40-140	14		25
Fluoranthene	77		68		40-140	12		25
Pyrene	77		69		40-140	11		25
Benzo(a)anthracene	76		65		40-140	16		25
Chrysene	81		71		40-140	13		25
Benzo(b)fluoranthene	78		65		40-140	18		25
Benzo(k)fluoranthene	82		71		40-140	14		25
Benzo(a)pyrene	72		62		40-140	15		25
Indeno(1,2,3-cd)Pyrene	77		65		40-140	17		25
Dibenzo(a,h)anthracene	82		70		40-140	16		25
Benzo(ghi)perylene	73		61		40-140	18		25
Nonane (C9)	36		50		30-140	**33**	Q	25

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706294

Report Date: 03/08/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-02 Batch: WG982202-2 WG982202-3								
Decane (C10)	**39**	Q	56		40-140	**36**	Q	25
Dodecane (C12)	41		58		40-140	**34**	Q	25
Tetradecane (C14)	42		60		40-140	**35**	Q	25
Hexadecane (C16)	44		63		40-140	**36**	Q	25
Octadecane (C18)	45		66		40-140	**38**	Q	25
Nonadecane (C19)	45		66		40-140	**38**	Q	25
Eicosane (C20)	46		68		40-140	**39**	Q	25
Docosane (C22)	47		68		40-140	**37**	Q	25
Tetracosane (C24)	47		68		40-140	**37**	Q	25
Hexacosane (C26)	47		68		40-140	**37**	Q	25
Octacosane (C28)	47		68		40-140	**37**	Q	25
Triacontane (C30)	46		67		40-140	**37**	Q	25
Hexatriacontane (C36)	45		63		40-140	**33**	Q	25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	**39**	Q	61		40-140
o-Terphenyl	93		81		40-140
2-Fluorobiphenyl	75		70		40-140
2-Bromonaphthalene	78		73		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706294

Report Date: 03/08/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-02 Batch: WG983639-2 WG983639-3								
C5-C8 Aliphatics	102		102		70-130	0		25
C9-C12 Aliphatics	102		102		70-130	0		25
C9-C10 Aromatics	95		97		70-130	1		25
Benzene	95		95		70-130	0		25
Toluene	95		95		70-130	0		25
Ethylbenzene	95		95		70-130	0		25
p/m-Xylene	96		96		70-130	0		25
o-Xylene	96		96		70-130	1		25
Methyl tert butyl ether	93		95		70-130	2		25
Naphthalene	90		95		70-130	5		25
1,2,4-Trimethylbenzene	95		97		70-130	2		25
Pentane	100		101		70-130	1		25
2-Methylpentane	101		101		70-130	0		25
2,2,4-Trimethylpentane	103		104		70-130	1		25
n-Nonane	103		103		30-130	0		25
n-Decane	101		101		70-130	0		25
n-Butylcyclohexane	102		103		70-130	1		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706294

Report Date: 03/08/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-02 Batch: WG983639-2 WG983639-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	95		94		70-130
2,5-Dibromotoluene-FID	98		96		70-130

INORGANICS
&
MISCELLANEOUS

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706294
Report Date: 03/08/17

SAMPLE RESULTS

Lab ID: L1706294-01
Client ID: 1700516-B302-S4 (0-8")
Sample Location: BOSTON, MA
Matrix: Soil

Date Collected: 02/27/17 23:50
Date Received: 03/01/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	78.8		%	0.100	NA	1	-	03/02/17 09:11	121,2540G	RO

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706294
Report Date: 03/08/17

SAMPLE RESULTS

Lab ID: L1706294-02
Client ID: 1700516-B307-S7 (6-18")
Sample Location: BOSTON, MA
Matrix: Soil
Date Collected: 02/27/17 19:40
Date Received: 03/01/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.7		%	0.100	NA	1	-	03/02/17 09:11	121,2540G	RO

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706294
Report Date: 03/08/17

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1706294-01A	Vial MeOH preserved	A	N/A	5.6	Y	Absent	VPH-DELUX-10(28)
L1706294-01B	Vial MeOH preserved	A	N/A	5.6	Y	Absent	MCP-8260H-10(14)
L1706294-01D	Glass 120ml/4oz unpreserved	A	N/A	5.6	Y	Absent	TS(7),EPH-DELUX-10(14)
L1706294-02A	Vial MeOH preserved	A	N/A	5.6	Y	Absent	VPH-DELUX-10(28)
L1706294-02B	Vial MeOH preserved	A	N/A	5.6	Y	Absent	MCP-8260H-10(14)
L1706294-02D	Glass 120ml/4oz unpreserved	A	N/A	5.6	Y	Absent	EPH-DELUX-10(14)
L1706294-02E	Plastic 2oz unpreserved for TS	A	N/A	5.6	Y	Absent	TS(7)

*Values in parentheses indicate holding time in days

Project Name:	TREMONT CROSSING	**Lab Number:**	L1706294
Project Number:	1700516	**Report Date:**	03/08/17

GLOSSARY

Acronyms

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).
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.
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.
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.
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

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

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.

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.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
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

Report Format: Data Usability Report

Project Name:	TREMONT CROSSING	**Lab Number:**	L1706294
Project Number:	1700516	**Report Date:**	03/08/17

Data Qualifiers

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.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

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.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name:	TREMONT CROSSING	**Lab Number:**	L1706294
Project Number:	1700516	**Report Date:**	03/08/17

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.

100 Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility
EPA 624: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
SM 2540D: TSS
EPA 3005A NPW
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: 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**
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, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, 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 624: Volatile Halocarbons & Aromatics,
EPA 608: 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: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

Mansfield Facility:

Drinking Water
EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

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, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

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

Chain-of-Custody Record

Laboratory: ALPHA

Laboratory Job # (Lab use only) L1706294

GEI Consultants
400 Unicorn Park Drive
Woburn, MA 01801
PH: 781.721.4000
FX: 781.721.4073

Project Information

Project Name: Tremont Crossing
Project Number: 1700516
Project Location: Boston, MA
Project Manager: Cathy Johnson
Page 1 **of** 1

Send Report to: Jessica Englehart
Send EDD to: labdata@geiconsultants.com

MCP PRESUMPTIVE CERTAINTY REQUIRED -- YES (circled) NO

If Yes, Are MCP Analytical Methods Required?	YES (circled)	NO	NA
Are Drinking Water Samples Submitted?	YES	NO (circled)	NA
If Yes, Have Drinking Water Sampling Requirements Been Met?	YES	NO	NA (circled)

Sample Handling
Samples Field Filtered: YES NO NA (circled)
Sampled Shipped With Ice: YES (circled) NO

Preservative: MeOH / MeOH / None / None

Lab Sample Number	GEI Sample ID	Collection Date	Collection Time	Matrix	No. of Bottles	Sampler(s) Initials	VOCs	VPH	EPH	% Solids					Sample Specific Remarks
06294-01	1700516-B302-S4(0-8")	2.27.17	2350	SO	3	JTN	x	x	x	x					
-02	1700516-B307-S7(6-18")	2.27.17	1940	SO	4	JTN	x	x	x	x					

MCP Level Needed: GEI requires that, within the specified method, the most stringent Method 1 MCP standard be met for all analytes whenever possible.

Relinquished by: (signature)	Date	Time	Received by: (signature)
1. [signature]	2.28.17	0130	1. GEI Sample Fridge
2. GEI Sample Fridge	3/1/17	1100	2. [signature]
3. [signature]	3/1/17	1100	3. [signature] AAC
4. [signature] AAC	3-1-17	15:45	4. [signature] AAC

Turnaround Time (Business days):
Normal X — Other ____
10-Day ____ — 7-Day ____
5-Day X — 3-Day ____

Before submitting rush turnaround samples, you **must** notify the laboratory to confirm that the TAT can be achieved.

Additional Requirements/Comments/Remarks:

Method Blank Summary
Form 4

Client	: GEI Consultants	**Lab Number**	: L1706294
Project Name	: TREMONT CROSSING	**Project Number**	: 1700516
Lab Sample ID	: WG983145-5	**Lab File ID**	: V10170305A05
Instrument ID	: VOA110		
Matrix	: SOIL	**Analysis Date**	: 03/05/17 09:46

Client Sample No.	Lab Sample ID	Analysis Date
WG983145-3LCS	WG983145-3	03/05/17 08:29
WG983145-4LCSD	WG983145-4	03/05/17 08:55
1700516-B302-S4 (0-8")	L1706294-01	03/05/17 11:04
1700516-B307-S7 (6-18")	L1706294-02	03/05/17 11:29

Continuing Calibration
Form 7

Client	: GEI Consultants	**Lab Number**	: L1706294	
Project Name	: TREMONT CROSSING	**Project Number**	: 1700516	
Instrument ID	: VOA110	**Calibration Date**	: 03/05/17 08:29	
Lab File ID	: V10170305A02	**Init. Calib. Date(s)**	: 02/21/17	02/21/17
Sample No	: WG983145-2	**Init. Calib. Times**	: 16:17	19:20
Channel	:			

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	101	0
Dichlorodifluoromethane	0.351	0.363	-	-3.4	20	108	0
Chloromethane	0.269	0.276	-	-2.6	20	104	0
Vinyl chloride	0.267	0.261	-	2.2	20	101	0
Bromomethane	0.202	0.194	-	4	20	104	0
Chloroethane	0.168	0.149	-	11.3	20	90	.04
Trichlorofluoromethane	0.445	0.473	-	-6.3	20	103	.04
Ethyl ether	0.158	0.144	-	8.9	20	95	0
1,1-Dichloroethene	0.221	0.229	-	-3.6	20	109	.01
Carbon disulfide	20	16.26	-	18.7	20	86	.02
Freon-113	0.206	0.218	-	-5.8	20	108	.02
Acrolein	0.046	0.042	-	8.7	20	102	0
Methylene chloride	20	18.209	-	9	20	98	0
Acetone	0.056	0.065	-	-16.1	20	122	0
trans-1,2-Dichloroethene	0.25	0.253	-	-1.2	20	104	0
Methyl acetate	0.153	0.146	-	4.6	20	101	0
Methyl tert-butyl ether	0.676	0.703	-	-4	20	111	0
tert-Butyl alcohol	0.018	0.019	-	-5.6	20	112	-.01
Diisopropyl ether	0.758	0.786	-	-3.7	20	105	0
1,1-Dichloroethane	0.425	0.44	-	-3.5	20	104	0
Halothane	0.17	0.176	-	-3.5	20	106	0
Acrylonitrile	20	18.935	-	5.3	20	100	0
Ethyl tert-butyl ether	0.616	0.651	-	-5.7	20	110	0
Vinyl acetate	20	18.904	-	5.5	20	105	0
cis-1,2-Dichloroethene	0.269	0.268	-	0.4	20	101	0
2,2-Dichloropropane	0.313	0.359	-	-14.7	20	123	0
Bromochloromethane	0.128	0.128	-	0	20	99	0
Cyclohexane	0.342	0.376	-	-9.9	20	113	0
Chloroform	0.457	0.459	-	-0.4	20	100	0
Ethyl acetate	0.204	0.201	-	1.5	20	100	0
Carbon tetrachloride	0.32	0.34	-	-6.3	20	112	0
Tetrahydrofuran	0.072	0.084	-	-16.7	20	115	0
Dibromofluoromethane	0.256	0.263	-	-2.7	20	102	0
1,1,1-Trichloroethane	0.393	0.421	-	-7.1	20	110	0
2-Butanone	0.09	0.085	-	5.6	20	106	.01
1,1-Dichloropropene	0.31	0.328	-	-5.8	20	106	0
Benzene	0.996	1.01	-	-1.4	20	102	0
tert-Amyl methyl ether	0.54	0.581	-	-7.6	20	115	0
1,2-Dichloroethane-d4	0.27	0.269	-	0.4	20	100	0
1,2-Dichloroethane	0.339	0.329	-	2.9	20	97	0
Methyl cyclohexane	0.35	0.365	-	-4.3	20	113	0
Trichloroethene	0.262	0.268	-	-2.3	20	104	0
Dibromomethane	0.151	0.143	-	5.3	20	97	0
1,2-Dichloropropane	0.232	0.229	-	1.3	20	100	0
2-Chloroethyl vinyl ether	20	9.093	-	54.5*	20	55	0

* Value outside of QC limits.

Continuing Calibration
Form 7

Client	: GEI Consultants	**Lab Number**	: L1706294	
Project Name	: TREMONT CROSSING	**Project Number**	: 1700516	
Instrument ID	: VOA110	**Calibration Date**	: 03/05/17 08:29	
Lab File ID	: V10170305A02	**Init. Calib. Date(s)**	: 02/21/17	02/21/17
Sample No	: WG983145-2	**Init. Calib. Times**	: 16:17	19:20
Channel	:			

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Bromodichloromethane	0.337	0.318	-	5.6	20	98	0
1,4-Dioxane	0.00229	0.002	-	12.7	20	93	0
cis-1,3-Dichloropropene	20	17.712	-	11.4	20	102	0
Chlorobenzene-d5	1	1	-	0	20	105	0
Toluene-d8	1.233	1.231	-	0.2	20	103	0
Toluene	0.846	0.82	-	3.1	20	102	0
4-Methyl-2-pentanone	0.089	0.073	-	18	20	104	0
Tetrachloroethene	0.33	0.321	-	2.7	20	104	0
trans-1,3-Dichloropropene	0.402	0.396	-	1.5	20	107	0
Ethyl methacrylate	20	15.631	-	21.8*	20	100	0
1,1,2-Trichloroethane	0.243	0.232	-	4.5	20	99	0
Chlorodibromomethane	0.324	0.294	-	9.3	20	99	0
1,3-Dichloropropane	0.472	0.451	-	4.4	20	100	0
1,2-Dibromoethane	0.267	0.245	-	8.2	20	97	0
2-Hexanone	20	13.824	-	30.9*	20	100	0
Chlorobenzene	0.965	0.902	-	6.5	20	98	0
Ethylbenzene	1.513	1.509	-	0.3	20	102	0
1,1,1,2-Tetrachloroethane	0.334	0.315	-	5.7	20	100	0
p/m Xylene	0.58	0.591	-	-1.9	20	101	0
o Xylene	0.54	0.543	-	-0.6	20	100	0
Styrene	0.952	0.918	-	3.6	20	95	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	105	0
Bromoform	0.396	0.342	-	13.6	20	99	0
Isopropylbenzene	2.879	2.854	-	0.9	20	103	0
4-Bromofluorobenzene	0.867	0.868	-	-0.1	20	107	0
Bromobenzene	0.743	0.681	-	8.3	20	99	0
n-Propylbenzene	3.513	3.465	-	1.4	20	102	0
1,4-Dichlorobutane	0.894	0.869	-	2.8	20	103	0
1,1,2,2-Tetrachloroethane	0.714	0.66	-	7.6	20	100	0
4-Ethyltoluene	2.879	2.853	-	0.9	20	101	0
2-Chlorotoluene	2.146	2.102	-	2.1	20	100	0
1,3,5-Trimethylbenzene	2.51	2.483	-	1.1	20	100	0
1,2,3-Trichloropropane	0.577	0.532	-	7.8	20	100	0
trans-1,4-Dichloro-2-buten	0.175	0.165	-	5.7	20	101	0
4-Chlorotoluene	2.122	2.059	-	3	20	100	0
tert-Butylbenzene	2.051	2.025	-	1.3	20	103	0
1,2,4-Trimethylbenzene	2.467	2.431	-	1.5	20	99	0
sec-Butylbenzene	3.173	3.196	-	-0.7	20	104	0
p-Isopropyltoluene	2.626	2.569	-	2.2	20	101	0
1,3-Dichlorobenzene	1.484	1.382	-	6.9	20	98	0
1,4-Dichlorobenzene	1.534	1.384	-	9.8	20	97	0
p-Diethylbenzene	1.524	1.465	-	3.9	20	100	0
n-Butylbenzene	2.502	2.514	-	-0.5	20	103	0
1,2-Dichlorobenzene	1.392	1.246	-	10.5	20	97	0
1,2,4,5-Tetramethylbenzene	20	16.51	-	17.4	20	97	0

* Value outside of QC limits.

Continuing Calibration
Form 7

Client	: GEI Consultants	**Lab Number**	: L1706294	
Project Name	: TREMONT CROSSING	**Project Number**	: 1700516	
Instrument ID	: VOA110	**Calibration Date**	: 03/05/17 08:29	
Lab File ID	: V10170305A02	**Init. Calib. Date(s)**	: 02/21/17	02/21/17
Sample No	: WG983145-2	**Init. Calib. Times**	: 16:17	19:20
Channel	:			

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dibromo-3-chloropropan	0.09	0.078	-	13.3	20	99	0
1,3,5-Trichlorobenzene	1.022	0.934	-	8.6	20	96	0
Hexachlorobutadiene	0.493	0.45	-	8.7	20	104	0
1,2,4-Trichlorobenzene	0.876	0.794	-	9.4	20	98	0
Naphthalene	20	15.898	-	20.5*	20	95	0
1,2,3-Trichlorobenzene	0.839	0.751	-	10.5	20	96	0

* Value outside of QC limits.

ANALYTICAL REPORT

Lab Number:	L1706297
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Cathy Johnson
Phone:	(781) 721-4000
Project Name:	TREMONT CROSSING
Project Number:	1700516
Report Date:	03/08/17

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

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

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706297
Report Date: 03/08/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1706297-01	1700516-B303-S9 (0-5")	SOIL	BOSTON, MA	02/28/17 22:30	03/01/17

Project Name: TREMONT CROSSING **Lab Number:** L1706297

Project Number: 1700516 **Report Date:** 03/08/17

MADEP MCP Response Action Analytical Report Certification

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

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	YES
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

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

Project Name: TREMONT CROSSING **Lab Number:** L1706297
Project Number: 1700516 **Report Date:** 03/08/17

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

Project Name:	TREMONT CROSSING	**Lab Number:**	L1706297
Project Number:	1700516	**Report Date:**	03/08/17

Case Narrative (continued)

MCP Related Narratives

Volatile Organics

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:

The initial calibration, associated with L1706297-01, did not meet the method required minimum response factor on the lowest calibration standard for acetone (0.0788), 2-butanone (0.0798), 4-methyl-2-pentanone (0.0579), and 1,4-dioxane (0.0021), as well as the average response factor for acetone, 2-butanone, 4-methyl-2-pentanone, and 1,4-dioxane.

The continuing calibration standard, associated with L1706297-01, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

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

Authorized Signature:  Cristin Walker

Title: Technical Director/Representative Date: 03/08/17

ORGANICS

VOLATILES

Project Name: TREMONT CROSSING **Lab Number:** L1706297

Project Number: 1700516 **Report Date:** 03/08/17

SAMPLE RESULTS

Lab ID: L1706297-01
Client ID: 1700516-B303-S9 (0-5")
Sample Location: BOSTON, MA
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 03/05/17 11:55
Analyst: MV
Percent Solids: 81%

Date Collected: 02/28/17 22:30
Date Received: 03/01/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	530	--	1
1,1-Dichloroethane	ND		ug/kg	79	--	1
Chloroform	ND		ug/kg	79	--	1
Carbon tetrachloride	ND		ug/kg	53	--	1
1,2-Dichloropropane	ND		ug/kg	180	--	1
Dibromochloromethane	ND		ug/kg	53	--	1
1,1,2-Trichloroethane	ND		ug/kg	79	--	1
Tetrachloroethene	ND		ug/kg	53	--	1
Chlorobenzene	ND		ug/kg	53	--	1
Trichlorofluoromethane	ND		ug/kg	210	--	1
1,2-Dichloroethane	ND		ug/kg	53	--	1
1,1,1-Trichloroethane	ND		ug/kg	53	--	1
Bromodichloromethane	ND		ug/kg	53	--	1
trans-1,3-Dichloropropene	ND		ug/kg	53	--	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	210	--	1
Bromoform	ND		ug/kg	210	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	53	--	1
Benzene	ND		ug/kg	53	--	1
Toluene	ND		ug/kg	79	--	1
Ethylbenzene	ND		ug/kg	53	--	1
Chloromethane	ND		ug/kg	210	--	1
Bromomethane	ND		ug/kg	100	--	1
Vinyl chloride	ND		ug/kg	100	--	1
Chloroethane	ND		ug/kg	100	--	1
1,1-Dichloroethene	ND		ug/kg	53	--	1
trans-1,2-Dichloroethene	ND		ug/kg	79	--	1
Trichloroethene	ND		ug/kg	53	--	1
1,2-Dichlorobenzene	ND		ug/kg	210	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706297

Project Number: 1700516 **Report Date:** 03/08/17

SAMPLE RESULTS

Lab ID: L1706297-01 Date Collected: 02/28/17 22:30

Client ID: 1700516-B303-S9 (0-5") Date Received: 03/01/17

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 5035 High - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	210	--	1
1,4-Dichlorobenzene	ND		ug/kg	210	--	1
Methyl tert butyl ether	ND		ug/kg	100	--	1
p/m-Xylene	ND		ug/kg	100	--	1
o-Xylene	ND		ug/kg	100	--	1
Xylenes, Total	ND		ug/kg	100	--	1
cis-1,2-Dichloroethene	ND		ug/kg	53	--	1
1,2-Dichloroethene, Total	ND		ug/kg	53	--	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	530	--	1
Acetone	ND		ug/kg	1900	--	1
Carbon disulfide	ND		ug/kg	210	--	1
Methyl ethyl ketone	ND		ug/kg	530	--	1
Methyl isobutyl ketone	ND		ug/kg	530	--	1
2-Hexanone	ND		ug/kg	530	--	1
Bromochloromethane	ND		ug/kg	210	--	1
Tetrahydrofuran	ND		ug/kg	210	--	1
2,2-Dichloropropane	ND		ug/kg	260	--	1
1,2-Dibromoethane	ND		ug/kg	210	--	1
1,3-Dichloropropane	ND		ug/kg	210	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	53	--	1
Bromobenzene	ND		ug/kg	260	--	1
n-Butylbenzene	ND		ug/kg	53	--	1
sec-Butylbenzene	ND		ug/kg	53	--	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	210	--	1
Hexachlorobutadiene	ND		ug/kg	210	--	1
Isopropylbenzene	ND		ug/kg	53	--	1
p-Isopropyltoluene	ND		ug/kg	53	--	1
Naphthalene	ND		ug/kg	210	--	1
n-Propylbenzene	ND		ug/kg	53	--	1
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

Project Name: TREMONT CROSSING **Lab Number:** L1706297

Project Number: 1700516 **Report Date:** 03/08/17

SAMPLE RESULTS

Lab ID: L1706297-01 Date Collected: 02/28/17 22:30

Client ID: 1700516-B303-S9 (0-5") Date Received: 03/01/17

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 5035 High - Westborough Lab						
Diethyl ether	ND		ug/kg	260	--	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	2100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	95		70-130

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706297
Report Date: 03/08/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 03/05/17 09:46
Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01 Batch: WG983145-5					
Methylene chloride	ND		ug/kg	500	--
1,1-Dichloroethane	ND		ug/kg	75	--
Chloroform	ND		ug/kg	75	--
Carbon tetrachloride	ND		ug/kg	50	--
1,2-Dichloropropane	ND		ug/kg	180	--
Dibromochloromethane	ND		ug/kg	50	--
1,1,2-Trichloroethane	ND		ug/kg	75	--
Tetrachloroethene	ND		ug/kg	50	--
Chlorobenzene	ND		ug/kg	50	--
Trichlorofluoromethane	ND		ug/kg	200	--
1,2-Dichloroethane	ND		ug/kg	50	--
1,1,1-Trichloroethane	ND		ug/kg	50	--
Bromodichloromethane	ND		ug/kg	50	--
trans-1,3-Dichloropropene	ND		ug/kg	50	--
cis-1,3-Dichloropropene	ND		ug/kg	50	--
1,3-Dichloropropene, Total	ND		ug/kg	50	--
1,1-Dichloropropene	ND		ug/kg	200	--
Bromoform	ND		ug/kg	200	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	50	--
Benzene	ND		ug/kg	50	--
Toluene	ND		ug/kg	75	--
Ethylbenzene	ND		ug/kg	50	--
Chloromethane	ND		ug/kg	200	--
Bromomethane	ND		ug/kg	100	--
Vinyl chloride	ND		ug/kg	100	--
Chloroethane	ND		ug/kg	100	--
1,1-Dichloroethene	ND		ug/kg	50	--
trans-1,2-Dichloroethene	ND		ug/kg	75	--
Trichloroethene	ND		ug/kg	50	--

Project Name: TREMONT CROSSING **Lab Number:** L1706297

Project Number: 1700516 **Report Date:** 03/08/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 03/05/17 09:46
Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01 Batch: WG983145-5					
1,2-Dichlorobenzene	ND		ug/kg	200	--
1,3-Dichlorobenzene	ND		ug/kg	200	--
1,4-Dichlorobenzene	ND		ug/kg	200	--
Methyl tert butyl ether	ND		ug/kg	100	--
p/m-Xylene	ND		ug/kg	100	--
o-Xylene	ND		ug/kg	100	--
Xylenes, Total	ND		ug/kg	100	--
cis-1,2-Dichloroethene	ND		ug/kg	50	--
1,2-Dichloroethene, Total	ND		ug/kg	50	--
Dibromomethane	ND		ug/kg	200	--
1,2,3-Trichloropropane	ND		ug/kg	200	--
Styrene	ND		ug/kg	100	--
Dichlorodifluoromethane	ND		ug/kg	500	--
Acetone	ND		ug/kg	1800	--
Carbon disulfide	ND		ug/kg	200	--
Methyl ethyl ketone	ND		ug/kg	500	--
Methyl isobutyl ketone	ND		ug/kg	500	--
2-Hexanone	ND		ug/kg	500	--
Bromochloromethane	ND		ug/kg	200	--
Tetrahydrofuran	ND		ug/kg	200	--
2,2-Dichloropropane	ND		ug/kg	250	--
1,2-Dibromoethane	ND		ug/kg	200	--
1,3-Dichloropropane	ND		ug/kg	200	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	50	--
Bromobenzene	ND		ug/kg	250	--
n-Butylbenzene	ND		ug/kg	50	--
sec-Butylbenzene	ND		ug/kg	50	--
tert-Butylbenzene	ND		ug/kg	200	--
o-Chlorotoluene	ND		ug/kg	200	--

Project Name: TREMONT CROSSING **Lab Number:** L1706297

Project Number: 1700516 **Report Date:** 03/08/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 03/05/17 09:46
Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01 Batch: WG983145-5					
p-Chlorotoluene	ND		ug/kg	200	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	200	--
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	200	--
1,2,4-Trichlorobenzene	ND		ug/kg	200	--
1,3,5-Trimethylbenzene	ND		ug/kg	200	--
1,2,4-Trimethylbenzene	ND		ug/kg	200	--
Diethyl ether	ND		ug/kg	250	--
Diisopropyl Ether	ND		ug/kg	200	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	200	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	200	--
1,4-Dioxane	ND		ug/kg	2000	--
2-Chloroethylvinyl ether	ND		ug/kg	1000	--
Halothane	ND		ug/kg	2000	--
Ethyl Acetate	ND		ug/kg	1000	--
Freon-113	ND		ug/kg	1000	--
Vinyl acetate	ND		ug/kg	500	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	101		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706297
Report Date: 03/08/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01 Batch: WG983145-3 WG983145-4								
Methylene chloride	91		89		70-130	2		20
1,1-Dichloroethane	104		98		70-130	6		20
Chloroform	100		97		70-130	3		20
Carbon tetrachloride	106		100		70-130	6		20
1,2-Dichloropropane	99		94		70-130	5		20
Dibromochloromethane	90		88		70-130	2		20
1,1,2-Trichloroethane	96		93		70-130	3		20
Tetrachloroethene	97		93		70-130	4		20
Chlorobenzene	93		90		70-130	3		20
Trichlorofluoromethane	106		99		70-130	7		20
1,2-Dichloroethane	97		94		70-130	3		20
1,1,1-Trichloroethane	107		101		70-130	6		20
Bromodichloromethane	94		91		70-130	3		20
trans-1,3-Dichloropropene	99		95		70-130	4		20
cis-1,3-Dichloropropene	89		84		70-130	6		20
1,1-Dichloropropene	106		99		70-130	7		20
Bromoform	86		83		70-130	4		20
1,1,2,2-Tetrachloroethane	92		91		70-130	1		20
Benzene	101		97		70-130	4		20
Toluene	97		93		70-130	4		20
Ethylbenzene	100		95		70-130	5		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706297
Report Date: 03/08/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01 Batch: WG983145-3 WG983145-4								
Chloromethane	103		98		70-130	5		20
Bromomethane	96		97		70-130	1		20
Vinyl chloride	98		92		70-130	6		20
Chloroethane	89		86		70-130	3		20
1,1-Dichloroethene	104		98		70-130	6		20
trans-1,2-Dichloroethene	101		94		70-130	7		20
Trichloroethene	102		96		70-130	6		20
1,2-Dichlorobenzene	90		88		70-130	2		20
1,3-Dichlorobenzene	93		89		70-130	4		20
1,4-Dichlorobenzene	90		86		70-130	5		20
Methyl tert butyl ether	104		101		70-130	3		20
p/m-Xylene	102		96		70-130	6		20
o-Xylene	100		95		70-130	5		20
cis-1,2-Dichloroethene	100		97		70-130	3		20
Dibromomethane	94		93		70-130	1		20
1,2,3-Trichloropropane	92		92		70-130	0		20
Styrene	96		93		70-130	3		20
Dichlorodifluoromethane	103		97		70-130	6		20
Acetone	115		112		70-130	3		20
Carbon disulfide	81		76		70-130	6		20
Methyl ethyl ketone	94		97		70-130	3		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706297
Report Date: 03/08/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01 Batch: WG983145-3 WG983145-4								
Methyl isobutyl ketone	82		80		70-130	2		20
2-Hexanone	**69**	Q	71		70-130	3		20
Bromochloromethane	100		95		70-130	5		20
Tetrahydrofuran	117		115		70-130	2		20
2,2-Dichloropropane	115		109		70-130	5		20
1,2-Dibromoethane	92		92		70-130	0		20
1,3-Dichloropropane	96		93		70-130	3		20
1,1,1,2-Tetrachloroethane	94		91		70-130	3		20
Bromobenzene	92		89		70-130	3		20
n-Butylbenzene	100		95		70-130	5		20
sec-Butylbenzene	101		96		70-130	5		20
tert-Butylbenzene	99		95		70-130	4		20
o-Chlorotoluene	98		95		70-130	3		20
p-Chlorotoluene	97		94		70-130	3		20
1,2-Dibromo-3-chloropropane	86		84		70-130	2		20
Hexachlorobutadiene	91		87		70-130	4		20
Isopropylbenzene	99		94		70-130	5		20
p-Isopropyltoluene	98		94		70-130	4		20
Naphthalene	80		78		70-130	3		20
n-Propylbenzene	99		94		70-130	5		20
1,2,3-Trichlorobenzene	90		87		70-130	3		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706297
Report Date: 03/08/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01 Batch: WG983145-3 WG983145-4								
1,2,4-Trichlorobenzene	91		87		70-130	4		20
1,3,5-Trimethylbenzene	99		95		70-130	4		20
1,2,4-Trimethylbenzene	99		95		70-130	4		20
Diethyl ether	91		93		70-130	2		20
Diisopropyl Ether	104		101		70-130	3		20
Ethyl-Tert-Butyl-Ether	106		103		70-130	3		20
Tertiary-Amyl Methyl Ether	108		106		70-130	2		20
1,4-Dioxane	87		87		70-130	0		20
2-Chloroethylvinyl ether	**46**	Q	**24**	Q	70-130	**63**	Q	20
Halothane	103		98		70-130	5		20
Ethyl Acetate	99		99		70-130	0		20
Freon-113	106		100		70-130	6		20
Vinyl acetate	94		92		70-130	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	100		100		70-130
Toluene-d8	100		98		70-130
4-Bromofluorobenzene	100		103		70-130
Dibromofluoromethane	103		102		70-130

PETROLEUM HYDROCARBONS

Project Name: TREMONT CROSSING **Lab Number:** L1706297

Project Number: 1700516 **Report Date:** 03/08/17

SAMPLE RESULTS

Lab ID:	L1706297-01	Date Collected:	02/28/17 22:30
Client ID:	1700516-B303-S9 (0-5")	Date Received:	03/01/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Matrix:	Soil		
Analytical Method:	100,VPH-04-1.1		
Analytical Date:	03/07/17 00:48		
Analyst:	KD		
Percent Solids:	81%		

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Covering the Soil
Methanol ratio:	1:1.5

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	2.77	--	1
C9-C12 Aliphatics	ND		mg/kg	2.77	--	1
C9-C10 Aromatics	ND		mg/kg	2.77	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	2.77	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	2.77	--	1
Benzene	ND		mg/kg	0.111	--	1
Toluene	ND		mg/kg	0.111	--	1
Ethylbenzene	ND		mg/kg	0.111	--	1
p/m-Xylene	ND		mg/kg	0.111	--	1
o-Xylene	ND		mg/kg	0.111	--	1
Methyl tert butyl ether	ND		mg/kg	0.055	--	1
Naphthalene	ND		mg/kg	0.221	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	90		70-130
2,5-Dibromotoluene-FID	95		70-130

Project Name: TREMONT CROSSING **Lab Number:** L1706297

Project Number: 1700516 **Report Date:** 03/08/17

SAMPLE RESULTS

Lab ID:	L1706297-01	Date Collected:	02/28/17 22:30
Client ID:	1700516-B303-S9 (0-5")	Date Received:	03/01/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	03/02/17 10:00
Analytical Date:	03/04/17 08:56	Cleanup Method1:	EPH-04-1
Analyst:	SR	Cleanup Date1:	03/03/17
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	7.81	--	1
C19-C36 Aliphatics	ND		mg/kg	7.81	--	1
C11-C22 Aromatics	ND		mg/kg	7.81	--	1
C11-C22 Aromatics, Adjusted	ND		mg/kg	7.81	--	1
Naphthalene	ND		mg/kg	0.390	--	1
2-Methylnaphthalene	ND		mg/kg	0.390	--	1
Acenaphthylene	ND		mg/kg	0.390	--	1
Acenaphthene	ND		mg/kg	0.390	--	1
Fluorene	ND		mg/kg	0.390	--	1
Phenanthrene	ND		mg/kg	0.390	--	1
Anthracene	ND		mg/kg	0.390	--	1
Fluoranthene	ND		mg/kg	0.390	--	1
Pyrene	ND		mg/kg	0.390	--	1
Benzo(a)anthracene	ND		mg/kg	0.390	--	1
Chrysene	ND		mg/kg	0.390	--	1
Benzo(b)fluoranthene	ND		mg/kg	0.390	--	1
Benzo(k)fluoranthene	ND		mg/kg	0.390	--	1
Benzo(a)pyrene	ND		mg/kg	0.390	--	1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.390	--	1
Dibenzo(a,h)anthracene	ND		mg/kg	0.390	--	1
Benzo(ghi)perylene	ND		mg/kg	0.390	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706297

Project Number: 1700516 **Report Date:** 03/08/17

SAMPLE RESULTS

Lab ID:	L1706297-01	Date Collected:	02/28/17 22:30
Client ID:	1700516-B303-S9 (0-5")	Date Received:	03/01/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	50		40-140
o-Terphenyl	85		40-140
2-Fluorobiphenyl	99		40-140
2-Bromonaphthalene	101		40-140

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706297
Report Date: 03/08/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 03/04/17 00:07
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 03/02/17 10:00
Cleanup Method: EPH-04-1
Cleanup Date: 03/03/17

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01 Batch: WG982202-1					
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	--
Naphthalene	ND		mg/kg	0.321	--
2-Methylnaphthalene	ND		mg/kg	0.321	--
Acenaphthylene	ND		mg/kg	0.321	--
Acenaphthene	ND		mg/kg	0.321	--
Fluorene	ND		mg/kg	0.321	--
Phenanthrene	ND		mg/kg	0.321	--
Anthracene	ND		mg/kg	0.321	--
Fluoranthene	ND		mg/kg	0.321	--
Pyrene	ND		mg/kg	0.321	--
Benzo(a)anthracene	ND		mg/kg	0.321	--
Chrysene	ND		mg/kg	0.321	--
Benzo(b)fluoranthene	ND		mg/kg	0.321	--
Benzo(k)fluoranthene	ND		mg/kg	0.321	--
Benzo(a)pyrene	ND		mg/kg	0.321	--
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.321	--
Dibenzo(a,h)anthracene	ND		mg/kg	0.321	--
Benzo(ghi)perylene	ND		mg/kg	0.321	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	44		40-140
o-Terphenyl	69		40-140
2-Fluorobiphenyl	69		40-140
2-Bromonaphthalene	70		40-140

Project Name: TREMONT CROSSING **Lab Number:** L1706297

Project Number: 1700516 **Report Date:** 03/08/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 100,VPH-04-1.1
Analytical Date: 03/06/17 18:27
Analyst: KD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 01 Batch: WG983639-4					
C5-C8 Aliphatics	ND		mg/kg	2.67	--
C9-C12 Aliphatics	ND		mg/kg	2.67	--
C9-C10 Aromatics	ND		mg/kg	2.67	--
C5-C8 Aliphatics, Adjusted	ND		mg/kg	2.67	--
C9-C12 Aliphatics, Adjusted	ND		mg/kg	2.67	--
Benzene	ND		mg/kg	0.107	--
Toluene	ND		mg/kg	0.107	--
Ethylbenzene	ND		mg/kg	0.107	--
p/m-Xylene	ND		mg/kg	0.107	--
o-Xylene	ND		mg/kg	0.107	--
Methyl tert butyl ether	ND		mg/kg	0.053	--
Naphthalene	ND		mg/kg	0.213	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	89		70-130
2,5-Dibromotoluene-FID	93		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706297
Report Date: 03/08/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG982202-2 WG982202-3								
C9-C18 Aliphatics	43		61		40-140	**35**	Q	25
C19-C36 Aliphatics	48		69		40-140	**36**	Q	25
C11-C22 Aromatics	81		69		40-140	16		25
Naphthalene	68		55		40-140	21		25
2-Methylnaphthalene	69		55		40-140	23		25
Acenaphthylene	72		58		40-140	22		25
Acenaphthene	74		60		40-140	21		25
Fluorene	76		63		40-140	19		25
Phenanthrene	77		66		40-140	15		25
Anthracene	82		71		40-140	14		25
Fluoranthene	77		68		40-140	12		25
Pyrene	77		69		40-140	11		25
Benzo(a)anthracene	76		65		40-140	16		25
Chrysene	81		71		40-140	13		25
Benzo(b)fluoranthene	78		65		40-140	18		25
Benzo(k)fluoranthene	82		71		40-140	14		25
Benzo(a)pyrene	72		62		40-140	15		25
Indeno(1,2,3-cd)Pyrene	77		65		40-140	17		25
Dibenzo(a,h)anthracene	82		70		40-140	16		25
Benzo(ghi)perylene	73		61		40-140	18		25
Nonane (C9)	36		50		30-140	**33**	Q	25

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706297
Report Date: 03/08/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG982202-2 WG982202-3								
Decane (C10)	**39**	Q	56		40-140	**36**	Q	25
Dodecane (C12)	41		58		40-140	**34**	Q	25
Tetradecane (C14)	42		60		40-140	**35**	Q	25
Hexadecane (C16)	44		63		40-140	**36**	Q	25
Octadecane (C18)	45		66		40-140	**38**	Q	25
Nonadecane (C19)	45		66		40-140	**38**	Q	25
Eicosane (C20)	46		68		40-140	**39**	Q	25
Docosane (C22)	47		68		40-140	**37**	Q	25
Tetracosane (C24)	47		68		40-140	**37**	Q	25
Hexacosane (C26)	47		68		40-140	**37**	Q	25
Octacosane (C28)	47		68		40-140	**37**	Q	25
Triacontane (C30)	46		67		40-140	**37**	Q	25
Hexatriacontane (C36)	45		63		40-140	**33**	Q	25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	**39**	Q	61		40-140
o-Terphenyl	93		81		40-140
2-Fluorobiphenyl	75		70		40-140
2-Bromonaphthalene	78		73		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706297

Report Date: 03/08/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG983639-2 WG983639-3								
C5-C8 Aliphatics	102		102		70-130	0		25
C9-C12 Aliphatics	102		102		70-130	0		25
C9-C10 Aromatics	95		97		70-130	1		25
Benzene	95		95		70-130	0		25
Toluene	95		95		70-130	0		25
Ethylbenzene	95		95		70-130	0		25
p/m-Xylene	96		96		70-130	0		25
o-Xylene	96		96		70-130	1		25
Methyl tert butyl ether	93		95		70-130	2		25
Naphthalene	90		95		70-130	5		25
1,2,4-Trimethylbenzene	95		97		70-130	2		25
Pentane	100		101		70-130	1		25
2-Methylpentane	101		101		70-130	0		25
2,2,4-Trimethylpentane	103		104		70-130	1		25
n-Nonane	103		103		30-130	0		25
n-Decane	101		101		70-130	0		25
n-Butylcyclohexane	102		103		70-130	1		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706297

Report Date: 03/08/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG983639-2 WG983639-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	95		94		70-130
2,5-Dibromotoluene-FID	98		96		70-130

INORGANICS
&
MISCELLANEOUS

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706297
Report Date: 03/08/17

SAMPLE RESULTS

Lab ID: L1706297-01
Client ID: 1700516-B303-S9 (0-5")
Sample Location: BOSTON, MA
Matrix: Soil

Date Collected: 02/28/17 22:30
Date Received: 03/01/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.9		%	0.100	NA	1	-	03/02/17 14:10	121,2540G	RO

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706297
Report Date: 03/08/17

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1706297-01A	Vial MeOH preserved	A	N/A	5.6	Y	Absent	VPH-DELUX-10(28)
L1706297-01B	Vial MeOH preserved	A	N/A	5.6	Y	Absent	MCP-8260H-10(14)
L1706297-01D	Glass 120ml/4oz unpreserved	A	N/A	5.6	Y	Absent	TS(7),EPH-DELUX-10(14)

*Values in parentheses indicate holding time in days

Project Name:	TREMONT CROSSING	**Lab Number:**	L1706297
Project Number:	1700516	**Report Date:**	03/08/17

GLOSSARY

Acronyms

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).
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.
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.
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.
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

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

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.

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.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
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

Report Format: Data Usability Report

Project Name:	TREMONT CROSSING	**Lab Number:**	L1706297
Project Number:	1700516	**Report Date:**	03/08/17

Data Qualifiers

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.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

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.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name:	TREMONT CROSSING	**Lab Number:**	L1706297
Project Number:	1700516	**Report Date:**	03/08/17

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.

100 Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility
EPA 624: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
SM 2540D: TSS
EPA 3005A NPW
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: 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**
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, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, 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 624: Volatile Halocarbons & Aromatics,
EPA 608: 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: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

Mansfield Facility:

Drinking Water
EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

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, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

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

Chain-of-Custody Record

Laboratory: ALPHA

Laboratory Job # (Lab use only) L1706297

GEI Consultants
400 Unicorn Park Drive
Woburn, MA 01801
PH: 781.721.4000
FX: 781.721.4073

Project Information

Project Name: Tremont Crossing
Project Number: 1700516
Project Location: Boston, MA
Project Manager: Cathy Johnson

Page 1 of 1

Send Report to: Jessica Englehart
Send EDD to: labdata@geiconsultants.com

MCP PRESUMPTIVE CERTAINTY REQUIRED -- (YES) NO

If Yes, Are MCP Analytical Methods Required?	(YES)	NO	NA
Are Drinking Water Samples Submitted?	YES	(NO)	NA
If Yes, Have Drinking Water Sampling Requirements Been Met?	YES	NO	(NA)

Lab Sample Number	GEI Sample ID	Collection Date	Collection Time	Matrix	No. of Bottles	Sampler(s) Initials	Preservative: (None)	(None)	None	None	Analysis: VOCs	VPH	EPH	% Solids					Sample Specific Remarks
06297-01	1700516-B303-S9(0-5')	2.28.17	2230	SO	3	JTN					x	x	x	x					

Sample Handling

Samples Field Filtered: YES NO (NA)

Sampled Shipped With Ice: (YES) NO

MCP Level Needed: GEI requires that, within the specified method, the most stringent Method 1 MCP standard be met for all analytes whenever possible.

	Relinquished by sampler: (signature)	Date:	Time:	Received by: (signature)
1.		3.1.17	0120	GEI Sample Fridge
2.	GEI Sample Fridge	3/1/17	1100	
3.		3/1/17	1100	
4.		3-1-17	15:45	AAL

Turnaround Time (Business days):

Normal X Other ____
10-Day ____ 7-Day ____
5-Day X 3-Day ____

Before submitting rush turnaround samples, you **must** notify the laboratory to confirm that the TAT can be achieved.

Additional Requirements/Comments/Remarks:

Method Blank Summary
Form 4

Client	: GEI Consultants	**Lab Number**	: L1706297
Project Name	: TREMONT CROSSING	**Project Number**	: 1700516
Lab Sample ID	: WG983145-5	**Lab File ID**	: V10170305A05
Instrument ID	: VOA110		
Matrix	: SOIL	**Analysis Date**	: 03/05/17 09:46

Client Sample No.	Lab Sample ID	Analysis Date
WG983145-3LCS	WG983145-3	03/05/17 08:29
WG983145-4LCSD	WG983145-4	03/05/17 08:55
1700516-B303-S9 (0-5")	L1706297-01	03/05/17 11:55

Continuing Calibration
Form 7

Client	: GEI Consultants	**Lab Number**	: L1706297	
Project Name	: TREMONT CROSSING	**Project Number**	: 1700516	
Instrument ID	: VOA110	**Calibration Date**	: 03/05/17 08:29	
Lab File ID	: V10170305A02	**Init. Calib. Date(s)**	: 02/21/17	02/21/17
Sample No	: WG983145-2	**Init. Calib. Times**	: 16:17	19:20
Channel	:			

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	101	0
Dichlorodifluoromethane	0.351	0.363	-	-3.4	20	108	0
Chloromethane	0.269	0.276	-	-2.6	20	104	0
Vinyl chloride	0.267	0.261	-	2.2	20	101	0
Bromomethane	0.202	0.194	-	4	20	104	0
Chloroethane	0.168	0.149	-	11.3	20	90	.04
Trichlorofluoromethane	0.445	0.473	-	-6.3	20	103	.04
Ethyl ether	0.158	0.144	-	8.9	20	95	0
1,1-Dichloroethene	0.221	0.229	-	-3.6	20	109	.01
Carbon disulfide	20	16.26	-	18.7	20	86	.02
Freon-113	0.206	0.218	-	-5.8	20	108	.02
Acrolein	0.046	0.042	-	8.7	20	102	0
Methylene chloride	20	18.209	-	9	20	98	0
Acetone	0.056	0.065	-	-16.1	20	122	0
trans-1,2-Dichloroethene	0.25	0.253	-	-1.2	20	104	0
Methyl acetate	0.153	0.146	-	4.6	20	101	0
Methyl tert-butyl ether	0.676	0.703	-	-4	20	111	0
tert-Butyl alcohol	0.018	0.019	-	-5.6	20	112	-.01
Diisopropyl ether	0.758	0.786	-	-3.7	20	105	0
1,1-Dichloroethane	0.425	0.44	-	-3.5	20	104	0
Halothane	0.17	0.176	-	-3.5	20	106	0
Acrylonitrile	20	18.935	-	5.3	20	100	0
Ethyl tert-butyl ether	0.616	0.651	-	-5.7	20	110	0
Vinyl acetate	20	18.904	-	5.5	20	105	0
cis-1,2-Dichloroethene	0.269	0.268	-	0.4	20	101	0
2,2-Dichloropropane	0.313	0.359	-	-14.7	20	123	0
Bromochloromethane	0.128	0.128	-	0	20	99	0
Cyclohexane	0.342	0.376	-	-9.9	20	113	0
Chloroform	0.457	0.459	-	-0.4	20	100	0
Ethyl acetate	0.204	0.201	-	1.5	20	100	0
Carbon tetrachloride	0.32	0.34	-	-6.3	20	112	0
Tetrahydrofuran	0.072	0.084	-	-16.7	20	115	0
Dibromofluoromethane	0.256	0.263	-	-2.7	20	102	0
1,1,1-Trichloroethane	0.393	0.421	-	-7.1	20	110	0
2-Butanone	0.09	0.085	-	5.6	20	106	.01
1,1-Dichloropropene	0.31	0.328	-	-5.8	20	106	0
Benzene	0.996	1.01	-	-1.4	20	102	0
tert-Amyl methyl ether	0.54	0.581	-	-7.6	20	115	0
1,2-Dichloroethane-d4	0.27	0.269	-	0.4	20	100	0
1,2-Dichloroethane	0.339	0.329	-	2.9	20	97	0
Methyl cyclohexane	0.35	0.365	-	-4.3	20	113	0
Trichloroethene	0.262	0.268	-	-2.3	20	104	0
Dibromomethane	0.151	0.143	-	5.3	20	97	0
1,2-Dichloropropane	0.232	0.229	-	1.3	20	100	0
2-Chloroethyl vinyl ether	20	9.093	-	54.5*	20	55	0

* Value outside of QC limits.

Continuing Calibration
Form 7

Client	: GEI Consultants	Lab Number	: L1706297	
Project Name	: TREMONT CROSSING	Project Number	: 1700516	
Instrument ID	: VOA110	Calibration Date	: 03/05/17 08:29	
Lab File ID	: V10170305A02	Init. Calib. Date(s)	: 02/21/17	02/21/17
Sample No	: WG983145-2	Init. Calib. Times	: 16:17	19:20
Channel	:			

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Bromodichloromethane	0.337	0.318	-	5.6	20	98	0
1,4-Dioxane	0.00229	0.002	-	12.7	20	93	0
cis-1,3-Dichloropropene	20	17.712	-	11.4	20	102	0
Chlorobenzene-d5	1	1	-	0	20	105	0
Toluene-d8	1.233	1.231	-	0.2	20	103	0
Toluene	0.846	0.82	-	3.1	20	102	0
4-Methyl-2-pentanone	0.089	0.073	-	18	20	104	0
Tetrachloroethene	0.33	0.321	-	2.7	20	104	0
trans-1,3-Dichloropropene	0.402	0.396	-	1.5	20	107	0
Ethyl methacrylate	20	15.631	-	21.8*	20	100	0
1,1,2-Trichloroethane	0.243	0.232	-	4.5	20	99	0
Chlorodibromomethane	0.324	0.294	-	9.3	20	99	0
1,3-Dichloropropane	0.472	0.451	-	4.4	20	100	0
1,2-Dibromoethane	0.267	0.245	-	8.2	20	97	0
2-Hexanone	20	13.824	-	30.9*	20	100	0
Chlorobenzene	0.965	0.902	-	6.5	20	98	0
Ethylbenzene	1.513	1.509	-	0.3	20	102	0
1,1,1,2-Tetrachloroethane	0.334	0.315	-	5.7	20	100	0
p/m Xylene	0.58	0.591	-	-1.9	20	101	0
o Xylene	0.54	0.543	-	-0.6	20	100	0
Styrene	0.952	0.918	-	3.6	20	95	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	105	0
Bromoform	0.396	0.342	-	13.6	20	99	0
Isopropylbenzene	2.879	2.854	-	0.9	20	103	0
4-Bromofluorobenzene	0.867	0.868	-	-0.1	20	107	0
Bromobenzene	0.743	0.681	-	8.3	20	99	0
n-Propylbenzene	3.513	3.465	-	1.4	20	102	0
1,4-Dichlorobutane	0.894	0.869	-	2.8	20	103	0
1,1,2,2-Tetrachloroethane	0.714	0.66	-	7.6	20	100	0
4-Ethyltoluene	2.879	2.853	-	0.9	20	101	0
2-Chlorotoluene	2.146	2.102	-	2.1	20	100	0
1,3,5-Trimethylbenzene	2.51	2.483	-	1.1	20	100	0
1,2,3-Trichloropropane	0.577	0.532	-	7.8	20	100	0
trans-1,4-Dichloro-2-buten	0.175	0.165	-	5.7	20	101	0
4-Chlorotoluene	2.122	2.059	-	3	20	100	0
tert-Butylbenzene	2.051	2.025	-	1.3	20	103	0
1,2,4-Trimethylbenzene	2.467	2.431	-	1.5	20	99	0
sec-Butylbenzene	3.173	3.196	-	-0.7	20	104	0
p-Isopropyltoluene	2.626	2.569	-	2.2	20	101	0
1,3-Dichlorobenzene	1.484	1.382	-	6.9	20	98	0
1,4-Dichlorobenzene	1.534	1.384	-	9.8	20	97	0
p-Diethylbenzene	1.524	1.465	-	3.9	20	100	0
n-Butylbenzene	2.502	2.514	-	-0.5	20	103	0
1,2-Dichlorobenzene	1.392	1.246	-	10.5	20	97	0
1,2,4,5-Tetramethylbenzene	20	16.51	-	17.4	20	97	0

* Value outside of QC limits.

Continuing Calibration
Form 7

Client	: GEI Consultants	**Lab Number**	: L1706297	
Project Name	: TREMONT CROSSING	**Project Number**	: 1700516	
Instrument ID	: VOA110	**Calibration Date**	: 03/05/17 08:29	
Lab File ID	: V10170305A02	**Init. Calib. Date(s)**	: 02/21/17	02/21/17
Sample No	: WG983145-2	**Init. Calib. Times**	: 16:17	19:20
Channel	:			

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dibromo-3-chloropropan	0.09	0.078	-	13.3	20	99	0
1,3,5-Trichlorobenzene	1.022	0.934	-	8.6	20	96	0
Hexachlorobutadiene	0.493	0.45	-	8.7	20	104	0
1,2,4-Trichlorobenzene	0.876	0.794	-	9.4	20	98	0
Naphthalene	20	15.898	-	20.5*	20	95	0
1,2,3-Trichlorobenzene	0.839	0.751	-	10.5	20	96	0

*** Value outside of QC limits.**

ANALYTICAL REPORT

Lab Number:	L1706486
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Cathy Johnson
Phone:	(781) 721-4000
Project Name:	TREMONT CROSSING PHASE II
Project Number:	1700516
Report Date:	03/09/17

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

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

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516

Lab Number: L1706486
Report Date: 03/09/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1706486-01	1700516-B308-S2 (0-18")	SOIL	BOSTON, MASSACHUSETTS	03/01/17 20:40	03/02/17
L1706486-02	1700516-B308-S7 (0-10")	SOIL	BOSTON, MASSACHUSETTS	03/01/17 22:10	03/02/17
L1706486-03	1700516-B308-COMP (0-8")	SOIL	BOSTON, MASSACHUSETTS	03/01/17 20:45	03/02/17
L1706486-04	1700516-B308-COMP (8-22")	SOIL	BOSTON, MASSACHUSETTS	03/01/17 22:30	03/02/17

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1706486

Project Number: 1700516 **Report Date:** 03/09/17

MADEP MCP Response Action Analytical Report Certification

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

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

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

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1706486
Project Number: 1700516 **Report Date:** 03/09/17

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

Project Name:	TREMONT CROSSING PHASE II	**Lab Number:**	L1706486
Project Number:	1700516	**Report Date:**	03/09/17

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

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

Volatile Organics

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:

The initial calibration, associated with L1706486-01 and -02, did not meet the method required minimum response factor on the lowest calibration standard for acetone (0.0788), 2-butanone (0.0798), 4-methyl-2-pentanone (0.0579), and 1,4-dioxane (0.0021), as well as the average response factor for acetone, 2-butanone, 4-methyl-2-pentanone, and 1,4-dioxane.

The continuing calibration standard, associated with L1706486-01 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.

Pesticides

A copy of the Degradation Standards for 4,4'-DDT and Endrin breakdown products is included as an addendum.

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

Herbicides

In reference to question H:

The WG982131-2/-3 LCS/LCSD recoveries, associated with L1706486-03, are below the acceptance criteria for dinoseb (7%/9%); however, the recoveries are due to a noted method interference caused by the hydrolysis step of the extraction procedure. The results of the associated samples are reported; however, all results are

Project Name:	TREMONT CROSSING PHASE II	**Lab Number:**	L1706486
Project Number:	1700516	**Report Date:**	03/09/17

Case Narrative (continued)

considered to have a potentially low bias for this compound.

The WG982756-2/-3 LCS/LCSD recoveries, associated with L1706486-04, are below the acceptance criteria for dinoseb (3%/6%); however, the recoveries are due to a noted method interference caused by the hydrolysis step of the extraction procedure. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for this compound.

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: 03/09/17

ORGANICS

VOLATILES

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1706486

Project Number: 1700516 **Report Date:** 03/09/17

SAMPLE RESULTS

Lab ID: L1706486-01
Client ID: 1700516-B308-S2 (0-18")
Sample Location: BOSTON, MASSACHUSETTS
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 03/05/17 12:20
Analyst: MV
Percent Solids: 92%

Date Collected: 03/01/17 20:40
Date Received: 03/02/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	480	--	1
1,1-Dichloroethane	ND		ug/kg	73	--	1
Chloroform	ND		ug/kg	73	--	1
Carbon tetrachloride	ND		ug/kg	48	--	1
1,2-Dichloropropane	ND		ug/kg	170	--	1
Dibromochloromethane	ND		ug/kg	48	--	1
1,1,2-Trichloroethane	ND		ug/kg	73	--	1
Tetrachloroethene	ND		ug/kg	48	--	1
Chlorobenzene	ND		ug/kg	48	--	1
Trichlorofluoromethane	ND		ug/kg	190	--	1
1,2-Dichloroethane	ND		ug/kg	48	--	1
1,1,1-Trichloroethane	ND		ug/kg	48	--	1
Bromodichloromethane	ND		ug/kg	48	--	1
trans-1,3-Dichloropropene	ND		ug/kg	48	--	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	190	--	1
Bromoform	ND		ug/kg	190	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	48	--	1
Benzene	49		ug/kg	48	--	1
Toluene	ND		ug/kg	73	--	1
Ethylbenzene	ND		ug/kg	48	--	1
Chloromethane	ND		ug/kg	190	--	1
Bromomethane	ND		ug/kg	97	--	1
Vinyl chloride	ND		ug/kg	97	--	1
Chloroethane	ND		ug/kg	97	--	1
1,1-Dichloroethene	ND		ug/kg	48	--	1
trans-1,2-Dichloroethene	ND		ug/kg	73	--	1
Trichloroethene	ND		ug/kg	48	--	1
1,2-Dichlorobenzene	ND		ug/kg	190	--	1

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1706486

Project Number: 1700516 **Report Date:** 03/09/17

SAMPLE RESULTS

Lab ID: L1706486-01 Date Collected: 03/01/17 20:40

Client ID: 1700516-B308-S2 (0-18") Date Received: 03/02/17

Sample Location: BOSTON, MASSACHUSETTS Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 5035 High - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	190	--	1
1,4-Dichlorobenzene	ND		ug/kg	190	--	1
Methyl tert butyl ether	ND		ug/kg	97	--	1
p/m-Xylene	ND		ug/kg	97	--	1
o-Xylene	ND		ug/kg	97	--	1
Xylenes, Total	ND		ug/kg	97	--	1
cis-1,2-Dichloroethene	ND		ug/kg	48	--	1
1,2-Dichloroethene, Total	ND		ug/kg	48	--	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	480	--	1
Acetone	ND		ug/kg	1700	--	1
Carbon disulfide	ND		ug/kg	190	--	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	190	--	1
Tetrahydrofuran	ND		ug/kg	190	--	1
2,2-Dichloropropane	ND		ug/kg	240	--	1
1,2-Dibromoethane	ND		ug/kg	190	--	1
1,3-Dichloropropane	ND		ug/kg	190	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	48	--	1
Bromobenzene	ND		ug/kg	240	--	1
n-Butylbenzene	ND		ug/kg	48	--	1
sec-Butylbenzene	ND		ug/kg	48	--	1
tert-Butylbenzene	ND		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	190	--	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
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

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1706486

Project Number: 1700516 **Report Date:** 03/09/17

SAMPLE RESULTS

Lab ID: L1706486-01 Date Collected: 03/01/17 20:40

Client ID: 1700516-B308-S2 (0-18") Date Received: 03/02/17

Sample Location: BOSTON, MASSACHUSETTS Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 5035 High - Westborough Lab						
Diethyl ether	ND		ug/kg	240	--	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	1900	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	91		70-130

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1706486

Project Number: 1700516 **Report Date:** 03/09/17

SAMPLE RESULTS

Lab ID: L1706486-02
Client ID: 1700516-B308-S7 (0-10")
Sample Location: BOSTON, MASSACHUSETTS
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 03/05/17 12:46
Analyst: MV
Percent Solids: 93%

Date Collected: 03/01/17 22:10
Date Received: 03/02/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	400	--	1
1,1-Dichloroethane	ND		ug/kg	61	--	1
Chloroform	ND		ug/kg	61	--	1
Carbon tetrachloride	ND		ug/kg	40	--	1
1,2-Dichloropropane	ND		ug/kg	140	--	1
Dibromochloromethane	ND		ug/kg	40	--	1
1,1,2-Trichloroethane	ND		ug/kg	61	--	1
Tetrachloroethene	ND		ug/kg	40	--	1
Chlorobenzene	ND		ug/kg	40	--	1
Trichlorofluoromethane	ND		ug/kg	160	--	1
1,2-Dichloroethane	ND		ug/kg	40	--	1
1,1,1-Trichloroethane	ND		ug/kg	40	--	1
Bromodichloromethane	ND		ug/kg	40	--	1
trans-1,3-Dichloropropene	ND		ug/kg	40	--	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	160	--	1
Bromoform	ND		ug/kg	160	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	40	--	1
Benzene	ND		ug/kg	40	--	1
Toluene	ND		ug/kg	61	--	1
Ethylbenzene	ND		ug/kg	40	--	1
Chloromethane	ND		ug/kg	160	--	1
Bromomethane	ND		ug/kg	81	--	1
Vinyl chloride	ND		ug/kg	81	--	1
Chloroethane	ND		ug/kg	81	--	1
1,1-Dichloroethene	ND		ug/kg	40	--	1
trans-1,2-Dichloroethene	ND		ug/kg	61	--	1
Trichloroethene	250		ug/kg	40	--	1
1,2-Dichlorobenzene	ND		ug/kg	160	--	1

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1706486

Project Number: 1700516 **Report Date:** 03/09/17

SAMPLE RESULTS

Lab ID: L1706486-02 Date Collected: 03/01/17 22:10

Client ID: 1700516-B308-S7 (0-10") Date Received: 03/02/17

Sample Location: BOSTON, MASSACHUSETTS Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 5035 High - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	160	--	1
1,4-Dichlorobenzene	ND		ug/kg	160	--	1
Methyl tert butyl ether	ND		ug/kg	81	--	1
p/m-Xylene	ND		ug/kg	81	--	1
o-Xylene	ND		ug/kg	81	--	1
Xylenes, Total	ND		ug/kg	81	--	1
cis-1,2-Dichloroethene	ND		ug/kg	40	--	1
1,2-Dichloroethene, Total	ND		ug/kg	40	--	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	400	--	1
Acetone	ND		ug/kg	1400	--	1
Carbon disulfide	ND		ug/kg	160	--	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	160	--	1
Tetrahydrofuran	ND		ug/kg	160	--	1
2,2-Dichloropropane	ND		ug/kg	200	--	1
1,2-Dibromoethane	ND		ug/kg	160	--	1
1,3-Dichloropropane	ND		ug/kg	160	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	40	--	1
Bromobenzene	ND		ug/kg	200	--	1
n-Butylbenzene	ND		ug/kg	40	--	1
sec-Butylbenzene	ND		ug/kg	40	--	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	160	--	1
Hexachlorobutadiene	ND		ug/kg	160	--	1
Isopropylbenzene	ND		ug/kg	40	--	1
p-Isopropyltoluene	ND		ug/kg	40	--	1
Naphthalene	ND		ug/kg	160	--	1
n-Propylbenzene	ND		ug/kg	40	--	1
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

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1706486

Project Number: 1700516 **Report Date:** 03/09/17

SAMPLE RESULTS

Lab ID: L1706486-02 Date Collected: 03/01/17 22:10

Client ID: 1700516-B308-S7 (0-10") Date Received: 03/02/17

Sample Location: BOSTON, MASSACHUSETTS Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 5035 High - Westborough Lab						
Diethyl ether	ND		ug/kg	200	--	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	1600	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	94		70-130

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1706486

Project Number: 1700516 **Report Date:** 03/09/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 03/05/17 09:46
Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01-02 Batch: WG983145-5					
Methylene chloride	ND		ug/kg	500	--
1,1-Dichloroethane	ND		ug/kg	75	--
Chloroform	ND		ug/kg	75	--
Carbon tetrachloride	ND		ug/kg	50	--
1,2-Dichloropropane	ND		ug/kg	180	--
Dibromochloromethane	ND		ug/kg	50	--
1,1,2-Trichloroethane	ND		ug/kg	75	--
Tetrachloroethene	ND		ug/kg	50	--
Chlorobenzene	ND		ug/kg	50	--
Trichlorofluoromethane	ND		ug/kg	200	--
1,2-Dichloroethane	ND		ug/kg	50	--
1,1,1-Trichloroethane	ND		ug/kg	50	--
Bromodichloromethane	ND		ug/kg	50	--
trans-1,3-Dichloropropene	ND		ug/kg	50	--
cis-1,3-Dichloropropene	ND		ug/kg	50	--
1,3-Dichloropropene, Total	ND		ug/kg	50	--
1,1-Dichloropropene	ND		ug/kg	200	--
Bromoform	ND		ug/kg	200	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	50	--
Benzene	ND		ug/kg	50	--
Toluene	ND		ug/kg	75	--
Ethylbenzene	ND		ug/kg	50	--
Chloromethane	ND		ug/kg	200	--
Bromomethane	ND		ug/kg	100	--
Vinyl chloride	ND		ug/kg	100	--
Chloroethane	ND		ug/kg	100	--
1,1-Dichloroethene	ND		ug/kg	50	--
trans-1,2-Dichloroethene	ND		ug/kg	75	--
Trichloroethene	ND		ug/kg	50	--

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1706486

Project Number: 1700516 **Report Date:** 03/09/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 03/05/17 09:46
Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01-02 Batch: WG983145-5					
1,2-Dichlorobenzene	ND		ug/kg	200	--
1,3-Dichlorobenzene	ND		ug/kg	200	--
1,4-Dichlorobenzene	ND		ug/kg	200	--
Methyl tert butyl ether	ND		ug/kg	100	--
p/m-Xylene	ND		ug/kg	100	--
o-Xylene	ND		ug/kg	100	--
Xylenes, Total	ND		ug/kg	100	--
cis-1,2-Dichloroethene	ND		ug/kg	50	--
1,2-Dichloroethene, Total	ND		ug/kg	50	--
Dibromomethane	ND		ug/kg	200	--
1,2,3-Trichloropropane	ND		ug/kg	200	--
Styrene	ND		ug/kg	100	--
Dichlorodifluoromethane	ND		ug/kg	500	--
Acetone	ND		ug/kg	1800	--
Carbon disulfide	ND		ug/kg	200	--
Methyl ethyl ketone	ND		ug/kg	500	--
Methyl isobutyl ketone	ND		ug/kg	500	--
2-Hexanone	ND		ug/kg	500	--
Bromochloromethane	ND		ug/kg	200	--
Tetrahydrofuran	ND		ug/kg	200	--
2,2-Dichloropropane	ND		ug/kg	250	--
1,2-Dibromoethane	ND		ug/kg	200	--
1,3-Dichloropropane	ND		ug/kg	200	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	50	--
Bromobenzene	ND		ug/kg	250	--
n-Butylbenzene	ND		ug/kg	50	--
sec-Butylbenzene	ND		ug/kg	50	--
tert-Butylbenzene	ND		ug/kg	200	--
o-Chlorotoluene	ND		ug/kg	200	--

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1706486

Project Number: 1700516 **Report Date:** 03/09/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 03/05/17 09:46
Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01-02 Batch: WG983145-5					
p-Chlorotoluene	ND		ug/kg	200	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	200	--
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	200	--
1,2,4-Trichlorobenzene	ND		ug/kg	200	--
1,3,5-Trimethylbenzene	ND		ug/kg	200	--
1,2,4-Trimethylbenzene	ND		ug/kg	200	--
Diethyl ether	ND		ug/kg	250	--
Diisopropyl Ether	ND		ug/kg	200	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	200	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	200	--
1,4-Dioxane	ND		ug/kg	2000	--
2-Chloroethylvinyl ether	ND		ug/kg	1000	--
Halothane	ND		ug/kg	2000	--
Ethyl Acetate	ND		ug/kg	1000	--
Freon-113	ND		ug/kg	1000	--
Vinyl acetate	ND		ug/kg	500	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	101		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516

Lab Number: L1706486
Report Date: 03/09/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01-02 Batch: WG983145-3 WG983145-4								
Methylene chloride	91		89		70-130	2		20
1,1-Dichloroethane	104		98		70-130	6		20
Chloroform	100		97		70-130	3		20
Carbon tetrachloride	106		100		70-130	6		20
1,2-Dichloropropane	99		94		70-130	5		20
Dibromochloromethane	90		88		70-130	2		20
1,1,2-Trichloroethane	96		93		70-130	3		20
Tetrachloroethene	97		93		70-130	4		20
Chlorobenzene	93		90		70-130	3		20
Trichlorofluoromethane	106		99		70-130	7		20
1,2-Dichloroethane	97		94		70-130	3		20
1,1,1-Trichloroethane	107		101		70-130	6		20
Bromodichloromethane	94		91		70-130	3		20
trans-1,3-Dichloropropene	99		95		70-130	4		20
cis-1,3-Dichloropropene	89		84		70-130	6		20
1,1-Dichloropropene	106		99		70-130	7		20
Bromoform	86		83		70-130	4		20
1,1,2,2-Tetrachloroethane	92		91		70-130	1		20
Benzene	101		97		70-130	4		20
Toluene	97		93		70-130	4		20
Ethylbenzene	100		95		70-130	5		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516

Lab Number: L1706486
Report Date: 03/09/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01-02 Batch: WG983145-3 WG983145-4								
Chloromethane	103		98		70-130	5		20
Bromomethane	96		97		70-130	1		20
Vinyl chloride	98		92		70-130	6		20
Chloroethane	89		86		70-130	3		20
1,1-Dichloroethene	104		98		70-130	6		20
trans-1,2-Dichloroethene	101		94		70-130	7		20
Trichloroethene	102		96		70-130	6		20
1,2-Dichlorobenzene	90		88		70-130	2		20
1,3-Dichlorobenzene	93		89		70-130	4		20
1,4-Dichlorobenzene	90		86		70-130	5		20
Methyl tert butyl ether	104		101		70-130	3		20
p/m-Xylene	102		96		70-130	6		20
o-Xylene	100		95		70-130	5		20
cis-1,2-Dichloroethene	100		97		70-130	3		20
Dibromomethane	94		93		70-130	1		20
1,2,3-Trichloropropane	92		92		70-130	0		20
Styrene	96		93		70-130	3		20
Dichlorodifluoromethane	103		97		70-130	6		20
Acetone	115		112		70-130	3		20
Carbon disulfide	81		76		70-130	6		20
Methyl ethyl ketone	94		97		70-130	3		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516

Lab Number: L1706486
Report Date: 03/09/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01-02 Batch: WG983145-3 WG983145-4								
Methyl isobutyl ketone	82		80		70-130	2		20
2-Hexanone	**69**	Q	71		70-130	3		20
Bromochloromethane	100		95		70-130	5		20
Tetrahydrofuran	117		115		70-130	2		20
2,2-Dichloropropane	115		109		70-130	5		20
1,2-Dibromoethane	92		92		70-130	0		20
1,3-Dichloropropane	96		93		70-130	3		20
1,1,1,2-Tetrachloroethane	94		91		70-130	3		20
Bromobenzene	92		89		70-130	3		20
n-Butylbenzene	100		95		70-130	5		20
sec-Butylbenzene	101		96		70-130	5		20
tert-Butylbenzene	99		95		70-130	4		20
o-Chlorotoluene	98		95		70-130	3		20
p-Chlorotoluene	97		94		70-130	3		20
1,2-Dibromo-3-chloropropane	86		84		70-130	2		20
Hexachlorobutadiene	91		87		70-130	4		20
Isopropylbenzene	99		94		70-130	5		20
p-Isopropyltoluene	98		94		70-130	4		20
Naphthalene	80		78		70-130	3		20
n-Propylbenzene	99		94		70-130	5		20
1,2,3-Trichlorobenzene	90		87		70-130	3		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1706486
Report Date: 03/09/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01-02 Batch: WG983145-3 WG983145-4								
1,2,4-Trichlorobenzene	91		87		70-130	4		20
1,3,5-Trimethylbenzene	99		95		70-130	4		20
1,2,4-Trimethylbenzene	99		95		70-130	4		20
Diethyl ether	91		93		70-130	2		20
Diisopropyl Ether	104		101		70-130	3		20
Ethyl-Tert-Butyl-Ether	106		103		70-130	3		20
Tertiary-Amyl Methyl Ether	108		106		70-130	2		20
1,4-Dioxane	87		87		70-130	0		20
2-Chloroethylvinyl ether	**46**	Q	**24**	Q	70-130	**63**	Q	20
Halothane	103		98		70-130	5		20
Ethyl Acetate	99		99		70-130	0		20
Freon-113	106		100		70-130	6		20
Vinyl acetate	94		92		70-130	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	100		100		70-130
Toluene-d8	100		98		70-130
4-Bromofluorobenzene	100		103		70-130
Dibromofluoromethane	103		102		70-130

SEMIVOLATILES

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1706486

Project Number: 1700516 **Report Date:** 03/09/17

SAMPLE RESULTS

Lab ID: L1706486-03
Client ID: 1700516-B308-COMP (0-8")
Sample Location: BOSTON, MASSACHUSETTS
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 03/05/17 21:26
Analyst: ALS
Percent Solids: 86%

Date Collected: 03/01/17 20:45
Date Received: 03/02/17
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 03/04/17 10:22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	3900		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	35000	E	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	210	--	1
Hexachlorobutadiene	ND		ug/kg	190	--	1
Hexachloroethane	ND		ug/kg	150	--	1
Isophorone	ND		ug/kg	170	--	1
Naphthalene	550		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	360		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	16000	E	ug/kg	110	--	1
Benzo(a)pyrene	14000	E	ug/kg	150	--	1
Benzo(b)fluoranthene	18000	E	ug/kg	110	--	1

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1706486

Project Number: 1700516 **Report Date:** 03/09/17

SAMPLE RESULTS

Lab ID: L1706486-03 Date Collected: 03/01/17 20:45

Client ID: 1700516-B308-COMP (0-8") Date Received: 03/02/17

Sample Location: BOSTON, MASSACHUSETTS Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(k)fluoranthene	4100		ug/kg	110	--	1
Chrysene	14000	E	ug/kg	110	--	1
Acenaphthylene	230		ug/kg	150	--	1
Anthracene	11000	E	ug/kg	110	--	1
Benzo(ghi)perylene	7600		ug/kg	150	--	1
Fluorene	5600		ug/kg	190	--	1
Phenanthrene	34000	E	ug/kg	110	--	1
Dibenzo(a,h)anthracene	2000		ug/kg	110	--	1
Indeno(1,2,3-cd)pyrene	8300	E	ug/kg	150	--	1
Pyrene	29000	E	ug/kg	110	--	1
Aniline	ND		ug/kg	230	--	1
4-Chloroaniline	ND		ug/kg	190	--	1
Dibenzofuran	2600		ug/kg	190	--	1
2-Methylnaphthalene	740		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	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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	76		30-130
Phenol-d6	78		30-130
Nitrobenzene-d5	88		30-130
2-Fluorobiphenyl	61		30-130
2,4,6-Tribromophenol	70		30-130
4-Terphenyl-d14	47		30-130

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1706486

Project Number: 1700516 **Report Date:** 03/09/17

SAMPLE RESULTS

Lab ID: L1706486-03 D
Client ID: 1700516-B308-COMP (0-8")
Sample Location: BOSTON, MASSACHUSETTS
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 03/09/17 06:56
Analyst: CB
Percent Solids: 86%

Date Collected: 03/01/17 20:45
Date Received: 03/02/17
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 03/04/17 10:22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Fluoranthene	40000		ug/kg	1100	--	10
Benzo(a)anthracene	16000		ug/kg	1100	--	10
Benzo(a)pyrene	15000		ug/kg	1500	--	10
Benzo(b)fluoranthene	19000		ug/kg	1100	--	10
Chrysene	15000		ug/kg	1100	--	10
Anthracene	11000		ug/kg	1100	--	10
Phenanthrene	37000		ug/kg	1100	--	10
Indeno(1,2,3-cd)pyrene	8800		ug/kg	1500	--	10
Pyrene	32000		ug/kg	1100	--	10

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1706486

Project Number: 1700516 **Report Date:** 03/09/17

SAMPLE RESULTS

Lab ID: L1706486-04
Client ID: 1700516-B308-COMP (8-22")
Sample Location: BOSTON, MASSACHUSETTS
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 03/05/17 21:51
Analyst: ALS
Percent Solids: 90%

Date Collected: 03/01/17 22:30
Date Received: 03/02/17
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 03/04/17 10:22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	150	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	180	--	1
Hexachlorobenzene	ND		ug/kg	110	--	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	410		ug/kg	110	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	220	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	--	1
Hexachlorobutadiene	ND		ug/kg	180	--	1
Hexachloroethane	ND		ug/kg	150	--	1
Isophorone	ND		ug/kg	160	--	1
Naphthalene	ND		ug/kg	180	--	1
Nitrobenzene	ND		ug/kg	160	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	--	1
Butyl benzyl phthalate	ND		ug/kg	180	--	1
Di-n-butylphthalate	210		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	200		ug/kg	110	--	1
Benzo(a)pyrene	170		ug/kg	150	--	1
Benzo(b)fluoranthene	200		ug/kg	110	--	1

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1706486

Project Number: 1700516 **Report Date:** 03/09/17

SAMPLE RESULTS

Lab ID: L1706486-04 Date Collected: 03/01/17 22:30

Client ID: 1700516-B308-COMP (8-22") Date Received: 03/02/17

Sample Location: BOSTON, MASSACHUSETTS Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(k)fluoranthene	ND		ug/kg	110	--	1
Chrysene	180		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	180	--	1
Phenanthrene	340		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	360		ug/kg	110	--	1
Aniline	ND		ug/kg	220	--	1
4-Chloroaniline	ND		ug/kg	180	--	1
Dibenzofuran	ND		ug/kg	180	--	1
2-Methylnaphthalene	ND		ug/kg	220	--	1
Acetophenone	ND		ug/kg	180	--	1
2,4,6-Trichlorophenol	ND		ug/kg	110	--	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	400	--	1
4-Nitrophenol	ND		ug/kg	260	--	1
2,4-Dinitrophenol	ND		ug/kg	880	--	1
Pentachlorophenol	ND		ug/kg	370	--	1
Phenol	ND		ug/kg	180	--	1
2-Methylphenol	ND		ug/kg	180	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	260	--	1
2,4,5-Trichlorophenol	ND		ug/kg	180	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	75		30-130
Phenol-d6	79		30-130
Nitrobenzene-d5	84		30-130
2-Fluorobiphenyl	69		30-130
2,4,6-Tribromophenol	74		30-130
4-Terphenyl-d14	52		30-130

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1706486
Report Date: 03/09/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 03/05/17 20:10
Analyst: PS

Extraction Method: EPA 3546
Extraction Date: 03/04/17 10:22

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 03-04 Batch: WG982906-1					
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: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1706486
Report Date: 03/09/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 03/05/17 20:10
Analyst: PS

Extraction Method: EPA 3546
Extraction Date: 03/04/17 10:22

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 03-04 Batch: WG982906-1					
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	--

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1706486
Report Date: 03/09/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 03/05/17 20:10
Analyst: PS

Extraction Method: EPA 3546
Extraction Date: 03/04/17 10:22

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 03-04 Batch: WG982906-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	80		30-130
Phenol-d6	80		30-130
Nitrobenzene-d5	83		30-130
2-Fluorobiphenyl	74		30-130
2,4,6-Tribromophenol	67		30-130
4-Terphenyl-d14	76		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516

Lab Number: L1706486
Report Date: 03/09/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 03-04 Batch: WG982906-2 WG982906-3								
Acenaphthene	81		74		40-140	9		30
1,2,4-Trichlorobenzene	75		68		40-140	10		30
Hexachlorobenzene	71		66		40-140	7		30
Bis(2-chloroethyl)ether	80		74		40-140	8		30
2-Chloronaphthalene	80		73		40-140	9		30
1,2-Dichlorobenzene	75		70		40-140	7		30
1,3-Dichlorobenzene	74		69		40-140	7		30
1,4-Dichlorobenzene	74		69		40-140	7		30
3,3'-Dichlorobenzidine	41		**38**	Q	40-140	8		30
2,4-Dinitrotoluene	88		79		40-140	11		30
2,6-Dinitrotoluene	95		86		40-140	10		30
Azobenzene	91		84		40-140	8		30
Fluoranthene	82		75		40-140	9		30
4-Bromophenyl phenyl ether	73		67		40-140	9		30
Bis(2-chloroisopropyl)ether	83		76		40-140	9		30
Bis(2-chloroethoxy)methane	82		76		40-140	8		30
Hexachlorobutadiene	75		68		40-140	10		30
Hexachloroethane	80		75		40-140	6		30
Isophorone	82		75		40-140	9		30
Naphthalene	78		71		40-140	9		30
Nitrobenzene	91		85		40-140	7		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516

Lab Number: L1706486
Report Date: 03/09/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 03-04 Batch: WG982906-2 WG982906-3								
Bis(2-ethylhexyl)phthalate	88		80		40-140	10		30
Butyl benzyl phthalate	86		79		40-140	8		30
Di-n-butylphthalate	85		79		40-140	7		30
Di-n-octylphthalate	87		80		40-140	8		30
Diethyl phthalate	80		75		40-140	6		30
Dimethyl phthalate	81		74		40-140	9		30
Benzo(a)anthracene	78		72		40-140	8		30
Benzo(a)pyrene	75		70		40-140	7		30
Benzo(b)fluoranthene	74		70		40-140	6		30
Benzo(k)fluoranthene	75		69		40-140	8		30
Chrysene	76		70		40-140	8		30
Acenaphthylene	82		74		40-140	10		30
Anthracene	83		75		40-140	10		30
Benzo(ghi)perylene	73		68		40-140	7		30
Fluorene	80		74		40-140	8		30
Phenanthrene	82		74		40-140	10		30
Dibenzo(a,h)anthracene	72		66		40-140	9		30
Indeno(1,2,3-cd)pyrene	73		66		40-140	10		30
Pyrene	82		74		40-140	10		30
Aniline	**34**	Q	**29**	Q	40-140	16		30
4-Chloroaniline	77		71		40-140	8		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1706486
Report Date: 03/09/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 03-04 Batch: WG982906-2 WG982906-3								
Dibenzofuran	80		72		40-140	11		30
2-Methylnaphthalene	80		73		40-140	9		30
Acetophenone	80		74		40-140	8		30
2,4,6-Trichlorophenol	82		73		30-130	12		30
2-Chlorophenol	80		76		30-130	5		30
2,4-Dichlorophenol	85		77		30-130	10		30
2,4-Dimethylphenol	92		82		30-130	11		30
2-Nitrophenol	88		81		30-130	8		30
4-Nitrophenol	104		105		30-130	1		30
2,4-Dinitrophenol	50		53		30-130	6		30
Pentachlorophenol	61		58		30-130	5		30
Phenol	79		72		30-130	9		30
2-Methylphenol	85		80		30-130	6		30
3-Methylphenol/4-Methylphenol	92		83		30-130	10		30
2,4,5-Trichlorophenol	82		75		30-130	9		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING PHASE II

Project Number: 1700516

Lab Number: L1706486

Report Date: 03/09/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 03-04 Batch: WG982906-2 WG982906-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	82		77		30-130
Phenol-d6	84		78		30-130
Nitrobenzene-d5	88		81		30-130
2-Fluorobiphenyl	78		70		30-130
2,4,6-Tribromophenol	73		68		30-130
4-Terphenyl-d14	71		65		30-130

PETROLEUM HYDROCARBONS

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1706486

Project Number: 1700516 **Report Date:** 03/09/17

SAMPLE RESULTS

Lab ID:	L1706486-03	Date Collected:	03/01/17 20:45
Client ID:	1700516-B308-COMP (0-8")	Date Received:	03/02/17
Sample Location:	BOSTON, MASSACHUSETTS	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8015C(M)	Extraction Date:	03/03/17 17:21
Analytical Date:	03/04/17 19:23		
Analyst:	EK		
Percent Solids:	86%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	313000		ug/kg	36500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	83		40-140

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1706486

Project Number: 1700516 **Report Date:** 03/09/17

SAMPLE RESULTS

Lab ID:	L1706486-04	Date Collected:	03/01/17 22:30
Client ID:	1700516-B308-COMP (8-22")	Date Received:	03/02/17
Sample Location:	BOSTON, MASSACHUSETTS	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8015C(M)	Extraction Date:	03/03/17 17:21
Analytical Date:	03/04/17 19:55		
Analyst:	EK		
Percent Solids:	90%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	ND		ug/kg	36600	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	89		40-140

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1706486
Report Date: 03/09/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015C(M)
Analytical Date: 03/04/17 12:56
Analyst: DG

Extraction Method: EPA 3546
Extraction Date: 03/03/17 17:21

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 03-04 Batch: WG982789-1					
TPH	ND		ug/kg	31500	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	76		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING PHASE II

Project Number: 1700516

Lab Number: L1706486

Report Date: 03/09/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 03-04 Batch: WG982789-2								
TPH	86		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	84				40-140

PCBS

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1706486

Project Number: 1700516 **Report Date:** 03/09/17

SAMPLE RESULTS

Lab ID: L1706486-03
Client ID: 1700516-B308-COMP (0-8")
Sample Location: BOSTON, MASSACHUSETTS
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 03/03/17 16:40
Analyst: JA
Percent Solids: 86%

Date Collected: 03/01/17 20:45
Date Received: 03/02/17
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 03/03/17 07:59
Cleanup Method: EPA 3665A
Cleanup Date: 03/03/17
Cleanup Method: EPA 3660B
Cleanup Date: 03/03/17

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	38.4	--	1	A
Aroclor 1221	ND		ug/kg	38.4	--	1	A
Aroclor 1232	ND		ug/kg	38.4	--	1	A
Aroclor 1242	ND		ug/kg	38.4	--	1	A
Aroclor 1248	ND		ug/kg	38.4	--	1	A
Aroclor 1254	ND		ug/kg	38.4	--	1	A
Aroclor 1260	ND		ug/kg	38.4	--	1	A
Aroclor 1262	ND		ug/kg	38.4	--	1	A
Aroclor 1268	ND		ug/kg	38.4	--	1	A
PCBs, Total	ND		ug/kg	38.4	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	78		30-150	A
Decachlorobiphenyl	52		30-150	A
2,4,5,6-Tetrachloro-m-xylene	63		30-150	B
Decachlorobiphenyl	61		30-150	B

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1706486

Project Number: 1700516 **Report Date:** 03/09/17

SAMPLE RESULTS

Lab ID:	L1706486-04	Date Collected:	03/01/17 22:30
Client ID:	1700516-B308-COMP (8-22")	Date Received:	03/02/17
Sample Location:	BOSTON, MASSACHUSETTS	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	97,8082A	Extraction Date:	03/03/17 07:59
Analytical Date:	03/03/17 16:52	Cleanup Method:	EPA 3665A
Analyst:	JA	Cleanup Date:	03/03/17
Percent Solids:	90%	Cleanup Method:	EPA 3660B
		Cleanup Date:	03/03/17

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	85		30-150	A
Decachlorobiphenyl	49		30-150	A
2,4,5,6-Tetrachloro-m-xylene	83		30-150	B
Decachlorobiphenyl	60		30-150	B

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1706486
Report Date: 03/09/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 03/03/17 16:03
Analyst: AF

Extraction Method: EPA 3546
Extraction Date: 03/03/17 07:59
Cleanup Method: EPA 3665A
Cleanup Date: 03/03/17
Cleanup Method: EPA 3660B
Cleanup Date: 03/03/17

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 03-04 Batch: WG982564-1						
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	86		30-150	A
Decachlorobiphenyl	56		30-150	A
2,4,5,6-Tetrachloro-m-xylene	79		30-150	B
Decachlorobiphenyl	61		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING PHASE II

Project Number: 1700516

Lab Number: L1706486

Report Date: 03/09/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 03-04 Batch: WG982564-2 WG982564-3									
Aroclor 1016	74		81		40-140	9		30	A
Aroclor 1260	66		72		40-140	9		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	91		95		30-150	A
Decachlorobiphenyl	55		55		30-150	A
2,4,5,6-Tetrachloro-m-xylene	85		90		30-150	B
Decachlorobiphenyl	63		62		30-150	B

PESTICIDES

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1706486

Project Number: 1700516 **Report Date:** 03/09/17

SAMPLE RESULTS

Lab ID: L1706486-03
Client ID: 1700516-B308-COMP (0-8")
Sample Location: BOSTON, MASSACHUSETTS
Matrix: Soil
Analytical Method: 97,8081B
Analytical Date: 03/07/17 18:36
Analyst: RL
Percent Solids: 86%

Date Collected: 03/01/17 20:45
Date Received: 03/02/17
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 03/03/17 09:38
Cleanup Method: EPA 3620B
Cleanup Date: 03/03/17

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Organochlorine Pesticides - Westborough Lab							
Delta-BHC	ND		ug/kg	9.21	--	1	A
Lindane	ND		ug/kg	3.07	--	1	A
Alpha-BHC	ND		ug/kg	3.84	--	1	A
Beta-BHC	ND		ug/kg	9.21	--	1	A
Heptachlor	ND		ug/kg	4.60	--	1	A
Aldrin	ND		ug/kg	9.21	--	1	A
Heptachlor epoxide	ND		ug/kg	17.3	--	1	A
Endrin	ND		ug/kg	3.84	--	1	A
Endrin ketone	ND		ug/kg	9.21	--	1	A
Dieldrin	ND		ug/kg	5.76	--	1	A
4,4'-DDE	ND		ug/kg	9.21	--	1	A
4,4'-DDD	ND		ug/kg	9.21	--	1	B
4,4'-DDT	ND		ug/kg	17.3	--	1	A
Endosulfan I	ND		ug/kg	9.21	--	1	A
Endosulfan II	ND		ug/kg	9.21	--	1	A
Endosulfan sulfate	ND		ug/kg	3.84	--	1	A
Methoxychlor	ND		ug/kg	17.3	--	1	A
Chlordane	ND		ug/kg	74.8	--	1	A
Hexachlorobenzene	ND		ug/kg	9.21	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	76		30-150	B
Decachlorobiphenyl	80		30-150	B
2,4,5,6-Tetrachloro-m-xylene	74		30-150	A
Decachlorobiphenyl	80		30-150	A

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1706486

Project Number: 1700516 **Report Date:** 03/09/17

SAMPLE RESULTS

Lab ID: L1706486-03
Client ID: 1700516-B308-COMP (0-8")
Sample Location: BOSTON, MASSACHUSETTS
Matrix: Soil
Analytical Method: 97,8151A
Analytical Date: 03/08/17 03:46
Analyst: DM
Percent Solids: 86%
Methylation Date: 03/03/17 10:28

Date Collected: 03/01/17 20:45
Date Received: 03/02/17
Field Prep: Not Specified
Extraction Method: EPA 8151A
Extraction Date: 03/02/17 23:36

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	127		30-150	A
DCAA	124		30-150	B

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1706486

Project Number: 1700516 **Report Date:** 03/09/17

SAMPLE RESULTS

Lab ID: L1706486-04
Client ID: 1700516-B308-COMP (8-22")
Sample Location: BOSTON, MASSACHUSETTS
Matrix: Soil
Analytical Method: 97,8081B
Analytical Date: 03/07/17 18:52
Analyst: RL
Percent Solids: 90%

Date Collected: 03/01/17 22:30
Date Received: 03/02/17
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 03/03/17 09:38
Cleanup Method: EPA 3620B
Cleanup Date: 03/03/17

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Organochlorine Pesticides - Westborough Lab							
Delta-BHC	ND		ug/kg	8.54	--	1	A
Lindane	ND		ug/kg	2.85	--	1	A
Alpha-BHC	ND		ug/kg	3.56	--	1	A
Beta-BHC	ND		ug/kg	8.54	--	1	A
Heptachlor	ND		ug/kg	4.27	--	1	A
Aldrin	ND		ug/kg	8.54	--	1	A
Heptachlor epoxide	ND		ug/kg	16.0	--	1	A
Endrin	ND		ug/kg	3.56	--	1	A
Endrin ketone	ND		ug/kg	8.54	--	1	A
Dieldrin	ND		ug/kg	5.34	--	1	A
4,4'-DDE	ND		ug/kg	8.54	--	1	A
4,4'-DDD	ND		ug/kg	8.54	--	1	B
4,4'-DDT	ND		ug/kg	16.0	--	1	A
Endosulfan I	ND		ug/kg	8.54	--	1	A
Endosulfan II	ND		ug/kg	8.54	--	1	A
Endosulfan sulfate	ND		ug/kg	3.56	--	1	A
Methoxychlor	ND		ug/kg	16.0	--	1	A
Chlordane	ND		ug/kg	69.4	--	1	A
Hexachlorobenzene	ND		ug/kg	8.54	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	82		30-150	B
Decachlorobiphenyl	89		30-150	B
2,4,5,6-Tetrachloro-m-xylene	80		30-150	A
Decachlorobiphenyl	86		30-150	A

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1706486

Project Number: 1700516 **Report Date:** 03/09/17

SAMPLE RESULTS

Lab ID: L1706486-04
Client ID: 1700516-B308-COMP (8-22")
Sample Location: BOSTON, MASSACHUSETTS
Matrix: Soil
Analytical Method: 97,8151A
Analytical Date: 03/08/17 07:02
Analyst: DM
Percent Solids: 90%
Methylation Date: 03/04/17 20:26

Date Collected: 03/01/17 22:30
Date Received: 03/02/17
Field Prep: Not Specified
Extraction Method: EPA 8151A
Extraction Date: 03/03/17 15:38

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
Dinoseb	ND		ug/kg	37	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	117		30-150	A
DCAA	100		30-150	B

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1706486
Report Date: 03/09/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8151A
Analytical Date: 03/07/17 22:52
Analyst: DM

Extraction Method: EPA 8151A
Extraction Date: 03/02/17 01:53

Methylation Date: 03/02/17 22:01

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Chlorinated Herbicides - Westborough Lab for sample(s): 03 Batch: WG982131-1						
MCPP	ND		ug/kg	3200	--	A
MCPA	ND		ug/kg	3200	--	A
Dalapon	ND		ug/kg	32	--	A
Dicamba	ND		ug/kg	32	--	A
Dichloroprop	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
Dinoseb	ND		ug/kg	32	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	128		30-150	A
DCAA	112		30-150	B

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1706486
Report Date: 03/09/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8081B
Analytical Date: 03/07/17 17:17
Analyst: RL

Extraction Method: EPA 3546
Extraction Date: 03/03/17 09:38
Cleanup Method: EPA 3620B
Cleanup Date: 03/03/17

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Organochlorine Pesticides - Westborough Lab for sample(s): 03-04 Batch: WG982610-1						
Delta-BHC	ND		ug/kg	7.64	--	A
Lindane	ND		ug/kg	2.55	--	A
Alpha-BHC	ND		ug/kg	3.18	--	A
Beta-BHC	ND		ug/kg	7.64	--	A
Heptachlor	ND		ug/kg	3.82	--	A
Aldrin	ND		ug/kg	7.64	--	A
Heptachlor epoxide	ND		ug/kg	14.3	--	A
Endrin	ND		ug/kg	3.18	--	A
Endrin ketone	ND		ug/kg	7.64	--	A
Dieldrin	ND		ug/kg	4.78	--	A
4,4'-DDE	ND		ug/kg	7.64	--	A
4,4'-DDD	ND		ug/kg	7.64	--	A
4,4'-DDT	ND		ug/kg	14.3	--	A
Endosulfan I	ND		ug/kg	7.64	--	A
Endosulfan II	ND		ug/kg	7.64	--	A
Endosulfan sulfate	ND		ug/kg	3.18	--	A
Methoxychlor	ND		ug/kg	14.3	--	A
Chlordane	ND		ug/kg	62.1	--	A
Hexachlorobenzene	ND		ug/kg	7.64	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	79		30-150	B
Decachlorobiphenyl	106		30-150	B
2,4,5,6-Tetrachloro-m-xylene	73		30-150	A
Decachlorobiphenyl	81		30-150	A

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1706486
Report Date: 03/09/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8151A
Analytical Date: 03/05/17 20:51
Analyst: DM

Extraction Method: EPA 8151A
Extraction Date: 03/03/17 15:38

Methylation Date: 03/04/17 20:15

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Chlorinated Herbicides - Westborough Lab for sample(s): 04 Batch: WG982756-1						
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
Dinoseb	ND		ug/kg	33	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	101		30-150	A
DCAA	83		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING PHASE II

Project Number: 1700516

Lab Number: L1706486

Report Date: 03/09/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Chlorinated Herbicides - Westborough Lab Associated sample(s): 03 Batch: WG982131-2 WG982131-3									
MCPP	83		**142**	Q	40-140	**52**	Q	30	A
MCPA	60		104		40-140	**54**	Q	30	A
Dalapon	47		83		40-140	**55**	Q	30	A
Dicamba	61		99		40-140	**48**	Q	30	A
Dichloroprop	92		131		40-140	**35**	Q	30	A
2,4-D	69		105		40-140	**41**	Q	30	A
2,4-DB	62		103		40-140	**50**	Q	30	A
2,4,5-T	62		100		40-140	**47**	Q	30	A
2,4,5-TP (Silvex)	60		95		40-140	**45**	Q	30	A
Dinoseb	**7**	Q	**9**	Q	40-140	**32**	Q	30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	78		128		30-150	A
DCAA	72		116		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516

Lab Number: L1706486
Report Date: 03/09/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 03-04 Batch: WG982610-2 WG982610-3									
Delta-BHC	91		105		40-140	14		30	A
Lindane	83		95		40-140	13		30	A
Alpha-BHC	59		69		40-140	16		30	A
Beta-BHC	68		76		40-140	11		30	A
Heptachlor	80		91		40-140	13		30	A
Aldrin	89		99		40-140	11		30	A
Heptachlor epoxide	85		97		40-140	13		30	A
Endrin	89		102		40-140	14		30	A
Endrin ketone	74		84		40-140	13		30	A
Dieldrin	92		106		40-140	14		30	A
4,4'-DDE	68		78		40-140	14		30	A
4,4'-DDD	83		94		40-140	12		30	A
4,4'-DDT	86		98		40-140	13		30	A
Endosulfan I	82		93		40-140	13		30	A
Endosulfan II	80		91		40-140	13		30	A
Endosulfan sulfate	56		56		40-140	0		30	A
Methoxychlor	72		81		40-140	12		30	A
Hexachlorobenzene	61		67		40-140	9		30	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING PHASE II

Project Number: 1700516

Lab Number: L1706486

Report Date: 03/09/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 03-04 Batch: WG982610-2 WG982610-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	74		81		30-150	B
Decachlorobiphenyl	86		94		30-150	B
2,4,5,6-Tetrachloro-m-xylene	68		77		30-150	A
Decachlorobiphenyl	74		83		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING PHASE II

Project Number: 1700516

Lab Number: L1706486

Report Date: 03/09/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Chlorinated Herbicides - Westborough Lab Associated sample(s): 04 Batch: WG982756-2 WG982756-3									
MCPP	98		93		40-140	5		30	A
MCPA	91		92		40-140	1		30	A
Dalapon	59		62		40-140	5		30	A
Dicamba	77		79		40-140	3		30	A
Dichloroprop	137		133		40-140	3		30	A
2,4-D	97		102		40-140	5		30	A
2,4-DB	87		99		40-140	13		30	A
2,4,5-T	84		87		40-140	4		30	A
2,4,5-TP (Silvex)	78		82		40-140	5		30	A
Dinoseb	**3**	Q	**6**	Q	40-140	**55**	Q	30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	98		100		30-150	A
DCAA	81		86		30-150	B

METALS

Project Name: TREMONT CROSSING PHASE II
Lab Number: L1706486
Project Number: 1700516
Report Date: 03/09/17

SAMPLE RESULTS

Lab ID: L1706486-03
Client ID: 1700516-B308-COMP (0-8")
Sample Location: BOSTON, MASSACHUSETTS
Matrix: Soil
Percent Solids: 86%

Date Collected: 03/01/17 20:45
Date Received: 03/02/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.3	--	1	03/03/17 18:43	03/04/17 00:37	EPA 3050B	97,6010C	MC
Arsenic, Total	3.3		mg/kg	0.45	--	1	03/03/17 18:43	03/04/17 00:37	EPA 3050B	97,6010C	MC
Barium, Total	48		mg/kg	0.45	--	1	03/03/17 18:43	03/04/17 00:37	EPA 3050B	97,6010C	MC
Beryllium, Total	ND		mg/kg	0.23	--	1	03/03/17 18:43	03/04/17 00:37	EPA 3050B	97,6010C	MC
Cadmium, Total	ND		mg/kg	0.45	--	1	03/03/17 18:43	03/04/17 00:37	EPA 3050B	97,6010C	MC
Chromium, Total	9.1		mg/kg	0.45	--	1	03/03/17 18:43	03/04/17 00:37	EPA 3050B	97,6010C	MC
Lead, Total	56		mg/kg	2.3	--	1	03/03/17 18:43	03/04/17 00:37	EPA 3050B	97,6010C	MC
Mercury, Total	0.207		mg/kg	0.074	--	1	03/03/17 08:00	03/03/17 14:59	EPA 7471B	97,7471B	BV
Nickel, Total	6.3		mg/kg	1.1	--	1	03/03/17 18:43	03/04/17 00:37	EPA 3050B	97,6010C	MC
Selenium, Total	ND		mg/kg	2.3	--	1	03/03/17 18:43	03/04/17 00:37	EPA 3050B	97,6010C	MC
Silver, Total	ND		mg/kg	0.45	--	1	03/03/17 18:43	03/04/17 00:37	EPA 3050B	97,6010C	MC
Thallium, Total	ND		mg/kg	2.3	--	1	03/03/17 18:43	03/04/17 00:37	EPA 3050B	97,6010C	MC
Vanadium, Total	11		mg/kg	0.45	--	1	03/03/17 18:43	03/04/17 00:37	EPA 3050B	97,6010C	MC
Zinc, Total	50		mg/kg	2.3	--	1	03/03/17 18:43	03/04/17 00:37	EPA 3050B	97,6010C	MC

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1706486

Project Number: 1700516 **Report Date:** 03/09/17

SAMPLE RESULTS

Lab ID: L1706486-04 Date Collected: 03/01/17 22:30

Client ID: 1700516-B308-COMP (8-22") Date Received: 03/02/17

Sample Location: BOSTON, MASSACHUSETTS Field Prep: Not Specified

Matrix: Soil

Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.2	--	1	03/03/17 18:43	03/04/17 00:41	EPA 3050B	97,6010C	MC
Arsenic, Total	3.0		mg/kg	0.44	--	1	03/03/17 18:43	03/04/17 00:41	EPA 3050B	97,6010C	MC
Barium, Total	25		mg/kg	0.44	--	1	03/03/17 18:43	03/04/17 00:41	EPA 3050B	97,6010C	MC
Beryllium, Total	ND		mg/kg	0.22	--	1	03/03/17 18:43	03/04/17 00:41	EPA 3050B	97,6010C	MC
Cadmium, Total	ND		mg/kg	0.44	--	1	03/03/17 18:43	03/04/17 00:41	EPA 3050B	97,6010C	MC
Chromium, Total	16		mg/kg	0.44	--	1	03/03/17 18:43	03/04/17 00:41	EPA 3050B	97,6010C	MC
Lead, Total	12		mg/kg	2.2	--	1	03/03/17 18:43	03/04/17 00:41	EPA 3050B	97,6010C	MC
Mercury, Total	ND		mg/kg	0.072	--	1	03/03/17 08:00	03/03/17 15:00	EPA 7471B	97,7471B	BV
Nickel, Total	10		mg/kg	1.1	--	1	03/03/17 18:43	03/04/17 00:41	EPA 3050B	97,6010C	MC
Selenium, Total	ND		mg/kg	2.2	--	1	03/03/17 18:43	03/04/17 00:41	EPA 3050B	97,6010C	MC
Silver, Total	ND		mg/kg	0.44	--	1	03/03/17 18:43	03/04/17 00:41	EPA 3050B	97,6010C	MC
Thallium, Total	ND		mg/kg	2.2	--	1	03/03/17 18:43	03/04/17 00:41	EPA 3050B	97,6010C	MC
Vanadium, Total	19		mg/kg	0.44	--	1	03/03/17 18:43	03/04/17 00:41	EPA 3050B	97,6010C	MC
Zinc, Total	38		mg/kg	2.2	--	1	03/03/17 18:43	03/04/17 00:41	EPA 3050B	97,6010C	MC

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1706486

Project Number: 1700516 **Report Date:** 03/09/17

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): 03-04 Batch: WG982531-1										
Mercury, Total	ND		mg/kg	0.083	--	1	03/03/17 08:00	03/03/17 14:34	97,7471B	BV

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): 03-04 Batch: WG982796-1										
Antimony, Total	ND		mg/kg	2.0	--	1	03/03/17 18:43	03/03/17 23:33	97,6010C	MC
Arsenic, Total	ND		mg/kg	0.40	--	1	03/03/17 18:43	03/03/17 23:33	97,6010C	MC
Barium, Total	ND		mg/kg	0.40	--	1	03/03/17 18:43	03/03/17 23:33	97,6010C	MC
Beryllium, Total	ND		mg/kg	0.20	--	1	03/03/17 18:43	03/03/17 23:33	97,6010C	MC
Cadmium, Total	ND		mg/kg	0.40	--	1	03/03/17 18:43	03/03/17 23:33	97,6010C	MC
Chromium, Total	ND		mg/kg	0.40	--	1	03/03/17 18:43	03/03/17 23:33	97,6010C	MC
Lead, Total	ND		mg/kg	2.0	--	1	03/03/17 18:43	03/03/17 23:33	97,6010C	MC
Nickel, Total	ND		mg/kg	1.0	--	1	03/03/17 18:43	03/03/17 23:33	97,6010C	MC
Selenium, Total	ND		mg/kg	2.0	--	1	03/03/17 18:43	03/03/17 23:33	97,6010C	MC
Silver, Total	ND		mg/kg	0.40	--	1	03/03/17 18:43	03/03/17 23:33	97,6010C	MC
Thallium, Total	ND		mg/kg	2.0	--	1	03/03/17 18:43	03/03/17 23:33	97,6010C	MC
Vanadium, Total	ND		mg/kg	0.40	--	1	03/03/17 18:43	03/03/17 23:33	97,6010C	MC
Zinc, Total	ND		mg/kg	2.0	--	1	03/03/17 18:43	03/03/17 23:33	97,6010C	MC

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING PHASE II

Project Number: 1700516

Lab Number: L1706486

Report Date: 03/09/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 03-04 Batch: WG982531-2 WG982531-3 SRM Lot Number: D091-540								
Mercury, Total	89		93		72-128	4		30
MCP Total Metals - Mansfield Lab Associated sample(s): 03-04 Batch: WG982796-2 WG982796-3 SRM Lot Number: D091-540								
Antimony, Total	163		163		1-200	0		30
Arsenic, Total	103		103		80-121	0		30
Barium, Total	91		96		84-117	5		30
Beryllium, Total	97		100		83-117	3		30
Cadmium, Total	102		102		83-117	0		30
Chromium, Total	91		98		80-119	7		30
Lead, Total	103		96		82-118	7		30
Nickel, Total	93		93		83-117	0		30
Selenium, Total	101		96		79-121	5		30
Silver, Total	93		93		76-124	0		30
Thallium, Total	106		106		80-121	0		30
Vanadium, Total	96		96		78-122	0		30
Zinc, Total	103		103		82-118	0		30

INORGANICS
&
MISCELLANEOUS

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1706486
Report Date: 03/09/17

SAMPLE RESULTS

Lab ID: L1706486-03
Client ID: 1700516-B308-COMP (0-8")
Sample Location: BOSTON, MASSACHUSETTS
Matrix: Soil

Date Collected: 03/01/17 20:45
Date Received: 03/02/17
Field Prep: Not Specified

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	03/03/17 13:08	1,1030	AB

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1706486
Report Date: 03/09/17

SAMPLE RESULTS

Lab ID: L1706486-04
Client ID: 1700516-B308-COMP (8-22")
Sample Location: BOSTON, MASSACHUSETTS
Matrix: Soil
Date Collected: 03/01/17 22:30
Date Received: 03/02/17
Field Prep: Not Specified

Test Material Information

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

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	03/03/17 13:08	1,1030	AB

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1706486
Report Date: 03/09/17

SAMPLE RESULTS

Lab ID: L1706486-01
Client ID: 1700516-B308-S2 (0-18")
Sample Location: BOSTON, MASSACHUSETTS
Matrix: Soil

Date Collected: 03/01/17 20:40
Date Received: 03/02/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.7		%	0.100	NA	1	-	03/03/17 09:42	121,2540G	RO

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1706486
Report Date: 03/09/17

SAMPLE RESULTS

Lab ID: L1706486-02
Client ID: 1700516-B308-S7 (0-10")
Sample Location: BOSTON, MASSACHUSETTS
Matrix: Soil

Date Collected: 03/01/17 22:10
Date Received: 03/02/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.3		%	0.100	NA	1	-	03/03/17 09:42	121,2540G	RO

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1706486
Report Date: 03/09/17

SAMPLE RESULTS

Lab ID: L1706486-03
Client ID: 1700516-B308-COMP (0-8")
Sample Location: BOSTON, MASSACHUSETTS
Matrix: Soil
Date Collected: 03/01/17 20:45
Date Received: 03/02/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	300		umhos/cm	10	--	1	-	03/03/17 02:05	1,9050A	VB
Solids, Total	85.9		%	0.100	NA	1	-	03/03/17 09:42	121,2540G	RO
pH (H)	8.2		SU	-	NA	1	-	03/02/17 19:50	1,9045D	MR
Cyanide, Reactive	ND		mg/kg	10	--	1	03/06/17 18:00	03/06/17 20:24	1,7.3	TL
Sulfide, Reactive	ND		mg/kg	10	--	1	03/06/17 18:00	03/06/17 20:16	1,7.3	TL
Oxidation/Reduction Potential	140		mv	-	NA	1	-	03/02/17 19:50	68,1498	MR
Paint Filter Liquid	NEGATIVE		-	0	NA	1	-	03/03/17 18:55	1,9095B	AS

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1706486
Report Date: 03/09/17

SAMPLE RESULTS

Lab ID: L1706486-04
Client ID: 1700516-B308-COMP (8-22")
Sample Location: BOSTON, MASSACHUSETTS
Matrix: Soil
Date Collected: 03/01/17 22:30
Date Received: 03/02/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	91		umhos/cm	10	--	1	-	03/03/17 02:05	1,9050A	VB
Solids, Total	89.7		%	0.100	NA	1	-	03/03/17 09:42	121,2540G	RO
pH (H)	8.4		SU	-	NA	1	-	03/02/17 19:50	1,9045D	MR
Cyanide, Reactive	ND		mg/kg	10	--	1	03/06/17 18:00	03/06/17 20:24	1,7.3	TL
Sulfide, Reactive	ND		mg/kg	10	--	1	03/06/17 18:00	03/06/17 20:17	1,7.3	TL
Oxidation/Reduction Potential	130		mv	-	NA	1	-	03/02/17 19:50	68,1498	MR
Paint Filter Liquid	NEGATIVE		-	0	NA	1	-	03/03/17 18:55	1,9095B	AS

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1706486
Report Date: 03/09/17

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): 03-04 Batch: WG983247-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	03/06/17 18:00	03/06/17 20:24	1,7.3	TL
General Chemistry - Westborough Lab for sample(s): 03-04 Batch: WG983248-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	03/06/17 18:00	03/06/17 20:16	1,7.3	TL

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING PHASE II

Project Number: 1700516

Lab Number: L1706486

Report Date: 03/09/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 03-04 Batch: WG982460-1								
pH	101		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 03-04 Batch: WG982461-1								
Oxidation/Reduction Potential	99		-		90-110	-		20
General Chemistry - Westborough Lab Associated sample(s): 03-04 Batch: WG982500-1								
Specific Conductance	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 03-04 Batch: WG983247-2								
Cyanide, Reactive	79		-		30-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 03-04 Batch: WG983248-2								
Sulfide, Reactive	88		-		60-125	-		40

Lab Duplicate Analysis
Batch Quality Control

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516

Lab Number: L1706486
Report Date: 03/09/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 03-04 QC Batch ID: WG982460-2 QC Sample: L1706486-03 Client ID: 1700516-B308-COMP (0-8")						
pH (H)	8.2	8.2	SU	0		5
General Chemistry - Westborough Lab Associated sample(s): 03-04 QC Batch ID: WG982461-2 QC Sample: L1706486-03 Client ID: 1700516-B308-COMP (0-8")						
Oxidation/Reduction Potential	140	140	mv	0		20
General Chemistry - Westborough Lab Associated sample(s): 03-04 QC Batch ID: WG982500-2 QC Sample: L1706486-03 Client ID: 1700516-B308-COMP (0-8")						
Specific Conductance @ 25 C	300	300	umhos/cm	0		20

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516

Lab Number: L1706486
Report Date: 03/09/17

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1706486-01A	Vial MeOH preserved	A	N/A	2.8	Y	Absent	MCP-8260H-10(14)
L1706486-01D	Plastic 2oz unpreserved for TS	A	N/A	2.8	Y	Absent	TS(7)
L1706486-02A	Vial MeOH preserved	A	N/A	2.8	Y	Absent	MCP-8260H-10(14)
L1706486-02D	Plastic 2oz unpreserved for TS	A	N/A	2.8	Y	Absent	TS(7)
L1706486-03A	Glass 120ml/4oz unpreserved/No H	A	N/A	2.8	Y	Absent	HEXCR-RELOG()
L1706486-03B	Glass 60mL/2oz unpreserved	A	N/A	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)
L1706486-03C	Glass 500ml/16oz unpreserved	A	N/A	2.8	Y	Absent	IGNIT-1030(14),MCP-8082-10(365),ORP-9045(1),REACTS(14),MCP-8081-10(14),MCP-8151-10(14),MCP-8270-10(14),TS(7),PH-9045(1),PAINTF(),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L1706486-03D	Glass 500ml/16oz unpreserved	A	N/A	2.8	Y	Absent	IGNIT-1030(14),MCP-8082-10(365),ORP-9045(1),REACTS(14),MCP-8081-10(14),MCP-8151-10(14),MCP-8270-10(14),TS(7),PH-9045(1),PAINTF(),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L1706486-04A	Glass 120ml/4oz unpreserved/No H	A	N/A	2.8	Y	Absent	HEXCR-RELOG()

*Values in parentheses indicate holding time in days

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516

Lab Number: L1706486
Report Date: 03/09/17

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1706486-04B	Glass 60mL/2oz unpreserved	A	N/A	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)
L1706486-04C	Glass 500ml/16oz unpreserved	A	N/A	2.8	Y	Absent	IGNIT-1030(14),MCP-8082-10(365),ORP-9045(1),REACTS(14),MCP-8081-10(14),MCP-8151-10(14),MCP-8270-10(14),TS(7),PH-9045(1),PAINTF(),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L1706486-04D	Glass 500ml/16oz unpreserved	A	N/A	2.8	Y	Absent	IGNIT-1030(14),MCP-8082-10(365),ORP-9045(1),REACTS(14),MCP-8081-10(14),MCP-8151-10(14),MCP-8270-10(14),TS(7),PH-9045(1),PAINTF(),REACTCN(14),TPH-DRO-D(14),COND-9050(28)

*Values in parentheses indicate holding time in days

Project Name:	TREMONT CROSSING PHASE II	**Lab Number:**	L1706486
Project Number:	1700516	**Report Date:**	03/09/17

GLOSSARY

Acronyms

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).
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.
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.
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.
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

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

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.

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.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
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

Report Format: Data Usability Report

Project Name:	TREMONT CROSSING PHASE II	**Lab Number:**	L1706486
Project Number:	1700516	**Report Date:**	03/09/17

Data Qualifiers

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.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

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.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name:	TREMONT CROSSING PHASE II	**Lab Number:**	L1706486
Project Number:	1700516	**Report Date:**	03/09/17

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

68 Annual Book of ASTM (American Society for Testing and Materials) Standards following extraction by SW-846 EPA Method 9045C under the requirements of MADEP BWSC, WSC-CAM-VIB. August 2004.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility
EPA 624: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
SM 2540D: TSS
EPA 3005A NPW
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: 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**
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, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, 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 624: Volatile Halocarbons & Aromatics,
EPA 608: 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: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

Mansfield Facility:

Drinking Water
EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

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, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

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

Chain-of-Custody Record

Laboratory: ALPHA

Laboratory Job # (Lab use only) L1706486

GEI Consultants
400 Unicorn Park Drive
Woburn, MA 01801
PH: 781.721.4000
FX: 781.721.4073

Project Information

Project Name: Tremont Crossing Phase II

Project Location: Boston, Massachusetts

Project Number: 1700516

Project Manager: Cathy Johnson
(o) 781-721-4093 (c)781-424-9912

Send Report to: Jess Englehart

Send EDD to: labdata@geiconsultants.com

MCP PRESUMPTIVE CERTAINTY REQUIRED -- YES (NO) JTN

If Yes, Are MCP Analytical Methods Required? (YES) NO NA

If Yes, Are Drinking Water Samples Submitted? YES (NO) NA

If Yes, Have You Met Minimum Field QC Requirements? YES NO (NA)

Sample Handling

Samples Field Filtered: YES NO (NA)

Sampled Shipped With Ice: (YES) NO

Lab Sample Number	GEI Sample ID	Collection Date	Collection Time	Matrix	No. of Bottles	Sampler(s) Initials	Preservative	VOCs 8260, % Solids	SVOCs 8270	Total Petroleum Hydrocarbons (TPH)	Polychlorinated Biphenyls (PCBs)	MCP 14 Total Metals	Conductivity, ignitability	Pesticides, Herbicides	Free liquids	Sulfide/Cyanide Reactivity	pH/ORP	Sample Specific Remarks
							MeOH	Analysis										
06486-01	1700516-B308-S2(0-18")	3/1/2017	20:40	SO	2	JTN	None	x										
-02	1700516-B308-S7(0-10")	3/1/2017	22:10	SO	2	JTN	None	x										
-03	1700516-B308-COMP(0-8')	3/1/2017	20:45	SO	4	JTN	None		x	x	x	x	x	x	x	x	x	
-04	1700516-B308-COMP(8-22')	3/1/2017	22:30	SO	4	JTN	None		x	x	x	x	x	x	x	x	x	

MCP Level Needed: GEI requires the most stringent Method 1 MCP standard be met for all analytes whenever possible.

	Relinquished by sampler: (signature)	Date:	Time:	Received by: (signature)
1.	[signature]	3.2.17	0135	GEI Sample Fridge
2.	GEI Sample Fridge	3/2/17	1330	[signature]
3.	[signature]	3/2/17	1330	[signature] 3/2/17 AAL 13:30
4.	[signature] AAL 3/2/17		19:15	[signature]

Turnaround Time (Business days):

Normal _X__ Other ____

10-Day ____ 7-Day ____

5-Day _X__ 3-Day ____

Additional Requirements/Comments/Remarks:

Please run TCLP if any metals exceed 20x rule.

Please run hexavalent chromium if total chromium exceeds 100 mg/kg.

Method Blank Summary
Form 4

Client	: GEI Consultants	**Lab Number**	: L1706486
Project Name	: TREMONT CROSSING PHASE II	**Project Number**	: 1700516
Lab Sample ID	: WG983145-5	**Lab File ID**	: V10170305A05
Instrument ID	: VOA110		
Matrix	: SOIL	**Analysis Date**	: 03/05/17 09:46

Client Sample No.	Lab Sample ID	Analysis Date
WG983145-3LCS	WG983145-3	03/05/17 08:29
WG983145-4LCSD	WG983145-4	03/05/17 08:55
1700516-B308-S2 (0-18")	L1706486-01	03/05/17 12:20
1700516-B308-S7 (0-10")	L1706486-02	03/05/17 12:46

Continuing Calibration
Form 7

Client	: GEI Consultants	**Lab Number**	: L1706486	
Project Name	: TREMONT CROSSING PHASE II	**Project Number**	: 1700516	
Instrument ID	: VOA110	**Calibration Date**	: 03/05/17 08:29	
Lab File ID	: V10170305A02	**Init. Calib. Date(s)**	: 02/21/17	02/21/17
Sample No	: WG983145-2	**Init. Calib. Times**	: 16:17	19:20
Channel	:			

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	101	0
Dichlorodifluoromethane	0.351	0.363	-	-3.4	20	108	0
Chloromethane	0.269	0.276	-	-2.6	20	104	0
Vinyl chloride	0.267	0.261	-	2.2	20	101	0
Bromomethane	0.202	0.194	-	4	20	104	0
Chloroethane	0.168	0.149	-	11.3	20	90	.04
Trichlorofluoromethane	0.445	0.473	-	-6.3	20	103	.04
Ethyl ether	0.158	0.144	-	8.9	20	95	0
1,1-Dichloroethene	0.221	0.229	-	-3.6	20	109	.01
Carbon disulfide	20	16.26	-	18.7	20	86	.02
Freon-113	0.206	0.218	-	-5.8	20	108	.02
Acrolein	0.046	0.042	-	8.7	20	102	0
Methylene chloride	20	18.209	-	9	20	98	0
Acetone	0.056	0.065	-	-16.1	20	122	0
trans-1,2-Dichloroethene	0.25	0.253	-	-1.2	20	104	0
Methyl acetate	0.153	0.146	-	4.6	20	101	0
Methyl tert-butyl ether	0.676	0.703	-	-4	20	111	0
tert-Butyl alcohol	0.018	0.019	-	-5.6	20	112	-.01
Diisopropyl ether	0.758	0.786	-	-3.7	20	105	0
1,1-Dichloroethane	0.425	0.44	-	-3.5	20	104	0
Halothane	0.17	0.176	-	-3.5	20	106	0
Acrylonitrile	20	18.935	-	5.3	20	100	0
Ethyl tert-butyl ether	0.616	0.651	-	-5.7	20	110	0
Vinyl acetate	20	18.904	-	5.5	20	105	0
cis-1,2-Dichloroethene	0.269	0.268	-	0.4	20	101	0
2,2-Dichloropropane	0.313	0.359	-	-14.7	20	123	0
Bromochloromethane	0.128	0.128	-	0	20	99	0
Cyclohexane	0.342	0.376	-	-9.9	20	113	0
Chloroform	0.457	0.459	-	-0.4	20	100	0
Ethyl acetate	0.204	0.201	-	1.5	20	100	0
Carbon tetrachloride	0.32	0.34	-	-6.3	20	112	0
Tetrahydrofuran	0.072	0.084	-	-16.7	20	115	0
Dibromofluoromethane	0.256	0.263	-	-2.7	20	102	0
1,1,1-Trichloroethane	0.393	0.421	-	-7.1	20	110	0
2-Butanone	0.09	0.085	-	5.6	20	106	.01
1,1-Dichloropropene	0.31	0.328	-	-5.8	20	106	0
Benzene	0.996	1.01	-	-1.4	20	102	0
tert-Amyl methyl ether	0.54	0.581	-	-7.6	20	115	0
1,2-Dichloroethane-d4	0.27	0.269	-	0.4	20	100	0
1,2-Dichloroethane	0.339	0.329	-	2.9	20	97	0
Methyl cyclohexane	0.35	0.365	-	-4.3	20	113	0
Trichloroethene	0.262	0.268	-	-2.3	20	104	0
Dibromomethane	0.151	0.143	-	5.3	20	97	0
1,2-Dichloropropane	0.232	0.229	-	1.3	20	100	0
2-Chloroethyl vinyl ether	20	9.093	-	54.5*	20	55	0

* Value outside of QC limits.

Continuing Calibration
Form 7

Client	: GEI Consultants	Lab Number	: L1706486	
Project Name	: TREMONT CROSSING PHASE II	Project Number	: 1700516	
Instrument ID	: VOA110	Calibration Date	: 03/05/17 08:29	
Lab File ID	: V10170305A02	Init. Calib. Date(s)	: 02/21/17	02/21/17
Sample No	: WG983145-2	Init. Calib. Times	: 16:17	19:20
Channel	:			

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Bromodichloromethane	0.337	0.318	-	5.6	20	98	0
1,4-Dioxane	0.00229	0.002	-	12.7	20	93	0
cis-1,3-Dichloropropene	20	17.712	-	11.4	20	102	0
Chlorobenzene-d5	1	1	-	0	20	105	0
Toluene-d8	1.233	1.231	-	0.2	20	103	0
Toluene	0.846	0.82	-	3.1	20	102	0
4-Methyl-2-pentanone	0.089	0.073	-	18	20	104	0
Tetrachloroethene	0.33	0.321	-	2.7	20	104	0
trans-1,3-Dichloropropene	0.402	0.396	-	1.5	20	107	0
Ethyl methacrylate	20	15.631	-	21.8*	20	100	0
1,1,2-Trichloroethane	0.243	0.232	-	4.5	20	99	0
Chlorodibromomethane	0.324	0.294	-	9.3	20	99	0
1,3-Dichloropropane	0.472	0.451	-	4.4	20	100	0
1,2-Dibromoethane	0.267	0.245	-	8.2	20	97	0
2-Hexanone	20	13.824	-	30.9*	20	100	0
Chlorobenzene	0.965	0.902	-	6.5	20	98	0
Ethylbenzene	1.513	1.509	-	0.3	20	102	0
1,1,1,2-Tetrachloroethane	0.334	0.315	-	5.7	20	100	0
p/m Xylene	0.58	0.591	-	-1.9	20	101	0
o Xylene	0.54	0.543	-	-0.6	20	100	0
Styrene	0.952	0.918	-	3.6	20	95	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	105	0
Bromoform	0.396	0.342	-	13.6	20	99	0
Isopropylbenzene	2.879	2.854	-	0.9	20	103	0
4-Bromofluorobenzene	0.867	0.868	-	-0.1	20	107	0
Bromobenzene	0.743	0.681	-	8.3	20	99	0
n-Propylbenzene	3.513	3.465	-	1.4	20	102	0
1,4-Dichlorobutane	0.894	0.869	-	2.8	20	103	0
1,1,2,2-Tetrachloroethane	0.714	0.66	-	7.6	20	100	0
4-Ethyltoluene	2.879	2.853	-	0.9	20	101	0
2-Chlorotoluene	2.146	2.102	-	2.1	20	100	0
1,3,5-Trimethylbenzene	2.51	2.483	-	1.1	20	100	0
1,2,3-Trichloropropane	0.577	0.532	-	7.8	20	100	0
trans-1,4-Dichloro-2-buten	0.175	0.165	-	5.7	20	101	0
4-Chlorotoluene	2.122	2.059	-	3	20	100	0
tert-Butylbenzene	2.051	2.025	-	1.3	20	103	0
1,2,4-Trimethylbenzene	2.467	2.431	-	1.5	20	99	0
sec-Butylbenzene	3.173	3.196	-	-0.7	20	104	0
p-Isopropyltoluene	2.626	2.569	-	2.2	20	101	0
1,3-Dichlorobenzene	1.484	1.382	-	6.9	20	98	0
1,4-Dichlorobenzene	1.534	1.384	-	9.8	20	97	0
p-Diethylbenzene	1.524	1.465	-	3.9	20	100	0
n-Butylbenzene	2.502	2.514	-	-0.5	20	103	0
1,2-Dichlorobenzene	1.392	1.246	-	10.5	20	97	0
1,2,4,5-Tetramethylbenzene	20	16.51	-	17.4	20	97	0

* Value outside of QC limits.

Continuing Calibration
Form 7

Client	: GEI Consultants	**Lab Number**	: L1706486	
Project Name	: TREMONT CROSSING PHASE II	**Project Number**	: 1700516	
Instrument ID	: VOA110	**Calibration Date**	: 03/05/17 08:29	
Lab File ID	: V10170305A02	**Init. Calib. Date(s)**	: 02/21/17	02/21/17
Sample No	: WG983145-2	**Init. Calib. Times**	: 16:17	19:20
Channel	:			

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dibromo-3-chloropropan	0.09	0.078	-	13.3	20	99	0
1,3,5-Trichlorobenzene	1.022	0.934	-	8.6	20	96	0
Hexachlorobutadiene	0.493	0.45	-	8.7	20	104	0
1,2,4-Trichlorobenzene	0.876	0.794	-	9.4	20	98	0
Naphthalene	20	15.898	-	20.5*	20	95	0
1,2,3-Trichlorobenzene	0.839	0.751	-	10.5	20	96	0

*** Value outside of QC limits.**

I:\Pest11\170307\11170307-01.d

Data File Name	**11170307-01.d**
Data File Path	**I:\Pest11\170307**
Operator	**PEST11:keg**
Date Acquired	**3/7/2017 13:05**
Acq. Method File	**PEST_P11.M**
Sample Name	**pem1117030701,42ee,,deg st**
Instrument Name	**Pest 11**

Name	Ret Time	Response	
4,4'-DDT	5.16	569848849.4	% Breakdown
4,4'-DDE	4.51	1188979.779	
4,4'-DDD	4.96	4521940.696	0.99%
Endrin	4.91	327961106	% Breakdown
Endrin Aldehyde	5.36	7561542.315	
Endrin Ketone	5.85	9263231.621	4.88%
4,4'-DDT #2	5.71	520390244.7	% Breakdown
4,4'-DDE #2	5.07	1599849.787	
4,4'-DDD #2	5.49	4436905	1.15%
Endrin #2	5.44	307244643	% Breakdown
Endrin Aldehyde #2	5.82	7717003.231	
Endrin Ketone #2	6.38	9587183.739	5.33%

WG982610-1, -2, -3, -4, -5
L1706486-03, -04

ANALYTICAL REPORT

Lab Number:	L1706625
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Cathy Johnson
Phone:	(781) 721-4000
Project Name:	TREMONT CROSSING PHASE II
Project Number:	1700516
Report Date:	03/10/17

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

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

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516

Lab Number: L1706625
Report Date: 03/10/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1706625-01	1700516-TP-101(0-3')	SOIL	BOSTON, MASSACHUSETTS	02/26/17 12:55	02/27/17
L1706625-02	1700516-TP-105(0-10')	SOIL	BOSTON, MASSACHUSETTS	02/26/17 13:30	02/27/17
L1706625-03	1700516-TP-107(0-3')	SOIL	BOSTON, MASSACHUSETTS	02/26/17 10:55	02/27/17

Project Name: TREMONT CROSSING PHASE II **Lab Number:** L1706625
Project Number: 1700516 **Report Date:** 03/10/17

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services 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:  Amita Naik

Title: Technical Director/Representative Date: 03/10/17

METALS

Project Name:	TREMONT CROSSING PHASE II	**Lab Number:**	L1706625
Project Number:	1700516	**Report Date:**	03/10/17

SAMPLE RESULTS

Lab ID:	L1706625-01	Date Collected:	02/26/17 12:55
Client ID:	1700516-TP-101(0-3')	Date Received:	02/27/17
Sample Location:	BOSTON, MASSACHUSETTS	Field Prep:	Not Specified
Matrix:	Soil	TCLP/SPLP Ext. Date:	03/07/17 21:48

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	0.50	--	1	03/09/17 11:16	03/09/17 16:10	EPA 3015	1,6010C	AB

Project Name:	TREMONT CROSSING PHASE II	**Lab Number:**	L1706625
Project Number:	1700516	**Report Date:**	03/10/17

SAMPLE RESULTS

Lab ID:	L1706625-02	Date Collected:	02/26/17 13:30
Client ID:	1700516-TP-105(0-10')	Date Received:	02/27/17
Sample Location:	BOSTON, MASSACHUSETTS	Field Prep:	Not Specified
Matrix:	Soil	TCLP/SPLP Ext. Date:	03/07/17 21:48

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	0.50	--	1	03/09/17 11:16	03/09/17 16:57	EPA 3015	1,6010C	AB

Project Name:	TREMONT CROSSING PHASE II	**Lab Number:**	L1706625
Project Number:	1700516	**Report Date:**	03/10/17

SAMPLE RESULTS

Lab ID:	L1706625-03	Date Collected:	02/26/17 10:55
Client ID:	1700516-TP-107(0-3')	Date Received:	02/27/17
Sample Location:	BOSTON, MASSACHUSETTS	Field Prep:	Not Specified
Matrix:	Soil	TCLP/SPLP Ext. Date:	03/07/17 21:48

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	0.50	--	1	03/09/17 11:16	03/09/17 17:01	EPA 3015	1,6010C	AB

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516
Lab Number: L1706625
Report Date: 03/10/17

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: WG984176-1										
Lead, TCLP	ND		mg/l	0.50	--	1	03/09/17 11:16	03/09/17 14:37	1,6010C	AB

Prep Information

Digestion Method: EPA 3015
TCLP/SPLP Extraction Date: 03/07/17 21:48

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING PHASE II

Project Number: 1700516

Lab Number: L1706625

Report Date: 03/10/17

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: WG984176-2								
Lead, TCLP	106		-		75-125	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516

Lab Number: L1706625
Report Date: 03/10/17

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: WG984176-3 QC Sample: L1706737-01 Client ID: MS Sample												
Lead, TCLP	ND	5.1	5.6	110		-	-		75-125	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516

Lab Number: L1706625
Report Date: 03/10/17

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: WG984176-4 QC Sample: L1706737-01 Client ID: DUP Sample						
Lead, TCLP	ND	ND	mg/l	NC		20

Project Name: TREMONT CROSSING PHASE II
Project Number: 1700516

Lab Number: L1706625
Report Date: 03/10/17

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1706625-01A	Glass 120ml/4oz unpreserved	A	N/A	2.4	Y	Absent	-
L1706625-01X	Plastic 120ml HNO3 preserved Ext	A	<2	2.4	Y	Absent	PB-CI(180)
L1706625-01X9	Tumble Vessel	A	N/A	2.4	Y	Absent	-
L1706625-02A	Glass 500ml/16oz unpreserved	A	N/A	2.4	Y	Absent	-
L1706625-02X	Plastic 120ml HNO3 preserved Ext	A	<2	2.4	Y	Absent	PB-CI(180)
L1706625-02X9	Tumble Vessel	A	N/A	2.4	Y	Absent	-
L1706625-03A	Glass 120ml/4oz unpreserved	A	N/A	2.4	Y	Absent	-
L1706625-03X	Plastic 120ml HNO3 preserved Ext	A	<2	2.4	Y	Absent	PB-CI(180)
L1706625-03X9	Tumble Vessel	A	N/A	2.4	Y	Absent	-

*Values in parentheses indicate holding time in days

Project Name:	TREMONT CROSSING PHASE II	**Lab Number:**	L1706625
Project Number:	1700516	**Report Date:**	03/10/17

GLOSSARY

Acronyms

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).
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.
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.
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.
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

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

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.

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.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
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

Report Format: Data Usability Report

Project Name:	TREMONT CROSSING PHASE II	**Lab Number:**	L1706625
Project Number:	1700516	**Report Date:**	03/10/17

Data Qualifiers

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.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

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.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name:	TREMONT CROSSING PHASE II	**Lab Number:**	L1706625
Project Number:	1700516	**Report Date:**	03/10/17

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: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
SM 2540D: TSS
EPA 3005A NPW
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: 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**
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, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, 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 624: Volatile Halocarbons & Aromatics,
EPA 608: 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: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

Mansfield Facility:

Drinking Water
EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

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, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

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

coc edited 3/3/17-KER

~~L1705966~~

jk 3/7/17 L1706625

Chain-of-Custody Record

Laboratory: ALPHA

Laboratory Job # (Lab use only)

GEI Consultants
400 Unicorn Park Drive
Woburn, MA 01801
PH: 781.721.4000
FX: 781.721.4073

Project Name: Tremont Crossing Phase II

Project Number: 1700516

Send Report to: Jess Englehart

Send EDD to: labdata@geiconsultants.com

Project Information

Project Location: Boston, Massachusetts

Project Manager: Cathy Johnson
(o) 781-721-4093 (c)781-424-9912

MCP PRESUMPTIVE CERTAINTY REQUIRED -- YES (NO)

If Yes, Are MCP Analytical Methods Required? (YES) NO NA

If Yes, Are Drinking Water Samples Submitted? YES (NO) NA

If Yes, Have You Met Minimum Field QC Requirements? YES NO (NA)

Sample Handling

Samples Field Filtered
YES NO (NA)

Sampled Shipped With Ice
(YES) NO

Sample Specific Remarks

Lab Sample Number	GEI Sample ID	Collection Date	Collection Time	Matrix	No of Bottles	Sampler(s) Initials
-01	1700516-TP-101 (0-3')	2/26/2017	12:55	SO	2	JTN
	1700516-TP-103 (0-3')	2/26/2017	9:00	SO	2	JTN
	1700516-TP-104 (0-3')	2/26/2017	9:30	SO	2	JTN
	1700516-TP-105 (10')	2/26/2017	13:25	SO	2	JTN
-02	1700516-TP-105 (0-10')	2/26/2017	13:30	SO	4	JTN
	1700516-TP-106 (0-2')	2/26/2017	7:40	SO	2	JTN
-03	1700516-TP-107 (0-3')	2/26/2017	10:55	SO	2	JTN
	1700516-TP-108 (8')	2/26/2017	11:50	SO	3	JTN
	1700516-TP-108 (0-8')	2/26/2017	12:05	SO	2	JTN

Preservative: MeOH | MeOH | None | None | None | None | None | None | None | None | None | None | None | None

Analysis: VOCs 8260, % Solids | VPH, % Solids | EPH | 8151/8270 | Total Petroleum Hydrocarbons (TPH) | Polychlorinated Biphenyls (PCBs) | MCP 14 Total Metals | RCRA 8 Metals | Conductivity | Ignitability | Pesticides, Herbicides | Free Cyanide | Sulfide/Cyanide Reactivity | TCLP-PB | TCLP-VOCs

Lab Sample Number	VOCs 8260, % Solids	VPH, % Solids	EPH	8151/8270	TPH	PCBs	MCP 14 Total Metals	RCRA 8 Metals	Conductivity	Ignitability	Pesticides, Herbicides	Free Cyanide	Sulfide/Cyanide Reactivity	TCLP-PB	TCLP-VOCs
-01														X	
		X	X												
					X	X	X	X	X	X	X	X	X	X	
-02														X	
-03															

MCP Level Needed: GEI requires the most stringent Method 1 MCP standard be met for all analytes whenever possible

Turnaround Time (Business days)

Normal _X_ Other ____
10-Day ____ 7-Day ____
5-Day _X_ 3-Day ____

	Relinquished by sampler: (signature)	Date:	Time:	Received by: (signature)
1.		2/26/2017	15:25	1. GEI Sample Fridge
2.	GEI SAMPLE FRIDGE	2/27/17	13:25	2. C. Malagrida
3.	C. Malagrida	2/27/17	13:25	3. Rob Maesto AAL
4.	Rob Maesto	2/27/17	18:35	4.

Additional Requirements/Comments/Remarks:

Please run TCLP if any metals exceed 20x rule.

Please run hexavalent chromium if total chromium exceeds 100 mg/kg.

ANALYTICAL REPORT

Lab Number:	L1706656
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Cathy Johnson
Phone:	(781) 721-4000
Project Name:	TREMONT CROSSING
Project Number:	1700516
Report Date:	03/10/17

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

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

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706656
Report Date: 03/10/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1706656-01	1700516-B301-S7(10-15")	SOIL	BOSTON, MA	03/02/17 23:55	03/03/17
L1706656-02	1700516-B301-COMP (0-3')	SOIL	BOSTON, MA	03/02/17 00:30	03/03/17
L1706656-03	1700516-B305-S7(9-13")	SOIL	BOSTON, MA	03/02/17 21:10	03/03/17

Project Name: TREMONT CROSSING **Lab Number:** L1706656

Project Number: 1700516 **Report Date:** 03/10/17

MADEP MCP Response Action Analytical Report Certification

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

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	YES
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

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

Project Name: TREMONT CROSSING **Lab Number:** L1706656
Project Number: 1700516 **Report Date:** 03/10/17

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

Project Name: TREMONT CROSSING **Lab Number:** L1706656
Project Number: 1700516 **Report Date:** 03/10/17

Case Narrative (continued)

MCP Related Narratives

Volatile Organics

In reference to question G:

L1706656-01 and -03: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The initial calibration, associated with L1706656-01 and -03, did not meet the method required minimum response factor on the lowest calibration standard for acetone (0.0788), 2-butanone (0.0798), 4-methyl-2-pentanone (0.0579), and 1,4-dioxane (0.0021), as well as the average response factor for acetone, 2-butanone, 4-methyl-2-pentanone, and 1,4-dioxane.

The continuing calibration standard, associated with L1706656-01 and -03, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

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

Authorized Signature: Melissa Cripps

Title: Technical Director/Representative Date: 03/10/17

ORGANICS

VOLATILES

Project Name: TREMONT CROSSING **Lab Number:** L1706656

Project Number: 1700516 **Report Date:** 03/10/17

SAMPLE RESULTS

Lab ID: L1706656-01
Client ID: 1700516-B301-S7(10-15")
Sample Location: BOSTON, MA
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 03/06/17 10:34
Analyst: MV
Percent Solids: 89%

Date Collected: 03/02/17 23:55
Date Received: 03/03/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	300	--	1
1,1-Dichloroethane	ND		ug/kg	46	--	1
Chloroform	ND		ug/kg	46	--	1
Carbon tetrachloride	ND		ug/kg	30	--	1
1,2-Dichloropropane	ND		ug/kg	110	--	1
Dibromochloromethane	ND		ug/kg	30	--	1
1,1,2-Trichloroethane	ND		ug/kg	46	--	1
Tetrachloroethene	ND		ug/kg	30	--	1
Chlorobenzene	ND		ug/kg	30	--	1
Trichlorofluoromethane	ND		ug/kg	120	--	1
1,2-Dichloroethane	ND		ug/kg	30	--	1
1,1,1-Trichloroethane	ND		ug/kg	30	--	1
Bromodichloromethane	ND		ug/kg	30	--	1
trans-1,3-Dichloropropene	ND		ug/kg	30	--	1
cis-1,3-Dichloropropene	ND		ug/kg	30	--	1
1,3-Dichloropropene, Total	ND		ug/kg	30	--	1
1,1-Dichloropropene	ND		ug/kg	120	--	1
Bromoform	ND		ug/kg	120	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	30	--	1
Benzene	ND		ug/kg	30	--	1
Toluene	ND		ug/kg	46	--	1
Ethylbenzene	ND		ug/kg	30	--	1
Chloromethane	ND		ug/kg	120	--	1
Bromomethane	ND		ug/kg	61	--	1
Vinyl chloride	ND		ug/kg	61	--	1
Chloroethane	ND		ug/kg	61	--	1
1,1-Dichloroethene	ND		ug/kg	30	--	1
trans-1,2-Dichloroethene	ND		ug/kg	46	--	1
Trichloroethene	ND		ug/kg	30	--	1
1,2-Dichlorobenzene	ND		ug/kg	120	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706656

Project Number: 1700516 **Report Date:** 03/10/17

SAMPLE RESULTS

Lab ID: L1706656-01 Date Collected: 03/02/17 23:55

Client ID: 1700516-B301-S7(10-15") Date Received: 03/03/17

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 5035 High - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	120	--	1
1,4-Dichlorobenzene	ND		ug/kg	120	--	1
Methyl tert butyl ether	ND		ug/kg	61	--	1
p/m-Xylene	ND		ug/kg	61	--	1
o-Xylene	ND		ug/kg	61	--	1
Xylenes, Total	ND		ug/kg	61	--	1
cis-1,2-Dichloroethene	ND		ug/kg	30	--	1
1,2-Dichloroethene, Total	ND		ug/kg	30	--	1
Dibromomethane	ND		ug/kg	120	--	1
1,2,3-Trichloropropane	ND		ug/kg	120	--	1
Styrene	ND		ug/kg	61	--	1
Dichlorodifluoromethane	ND		ug/kg	300	--	1
Acetone	ND		ug/kg	1100	--	1
Carbon disulfide	ND		ug/kg	120	--	1
Methyl ethyl ketone	ND		ug/kg	300	--	1
Methyl isobutyl ketone	ND		ug/kg	300	--	1
2-Hexanone	ND		ug/kg	300	--	1
Bromochloromethane	ND		ug/kg	120	--	1
Tetrahydrofuran	ND		ug/kg	120	--	1
2,2-Dichloropropane	ND		ug/kg	150	--	1
1,2-Dibromoethane	ND		ug/kg	120	--	1
1,3-Dichloropropane	ND		ug/kg	120	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	30	--	1
Bromobenzene	ND		ug/kg	150	--	1
n-Butylbenzene	ND		ug/kg	30	--	1
sec-Butylbenzene	ND		ug/kg	30	--	1
tert-Butylbenzene	ND		ug/kg	120	--	1
o-Chlorotoluene	ND		ug/kg	120	--	1
p-Chlorotoluene	ND		ug/kg	120	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	120	--	1
Hexachlorobutadiene	ND		ug/kg	120	--	1
Isopropylbenzene	ND		ug/kg	30	--	1
p-Isopropyltoluene	ND		ug/kg	30	--	1
Naphthalene	ND		ug/kg	120	--	1
n-Propylbenzene	ND		ug/kg	30	--	1
1,2,3-Trichlorobenzene	ND		ug/kg	120	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	120	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	120	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	120	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706656

Project Number: 1700516 **Report Date:** 03/10/17

SAMPLE RESULTS

Lab ID: L1706656-01 Date Collected: 03/02/17 23:55

Client ID: 1700516-B301-S7(10-15") Date Received: 03/03/17

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 5035 High - Westborough Lab						
Diethyl ether	ND		ug/kg	150	--	1
Diisopropyl Ether	ND		ug/kg	120	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	120	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	120	--	1
1,4-Dioxane	ND		ug/kg	1200	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	96		70-130

Project Name: TREMONT CROSSING **Lab Number:** L1706656

Project Number: 1700516 **Report Date:** 03/10/17

SAMPLE RESULTS

Lab ID: L1706656-03
Client ID: 1700516-B305-S7(9-13")
Sample Location: BOSTON, MA
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 03/06/17 11:00
Analyst: MV
Percent Solids: 92%

Date Collected: 03/02/17 21:10
Date Received: 03/03/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	370	--	1
1,1-Dichloroethane	ND		ug/kg	56	--	1
Chloroform	ND		ug/kg	56	--	1
Carbon tetrachloride	ND		ug/kg	37	--	1
1,2-Dichloropropane	ND		ug/kg	130	--	1
Dibromochloromethane	ND		ug/kg	37	--	1
1,1,2-Trichloroethane	ND		ug/kg	56	--	1
Tetrachloroethene	ND		ug/kg	37	--	1
Chlorobenzene	ND		ug/kg	37	--	1
Trichlorofluoromethane	ND		ug/kg	150	--	1
1,2-Dichloroethane	ND		ug/kg	37	--	1
1,1,1-Trichloroethane	ND		ug/kg	37	--	1
Bromodichloromethane	ND		ug/kg	37	--	1
trans-1,3-Dichloropropene	ND		ug/kg	37	--	1
cis-1,3-Dichloropropene	ND		ug/kg	37	--	1
1,3-Dichloropropene, Total	ND		ug/kg	37	--	1
1,1-Dichloropropene	ND		ug/kg	150	--	1
Bromoform	ND		ug/kg	150	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	37	--	1
Benzene	ND		ug/kg	37	--	1
Toluene	ND		ug/kg	56	--	1
Ethylbenzene	ND		ug/kg	37	--	1
Chloromethane	ND		ug/kg	150	--	1
Bromomethane	ND		ug/kg	75	--	1
Vinyl chloride	ND		ug/kg	75	--	1
Chloroethane	ND		ug/kg	75	--	1
1,1-Dichloroethene	ND		ug/kg	37	--	1
trans-1,2-Dichloroethene	ND		ug/kg	56	--	1
Trichloroethene	ND		ug/kg	37	--	1
1,2-Dichlorobenzene	ND		ug/kg	150	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706656

Project Number: 1700516 **Report Date:** 03/10/17

SAMPLE RESULTS

Lab ID: L1706656-03 Date Collected: 03/02/17 21:10

Client ID: 1700516-B305-S7(9-13") Date Received: 03/03/17

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 5035 High - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	150	--	1
1,4-Dichlorobenzene	ND		ug/kg	150	--	1
Methyl tert butyl ether	ND		ug/kg	75	--	1
p/m-Xylene	ND		ug/kg	75	--	1
o-Xylene	ND		ug/kg	75	--	1
Xylenes, Total	ND		ug/kg	75	--	1
cis-1,2-Dichloroethene	ND		ug/kg	37	--	1
1,2-Dichloroethene, Total	ND		ug/kg	37	--	1
Dibromomethane	ND		ug/kg	150	--	1
1,2,3-Trichloropropane	ND		ug/kg	150	--	1
Styrene	ND		ug/kg	75	--	1
Dichlorodifluoromethane	ND		ug/kg	370	--	1
Acetone	ND		ug/kg	1300	--	1
Carbon disulfide	ND		ug/kg	150	--	1
Methyl ethyl ketone	ND		ug/kg	370	--	1
Methyl isobutyl ketone	ND		ug/kg	370	--	1
2-Hexanone	ND		ug/kg	370	--	1
Bromochloromethane	ND		ug/kg	150	--	1
Tetrahydrofuran	ND		ug/kg	150	--	1
2,2-Dichloropropane	ND		ug/kg	190	--	1
1,2-Dibromoethane	ND		ug/kg	150	--	1
1,3-Dichloropropane	ND		ug/kg	150	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	37	--	1
Bromobenzene	ND		ug/kg	190	--	1
n-Butylbenzene	ND		ug/kg	37	--	1
sec-Butylbenzene	ND		ug/kg	37	--	1
tert-Butylbenzene	ND		ug/kg	150	--	1
o-Chlorotoluene	ND		ug/kg	150	--	1
p-Chlorotoluene	ND		ug/kg	150	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	150	--	1
Hexachlorobutadiene	ND		ug/kg	150	--	1
Isopropylbenzene	ND		ug/kg	37	--	1
p-Isopropyltoluene	ND		ug/kg	37	--	1
Naphthalene	ND		ug/kg	150	--	1
n-Propylbenzene	ND		ug/kg	37	--	1
1,2,3-Trichlorobenzene	ND		ug/kg	150	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	150	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	150	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	150	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706656

Project Number: 1700516 **Report Date:** 03/10/17

SAMPLE RESULTS

Lab ID: L1706656-03 Date Collected: 03/02/17 21:10

Client ID: 1700516-B305-S7(9-13") Date Received: 03/03/17

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 5035 High - Westborough Lab						
Diethyl ether	ND		ug/kg	190	--	1
Diisopropyl Ether	ND		ug/kg	150	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	150	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	150	--	1
1,4-Dioxane	ND		ug/kg	1500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	98		70-130

Project Name: TREMONT CROSSING **Lab Number:** L1706656

Project Number: 1700516 **Report Date:** 03/10/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 03/06/17 09:17
Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01,03 Batch: WG983399-5					
Methylene chloride	ND		ug/kg	500	--
1,1-Dichloroethane	ND		ug/kg	75	--
Chloroform	ND		ug/kg	75	--
Carbon tetrachloride	ND		ug/kg	50	--
1,2-Dichloropropane	ND		ug/kg	180	--
Dibromochloromethane	ND		ug/kg	50	--
1,1,2-Trichloroethane	ND		ug/kg	75	--
Tetrachloroethene	ND		ug/kg	50	--
Chlorobenzene	ND		ug/kg	50	--
Trichlorofluoromethane	ND		ug/kg	200	--
1,2-Dichloroethane	ND		ug/kg	50	--
1,1,1-Trichloroethane	ND		ug/kg	50	--
Bromodichloromethane	ND		ug/kg	50	--
trans-1,3-Dichloropropene	ND		ug/kg	50	--
cis-1,3-Dichloropropene	ND		ug/kg	50	--
1,3-Dichloropropene, Total	ND		ug/kg	50	--
1,1-Dichloropropene	ND		ug/kg	200	--
Bromoform	ND		ug/kg	200	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	50	--
Benzene	ND		ug/kg	50	--
Toluene	ND		ug/kg	75	--
Ethylbenzene	ND		ug/kg	50	--
Chloromethane	ND		ug/kg	200	--
Bromomethane	ND		ug/kg	100	--
Vinyl chloride	ND		ug/kg	100	--
Chloroethane	ND		ug/kg	100	--
1,1-Dichloroethene	ND		ug/kg	50	--
trans-1,2-Dichloroethene	ND		ug/kg	75	--
Trichloroethene	ND		ug/kg	50	--

Project Name: TREMONT CROSSING **Lab Number:** L1706656

Project Number: 1700516 **Report Date:** 03/10/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 03/06/17 09:17
Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01,03 Batch: WG983399-5					
1,2-Dichlorobenzene	ND		ug/kg	200	--
1,3-Dichlorobenzene	ND		ug/kg	200	--
1,4-Dichlorobenzene	ND		ug/kg	200	--
Methyl tert butyl ether	ND		ug/kg	100	--
p/m-Xylene	ND		ug/kg	100	--
o-Xylene	ND		ug/kg	100	--
Xylenes, Total	ND		ug/kg	100	--
cis-1,2-Dichloroethene	ND		ug/kg	50	--
1,2-Dichloroethene, Total	ND		ug/kg	50	--
Dibromomethane	ND		ug/kg	200	--
1,2,3-Trichloropropane	ND		ug/kg	200	--
Styrene	ND		ug/kg	100	--
Dichlorodifluoromethane	ND		ug/kg	500	--
Acetone	ND		ug/kg	1800	--
Carbon disulfide	ND		ug/kg	200	--
Methyl ethyl ketone	ND		ug/kg	500	--
Methyl isobutyl ketone	ND		ug/kg	500	--
2-Hexanone	ND		ug/kg	500	--
Bromochloromethane	ND		ug/kg	200	--
Tetrahydrofuran	ND		ug/kg	200	--
2,2-Dichloropropane	ND		ug/kg	250	--
1,2-Dibromoethane	ND		ug/kg	200	--
1,3-Dichloropropane	ND		ug/kg	200	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	50	--
Bromobenzene	ND		ug/kg	250	--
n-Butylbenzene	ND		ug/kg	50	--
sec-Butylbenzene	ND		ug/kg	50	--
tert-Butylbenzene	ND		ug/kg	200	--
o-Chlorotoluene	ND		ug/kg	200	--

Project Name: TREMONT CROSSING **Lab Number:** L1706656

Project Number: 1700516 **Report Date:** 03/10/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 03/06/17 09:17
Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01,03 Batch: WG983399-5					
p-Chlorotoluene	ND		ug/kg	200	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	200	--
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	200	--
1,2,4-Trichlorobenzene	ND		ug/kg	200	--
1,3,5-Trimethylbenzene	ND		ug/kg	200	--
1,2,4-Trimethylbenzene	ND		ug/kg	200	--
Diethyl ether	ND		ug/kg	250	--
Diisopropyl Ether	ND		ug/kg	200	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	200	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	200	--
1,4-Dioxane	ND		ug/kg	2000	--
2-Chloroethylvinyl ether	ND		ug/kg	1000	--
Halothane	ND		ug/kg	2000	--
Ethyl Acetate	ND		ug/kg	1000	--
Freon-113	ND		ug/kg	1000	--
Vinyl acetate	ND		ug/kg	500	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	104		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706656
Report Date: 03/10/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01,03 Batch: WG983399-3 WG983399-4								
Methylene chloride	94		88		70-130	7		20
1,1-Dichloroethane	102		102		70-130	0		20
Chloroform	100		102		70-130	2		20
Carbon tetrachloride	100		101		70-130	1		20
1,2-Dichloropropane	98		98		70-130	0		20
Dibromochloromethane	90		89		70-130	1		20
1,1,2-Trichloroethane	97		94		70-130	3		20
Tetrachloroethene	94		94		70-130	0		20
Chlorobenzene	92		93		70-130	1		20
Trichlorofluoromethane	99		98		70-130	1		20
1,2-Dichloroethane	99		97		70-130	2		20
1,1,1-Trichloroethane	102		103		70-130	1		20
Bromodichloromethane	94		95		70-130	1		20
trans-1,3-Dichloropropene	96		97		70-130	1		20
cis-1,3-Dichloropropene	91		91		70-130	0		20
1,1-Dichloropropene	101		101		70-130	0		20
Bromoform	82		84		70-130	2		20
1,1,2,2-Tetrachloroethane	92		90		70-130	2		20
Benzene	100		100		70-130	0		20
Toluene	94		95		70-130	1		20
Ethylbenzene	97		98		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706656
Report Date: 03/10/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01,03 Batch: WG983399-3 WG983399-4								
Chloromethane	101		102		70-130	1		20
Bromomethane	97		94		70-130	3		20
Vinyl chloride	92		93		70-130	1		20
Chloroethane	86		88		70-130	2		20
1,1-Dichloroethene	99		98		70-130	1		20
trans-1,2-Dichloroethene	98		98		70-130	0		20
Trichloroethene	99		100		70-130	1		20
1,2-Dichlorobenzene	88		88		70-130	0		20
1,3-Dichlorobenzene	91		90		70-130	1		20
1,4-Dichlorobenzene	88		88		70-130	0		20
Methyl tert butyl ether	104		104		70-130	0		20
p/m-Xylene	100		99		70-130	1		20
o-Xylene	98		98		70-130	0		20
cis-1,2-Dichloroethene	99		99		70-130	0		20
Dibromomethane	96		96		70-130	0		20
1,2,3-Trichloropropane	93		92		70-130	1		20
Styrene	96		96		70-130	0		20
Dichlorodifluoromethane	92		93		70-130	1		20
Acetone	108		109		70-130	1		20
Carbon disulfide	78		80		70-130	3		20
Methyl ethyl ketone	85		77		70-130	10		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706656
Report Date: 03/10/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01,03 Batch: WG983399-3 WG983399-4								
Methyl isobutyl ketone	76		81		70-130	6		20
2-Hexanone	71		70		70-130	1		20
Bromochloromethane	102		99		70-130	3		20
Tetrahydrofuran	119		107		70-130	11		20
2,2-Dichloropropane	110		113		70-130	3		20
1,2-Dibromoethane	93		93		70-130	0		20
1,3-Dichloropropane	96		95		70-130	1		20
1,1,1,2-Tetrachloroethane	95		94		70-130	1		20
Bromobenzene	90		89		70-130	1		20
n-Butylbenzene	95		95		70-130	0		20
sec-Butylbenzene	95		94		70-130	1		20
tert-Butylbenzene	94		94		70-130	0		20
o-Chlorotoluene	95		94		70-130	1		20
p-Chlorotoluene	95		94		70-130	1		20
1,2-Dibromo-3-chloropropane	86		85		70-130	1		20
Hexachlorobutadiene	88		87		70-130	1		20
Isopropylbenzene	95		94		70-130	1		20
p-Isopropyltoluene	94		94		70-130	0		20
Naphthalene	78		77		70-130	1		20
n-Propylbenzene	95		94		70-130	1		20
1,2,3-Trichlorobenzene	89		90		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706656
Report Date: 03/10/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01,03 Batch: WG983399-3 WG983399-4								
1,2,4-Trichlorobenzene	88		88		70-130	0		20
1,3,5-Trimethylbenzene	96		95		70-130	1		20
1,2,4-Trimethylbenzene	97		95		70-130	2		20
Diethyl ether	91		98		70-130	7		20
Diisopropyl Ether	104		104		70-130	0		20
Ethyl-Tert-Butyl-Ether	105		105		70-130	0		20
Tertiary-Amyl Methyl Ether	108		108		70-130	0		20
1,4-Dioxane	88		93		70-130	6		20
2-Chloroethylvinyl ether	98		99		70-130	1		20
Halothane	100		99		70-130	1		20
Ethyl Acetate	101		98		70-130	3		20
Freon-113	96		98		70-130	2		20
Vinyl acetate	95		95		70-130	0		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	102		100		70-130
Toluene-d8	100		101		70-130
4-Bromofluorobenzene	101		102		70-130
Dibromofluoromethane	104		103		70-130

PETROLEUM HYDROCARBONS

Project Name: TREMONT CROSSING **Lab Number:** L1706656

Project Number: 1700516 **Report Date:** 03/10/17

SAMPLE RESULTS

Lab ID:	L1706656-01	Date Collected:	03/02/17 23:55
Client ID:	1700516-B301-S7(10-15")	Date Received:	03/03/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Matrix:	Soil		
Analytical Method:	100,VPH-04-1.1		
Analytical Date:	03/08/17 21:53		
Analyst:	JM		
Percent Solids:	89%		

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Covering the Soil
Methanol ratio:	1:1.5

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	2.28	--	1
C9-C12 Aliphatics	ND		mg/kg	2.28	--	1
C9-C10 Aromatics	ND		mg/kg	2.28	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	2.28	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	2.28	--	1
Benzene	ND		mg/kg	0.091	--	1
Toluene	ND		mg/kg	0.091	--	1
Ethylbenzene	ND		mg/kg	0.091	--	1
p/m-Xylene	ND		mg/kg	0.091	--	1
o-Xylene	ND		mg/kg	0.091	--	1
Methyl tert butyl ether	ND		mg/kg	0.046	--	1
Naphthalene	ND		mg/kg	0.182	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	91		70-130
2,5-Dibromotoluene-FID	96		70-130

Project Name: TREMONT CROSSING **Lab Number:** L1706656

Project Number: 1700516 **Report Date:** 03/10/17

SAMPLE RESULTS

Lab ID:	L1706656-01	Date Collected:	03/02/17 23:55
Client ID:	1700516-B301-S7(10-15")	Date Received:	03/03/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	03/05/17 17:56
Analytical Date:	03/07/17 19:00	Cleanup Method1:	EPH-04-1
Analyst:	DV	Cleanup Date1:	03/07/17
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	7.38	--	1
C19-C36 Aliphatics	ND		mg/kg	7.38	--	1
C11-C22 Aromatics	ND		mg/kg	7.38	--	1
C11-C22 Aromatics, Adjusted	ND		mg/kg	7.38	--	1
Naphthalene	ND		mg/kg	0.369	--	1
2-Methylnaphthalene	ND		mg/kg	0.369	--	1
Acenaphthylene	ND		mg/kg	0.369	--	1
Acenaphthene	ND		mg/kg	0.369	--	1
Fluorene	ND		mg/kg	0.369	--	1
Phenanthrene	ND		mg/kg	0.369	--	1
Anthracene	ND		mg/kg	0.369	--	1
Fluoranthene	ND		mg/kg	0.369	--	1
Pyrene	ND		mg/kg	0.369	--	1
Benzo(a)anthracene	ND		mg/kg	0.369	--	1
Chrysene	ND		mg/kg	0.369	--	1
Benzo(b)fluoranthene	ND		mg/kg	0.369	--	1
Benzo(k)fluoranthene	ND		mg/kg	0.369	--	1
Benzo(a)pyrene	ND		mg/kg	0.369	--	1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.369	--	1
Dibenzo(a,h)anthracene	ND		mg/kg	0.369	--	1
Benzo(ghi)perylene	ND		mg/kg	0.369	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706656

Project Number: 1700516 **Report Date:** 03/10/17

SAMPLE RESULTS

Lab ID:	L1706656-01	Date Collected:	03/02/17 23:55
Client ID:	1700516-B301-S7(10-15")	Date Received:	03/03/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	59		40-140
o-Terphenyl	70		40-140
2-Fluorobiphenyl	74		40-140
2-Bromonaphthalene	75		40-140

Project Name: TREMONT CROSSING **Lab Number:** L1706656

Project Number: 1700516 **Report Date:** 03/10/17

SAMPLE RESULTS

Lab ID:	L1706656-03	Date Collected:	03/02/17 21:10
Client ID:	1700516-B305-S7(9-13")	Date Received:	03/03/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Matrix:	Soil		
Analytical Method:	100,VPH-04-1.1		
Analytical Date:	03/08/17 22:33		
Analyst:	JM		
Percent Solids:	92%		

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Covering the Soil
Methanol ratio:	1:1.6

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	2.06	--	1
C9-C12 Aliphatics	ND		mg/kg	2.06	--	1
C9-C10 Aromatics	ND		mg/kg	2.06	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	2.06	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	2.06	--	1
Benzene	ND		mg/kg	0.082	--	1
Toluene	ND		mg/kg	0.082	--	1
Ethylbenzene	ND		mg/kg	0.082	--	1
p/m-Xylene	ND		mg/kg	0.082	--	1
o-Xylene	ND		mg/kg	0.082	--	1
Methyl tert butyl ether	ND		mg/kg	0.041	--	1
Naphthalene	ND		mg/kg	0.165	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	89		70-130
2,5-Dibromotoluene-FID	94		70-130

Project Name: TREMONT CROSSING **Lab Number:** L1706656

Project Number: 1700516 **Report Date:** 03/10/17

SAMPLE RESULTS

Lab ID:	L1706656-03	Date Collected:	03/02/17 21:10
Client ID:	1700516-B305-S7(9-13")	Date Received:	03/03/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	03/05/17 17:56
Analytical Date:	03/07/17 19:31	Cleanup Method1:	EPH-04-1
Analyst:	DV	Cleanup Date1:	03/07/17
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	6.90	--	1
C19-C36 Aliphatics	ND		mg/kg	6.90	--	1
C11-C22 Aromatics	ND		mg/kg	6.90	--	1
C11-C22 Aromatics, Adjusted	ND		mg/kg	6.90	--	1
Naphthalene	ND		mg/kg	0.345	--	1
2-Methylnaphthalene	ND		mg/kg	0.345	--	1
Acenaphthylene	ND		mg/kg	0.345	--	1
Acenaphthene	ND		mg/kg	0.345	--	1
Fluorene	ND		mg/kg	0.345	--	1
Phenanthrene	ND		mg/kg	0.345	--	1
Anthracene	ND		mg/kg	0.345	--	1
Fluoranthene	ND		mg/kg	0.345	--	1
Pyrene	ND		mg/kg	0.345	--	1
Benzo(a)anthracene	ND		mg/kg	0.345	--	1
Chrysene	ND		mg/kg	0.345	--	1
Benzo(b)fluoranthene	ND		mg/kg	0.345	--	1
Benzo(k)fluoranthene	ND		mg/kg	0.345	--	1
Benzo(a)pyrene	ND		mg/kg	0.345	--	1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.345	--	1
Dibenzo(a,h)anthracene	ND		mg/kg	0.345	--	1
Benzo(ghi)perylene	ND		mg/kg	0.345	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706656

Project Number: 1700516 **Report Date:** 03/10/17

SAMPLE RESULTS

Lab ID:	L1706656-03	Date Collected:	03/02/17 21:10
Client ID:	1700516-B305-S7(9-13")	Date Received:	03/03/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified

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	68		40-140
2-Fluorobiphenyl	74		40-140
2-Bromonaphthalene	76		40-140

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706656
Report Date: 03/10/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 03/07/17 17:25
Analyst: DV

Extraction Method: EPA 3546
Extraction Date: 03/05/17 17:56
Cleanup Method: EPH-04-1
Cleanup Date: 03/07/17

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01,03 Batch: WG983035-1					
C9-C18 Aliphatics	ND		mg/kg	6.51	--
C19-C36 Aliphatics	ND		mg/kg	6.51	--
C11-C22 Aromatics	ND		mg/kg	6.51	--
C11-C22 Aromatics, Adjusted	ND		mg/kg	6.51	--
Naphthalene	ND		mg/kg	0.326	--
2-Methylnaphthalene	ND		mg/kg	0.326	--
Acenaphthylene	ND		mg/kg	0.326	--
Acenaphthene	ND		mg/kg	0.326	--
Fluorene	ND		mg/kg	0.326	--
Phenanthrene	ND		mg/kg	0.326	--
Anthracene	ND		mg/kg	0.326	--
Fluoranthene	ND		mg/kg	0.326	--
Pyrene	ND		mg/kg	0.326	--
Benzo(a)anthracene	ND		mg/kg	0.326	--
Chrysene	ND		mg/kg	0.326	--
Benzo(b)fluoranthene	ND		mg/kg	0.326	--
Benzo(k)fluoranthene	ND		mg/kg	0.326	--
Benzo(a)pyrene	ND		mg/kg	0.326	--
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.326	--
Dibenzo(a,h)anthracene	ND		mg/kg	0.326	--
Benzo(ghi)perylene	ND		mg/kg	0.326	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	57		40-140
o-Terphenyl	71		40-140
2-Fluorobiphenyl	86		40-140
2-Bromonaphthalene	88		40-140

Project Name: TREMONT CROSSING **Lab Number:** L1706656

Project Number: 1700516 **Report Date:** 03/10/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 100,VPH-04-1.1
Analytical Date: 03/08/17 13:33
Analyst: JM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 01,03 Batch: WG984121-3					
C5-C8 Aliphatics	ND		mg/kg	2.67	--
C9-C12 Aliphatics	ND		mg/kg	2.67	--
C9-C10 Aromatics	ND		mg/kg	2.67	--
C5-C8 Aliphatics, Adjusted	ND		mg/kg	2.67	--
C9-C12 Aliphatics, Adjusted	ND		mg/kg	2.67	--
Benzene	ND		mg/kg	0.107	--
Toluene	ND		mg/kg	0.107	--
Ethylbenzene	ND		mg/kg	0.107	--
p/m-Xylene	ND		mg/kg	0.107	--
o-Xylene	ND		mg/kg	0.107	--
Methyl tert butyl ether	ND		mg/kg	0.053	--
Naphthalene	ND		mg/kg	0.213	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	92		70-130
2,5-Dibromotoluene-FID	98		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706656
Report Date: 03/10/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01,03 Batch: WG983035-2 WG983035-3								
C9-C18 Aliphatics	72		56		40-140	25		25
C19-C36 Aliphatics	54		64		40-140	17		25
C11-C22 Aromatics	91		83		40-140	9		25
Naphthalene	66		64		40-140	3		25
2-Methylnaphthalene	68		65		40-140	5		25
Acenaphthylene	72		69		40-140	4		25
Acenaphthene	74		71		40-140	4		25
Fluorene	80		75		40-140	6		25
Phenanthrene	87		78		40-140	11		25
Anthracene	93		84		40-140	10		25
Fluoranthene	90		80		40-140	12		25
Pyrene	90		80		40-140	12		25
Benzo(a)anthracene	87		77		40-140	12		25
Chrysene	90		80		40-140	12		25
Benzo(b)fluoranthene	86		77		40-140	11		25
Benzo(k)fluoranthene	90		86		40-140	5		25
Benzo(a)pyrene	82		73		40-140	12		25
Indeno(1,2,3-cd)Pyrene	85		76		40-140	11		25
Dibenzo(a,h)anthracene	87		78		40-140	11		25
Benzo(ghi)perylene	79		71		40-140	11		25
Nonane (C9)	57		43		30-140	**28**	Q	25

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706656

Report Date: 03/10/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01,03 Batch: WG983035-2 WG983035-3								
Decane (C10)	64		48		40-140	**29**	Q	25
Dodecane (C12)	66		50		40-140	**28**	Q	25
Tetradecane (C14)	67		52		40-140	25		25
Hexadecane (C16)	73		55		40-140	**28**	Q	25
Octadecane (C18)	80		58		40-140	**32**	Q	25
Nonadecane (C19)	80		58		40-140	**32**	Q	25
Eicosane (C20)	81		58		40-140	**33**	Q	25
Docosane (C22)	81		59		40-140	**31**	Q	25
Tetracosane (C24)	81		59		40-140	**31**	Q	25
Hexacosane (C26)	81		58		40-140	**33**	Q	25
Octacosane (C28)	80		58		40-140	**32**	Q	25
Triacontane (C30)	79		58		40-140	**31**	Q	25
Hexatriacontane (C36)	78		57		40-140	**31**	Q	25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	71		56		40-140
o-Terphenyl	98		90		40-140
2-Fluorobiphenyl	89		80		40-140
2-Bromonaphthalene	93		83		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706656

Report Date: 03/10/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01,03 Batch: WG984121-1 WG984121-2								
C5-C8 Aliphatics	104		104		70-130	0		25
C9-C12 Aliphatics	102		102		70-130	0		25
C9-C10 Aromatics	97		95		70-130	2		25
Benzene	96		96		70-130	0		25
Toluene	97		96		70-130	1		25
Ethylbenzene	96		96		70-130	1		25
p/m-Xylene	97		97		70-130	1		25
o-Xylene	97		96		70-130	1		25
Methyl tert butyl ether	92		96		70-130	4		25
Naphthalene	88		91		70-130	3		25
1,2,4-Trimethylbenzene	97		95		70-130	2		25
Pentane	101		101		70-130	0		25
2-Methylpentane	102		103		70-130	1		25
2,2,4-Trimethylpentane	106		106		70-130	0		25
n-Nonane	103		104		30-130	1		25
n-Decane	101		101		70-130	0		25
n-Butylcyclohexane	102		103		70-130	1		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706656

Report Date: 03/10/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01,03 Batch: WG984121-1 WG984121-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	93		95		70-130
2,5-Dibromotoluene-FID	95		99		70-130

PCBS

Project Name: TREMONT CROSSING **Lab Number:** L1706656

Project Number: 1700516 **Report Date:** 03/10/17

SAMPLE RESULTS

Lab ID:	L1706656-02	Date Collected:	03/02/17 00:30
Client ID:	1700516-B301-COMP (0-3')	Date Received:	03/03/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	97,8082A	Extraction Date:	03/06/17 17:34
Analytical Date:	03/07/17 02:55	Cleanup Method:	EPA 3665A
Analyst:	JW	Cleanup Date:	03/06/17
Percent Solids:	86%	Cleanup Method:	EPA 3660B
		Cleanup Date:	03/07/17

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	38.0	--	1	A
Aroclor 1221	ND		ug/kg	38.0	--	1	A
Aroclor 1232	ND		ug/kg	38.0	--	1	A
Aroclor 1242	ND		ug/kg	38.0	--	1	A
Aroclor 1248	ND		ug/kg	38.0	--	1	A
Aroclor 1254	ND		ug/kg	38.0	--	1	A
Aroclor 1260	ND		ug/kg	38.0	--	1	A
Aroclor 1262	ND		ug/kg	38.0	--	1	A
Aroclor 1268	ND		ug/kg	38.0	--	1	A
PCBs, Total	ND		ug/kg	38.0	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	56		30-150	A
Decachlorobiphenyl	66		30-150	A
2,4,5,6-Tetrachloro-m-xylene	51		30-150	B
Decachlorobiphenyl	75		30-150	B

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706656
Report Date: 03/10/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 03/07/17 00:41
Analyst: HT

Extraction Method: EPA 3546
Extraction Date: 03/06/17 17:34
Cleanup Method: EPA 3665A
Cleanup Date: 03/06/17
Cleanup Method: EPA 3660B
Cleanup Date: 03/07/17

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 02 Batch: WG983266-1						
Aroclor 1016	ND		ug/kg	31.5	--	A
Aroclor 1221	ND		ug/kg	31.5	--	A
Aroclor 1232	ND		ug/kg	31.5	--	A
Aroclor 1242	ND		ug/kg	31.5	--	A
Aroclor 1248	ND		ug/kg	31.5	--	A
Aroclor 1254	ND		ug/kg	31.5	--	A
Aroclor 1260	ND		ug/kg	31.5	--	A
Aroclor 1262	ND		ug/kg	31.5	--	A
Aroclor 1268	ND		ug/kg	31.5	--	A
PCBs, Total	ND		ug/kg	31.5	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	81		30-150	A
Decachlorobiphenyl	72		30-150	A
2,4,5,6-Tetrachloro-m-xylene	91		30-150	B
Decachlorobiphenyl	69		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706656

Report Date: 03/10/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 02 Batch: WG983266-2 WG983266-3									
Aroclor 1016	74		80		40-140	8		30	A
Aroclor 1260	86		94		40-140	9		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	88		94		30-150	A
Decachlorobiphenyl	75		81		30-150	A
2,4,5,6-Tetrachloro-m-xylene	93		99		30-150	B
Decachlorobiphenyl	70		78		30-150	B

INORGANICS
&
MISCELLANEOUS

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706656
Report Date: 03/10/17

SAMPLE RESULTS

Lab ID: L1706656-01
Client ID: 1700516-B301-S7(10-15")
Sample Location: BOSTON, MA
Matrix: Soil

Date Collected: 03/02/17 23:55
Date Received: 03/03/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	89.4		%	0.100	NA	1	-	03/04/17 17:08	121,2540G	SB

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706656
Report Date: 03/10/17

SAMPLE RESULTS

Lab ID: L1706656-02
Client ID: 1700516-B301-COMP (0-3')
Sample Location: BOSTON, MA
Matrix: Soil

Date Collected: 03/02/17 00:30
Date Received: 03/03/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.2		%	0.100	NA	1	-	03/04/17 17:08	121,2540G	SB

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706656
Report Date: 03/10/17

SAMPLE RESULTS

Lab ID: L1706656-03
Client ID: 1700516-B305-S7(9-13")
Sample Location: BOSTON, MA
Matrix: Soil

Date Collected: 03/02/17 21:10
Date Received: 03/03/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.3		%	0.100	NA	1	-	03/04/17 17:08	121,2540G	SB

Lab Duplicate Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706656
Report Date: 03/10/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG982925-1 QC Sample: L1706656-01 Client ID: 1700516-B301-S7(10-15")						
Solids, Total	89.4	90.6	%	1		20

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706656
Report Date: 03/10/17

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1706656-01A	Vial MeOH preserved	A	N/A	5.1	Y	Absent	VPH-DELUX-10(28)
L1706656-01B	Glass 120ml/4oz unpreserved	A	N/A	5.1	Y	Absent	TS(7),EPH-DELUX-10(14)
L1706656-01C	Vial MeOH preserved	A	N/A	5.1	Y	Absent	MCP-8260H-10(14)
L1706656-02A	Glass 120ml/4oz unpreserved	A	N/A	5.1	Y	Absent	MCP-8082-10(365),TS(7)
L1706656-03A	Vial MeOH preserved	A	N/A	5.1	Y	Absent	VPH-DELUX-10(28)
L1706656-03B	Glass 120ml/4oz unpreserved	A	N/A	5.1	Y	Absent	TS(7),EPH-DELUX-10(14)
L1706656-03C	Vial MeOH preserved	A	N/A	5.1	Y	Absent	MCP-8260H-10(14)

*Values in parentheses indicate holding time in days

Project Name:	TREMONT CROSSING	**Lab Number:**	L1706656
Project Number:	1700516	**Report Date:**	03/10/17

GLOSSARY

Acronyms

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).
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.
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.
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.
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

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

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.

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.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
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

Report Format: Data Usability Report

Project Name:	TREMONT CROSSING	**Lab Number:**	L1706656
Project Number:	1700516	**Report Date:**	03/10/17

Data Qualifiers

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.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

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.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name:	TREMONT CROSSING	**Lab Number:**	L1706656
Project Number:	1700516	**Report Date:**	03/10/17

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.

100 Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility
EPA 624: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
SM 2540D: TSS
EPA 3005A NPW
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: 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**
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, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, 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 624: Volatile Halocarbons & Aromatics,
EPA 608: 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: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

Mansfield Facility:

Drinking Water
EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

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, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

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

Chain-of-Custody Record

Laboratory: ALPHA

Laboratory Job # (Lab use only) L1706656

GEI Consultants
400 Unicorn Park Drive
Woburn, MA 01801
PH: 781.721.4000
FX: 781.721.4073

Project Information

Project Name: Tremont Crossing
Project Number: 1700516
Project Location: Boston, MA
Project Manager: Cathy Johnson

Page 1 of 1

Send Report to: Jessica Englehart
Send EDD to: labdata@geiconsultants.com

MCP PRESUMPTIVE CERTAINTY REQUIRED -- (YES) NO

If Yes, Are MCP Analytical Methods Required?	(YES)	NO	NA
Are Drinking Water Samples Submitted?	YES	(NO)	NA
If Yes, Have Drinking Water Sampling Requirements Been Met?	YES	NO	(NA)

Lab Sample Number	GEI Sample ID	Collection Date	Collection Time	Matrix	No. of Bottles	Sampler(s) Initials	VOCs	VPH	EPH	PCBs	% Solids				Preservative				Sample Specific Remarks
	1700516-B301-S7(10-15")	3.2.17	2355	SO	3	JTN	x	x	x		x				Water	Water	None	None	
	1700516-B301-Comp(0-3')	3.2.17	0030	SO	1	JTN				x									
	1700516-B305-S7(9-13")	3.2.17	2110	SO	3	JTN	x	x	x		x								

Sample Handling

Samples Field Filtered: YES NO (NA)

Sampled Shipped With Ice: (YES) NO

MCP Level Needed: GEI requires that, within the specified method, the most stringent Method 1 MCP standard be met for all analytes whenever possible.

	Relinquished by sampler: (signature)	Date:	Time:	Received by: (signature)
1.	Jessi Mill	3/3/17	0221	1. GEI Sample Fridge
2.	GEI Sample Fridge	3/3/17	1135	2. R. Cecchi
3.	R. Cecchi	3/3/17	1135	3. Rob Macchi AM 3/3/17 11:35
4.	Rob Macchi	3/3/17	1740	4. [illegible]

Turnaround Time (Business days):

Normal x Other ____
10-Day ____ 7-Day ____
5-Day x 3-Day ____

Before submitting rush turnaround samples, you **must** notify the laboratory to confirm that the TAT can be achieved.

Additional Requirements/Comments/Remarks:

Method Blank Summary
Form 4

Client	: GEI Consultants	**Lab Number**	: L1706656
Project Name	: TREMONT CROSSING	**Project Number**	: 1700516
Lab Sample ID	: WG983399-5	**Lab File ID**	: V10170306A06
Instrument ID	: VOA110		
Matrix	: SOIL	**Analysis Date**	: 03/06/17 09:17

Client Sample No.	Lab Sample ID	Analysis Date
WG983399-3LCS	WG983399-3	03/06/17 08:00
WG983399-4LCSD	WG983399-4	03/06/17 08:26
1700516-B301-S7(10-15")	L1706656-01	03/06/17 10:34
1700516-B305-S7(9-13")	L1706656-03	03/06/17 11:00

Continuing Calibration
Form 7

Client	: GEI Consultants	**Lab Number**	: L1706656	
Project Name	: TREMONT CROSSING	**Project Number**	: 1700516	
Instrument ID	: VOA110	**Calibration Date**	: 03/06/17 08:00	
Lab File ID	: V10170306A03	**Init. Calib. Date(s)**	: 02/21/17	02/21/17
Sample No	: WG983399-2	**Init. Calib. Times**	: 16:17	19:20
Channel	:			

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	95	0
Dichlorodifluoromethane	0.351	0.321	-	8.5	20	90	0
Chloromethane	0.269	0.272	-	-1.1	20	97	0
Vinyl chloride	0.267	0.247	-	7.5	20	90	0
Bromomethane	0.202	0.196	-	3	20	99	0
Chloroethane	0.168	0.145	-	13.7	20	82	.04
Trichlorofluoromethane	0.445	0.441	-	0.9	20	90	.04
Ethyl ether	0.158	0.144	-	8.9	20	90	0
1,1-Dichloroethene	0.221	0.218	-	1.4	20	98	0
Carbon disulfide	20	15.623	-	21.9*	20	79	.02
Freon-113	0.206	0.197	-	4.4	20	92	.02
Acrolein	0.046	0.043	-	6.5	20	98	0
Methylene chloride	20	18.814	-	5.9	20	95	0
Acetone	0.056	0.061	-	-8.9	20	108	0
trans-1,2-Dichloroethene	0.25	0.244	-	2.4	20	95	0
Methyl acetate	0.153	0.151	-	1.3	20	98	0
Methyl tert-butyl ether	0.676	0.701	-	-3.7	20	104	0
tert-Butyl alcohol	0.018	0.019	-	-5.6	20	107	-.01
Diisopropyl ether	0.758	0.789	-	-4.1	20	99	0
1,1-Dichloroethane	0.425	0.435	-	-2.4	20	97	0
Halothane	0.17	0.171	-	-0.6	20	97	0
Acrylonitrile	20	19.401	-	3	20	97	0
Ethyl tert-butyl ether	0.616	0.65	-	-5.5	20	103	0
Vinyl acetate	20	19.028	-	4.9	20	100	0
cis-1,2-Dichloroethene	0.269	0.267	-	0.7	20	95	0
2,2-Dichloropropane	0.313	0.346	-	-10.5	20	112	0
Bromochloromethane	0.128	0.131	-	-2.3	20	96	0
Cyclohexane	0.342	0.336	-	1.8	20	95	0
Chloroform	0.457	0.458	-	-0.2	20	94	0
Ethyl acetate	0.204	0.206	-	-1	20	97	0
Carbon tetrachloride	0.32	0.32	-	0	20	100	0
Tetrahydrofuran	0.072	0.086	-	-19.4	20	111	0
Dibromofluoromethane	0.256	0.267	-	-4.3	20	98	0
1,1,1-Trichloroethane	0.393	0.403	-	-2.5	20	99	0
2-Butanone	0.09	0.077	-	14.4	20	90	.01
1,1-Dichloropropene	0.31	0.313	-	-1	20	95	0
Benzene	0.996	0.997	-	-0.1	20	95	0
tert-Amyl methyl ether	0.54	0.582	-	-7.8	20	109	0
1,2-Dichloroethane-d4	0.27	0.276	-	-2.2	20	97	0
1,2-Dichloroethane	0.339	0.337	-	0.6	20	94	0
Methyl cyclohexane	0.35	0.329	-	6	20	96	0
Trichloroethene	0.262	0.26	-	0.8	20	95	0
Dibromomethane	0.151	0.145	-	4	20	93	0
1,2-Dichloropropane	0.232	0.228	-	1.7	20	94	0
2-Chloroethyl vinyl ether	20	19.505	-	2.5	20	120	0

* Value outside of QC limits.

Continuing Calibration
Form 7

Client	: GEI Consultants	Lab Number	: L1706656	
Project Name	: TREMONT CROSSING	Project Number	: 1700516	
Instrument ID	: VOA110	Calibration Date	: 03/06/17 08:00	
Lab File ID	: V10170306A03	Init. Calib. Date(s)	: 02/21/17	02/21/17
Sample No	: WG983399-2	Init. Calib. Times	: 16:17	19:20
Channel	:			

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Bromodichloromethane	0.337	0.316	-	6.2	20	92	0
1,4-Dioxane	0.00229	0.00201	-	12.2	20	88	0
cis-1,3-Dichloropropene	20	18.229	-	8.9	20	99	0
Chlorobenzene-d5	1	1	-	0	20	100	0
Toluene-d8	1.233	1.229	-	0.3	20	98	0
Toluene	0.846	0.799	-	5.6	20	95	0
4-Methyl-2-pentanone	0.089	0.067	-	24.7*	20	91	0
Tetrachloroethene	0.33	0.31	-	6.1	20	96	0
trans-1,3-Dichloropropene	0.402	0.384	-	4.5	20	100	0
Ethyl methacrylate	20	15.315	-	23.4*	20	94	0
1,1,2-Trichloroethane	0.243	0.235	-	3.3	20	96	0
Chlorodibromomethane	0.324	0.292	-	9.9	20	94	0
1,3-Dichloropropane	0.472	0.452	-	4.2	20	96	0
1,2-Dibromoethane	0.267	0.248	-	7.1	20	94	0
2-Hexanone	20	14.198	-	29*	20	98	0
Chlorobenzene	0.965	0.891	-	7.7	20	93	0
Ethylbenzene	1.513	1.469	-	2.9	20	94	0
1,1,1,2-Tetrachloroethane	0.334	0.318	-	4.8	20	96	0
p/m Xylene	0.58	0.579	-	0.2	20	94	0
o Xylene	0.54	0.53	-	1.9	20	94	0
Styrene	0.952	0.911	-	4.3	20	90	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	101	0
Bromoform	0.396	0.327	-	17.4	20	91	0
Isopropylbenzene	2.879	2.728	-	5.2	20	95	0
4-Bromofluorobenzene	0.867	0.878	-	-1.3	20	104	0
Bromobenzene	0.743	0.671	-	9.7	20	94	0
n-Propylbenzene	3.513	3.34	-	4.9	20	95	0
1,4-Dichlorobutane	0.894	0.87	-	2.7	20	99	0
1,1,2,2-Tetrachloroethane	0.714	0.66	-	7.6	20	96	0
4-Ethyltoluene	2.879	2.741	-	4.8	20	93	0
2-Chlorotoluene	2.146	2.045	-	4.7	20	93	0
1,3,5-Trimethylbenzene	2.51	2.408	-	4.1	20	93	0
1,2,3-Trichloropropane	0.577	0.537	-	6.9	20	97	0
trans-1,4-Dichloro-2-buten	0.175	0.162	-	7.4	20	95	0
4-Chlorotoluene	2.122	2.022	-	4.7	20	94	0
tert-Butylbenzene	2.051	1.918	-	6.5	20	94	0
1,2,4-Trimethylbenzene	2.467	2.386	-	3.3	20	94	0
sec-Butylbenzene	3.173	3.016	-	4.9	20	94	0
p-Isopropyltoluene	2.626	2.476	-	5.7	20	94	0
1,3-Dichlorobenzene	1.484	1.352	-	8.9	20	92	0
1,4-Dichlorobenzene	1.534	1.352	-	11.9	20	91	0
p-Diethylbenzene	1.524	1.4	-	8.1	20	92	0
n-Butylbenzene	2.502	2.38	-	4.9	20	93	0
1,2-Dichlorobenzene	1.392	1.226	-	11.9	20	91	0
1,2,4,5-Tetramethylbenzene	20	16.004	-	20	20	90	0

* Value outside of QC limits.

Continuing Calibration
Form 7

Client	: GEI Consultants	**Lab Number**	: L1706656	
Project Name	: TREMONT CROSSING	**Project Number**	: 1700516	
Instrument ID	: VOA110	**Calibration Date**	: 03/06/17 08:00	
Lab File ID	: V10170306A03	**Init. Calib. Date(s)**	: 02/21/17	02/21/17
Sample No	: WG983399-2	**Init. Calib. Times**	: 16:17	19:20
Channel	:			

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dibromo-3-chloropropan	0.09	0.077	-	14.4	20	94	0
1,3,5-Trichlorobenzene	1.022	0.91	-	11	20	90	0
Hexachlorobutadiene	0.493	0.435	-	11.8	20	96	0
1,2,4-Trichlorobenzene	0.876	0.768	-	12.3	20	91	0
Naphthalene	20	15.61	-	22*	20	89	0
1,2,3-Trichlorobenzene	0.839	0.744	-	11.3	20	92	0

* Value outside of QC limits.

ANALYTICAL REPORT

Lab Number:	L1706855
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Cathy Johnson
Phone:	(781) 721-4000
Project Name:	TREMONT CROSSING
Project Number:	1700516
Report Date:	03/13/17

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

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

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706855
Report Date: 03/13/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1706855-01	1700516-B306-S7(8-14")	SOIL	BOSTON, MA	03/03/17 20:50	03/06/17

Project Name: TREMONT CROSSING **Lab Number:** L1706855

Project Number: 1700516 **Report Date:** 03/13/17

MADEP MCP Response Action Analytical Report Certification

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

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	YES
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

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

Project Name: TREMONT CROSSING **Lab Number:** L1706855
Project Number: 1700516 **Report Date:** 03/13/17

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

Project Name:	TREMONT CROSSING	**Lab Number:**	L1706855
Project Number:	1700516	**Report Date:**	03/13/17

Case Narrative (continued)

MCP Related Narratives

Volatile Organics

In reference to question G:

L1706855-01: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The initial calibration, associated with L1706855-01, did not meet the method required minimum response factor on the lowest calibration standard for acetone (0.0788), 2-butanone (0.0798), 4-methyl-2-pentanone (0.0579), and 1,4-dioxane (0.0021), as well as the average response factor for acetone, 2-butanone, 4-methyl-2-pentanone, and 1,4-dioxane.

The continuing calibration standard, associated with L1706855-01, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

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

Authorized Signature: Melissa Cripps Melissa Cripps

Title: Technical Director/Representative Date: 03/13/17

ORGANICS

VOLATILES

Project Name: TREMONT CROSSING **Lab Number:** L1706855

Project Number: 1700516 **Report Date:** 03/13/17

SAMPLE RESULTS

Lab ID: L1706855-01
Client ID: 1700516-B306-S7(8-14")
Sample Location: BOSTON, MA
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 03/09/17 11:35
Analyst: JC
Percent Solids: 87%

Date Collected: 03/03/17 20:50
Date Received: 03/06/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	490	--	1
1,1-Dichloroethane	ND		ug/kg	74	--	1
Chloroform	ND		ug/kg	74	--	1
Carbon tetrachloride	ND		ug/kg	49	--	1
1,2-Dichloropropane	ND		ug/kg	170	--	1
Dibromochloromethane	ND		ug/kg	49	--	1
1,1,2-Trichloroethane	ND		ug/kg	74	--	1
Tetrachloroethene	ND		ug/kg	49	--	1
Chlorobenzene	ND		ug/kg	49	--	1
Trichlorofluoromethane	ND		ug/kg	200	--	1
1,2-Dichloroethane	ND		ug/kg	49	--	1
1,1,1-Trichloroethane	ND		ug/kg	49	--	1
Bromodichloromethane	ND		ug/kg	49	--	1
trans-1,3-Dichloropropene	ND		ug/kg	49	--	1
cis-1,3-Dichloropropene	ND		ug/kg	49	--	1
1,3-Dichloropropene, Total	ND		ug/kg	49	--	1
1,1-Dichloropropene	ND		ug/kg	200	--	1
Bromoform	ND		ug/kg	200	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	49	--	1
Benzene	ND		ug/kg	49	--	1
Toluene	ND		ug/kg	74	--	1
Ethylbenzene	ND		ug/kg	49	--	1
Chloromethane	ND		ug/kg	200	--	1
Bromomethane	ND		ug/kg	98	--	1
Vinyl chloride	ND		ug/kg	98	--	1
Chloroethane	ND		ug/kg	98	--	1
1,1-Dichloroethene	ND		ug/kg	49	--	1
trans-1,2-Dichloroethene	ND		ug/kg	74	--	1
Trichloroethene	63		ug/kg	49	--	1
1,2-Dichlorobenzene	ND		ug/kg	200	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706855

Project Number: 1700516 **Report Date:** 03/13/17

SAMPLE RESULTS

Lab ID: L1706855-01 Date Collected: 03/03/17 20:50

Client ID: 1700516-B306-S7(8-14") Date Received: 03/06/17

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 5035 High - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	200	--	1
1,4-Dichlorobenzene	ND		ug/kg	200	--	1
Methyl tert butyl ether	ND		ug/kg	98	--	1
p/m-Xylene	ND		ug/kg	98	--	1
o-Xylene	ND		ug/kg	98	--	1
Xylenes, Total	ND		ug/kg	98	--	1
cis-1,2-Dichloroethene	ND		ug/kg	49	--	1
1,2-Dichloroethene, Total	ND		ug/kg	49	--	1
Dibromomethane	ND		ug/kg	200	--	1
1,2,3-Trichloropropane	ND		ug/kg	200	--	1
Styrene	ND		ug/kg	98	--	1
Dichlorodifluoromethane	ND		ug/kg	490	--	1
Acetone	ND		ug/kg	1800	--	1
Carbon disulfide	ND		ug/kg	200	--	1
Methyl ethyl ketone	ND		ug/kg	490	--	1
Methyl isobutyl ketone	ND		ug/kg	490	--	1
2-Hexanone	ND		ug/kg	490	--	1
Bromochloromethane	ND		ug/kg	200	--	1
Tetrahydrofuran	ND		ug/kg	200	--	1
2,2-Dichloropropane	ND		ug/kg	240	--	1
1,2-Dibromoethane	ND		ug/kg	200	--	1
1,3-Dichloropropane	ND		ug/kg	200	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	49	--	1
Bromobenzene	ND		ug/kg	240	--	1
n-Butylbenzene	ND		ug/kg	49	--	1
sec-Butylbenzene	ND		ug/kg	49	--	1
tert-Butylbenzene	ND		ug/kg	200	--	1
o-Chlorotoluene	ND		ug/kg	200	--	1
p-Chlorotoluene	ND		ug/kg	200	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	200	--	1
Hexachlorobutadiene	ND		ug/kg	200	--	1
Isopropylbenzene	ND		ug/kg	49	--	1
p-Isopropyltoluene	ND		ug/kg	49	--	1
Naphthalene	ND		ug/kg	200	--	1
n-Propylbenzene	ND		ug/kg	49	--	1
1,2,3-Trichlorobenzene	ND		ug/kg	200	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	200	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	200	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	200	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706855

Project Number: 1700516 **Report Date:** 03/13/17

SAMPLE RESULTS

Lab ID: L1706855-01 Date Collected: 03/03/17 20:50

Client ID: 1700516-B306-S7(8-14") Date Received: 03/06/17

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 5035 High - Westborough Lab						
Diethyl ether	ND		ug/kg	240	--	1
Diisopropyl Ether	ND		ug/kg	200	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	200	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	200	--	1
1,4-Dioxane	ND		ug/kg	2000	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	93		70-130

Project Name: TREMONT CROSSING **Lab Number:** L1706855

Project Number: 1700516 **Report Date:** 03/13/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 03/09/17 08:33
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01 Batch: WG984130-10					
Methylene chloride	ND		ug/kg	500	--
1,1-Dichloroethane	ND		ug/kg	75	--
Chloroform	ND		ug/kg	75	--
Carbon tetrachloride	ND		ug/kg	50	--
1,2-Dichloropropane	ND		ug/kg	180	--
Dibromochloromethane	ND		ug/kg	50	--
1,1,2-Trichloroethane	ND		ug/kg	75	--
Tetrachloroethene	ND		ug/kg	50	--
Chlorobenzene	ND		ug/kg	50	--
Trichlorofluoromethane	ND		ug/kg	200	--
1,2-Dichloroethane	ND		ug/kg	50	--
1,1,1-Trichloroethane	ND		ug/kg	50	--
Bromodichloromethane	ND		ug/kg	50	--
trans-1,3-Dichloropropene	ND		ug/kg	50	--
cis-1,3-Dichloropropene	ND		ug/kg	50	--
1,3-Dichloropropene, Total	ND		ug/kg	50	--
1,1-Dichloropropene	ND		ug/kg	200	--
Bromoform	ND		ug/kg	200	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	50	--
Benzene	ND		ug/kg	50	--
Toluene	ND		ug/kg	75	--
Ethylbenzene	ND		ug/kg	50	--
Chloromethane	ND		ug/kg	200	--
Bromomethane	ND		ug/kg	100	--
Vinyl chloride	ND		ug/kg	100	--
Chloroethane	ND		ug/kg	100	--
1,1-Dichloroethene	ND		ug/kg	50	--
trans-1,2-Dichloroethene	ND		ug/kg	75	--
Trichloroethene	ND		ug/kg	50	--

Project Name: TREMONT CROSSING **Lab Number:** L1706855

Project Number: 1700516 **Report Date:** 03/13/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 03/09/17 08:33
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01 Batch: WG984130-10					
1,2-Dichlorobenzene	ND		ug/kg	200	--
1,3-Dichlorobenzene	ND		ug/kg	200	--
1,4-Dichlorobenzene	ND		ug/kg	200	--
Methyl tert butyl ether	ND		ug/kg	100	--
p/m-Xylene	ND		ug/kg	100	--
o-Xylene	ND		ug/kg	100	--
Xylenes, Total	ND		ug/kg	100	--
cis-1,2-Dichloroethene	ND		ug/kg	50	--
1,2-Dichloroethene, Total	ND		ug/kg	50	--
Dibromomethane	ND		ug/kg	200	--
1,2,3-Trichloropropane	ND		ug/kg	200	--
Styrene	ND		ug/kg	100	--
Dichlorodifluoromethane	ND		ug/kg	500	--
Acetone	ND		ug/kg	1800	--
Carbon disulfide	ND		ug/kg	200	--
Methyl ethyl ketone	ND		ug/kg	500	--
Methyl isobutyl ketone	ND		ug/kg	500	--
2-Hexanone	ND		ug/kg	500	--
Bromochloromethane	ND		ug/kg	200	--
Tetrahydrofuran	ND		ug/kg	200	--
2,2-Dichloropropane	ND		ug/kg	250	--
1,2-Dibromoethane	ND		ug/kg	200	--
1,3-Dichloropropane	ND		ug/kg	200	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	50	--
Bromobenzene	ND		ug/kg	250	--
n-Butylbenzene	ND		ug/kg	50	--
sec-Butylbenzene	ND		ug/kg	50	--
tert-Butylbenzene	ND		ug/kg	200	--
o-Chlorotoluene	ND		ug/kg	200	--

Project Name: TREMONT CROSSING **Lab Number:** L1706855

Project Number: 1700516 **Report Date:** 03/13/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 03/09/17 08:33
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01 Batch: WG984130-10					
p-Chlorotoluene	ND		ug/kg	200	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	200	--
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	200	--
1,2,4-Trichlorobenzene	ND		ug/kg	200	--
1,3,5-Trimethylbenzene	ND		ug/kg	200	--
1,2,4-Trimethylbenzene	ND		ug/kg	200	--
Diethyl ether	ND		ug/kg	250	--
Diisopropyl Ether	ND		ug/kg	200	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	200	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	200	--
1,4-Dioxane	ND		ug/kg	2000	--
2-Chloroethylvinyl ether	ND		ug/kg	1000	--
Halothane	ND		ug/kg	2000	--
Ethyl Acetate	ND		ug/kg	1000	--
Freon-113	ND		ug/kg	1000	--
Vinyl acetate	ND		ug/kg	500	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	100		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706855
Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01 Batch: WG984130-8 WG984130-9								
Methylene chloride	96		88		70-130	9		20
1,1-Dichloroethane	101		100		70-130	1		20
Chloroform	96		96		70-130	0		20
Carbon tetrachloride	100		99		70-130	1		20
1,2-Dichloropropane	94		95		70-130	1		20
Dibromochloromethane	83		83		70-130	0		20
1,1,2-Trichloroethane	87		87		70-130	0		20
Tetrachloroethene	91		91		70-130	0		20
Chlorobenzene	87		88		70-130	1		20
Trichlorofluoromethane	96		94		70-130	2		20
1,2-Dichloroethane	93		93		70-130	0		20
1,1,1-Trichloroethane	101		100		70-130	1		20
Bromodichloromethane	89		88		70-130	1		20
trans-1,3-Dichloropropene	90		92		70-130	2		20
cis-1,3-Dichloropropene	87		88		70-130	1		20
1,1-Dichloropropene	101		100		70-130	1		20
Bromoform	78		79		70-130	1		20
1,1,2,2-Tetrachloroethane	84		83		70-130	1		20
Benzene	98		96		70-130	2		20
Toluene	90		89		70-130	1		20
Ethylbenzene	90		92		70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706855

Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01 Batch: WG984130-8 WG984130-9								
Chloromethane	104		98		70-130	6		20
Bromomethane	93		91		70-130	2		20
Vinyl chloride	92		88		70-130	4		20
Chloroethane	82		80		70-130	2		20
1,1-Dichloroethene	100		98		70-130	2		20
trans-1,2-Dichloroethene	98		96		70-130	2		20
Trichloroethene	94		94		70-130	0		20
1,2-Dichlorobenzene	82		83		70-130	1		20
1,3-Dichlorobenzene	85		85		70-130	0		20
1,4-Dichlorobenzene	83		83		70-130	0		20
Methyl tert butyl ether	102		102		70-130	0		20
p/m-Xylene	93		94		70-130	1		20
o-Xylene	92		93		70-130	1		20
cis-1,2-Dichloroethene	97		95		70-130	2		20
Dibromomethane	90		91		70-130	1		20
1,2,3-Trichloropropane	82		83		70-130	1		20
Styrene	89		89		70-130	0		20
Dichlorodifluoromethane	100		94		70-130	6		20
Acetone	104		103		70-130	1		20
Carbon disulfide	77		74		70-130	4		20
Methyl ethyl ketone	78		79		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706855
Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01 Batch: WG984130-8 WG984130-9								
Methyl isobutyl ketone	74		73		70-130	1		20
2-Hexanone	**62**	Q	**61**	Q	70-130	2		20
Bromochloromethane	97		95		70-130	2		20
Tetrahydrofuran	111		100		70-130	10		20
2,2-Dichloropropane	111		110		70-130	1		20
1,2-Dibromoethane	85		87		70-130	2		20
1,3-Dichloropropane	88		89		70-130	1		20
1,1,1,2-Tetrachloroethane	88		88		70-130	0		20
Bromobenzene	85		85		70-130	0		20
n-Butylbenzene	87		87		70-130	0		20
sec-Butylbenzene	89		87		70-130	2		20
tert-Butylbenzene	88		88		70-130	0		20
o-Chlorotoluene	90		87		70-130	3		20
p-Chlorotoluene	89		88		70-130	1		20
1,2-Dibromo-3-chloropropane	78		78		70-130	0		20
Hexachlorobutadiene	81		83		70-130	2		20
Isopropylbenzene	90		90		70-130	0		20
p-Isopropyltoluene	88		88		70-130	0		20
Naphthalene	71		73		70-130	3		20
n-Propylbenzene	89		88		70-130	1		20
1,2,3-Trichlorobenzene	81		84		70-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706855
Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01 Batch: WG984130-8 WG984130-9								
1,2,4-Trichlorobenzene	82		84		70-130	2		20
1,3,5-Trimethylbenzene	90		89		70-130	1		20
1,2,4-Trimethylbenzene	90		90		70-130	0		20
Diethyl ether	85		86		70-130	1		20
Diisopropyl Ether	100		100		70-130	0		20
Ethyl-Tert-Butyl-Ether	104		104		70-130	0		20
Tertiary-Amyl Methyl Ether	105		106		70-130	1		20
1,4-Dioxane	92		93		70-130	1		20
2-Chloroethylvinyl ether	78		89		70-130	13		20
Halothane	99		96		70-130	3		20
Ethyl Acetate	92		94		70-130	2		20
Freon-113	101		98		70-130	3		20
Vinyl acetate	89		89		70-130	0		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		96		70-130
Toluene-d8	98		98		70-130
4-Bromofluorobenzene	102		99		70-130
Dibromofluoromethane	102		102		70-130

PETROLEUM HYDROCARBONS

Project Name: TREMONT CROSSING **Lab Number:** L1706855

Project Number: 1700516 **Report Date:** 03/13/17

SAMPLE RESULTS

Lab ID:	L1706855-01	Date Collected:	03/03/17 20:50
Client ID:	1700516-B306-S7(8-14")	Date Received:	03/06/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Matrix:	Soil		
Analytical Method:	100,VPH-04-1.1		
Analytical Date:	03/09/17 15:14		
Analyst:	JM		
Percent Solids:	87%		

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Were samples received in methanol?	Covering the Soil
Methanol ratio:	1:1.5

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	2.40	--	1
C9-C12 Aliphatics	ND		mg/kg	2.40	--	1
C9-C10 Aromatics	ND		mg/kg	2.40	--	1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	2.40	--	1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	2.40	--	1
Benzene	ND		mg/kg	0.096	--	1
Toluene	ND		mg/kg	0.096	--	1
Ethylbenzene	ND		mg/kg	0.096	--	1
p/m-Xylene	ND		mg/kg	0.096	--	1
o-Xylene	ND		mg/kg	0.096	--	1
Methyl tert butyl ether	ND		mg/kg	0.048	--	1
Naphthalene	ND		mg/kg	0.192	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	102		70-130
2,5-Dibromotoluene-FID	110		70-130

Project Name: TREMONT CROSSING **Lab Number:** L1706855

Project Number: 1700516 **Report Date:** 03/13/17

SAMPLE RESULTS

Lab ID:	L1706855-01	Date Collected:	03/03/17 20:50
Client ID:	1700516-B306-S7(8-14")	Date Received:	03/06/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	03/08/17 21:13
Analytical Date:	03/09/17 22:59	Cleanup Method1:	EPH-04-1
Analyst:	EK	Cleanup Date1:	03/09/17
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	7.28	--	1
C19-C36 Aliphatics	ND		mg/kg	7.28	--	1
C11-C22 Aromatics	ND		mg/kg	7.28	--	1
C11-C22 Aromatics, Adjusted	ND		mg/kg	7.28	--	1
Naphthalene	ND		mg/kg	0.364	--	1
2-Methylnaphthalene	ND		mg/kg	0.364	--	1
Acenaphthylene	ND		mg/kg	0.364	--	1
Acenaphthene	ND		mg/kg	0.364	--	1
Fluorene	ND		mg/kg	0.364	--	1
Phenanthrene	ND		mg/kg	0.364	--	1
Anthracene	ND		mg/kg	0.364	--	1
Fluoranthene	ND		mg/kg	0.364	--	1
Pyrene	ND		mg/kg	0.364	--	1
Benzo(a)anthracene	ND		mg/kg	0.364	--	1
Chrysene	ND		mg/kg	0.364	--	1
Benzo(b)fluoranthene	ND		mg/kg	0.364	--	1
Benzo(k)fluoranthene	ND		mg/kg	0.364	--	1
Benzo(a)pyrene	ND		mg/kg	0.364	--	1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.364	--	1
Dibenzo(a,h)anthracene	ND		mg/kg	0.364	--	1
Benzo(ghi)perylene	ND		mg/kg	0.364	--	1

Project Name: TREMONT CROSSING **Lab Number:** L1706855

Project Number: 1700516 **Report Date:** 03/13/17

SAMPLE RESULTS

Lab ID:	L1706855-01	Date Collected:	03/03/17 20:50
Client ID:	1700516-B306-S7(8-14")	Date Received:	03/06/17
Sample Location:	BOSTON, MA	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	70		40-140
o-Terphenyl	73		40-140
2-Fluorobiphenyl	75		40-140
2-Bromonaphthalene	77		40-140

Project Name: TREMONT CROSSING
Project Number: 1700516
Lab Number: L1706855
Report Date: 03/13/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 03/09/17 17:42
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 03/08/17 21:13
Cleanup Method: EPH-04-1
Cleanup Date: 03/09/17

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01 Batch: WG984011-1					
C9-C18 Aliphatics	ND		mg/kg	6.41	--
C19-C36 Aliphatics	ND		mg/kg	6.41	--
C11-C22 Aromatics	ND		mg/kg	6.41	--
C11-C22 Aromatics, Adjusted	ND		mg/kg	6.41	--
Naphthalene	ND		mg/kg	0.321	--
2-Methylnaphthalene	ND		mg/kg	0.321	--
Acenaphthylene	ND		mg/kg	0.321	--
Acenaphthene	ND		mg/kg	0.321	--
Fluorene	ND		mg/kg	0.321	--
Phenanthrene	ND		mg/kg	0.321	--
Anthracene	ND		mg/kg	0.321	--
Fluoranthene	ND		mg/kg	0.321	--
Pyrene	ND		mg/kg	0.321	--
Benzo(a)anthracene	ND		mg/kg	0.321	--
Chrysene	ND		mg/kg	0.321	--
Benzo(b)fluoranthene	ND		mg/kg	0.321	--
Benzo(k)fluoranthene	ND		mg/kg	0.321	--
Benzo(a)pyrene	ND		mg/kg	0.321	--
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.321	--
Dibenzo(a,h)anthracene	ND		mg/kg	0.321	--
Benzo(ghi)perylene	ND		mg/kg	0.321	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	75		40-140
o-Terphenyl	66		40-140
2-Fluorobiphenyl	69		40-140
2-Bromonaphthalene	67		40-140

Project Name: TREMONT CROSSING **Lab Number:** L1706855

Project Number: 1700516 **Report Date:** 03/13/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 100,VPH-04-1.1
Analytical Date: 03/09/17 09:00
Analyst: JM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 01 Batch: WG984574-3					
C5-C8 Aliphatics	ND		mg/kg	2.67	--
C9-C12 Aliphatics	ND		mg/kg	2.67	--
C9-C10 Aromatics	ND		mg/kg	2.67	--
C5-C8 Aliphatics, Adjusted	ND		mg/kg	2.67	--
C9-C12 Aliphatics, Adjusted	ND		mg/kg	2.67	--
Benzene	ND		mg/kg	0.107	--
Toluene	ND		mg/kg	0.107	--
Ethylbenzene	ND		mg/kg	0.107	--
p/m-Xylene	ND		mg/kg	0.107	--
o-Xylene	ND		mg/kg	0.107	--
Methyl tert butyl ether	ND		mg/kg	0.053	--
Naphthalene	ND		mg/kg	0.213	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	91		70-130
2,5-Dibromotoluene-FID	97		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706855
Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG984011-2 WG984011-3								
C9-C18 Aliphatics	61		74		40-140	19		25
C19-C36 Aliphatics	82		90		40-140	9		25
C11-C22 Aromatics	66		80		40-140	19		25
Naphthalene	46		60		40-140	**26**	Q	25
2-Methylnaphthalene	46		59		40-140	25		25
Acenaphthylene	48		62		40-140	25		25
Acenaphthene	53		67		40-140	23		25
Fluorene	58		73		40-140	23		25
Phenanthrene	61		72		40-140	17		25
Anthracene	61		72		40-140	17		25
Fluoranthene	67		77		40-140	14		25
Pyrene	68		79		40-140	15		25
Benzo(a)anthracene	71		82		40-140	14		25
Chrysene	74		85		40-140	14		25
Benzo(b)fluoranthene	73		85		40-140	15		25
Benzo(k)fluoranthene	75		86		40-140	14		25
Benzo(a)pyrene	69		80		40-140	15		25
Indeno(1,2,3-cd)Pyrene	73		86		40-140	16		25
Dibenzo(a,h)anthracene	76		89		40-140	16		25
Benzo(ghi)perylene	68		80		40-140	16		25
Nonane (C9)	47		56		30-140	17		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706855

Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG984011-2 WG984011-3								
Decane (C10)	55		64		40-140	15		25
Dodecane (C12)	57		67		40-140	16		25
Tetradecane (C14)	59		69		40-140	16		25
Hexadecane (C16)	69		77		40-140	11		25
Octadecane (C18)	77		81		40-140	5		25
Nonadecane (C19)	78		81		40-140	4		25
Eicosane (C20)	78		82		40-140	5		25
Docosane (C22)	80		84		40-140	5		25
Tetracosane (C24)	81		85		40-140	5		25
Hexacosane (C26)	82		86		40-140	5		25
Octacosane (C28)	82		86		40-140	5		25
Triacontane (C30)	83		87		40-140	5		25
Hexatriacontane (C36)	82		86		40-140	5		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	71		78		40-140
o-Terphenyl	65		75		40-140
2-Fluorobiphenyl	67		73		40-140
2-Bromonaphthalene	68		76		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706855

Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG984574-1 WG984574-2								
C5-C8 Aliphatics	101		102		70-130	1		25
C9-C12 Aliphatics	101		102		70-130	1		25
C9-C10 Aromatics	92		93		70-130	1		25
Benzene	89		93		70-130	4		25
Toluene	90		93		70-130	3		25
Ethylbenzene	91		93		70-130	2		25
p/m-Xylene	93		94		70-130	1		25
o-Xylene	92		93		70-130	1		25
Methyl tert butyl ether	83		92		70-130	10		25
Naphthalene	86		91		70-130	5		25
1,2,4-Trimethylbenzene	92		93		70-130	1		25
Pentane	97		99		70-130	2		25
2-Methylpentane	99		101		70-130	2		25
2,2,4-Trimethylpentane	103		104		70-130	1		25
n-Nonane	102		102		30-130	0		25
n-Decane	101		101		70-130	0		25
n-Butylcyclohexane	101		103		70-130	2		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: TREMONT CROSSING

Project Number: 1700516

Lab Number: L1706855

Report Date: 03/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG984574-1 WG984574-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	90		90		70-130
2,5-Dibromotoluene-FID	94		93		70-130

INORGANICS
&
MISCELLANEOUS

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706855
Report Date: 03/13/17

SAMPLE RESULTS

Lab ID: L1706855-01
Client ID: 1700516-B306-S7(8-14")
Sample Location: BOSTON, MA
Matrix: Soil

Date Collected: 03/03/17 20:50
Date Received: 03/06/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.2		%	0.100	NA	1	-	03/07/17 13:38	121,2540G	RO

Project Name: TREMONT CROSSING
Project Number: 1700516

Lab Number: L1706855
Report Date: 03/13/17

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1706855-01A	Vial MeOH preserved	A	N/A	2.9	Y	Absent	MCP-8260H-10(14)
L1706855-01B	Vial MeOH preserved	A	N/A	2.9	Y	Absent	VPH-DELUX-10(28)
L1706855-01C	Glass 250ml/8oz unpreserved	A	N/A	2.9	Y	Absent	TS(7),EPH-DELUX-10(14)

*Values in parentheses indicate holding time in days

Project Name:	TREMONT CROSSING	**Lab Number:**	L1706855
Project Number:	1700516	**Report Date:**	03/13/17

GLOSSARY

Acronyms

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).
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.
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.
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.
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

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

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.

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.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
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

Report Format: Data Usability Report

Project Name:	TREMONT CROSSING	**Lab Number:**	L1706855
Project Number:	1700516	**Report Date:**	03/13/17

Data Qualifiers

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.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

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.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name:	TREMONT CROSSING	**Lab Number:**	L1706855
Project Number:	1700516	**Report Date:**	03/13/17

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.

100 Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility
EPA 624: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
SM 2540D: TSS
EPA 3005A NPW
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: 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**
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, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, 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 624: Volatile Halocarbons & Aromatics,
EPA 608: 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: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

Mansfield Facility:

Drinking Water
EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

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, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

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

Serial_No:03131713:36

Chain-of-Custody Record

Laboratory: ALPHA

Laboratory Job # (Lab use only) L1706855

GEI Consultants
400 Unicorn Park Drive
Woburn, MA 01801
PH: 781.721.4000
FX: 781.721.4073

Project Information

Project Name: Tremont Crossing
Project Number: 1700516
Project Location: Boston, MA
Project Manager: C. Johnson
Page 1 **of** 1

Send Report to: Jessica Englehart

Send EDD to: labdata@geiconsultants.com

MCP PRESUMPTIVE CERTAINTY REQUIRED -- YES (circled) NO

If Yes, Are MCP Analytical Methods Required?	YES (circled)	NO	NA
Are Drinking Water Samples Submitted?	YES	NO (circled)	NA
If Yes, Have Drinking Water Sampling Requirements Been Met?	YES	NO	NA (circled)

Sample Handling

Samples Field Filtered: YES NO NA (circled)

Sampled Shipped With Ice: YES (circled) NO

Lab Sample Number	GEI Sample ID	Collection Date	Collection Time	Matrix	No. of Bottles	Sampler(s) Initials	VOCs (Preservative: MeOH)	VPH (Preservative: MeOH)	EPH (Preservative: None)	% Solids (Preservative: None)					Sample Specific Remarks
06855-01	1700516-B306-S7 (8-14")	3.3.17	2050	SO	3	JTN	X	X	X	X					

MCP Level Needed: GEI requires that, within the specified method, the most stringent Method 1 MCP standard be met for all analytes whenever possible.

Relinquished by: (signature)	Date	Time	Received by: (signature)
1. (signature) (sampler)	3.3.17	2330	1. GEI Sample Fridge
2. GEI Sample Fridge	3.6.17	1246	2. (signature)
3. (signature)	3.6.17	1246	3. (signature) AAC
4. (signature) AAL	3-6-17	17:25	4. (signature)

Turnaround Time (Business days):

Normal X Other ____
10-Day ____ 7-Day ____
5-Day X 3-Day ____

Before submitting rush turnaround samples, you **must** notify the laboratory to confirm that the TAT can be achieved.

Additional Requirements/Comments/Remarks:

Method Blank Summary
Form 4

Client	: GEI Consultants	**Lab Number**	: L1706855
Project Name	: TREMONT CROSSING	**Project Number**	: 1700516
Lab Sample ID	: WG984130-10	**Lab File ID**	: V10170309A05
Instrument ID	: VOA110		
Matrix	: SOIL	**Analysis Date**	: 03/09/17 08:33

Client Sample No.	Lab Sample ID	Analysis Date
WG984130-8LCS	WG984130-8	03/09/17 06:50
WG984130-9LCSD	WG984130-9	03/09/17 07:15
1700516-B306-S7(8-14')	L1706855-01	03/09/17 11:35

Continuing Calibration
Form 7

Client	: GEI Consultants	**Lab Number**	: L1706855	
Project Name	: TREMONT CROSSING	**Project Number**	: 1700516	
Instrument ID	: VOA110	**Calibration Date**	: 03/09/17 06:50	
Lab File ID	: V10170309A01	**Init. Calib. Date(s)**	: 02/21/17	02/21/17
Sample No	: WG984130-7	**Init. Calib. Times**	: 16:17	19:20
Channel	:			

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	116	0
Dichlorodifluoromethane	0.351	0.351	-	0	20	119	0
Chloromethane	0.269	0.28	-	-4.1	20	121	0
Vinyl chloride	0.267	0.245	-	8.2	20	109	0
Bromomethane	0.202	0.187	-	7.4	20	115	.01
Chloroethane	0.168	0.137	-	18.5	20	95	.04
Trichlorofluoromethane	0.445	0.426	-	4.3	20	106	.04
Ethyl ether	0.158	0.134	-	15.2	20	102	.01
1,1-Dichloroethene	0.221	0.221	-	0	20	120	0
Carbon disulfide	20	15.412	-	22.9*	20	94	.02
Freon-113	0.206	0.208	-	-1	20	118	.02
Acrolein	0.046	0.041	-	10.9	20	116	0
Methylene chloride	20	19.185	-	4.1	20	117	0
Acetone	0.056	0.058	-	-3.6	20	126	0
trans-1,2-Dichloroethene	0.25	0.246	-	1.6	20	116	0
Methyl acetate	0.153	0.139	-	9.2	20	111	0
Methyl tert-butyl ether	0.676	0.686	-	-1.5	20	124	0
tert-Butyl alcohol	0.018	0.019	-	-5.6	20	129	0
Diisopropyl ether	0.758	0.761	-	-0.4	20	117	0
1,1-Dichloroethane	0.425	0.43	-	-1.2	20	117	0
Halothane	0.17	0.168	-	1.2	20	116	0
Acrylonitrile	20	17.881	-	10.6	20	108	0
Ethyl tert-butyl ether	0.616	0.643	-	-4.4	20	124	0
Vinyl acetate	20	17.757	-	11.2	20	113	0
cis-1,2-Dichloroethene	0.269	0.262	-	2.6	20	113	0
2,2-Dichloropropane	0.313	0.348	-	-11.2	20	137	0
Bromochloromethane	0.128	0.125	-	2.3	20	111	0
Cyclohexane	0.342	0.349	-	-2	20	120	0
Chloroform	0.457	0.441	-	3.5	20	110	0
Ethyl acetate	0.204	0.187	-	8.3	20	107	0
Carbon tetrachloride	0.32	0.318	-	0.6	20	120	0
Tetrahydrofuran	0.072	0.08	-	-11.1	20	126	0
Dibromofluoromethane	0.256	0.262	-	-2.3	20	117	0
1,1,1-Trichloroethane	0.393	0.397	-	-1	20	119	0
2-Butanone	0.09	0.07	-	22.2*	20	101	.01
1,1-Dichloropropene	0.31	0.313	-	-1	20	116	0
Benzene	0.996	0.972	-	2.4	20	112	0
tert-Amyl methyl ether	0.54	0.566	-	-4.8	20	128	0
1,2-Dichloroethane-d4	0.27	0.261	-	3.3	20	111	0
1,2-Dichloroethane	0.339	0.314	-	7.4	20	106	0
Methyl cyclohexane	0.35	0.332	-	5.1	20	117	0
Trichloroethene	0.262	0.247	-	5.7	20	110	0
Dibromomethane	0.151	0.136	-	9.9	20	105	0
1,2-Dichloropropane	0.232	0.217	-	6.5	20	109	0
2-Chloroethyl vinyl ether	20	15.643	-	21.8*	20	114	0

* Value outside of QC limits.

Continuing Calibration
Form 7

Client	: GEI Consultants	**Lab Number**	: L1706855	
Project Name	: TREMONT CROSSING	**Project Number**	: 1700516	
Instrument ID	: VOA110	**Calibration Date**	: 03/09/17 06:50	
Lab File ID	: V10170309A01	**Init. Calib. Date(s)**	: 02/21/17	02/21/17
Sample No	: WG984130-7	**Init. Calib. Times**	: 16:17	19:20
Channel	:			

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Bromodichloromethane	0.337	0.298	-	11.6	20	105	0
1,4-Dioxane	0.00229	0.00211	-	7.9	20	112	0
cis-1,3-Dichloropropene	20	17.325	-	13.4	20	114	0
Chlorobenzene-d5	1	1	-	0	20	123	0
Toluene-d8	1.233	1.212	-	1.7	20	119	0
Toluene	0.846	0.765	-	9.6	20	111	0
4-Methyl-2-pentanone	0.089	0.066	-	25.8*	20	110	0
Tetrachloroethene	0.33	0.302	-	8.5	20	115	0
trans-1,3-Dichloropropene	0.402	0.361	-	10.2	20	114	0
Ethyl methacrylate	20	13.931	-	30.3*	20	104	0
1,1,2-Trichloroethane	0.243	0.211	-	13.2	20	105	0
Chlorodibromomethane	0.324	0.269	-	17	20	106	0
1,3-Dichloropropane	0.472	0.413	-	12.5	20	107	0
1,2-Dibromoethane	0.267	0.226	-	15.4	20	105	0
2-Hexanone	20	12.428	-	37.9*	20	104	0
Chlorobenzene	0.965	0.841	-	12.8	20	107	0
Ethylbenzene	1.513	1.366	-	9.7	20	107	0
1,1,1,2-Tetrachloroethane	0.334	0.293	-	12.3	20	108	0
p/m Xylene	0.58	0.541	-	6.7	20	108	0
o Xylene	0.54	0.498	-	7.8	20	108	0
Styrene	0.952	0.844	-	11.3	20	102	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	120	0
Bromoform	0.396	0.307	-	22.5*	20	102	0
Isopropylbenzene	2.879	2.596	-	9.8	20	108	0
4-Bromofluorobenzene	0.867	0.883	-	-1.8	20	124	0
Bromobenzene	0.743	0.634	-	14.7	20	105	0
n-Propylbenzene	3.513	3.124	-	11.1	20	106	0
1,4-Dichlorobutane	0.894	0.79	-	11.6	20	107	0
1,1,2,2-Tetrachloroethane	0.714	0.599	-	16.1	20	104	0
4-Ethyltoluene	2.879	2.586	-	10.2	20	105	0
2-Chlorotoluene	2.146	1.922	-	10.4	20	105	0
1,3,5-Trimethylbenzene	2.51	2.246	-	10.5	20	103	0
1,2,3-Trichloropropane	0.577	0.476	-	17.5	20	103	0
trans-1,4-Dichloro-2-buten	0.175	0.148	-	15.4	20	103	0
4-Chlorotoluene	2.122	1.881	-	11.4	20	105	0
tert-Butylbenzene	2.051	1.81	-	11.8	20	106	0
1,2,4-Trimethylbenzene	2.467	2.223	-	9.9	20	104	0
sec-Butylbenzene	3.173	2.81	-	11.4	20	104	0
p-Isopropyltoluene	2.626	2.314	-	11.9	20	104	0
1,3-Dichlorobenzene	1.484	1.262	-	15	20	102	0
1,4-Dichlorobenzene	1.534	1.276	-	16.8	20	102	0
p-Diethylbenzene	1.524	1.304	-	14.4	20	102	0
n-Butylbenzene	2.502	2.179	-	12.9	20	102	0
1,2-Dichlorobenzene	1.392	1.148	-	17.5	20	102	0
1,2,4,5-Tetramethylbenzene	20	14.835	-	25.8*	20	100	0

* Value outside of QC limits.

Continuing Calibration
Form 7

Client	: GEI Consultants	**Lab Number**	: L1706855	
Project Name	: TREMONT CROSSING	**Project Number**	: 1700516	
Instrument ID	: VOA110	**Calibration Date**	: 03/09/17 06:50	
Lab File ID	: V10170309A01	**Init. Calib. Date(s)**	: 02/21/17	02/21/17
Sample No	: WG984130-7	**Init. Calib. Times**	: 16:17	19:20
Channel	:			

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dibromo-3-chloropropan	0.09	0.071	-	21.1*	20	103	0
1,3,5-Trichlorobenzene	1.022	0.855	-	16.3	20	101	0
Hexachlorobutadiene	0.493	0.398	-	19.3	20	105	0
1,2,4-Trichlorobenzene	0.876	0.721	-	17.7	20	102	0
Naphthalene	20	14.144	-	29.3*	20	96	0
1,2,3-Trichlorobenzene	0.839	0.683	-	18.6	20	100	0

*** Value outside of QC limits.**

Appendix G

Substantial Hazard Evaluation

Table G- 1
EXPOSURE ASSUMPTIONS
Default Tresspasser
Parcel P-3, Tremont Street & Whittier Streets
Boston, Massachusetts

RECEPTOR: Default Tresspasser
TIMING: Current conditions and land-use
EXPOSURE / SCENARIO: Tresspassing

Variable	Subchronic Hazard Index Calculations	Chronic Hazard Index Calculations	Excess Lifetime Cancer Risk Calculations	Units	Notes & References
GENERAL INFO:					
Age	7	7 to 14	7 to 14	years	
Bodyweight	23.5	35.5	35.5	kg	MADEP, 1995 - age-weighted 50th percentile for females
Total Skin Area	9,360	11,751	11,751	cm2	MADEP, 1995 - age-weighted 50th percentile for females
Averaging Period	183	2,555	25,550	days	6 months; 7 years; 70 year lifetime
INGESTION OF SOIL:					
Ingestion Rate	50	50	50	mg/day	MADEP, 2002b - age-weighted
Exposure Frequency	0.29	0.17	0.17	events/day	2 of 7 days; 7 of 12 months
Exposure Duration	1	1	1	days/event	MADEP, 1995
Exposure Period	213	2,555	2,555	days	7 months; 7 years
Conversion Factor	1E-06	1E-06	1E-06	kg/mg	
DERMAL ABSORPTION OF SOIL:					
Fraction of Skin Area Exposed Per Day	0.26	0.28	0.28	1/day	MADEP, 1995 - age-weighted 50th percentile for females; face, hands; forearms; lower legs; feet
Soil Adherence Factor	0.14	0.14	0.14	mg/cm2	MADEP, 2002a
Exposure Frequency	0.29	0.17	0.17	events/day	2 of 7 days; 7 of 12 months
Exposure Duration	1	1	1	days/event	MADEP, 1995
Exposure Period	213	2,555	2,555	days	7 months; 7 years
Conversion Factor	1E-06	1E-06	1E-06	kg/mg	
INHALATION AND INGESTION OF FUGITIVE DUST:					
Respirable Particulate Concentration	0.032	0.032	0.032	mg/m3	MADEP, 1995
Proportion of Particulates from the Site	1	1	1	unitless	Assumed 100%
Deposition Efficiency in the Lung	0.5	0.5	0.5	unitless	MADEP, 1997
Inhalation Rate	6	6	6	L/min	MADEP, 1995
Exposure Frequency	0.29	0.17	0.17	events/day	2 of 7 days; 7 of 12 months
Exposure Duration	2	2	2	hr/event	Assumed
Exposure Period	213	2,555	2,555	days	7 months; 7 years
Conversion Factor 1 (Inhalation ADE)	24	24	24	hr/day	
Conversion Factor 2 (Inhalation ADD and ingestion)	60	60	60	min/hr	
Conversion Factor 3 (Inhalation ADD and ingestion)	1E-03	1E-03	1E-03	m3/L	

References:

MADEP, 2002a. Technical Update: Weighted Skin-Soil Adherence Factors. Office of Research and Standards.

MADEP, 2002b. Technical Update: Calculation of an Enhanced Soil Ingestion Rate. Office of Research and Standards.

MADEP, 1997. Methodology for Relating Soil Contaminant Levels and Risk to Human Health.
Office of Research and Standards. Section 6.1.4

MADEP, 1995. Guidance for Disposal Site Risk Characterization in Support of the MCP.
Bureau of Waste Site Cleanup and Office of Research and Standards.

Table G-2
EXPOSURE ASSUMPTIONS
Commercial Worker
Parcel P-3, Tremont Street & Whittier Streets
Boston, Massachusetts

RECEPTOR: Commercial Worker
TIMING: Current conditions and land-use
EXPOSURE / SCENARIO: Commercial Work

Variable	Subchronic Hazard Index Calculations	Chronic Hazard Index Calculations	Excess Lifetime Cancer Risk Calculations	Units	Notes & References
GENERAL INFO:					
Age	22	18 to 43	18 to 43	years	
Bodyweight	57	60	60	kg	MADEP, 1995 - age-weighted 50th percentile for females
Total Skin Area	16,900	16,900	16,900	cm2	MADEP, 1995 - age-weighted 50th percentile for females
Averaging Period	92	9,125	25,550	days	3 months; 25 year employment; 70 year lifetime
INGESTION OF SOIL:					
Ingestion Rate	50	50	50	mg/day	MADEP, 2002b
Exposure Frequency	0.71	0.42	0.42	events/day	5 of 7 days; 7 of 12 months
Exposure Duration	1	1	1	days/event	MADEP, 1995
Exposure Period	92	9,125	9,125	days	3 months; 25 year employment
Conversion Factor	1E-06	1E-06	1E-06	kg/mg	
DERMAL ABSORPTION OF SOIL:					
Fraction of Skin Area Exposed Per Day	0.21	0.21	0.21	1/day	MADEP, 1995 - age-weighted 50th percentile for females; face, hands; forearms; lower legs; feet
Soil Adherence Factor	0.03	0.03	0.03	mg/cm2	MADEP, 2002a; Industrial/Commercial Worker
Exposure Frequency	0.71	0.42	0.42	events/day	5 of 7 days; 7 of 12 months
Exposure Duration	1	1	1	days/event	MADEP, 1995
Exposure Period	92	9,125	9,125	days	3 months; 25 year employment
Conversion Factor	1E-06	1E-06	1E-06	kg/mg	
INHALATION AND INGESTION OF FUGITIVE DUST:					
Respirable Particulate Concentration	0.032	0.032	0.032	mg/m3	MADEP, 1995
Proportion of Particulates from the Site	1	1	1	unitless	Assumed 100%
Deposition Efficiency in the Lung	0.5	0.5	0.5	unitless	MADEP, 1997
Inhalation Rate	20	20	20	L/min	MADEP, 1995
Exposure Frequency	0.71	0.42	0.42	events/day	5 of 7 days; 7 of 12 months
Exposure Duration	8	8	8	hr/event	Assumed
Exposure Period	92	9,125	9,125	days	3 months; 25 year employment
Conversion Factor 1 (Inhalation ADE)	24	24	24	hr/day	
Conversion Factor 2 (Inhalation ADD and ingestion)	60	60	60	min/hr	
Conversion Factor 3 (Inhalation ADD and ingestion)	1E-03	1E-03	1E-03	m3/L	

References:

MADEP, 2002a. Technical Update: Weighted Skin-Soil Adherence Factors. Office of Research and Standards.

MADEP, 2002b. Technical Update: Calculation of an Enhanced Soil Ingestion Rate. Office of Research and Standards.

MADEP, 1997. Methodology for Relating Soil Contaminant Levels and Risk to Human Health.
Office of Research and Standards. Section 6.1.4

MADEP, 1995. Guidance for Disposal Site Risk Characterization in Support of the MCP.
Bureau of Waste Site Cleanup and Office of Research and Standards.

Table G- 3
EXPOSURE ASSUMPTIONS
Emergency Utility Worker
Parcel P-3, Tremont Street & Whittier Streets
Boston, Massachusetts

RECEPTOR: Emergency Utility Worker
TIMING: conditions and land-use
EXPOSURE / SCENARIO:

Variable	Subchronic Hazard Index Calculations	Excess Lifetime Cancer Risk Calculations	Units	Notes & References
GENERAL INFO:				
Age	22	22	years	
Bodyweight	57	57	kg	MADEP, 1995 - age-weighted 50th percentile for females
Total Skin Area	16,900	16,900	cm2	MADEP, 1995 - age-weighted 50th percentile for females
Averaging Period	365	25,550	days	1 year, 70 year lifetime
INGESTION OF SOIL:				
Ingestion Rate	100	100	mg/day	MADEP, 2002b - Enhanced soil ingestion rate
Exposure Frequency	0.003	0.003	events/day	MADEP, 1995 - 1 day utility repair per year
Exposure Duration	1	1	days/event	MADEP, 1995
Exposure Period	365	365	days	MADEP, 1995 - 1 day utility repair per year
Conversion Factor	1E-06	1E-06	kg/mg	
DERMAL ABSORPTION OF SOIL:				
Fraction of Skin Area Exposed Per Day	0.21	0.21	1/day	MADEP, 1995 - age-weighted 50th percentile for females for face, forearms, hands and feet
Soil Adherence Factor	0.29	0.29	mg/cm2	MADEP, 2002a - Utility worker / heavy construction
Exposure Frequency	0.003	0.003	events/day	MADEP, 1995 - 1 day utility repair per year
Exposure Duration	1	1	days/event	MADEP, 1995
Exposure Period	365	365	days	MADEP, 1995 - 1 day utility repair per year
Conversion Factor	1E-06	1E-06	kg/mg	
INHALATION OF OUTDOOR AIR:				
Exposure Frequency	0.003	0.003	events/day	MADEP, 1995 - 1 day utility repair per year
Exposure Duration	8	8	hr/event	8 hour work day
Exposure Period	365	365	days	MADEP, 1995 - 1 day utility repair per year
Conversion Factor	24	24	hr/day	
DERMAL ABSORPTION OF GROUNDWATER:				
Fraction of Skin Area Exposed	0.21	0.21	unitless	MADEP, 1995 - age-weighted 50th percentile for females
Exposure Frequency	0.003	0.003	events/day	MADEP, 1995 - 1 day utility repair per year
Exposure Duration (tevent)	0.5	0.5	hr/event	Assumed
Exposure Period	365	365	days	MADEP, 1995 - 1 day utility repair per year
Conversion Factor	1E-03	1E-03	L/cm3	

References:

MADEP, 2002a. Technical Update: Weighted Skin-Soil Adherence Factors. Office of Research and Standards.

MADEP, 2002b. Technical Update: Calculation of an Enhanced Soil Ingestion Rate. Office of Research and Standards.

MADEP, 1997. Methodology for Relating Soil Contaminant Levels and Risk to Human Health.
Office of Research and Standards. Section 6.1.4

MADEP, 1995. Guidance for Disposal Site Risk Characterization in Support of the MCP.
Bureau of Waste Site Cleanup and Office of Research and Standards.

Table G-4
Subchronic Toxicity and Absorption Factors
Parcel P-3
Boston, Massachusetts

																	Absorption Factors for Evaluating Subchronic Exposures			
	Subchronic							Subchronic	Subchronic											
CHEMICAL	**Oral**	**RfD**	**Test**	**Study Type**	**Critical Effect**	**Confidence**	**Uncertainty**	**Inhalation**	**Inhalation**	**RfC**	**Test**	**Study Type**	**Critical Effect**	**Confidence**	**Uncertainty**	**Modifying**	**Soil Ingestion**	**Soil Dermal Absorption**	**Dermal Water**	**Inhalation**
	RfD	**Source**	**Species**	**& Length**		**Level**	**Modifying**	**RfD**	**RfC**	**Source**	**Species**	**& Length**		**Level**	**Factor**	**Factor**	**RAF**	**RAF**	**RAF**	**RAF**
	(mg/kg-day)						**Factors**	**(mg/kg-day)**	**(mg/m^3)**								**(unitless)**	**(unitless)**	**(unitless)**	**(unitless)**
Volatile Organic Compounds																				
Benzene	1.00E-02	IRIS (chronic, duration adjusted) as cited in MADEP (2006)	human	occupational inhalation study mean exposure 6.7 years	decreased lymphocyte count	medium	1.00E+02	2.86E-03	1.00E-02	MADEP 2014	NA	NA	NA	NA	NA	NA	1.0E+00	3.0E-02	1.0E+00	1.0E+00
Chloroform	1.00E-02	IRIS (chronic, not duration adjusted)	dog	7.5-year oral capsule	moderate/marked fatty cyst formation in liver and elevated SGPT	medium	1.00E+03	1.89E-01	6.60E-01	MADEP (1995) (chronic ATC) as cited in MADEP (2006)	NA	NA	NA	NA	NA	NA	1.0E+00	3.0E-02	1.0E+00	1.0E+00
1,2-Dichloroethylene (mixed isomers)	9.00E-03	HEAST (1,1-dichloroethylene - IRIS chronic, duration adjusted)	rat	2-year drinking water	liver lesions	NA	1.00E+03	1.71E-02	6.00E-02	MADEP 2014	NA	NA	NA	NA	NA	NA	1.0E+00	3.0E-02	1.2E+00	1.0E+00
1,2-Dichloroethylene (cis)	2.00E-02	MADEP 2014	NA	NA	NA	NA	NA	1.71E-02	6.00E-02	MADEP 2014	NA	NA	NA	NA	NA	NA	1.0E+00	3.0E-02	1.2E+00	1.0E+00
Ethyl ether	2.00E+00	HEAST (IRIS chronic, duration adjusted)	rat	13-week oral gavage	depressed body weights	low	3.00E+02	4.57E-01	1.60E+00	MADEP (1995) (chronic ATC)	NA	NA	NA	NA	NA	NA	9.9E-01	1.1E-01	1.0E+00	1.0E+00
Tetrachloroethylene (PCE)	6.00E-03	MADEP 2014	NA	NA	NA	NA	NA	1.14E-02	4.00E-02	MADEP 2014	NA	NA	NA	NA	NA	NA	1.0E+00	3.0E-02	1.0E+00	1.0E+00
Trichloroethylene (TCE)	5.00E-04	MADEP 2014	NA	NA	NA	NA	NA	5.71E-04	2.00E-03	MADEP 2014	NA	NA	NA	NA	NA	NA	1.0E+00	3.0E-02	1.0E+00	1.0E+00
Vinyl chloride	3.00E-03	IRIS (chronic, not duration adjusted) as cited in MADEP (2006)	rat	150-week oral diet	liver cell polymorphism and cysts	medium	3.00E+01	2.86E-02	1.00E-01	IRIS (chronic, not duration adjusted) as cited in MADEP (2006)	rat	150-week oral diet	liver cell polymorphism and cysts	medium	3.00E+01	1.00E+00	1.0E+00	3.0E-02	1.0E+00	1.0E+00
Xylenes (mixed isomers)	4.00E-01	MADEP 2014	NA	NA	NA	NA	NA	1.14E-01	4.00E-01	MADEP 2014	NA	NA	NA	NA	NA	NA	1.0E+00	3.0E-02	1.0E+00	1.0E+00
Semivolatile Organic Compounds																				
Non-Carcinogenic PAHs																				
Acenaphthene	2.00E-01	MADEP 2014	NA	NA	NA	NA	NA	1.43E-01	5.00E-01	MADEP (2006)	NA	NA	NA	NA	NA	NA	3.0E-01	1.0E-01	1.1E+00	1.0E+00
Acenaphthylene	3.00E-01	MADEP (2006) (based on pyrene toxicity value)	NA	NA	NA	NA	NA	1.43E-01	5.00E-01	MADEP (2006)	NA	NA	NA	NA	NA	NA	3.0E-01	1.0E-01	1.1E+00	1.0E+00
Anthracene	1.00E+00	HEAST (IRIS chronic, duration adjusted) as cited in MADEP (2006)	mouse	90 day gavage subchronic study	none observed	low	3.00E+02	1.43E-01	5.00E-01	MADEP (2006)	NA	NA	NA	NA	NA	NA	3.0E-01	1.0E-01	1.1E+00	1.0E+00
Benzo(ghi)perylene	3.00E-01	MADEP (2006) (based on pyrene toxicity value)	NA	NA	NA	NA	NA	1.43E-01	5.00E-01	MADEP (2006)	NA	NA	NA	NA	NA	NA	3.0E-01	1.0E-01	1.1E+00	1.0E+00
Fluoranthene	4.00E-01	HEAST (IRIS chronic, duration adjusted) as cited in MADEP (2006)	mouse	13 week, gavage subchronic oral bioassay	nephropathy, increased liver weights, hematological alterations, and clinical effects	low	3.00E+02	1.43E-01	5.00E-01	MADEP (2006)	NA	NA	NA	NA	NA	NA	3.0E-01	1.0E-01	1.1E+00	1.0E+00
Fluorene	4.00E-01	HEAST (IRIS chronic, duration adjusted) as cited in MADEP (2006)	mouse	13 week, subchronic oral bioassay, corn oil gavage	decreased RBCs, packed cell volume, and hemoglobin	low	3.00E+02	1.43E-01	5.00E-01	MADEP (2006)	NA	NA	NA	NA	NA	NA	3.0E-01	1.0E-01	1.1E+00	1.0E+00
2-Methylnaphthalene	4.00E-03	MADEP (2008)	mouse	81-week dietary study	pulmonary alveolar proteinosis	low	1000	1.43E-01	5.00E-01	MADEP (2006)	NA	NA	NA	NA	NA	NA	3.0E-01	1.0E-01	1.1E+00	1.0E+00
Naphthalene	2.00E-01	IRIS (chronic, duration adjusted) as cited in MADEP (2006)	rat	13 week, subchronic oral bioassay, corn oil gavage	decreased mean terminal body weight in males	low	300	8.57E-04	3.00E-03	IRIS (chronic, not duration adjusted) as cited in MADEP (2006)	mouse	2-year inhalation	respiratory epithelium hyperplasia; olfactory epithelium metaplasia	medium	3.00E+03	1.00E+00	3.0E-01	1.0E-01	1.1E+00	1.0E+00
Phenanthrene	3.00E-01	MADEP (2006) (based on pyrene toxicity value)	NA	NA	NA	NA	NA	1.43E-01	5.00E-01	MADEP (2006)	NA	NA	NA	NA	NA	NA	3.0E-01	1.0E-01	1.1E+00	1.0E+00
Pyrene	3.00E-01	HEAST (IRIS chronic, duration adjusted) as cited in MADEP (2006)	mouse	13 week, subchronic oral bioassay, corn oil gavage	renal tubular pathology, decreased kidney weights	low	3.00E+02	1.43E-01	5.00E-01	MADEP (2006)	NA	NA	NA	NA	NA	NA	3.0E-01	1.0E-01	1.1E+00	1.0E+00
Carcinogenic PAHs																				
Benz(a)anthracene	3.00E-01	MADEP (2006) (based on pyrene toxicity value)	NA	NA	NA	NA	NA	1.43E-01	5.00E-01	MADEP (2006)	NA	NA	NA	NA	NA	NA	3.0E-01	2.0E-02	1.1E+00	1.0E+00
Benzo(a)pyrene	3.00E-01	MADEP (2006) (based on pyrene toxicity value)	NA	NA	NA	NA	NA	1.43E-01	5.00E-01	MADEP (2006)	NA	NA	NA	NA	NA	NA	3.0E-01	2.0E-02	1.1E+00	1.0E+00
Benzo(b)fluoranthene	3.00E-01	MADEP (2006) (based on pyrene toxicity value)	NA	NA	NA	NA	NA	1.43E-01	5.00E-01	MADEP (2006)	NA	NA	NA	NA	NA	NA	3.0E-01	2.0E-02	1.1E+00	1.0E+00
Benzo(k)fluoranthene	3.00E-01	MADEP (2006) (based on pyrene toxicity value)	NA	NA	NA	NA	NA	1.43E-01	5.00E-01	MADEP (2006)	NA	NA	NA	NA	NA	NA	3.0E-01	2.0E-02	1.1E+00	1.0E+00
Chrysene	3.00E-01	MADEP (2006) (based on pyrene toxicity value)	NA	NA	NA	NA	NA	1.43E-01	5.00E-01	MADEP (2006)	NA	NA	NA	NA	NA	NA	3.0E-01	2.0E-02	1.1E+00	1.0E+00
Dibenz(ah)anthracene	3.00E-01	MADEP (2006) (based on pyrene toxicity value)	NA	NA	NA	NA	NA	1.43E-01	5.00E-01	MADEP (2006)	NA	NA	NA	NA	NA	NA	3.0E-01	2.0E-02	1.1E+00	1.0E+00
Indeno(1,2,3-cd)pyrene	3.00E-01	MADEP (2006) (based on pyrene toxicity value)	NA	NA	NA	NA	NA	1.43E-01	5.00E-01	MADEP (2006)	NA	NA	NA	NA	NA	NA	3.0E-01	2.0E-02	1.1E+00	1.0E+00
Polychlorinated Biphenyls																				
Polychlorinated biphenyls (PCBs)	5.00E-05	HEAST (Aroclor 1254 - IRIS chronic, duration adjusted) as cited in MADEP (2006)	monkey	5 year oral capsule study	ocular exudate, deformed nail growth, inflamed Meibomian glands, decreased antibody response	NA	1.00E+02	5.71E-06	2.00E-05	MADEP (1995) (chronic ATC) as cited in MADEP (2006)	NA	NA	NA	NA	NA	NA	1.0E+00	1.0E-01	1.1E+00	1.0E+00
Metals																				
Arsenic	3.00E-04	HEAST (IRIS chronic, not duration adjusted) as cited in MADEP (2006)	human	chronic oral drinking water, food	hyperpigmentation, keratosis, vascular complications	medium	3.00E+00	5.71E-06	2.00E-05	MADEP 2014	NA	NA	NA	NA	NA	NA	5.0E-01	3.0E-02	1.0E+00	1.0E+00
Barium	7.00E-02	MADEP 2014	NA	NA	NA	NA	NA	1.43E-03	5.00E-03	HEAST (alternate method) as cited in MADEP (2006)	rat	4 month, intermittent inhalation	fetotoxicity	NA	1.00E+02	1.00E+00	1.0E+00	1.0E-01	1.1E+00	1.0E+00
Beryllium	5.00E-03	MADEP 2014	NA	NA	NA	NA	NA	5.71E-06	2.00E-05	IRIS (chronic, not duration adjusted) as cited in MADEP (2006)	human	occupational, community study	lung - beryllium sensitization, disease	medium	1.00E+01	1.00E+00	1.0E+00	1.0E-01	1.0E+02	1.0E+00
Cadmium (in soil, sediment, or tissue)	5.00E-04	MADEP 2014	NA	NA	NA	NA	NA	5.70E-06	2.00E-05	MADEP 2014	NA	NA	NA	NA	NA	NA	1.0E+00	1.0E-02	NA	1.0E+00
Chromium, total (assumes 1:6 ratio Cr VI:Cr III)	2.00E-02	IRIS (chronic, not duration	rat	2 year feeding	none observed	low	1.00E+03	8.57E-05	3.00E-04	MADEP 2006	rat	subchronic study	lactate dehydrogenase present	medium	300	1	1.0E+00	1.0E-01	9.1E+00	1.0E+00

Table G-4
Subchronic Toxicity and Absorption Factors
Parcel P-3
Boston, Massachusetts

																		Absorption Factors for Evaluating Subchronic Exposures			
	Subchronic							Subchronic	Subchronic												
CHEMICAL	Oral	RfD	Test	Study Type	Critical Effect	Confidence	Uncertainty	Inhalation	Inhalation	RfC	Test	Study Type	Critical Effect	Confidence	Uncertainty	Modifying	Soil Ingestion	Soil Dermal Absorption	Dermal Water	Inhalation
	RfD	Source	Species	& Length		Level	Modifying	RfD	RfC	Source	Species	& Length		Level	Factor	Factor	RAF	RAF	RAF	RAF
	(mg/kg-day)						Factors	(mg/kg-day)	(mg/m^3)								(unitless)	(unitless)	(unitless)	(unitless)
Lead	7.50E-04	MADEP (1992) (Residential Shortform) as cited in MADEP (2006)	NA	NA	NA	NA	NA	2.86E-04	1.00E-03	MADEP (1995) (chronic ATC) as cited in MADEP (2006)	NA	NA	NA	NA	NA	NA	5.0E-01	6.0E-03	1.0E+00	1.0E+00
Mercury	3.00E-04	IRIS (mercuric chloride - chronic, not duration adjusted)	rat	subchronic feeding study	autoimmune effects	high	1.00E+03	8.57E-05	3.00E-04	IRIS (elemental mercury - chronic, not duration adjusted) as cited in MADEP (2006)	human	inhalation, occupational	hand tremor, increased memory disturbance, autonomic dysfunction	medium	3.00E+01	1.00E+00	5.0E-01	1.0E-01	1.1E+00	1.0E+00
Nickel	2.00E-02	HEAST (nickel soluble salts - IRIS chronic, not duration adjusted) as cited in MADEP (2006)	rat	2 year, feeding study	decreased body and liver weights, increased heart to body weight ratio	medium-low	3.00E+02	2.86E-04	1.00E-03	MADEP (1995) (chronic ATC) as cited in MADEP (2006)	NA	NA	NA	NA	NA	NA	1.0E+00	2.0E-01	1.0E+01	1.0E+00
Vanadium	9.00E-03	MassDEP 2014	NA	NA	NA	NA	NA	2.86E-04	1.00E-03	MADEP (1995) (chronic ATC) as cited in MADEP (2006)	NA	NA	NA	NA	NA	NA	1.0E+00	1.0E-01	2.0E+01	1.0E+00
Zinc	3.00E-01	IRIS (chronic, not duration adjusted)	human	clinical studies of diet supplements	decreased erythrocyte Cu, Zn-superoxide dismutase (ESOD) activity	med - high	3.00E+00	4.00E-04	1.40E-03	MADEP 2006	NA	NA	NA	NA	NA	NA	1.0E+00	1.0E-01	2.2E+00	1.0E+00

Notes:
NA = not available/not applicable

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Table G-5
Chronic Toxicity and Absorption Factors
Parcel P-3
Boston, Massachusetts

																		Absorption Factors for Evaluating Chronic Exposures			
CHEMICAL	Chronic Oral RfD (mg/kg/day)	RfD Source	Test Species	Study Type & Length	Critical Effect	Confidence Level	Uncertainty Modifying Factors	Chronic Inhalation RfD (mg/kg-day)	Chronic Inhalation RfC (mg/m^3)	RfC Source	Test Species	Study Type & Length	Critical Effect	Confidence Level	Uncertainty Factor	Modifying Factor	Soil Ingestion RAF (unitless)	Soil Dermal Absorption RAF (unitless)	Dermal Water RAF (unitless)	Inhalation RAF (unitless)
Volatile Organic Compounds																				
Benzene	4.00E-03	IRIS	human	occupational inhalation study mean exposure 6.7 years	decreased lymphocyte count	medium	3.00E+02	2.86E-03	1.00E-02	MADEP 2014	NA	NA	NA	NA	NA	NA	1.0E+00	3.0E-02	1.0E+00	1.0E+00
Chloroform	1.00E-02	IRIS	dog	7.5-year oral capsule	moderate/marked fatty cyst formation in liver and elevated SGPT	medium	1.00E+03	1.89E-01	6.60E-01	MADEP, 1995 (ATC) as cited in MADEP (2006)	NA	NA	NA	NA	NA	NA	1.0E+00	3.0E-02	1.0E+00	1.0E+00
1,2-Dichloroethylene (mixed isomers)	9.00E-03	HEAST (1,1-dichloroethylene - IRIS)	rat	2-year drinking water	liver lesions	NA	1.00E+03	3.14E-01	1.10E+00	MADEP 2014	NA	NA	NA	NA	NA	NA	1.0E+00	3.0E-02	1.2E+00	1.0E+00
1,2-Dichloroethylene (cis)	2.00E-03	MADEP 2014	NA	NA	NA	NA	NA	1.71E-03	6.00E-03	MADEP 2014	NA	NA	NA	NA	NA	NA	1.0E+00	3.0E-02	1.2E+00	1.0E+00
Ethyl ether	2.00E-01	IRIS	rat	13-week oral gavage	depressed body weights	low	3.00E+03	4.57E-01	1.60E+00	MADEP (1995) (ATC)	NA	NA	NA	NA	NA	NA	9.9E-01	1.1E-01	1.0E+00	1.0E+00
Tetrachloroethylene (PCE)	6.00E-03	MADEP 2014	NA	NA	NA	NA	NA	1.14E-02	4.00E-02	MADEP 2014	NA	NA	NA	NA	NA	NA	1.0E+00	3.0E-02	1.0E+00	1.0E+00
Trichloroethylene (TCE)	5.00E-04	MADEP 2014	NA	NA	NA	NA	NA	5.71E-04	2.00E-03	MADEP 2014	NA	NA	NA	NA	NA	NA	1.0E+00	3.0E-02	1.0E+00	1.0E+00
Vinyl chloride	3.00E-03	IRIS	rat	150-week oral diet	liver cell polymorphism and cysts	medium	3.00E+01	2.86E-02	1.00E-01	IRIS	rat	150-week oral diet	liver cell polymorphism and cysts	medium	3.00E+01	1.00E+00	1.0E+00	3.0E-02	1.0E+00	1.0E+00
Xylenes (mixed isomers)	2.00E-01	MADEP 2014	NA	NA	NA	NA	NA	2.86E-02	1.00E-01	MADEP 2014	NA	NA	NA	NA	NA	NA	1.0E+00	3.0E-02	1.0E+00	1.0E+00
Semivolatile Organic Compounds																				
Non-Carcinogenic PAHs																				
Acenaphthene	6.00E-02	MADEP 2014	NA	NA	NA	NA	NA	1.43E-02	5.00E-02	MADEP (2006)	NA	NA	NA	NA	NA	NA	3.0E-01	1.0E-01	1.1E+00	1.0E+00
Acenaphthylene	3.00E-02	MADEP (2006) (based on pyrene toxicity value)	NA	NA	NA	NA	NA	1.43E-02	5.00E-02	MADEP (2006)	NA	NA	NA	NA	NA	NA	3.0E-01	1.0E-01	1.1E+00	1.0E+00
Anthracene	3.00E-01	IRIS	mouse	90 day gavage subchronic study	none observed	low	3.00E+03	1.43E-02	5.00E-02	MADEP (2006)	NA	NA	NA	NA	NA	NA	3.0E-01	1.0E-01	1.1E+00	1.0E+00
Benzo(ghi)perylene	3.00E-02	MADEP (2006) (based on pyrene toxicity value)	NA	NA	NA	NA	NA	1.43E-02	5.00E-02	MADEP (2006)	NA	NA	NA	NA	NA	NA	3.0E-01	1.0E-01	1.1E+00	1.0E+00
Fluoranthene	4.00E-02	IRIS	mouse	13 week, gavage subchronic oral bioassay	nephropathy, increased liver weights, hematological alterations, and clinical effects	low	3.00E+03	1.43E-02	5.00E-02	MADEP (2006)	NA	NA	NA	NA	NA	NA	3.0E-01	1.0E-01	1.1E+00	1.0E+00
Fluorene	4.00E-02	IRIS	mouse	13 week, subchronic oral bioassay, corn oil gavage	decreased RBCs, packed cell volume, and hemoglobin	low	3.00E+03	1.43E-02	5.00E-02	MADEP (2006)	NA	NA	NA	NA	NA	NA	3.0E-01	1.0E-01	1.1E+00	1.0E+00
2-Methylnaphthalene	4.00E-03	IRIS	mouse	81-week dietary study	pulmonary alveolar proteinosis	low	1.00E+03	1.43E-02	5.00E-02	MADEP (2006)	NA	NA	NA	NA	NA	NA	3.0E-01	1.0E-01	1.1E+00	1.0E+00
Naphthalene	2.00E-02	IRIS	rat	13 week, subchronic oral bioassay, corn oil gavage	decreased mean terminal body weight in males	low	3.00E+03	8.57E-04	3.00E-03	IRIS	mouse	2-year inhalation	respiratory epithelium hyperplasia; olfactory epithelium metaplasia	medium	3.00E+03	1.00E+00	3.0E-01	1.0E-01	1.1E+00	1.0E+00
Phenanthrene	3.00E-02	MADEP (2006) (based on pyrene toxicity value)	NA	NA	NA	NA	NA	1.43E-02	5.00E-02	MADEP (2006)	NA	NA	NA	NA	NA	NA	3.0E-01	1.0E-01	1.1E+00	1.0E+00
Pyrene	3.00E-02	IRIS	mouse	13 week, subchronic oral bioassay, corn oil gavage	renal tubular pathology, decreased kidney weights	low	3.00E+03	1.43E-02	5.00E-02	MADEP (2006)	NA	NA	NA	NA	NA	NA	3.0E-01	1.0E-01	1.1E+00	1.0E+00
Carcinogenic PAHs																				
Benz(a)anthracene	3.00E-02	MADEP (2006) (based on pyrene toxicity value)	NA	NA	NA	NA	NA	1.43E-02	5.00E-02	MADEP (2006)	NA	NA	NA	NA	NA	NA	3.0E-01	2.0E-02	1.1E+00	1.0E+00
Benzo(a)pyrene	3.00E-02	MADEP (2006) (based on pyrene toxicity value)	NA	NA	NA	NA	NA	1.43E-02	5.00E-02	MADEP (2006)	NA	NA	NA	NA	NA	NA	3.0E-01	2.0E-02	1.1E+00	1.0E+00
Benzo(b)fluoranthene	3.00E-02	MADEP (2006) (based on pyrene toxicity value)	NA	NA	NA	NA	NA	1.43E-02	5.00E-02	MADEP (2006)	NA	NA	NA	NA	NA	NA	3.0E-01	2.0E-02	1.1E+00	1.0E+00
Benzo(k)fluoranthene	3.00E-02	MADEP (2006) (based on pyrene toxicity value)	NA	NA	NA	NA	NA	1.43E-02	5.00E-02	MADEP (2006)	NA	NA	NA	NA	NA	NA	3.0E-01	2.0E-02	1.1E+00	1.0E+00
Chrysene	3.00E-02	MADEP (2006) (based on pyrene toxicity value)	NA	NA	NA	NA	NA	1.43E-02	5.00E-02	MADEP (2006)	NA	NA	NA	NA	NA	NA	3.0E-01	2.0E-02	1.1E+00	1.0E+00
Dibenz(ah)anthracene	3.00E-02	MADEP (2006) (based on pyrene toxicity value)	NA	NA	NA	NA	NA	1.43E-02	5.00E-02	MADEP (2006)	NA	NA	NA	NA	NA	NA	3.0E-01	2.0E-02	1.1E+00	1.0E+00
Indeno(1,2,3-cd)pyrene	3.00E-02	MADEP (2006) (based on pyrene toxicity value)	NA	NA	NA	NA	NA	1.43E-02	5.00E-02	MADEP (2006)	NA	NA	NA	NA	NA	NA	3.0E-01	2.0E-02	1.1E+00	1.0E+00
Polychlorinated Biphenyls																				
Polychlorinated biphenyls (PCBs)	2.00E-05	IRIS (Aroclor 1254) as cited in MADEP (2006)	monkey	5 year oral capsule study	ocular exudate, deformed nail growth, inflamed Meibomian glands, decreased antibody response	medium	3.00E+02	5.71E-06	2.00E-05	MADEP (1995) (ATC) as cited in MADEP (2006)	NA	NA	NA	NA	NA	NA	1.0E+00	1.0E-01	1.1E+00	1.0E+00
Metals																				
Arsenic	3.00E-04	IRIS	human	chronic oral drinking water, food	hyperpigmentation, keratosis, vascular complications	medium	3.00E+00	5.71E-06	2.00E-05	MADEP 2014	NA	NA	NA	NA	NA	NA	5.0E-01	3.0E-02	1.0E+00	1.0E+00
Barium	2.00E-01	MADEP 2014	NA	NA	NA	NA	NA	1.43E-04	5.00E-04	HEAST (Alternate Method) as cited in MADEP (2006)	rat	4 month, intermittent inhalation	fetotoxicity	NA	1.00E+03	1.00E+00	1.0E+00	1.0E-01	1.1E+00	1.0E+00
Beryllium	2.00E-03	MADEP 2014	NA	NA	NA	NA	NA	5.71E-06	2.00E-05	IRIS	human	occupational, community study	lung - beryllium sensitization, disease	medium	1.00E+01	1.00E+00	1.0E+00	1.0E-01	1.0E+02	1.0E+00
Cadmium (in soil, sediment, or tissue)	5.00E-04	MADEP 2014	NA	NA	NA	NA	NA	5.71E-06	2.00E-05	MADEP 2014	NA	NA	NA	NA	NA	NA	1.0E+00	1.0E-02	NA	1.0E+00
Chromium, total (assumes 1:6 ratio Cr VI:Cr III)	1.50E+00	IRIS	rat	2 year feeding	none observed	low	1.00E+03	2.86E-05	1.00E-04	IRIS	rat	subchronic study	lactate dehydrogenase present	medium	3.00E+02	1.00E+00	1.0E+00	1.0E-01	9.1E+00	1.0E+00
Lead	7.50E-04	MADEP (1992) (Residential Shortform) as cited in MADEP (2006)	NA	NA	NA	NA	NA	2.86E-04	1.00E-03	MADEP (1995) (ATC) as cited in MADEP (2006)	NA	NA	NA	NA	NA	NA	5.0E-01	6.0E-03	1.0E+00	1.0E+00
Mercury	3.00E-04	IRIS (mercuric chloride)	rat	subchronic feeding study	autoimmune effects	high	1.00E+03	8.57E-05	3.00E-04	IRIS (elemental mercury)	human	inhalation, occupational	hand tremor, increased memory disturbance, autonomic dysfunction	medium	3.00E+01	1.00E+00	5.0E-01	1.0E-01	1.1E+00	1.0E+00

Table G-5
Chronic Toxicity and Absorption Factors
Parcel P-3
Boston, Massachusetts

																		Absorption Factors for Evaluating Chronic Exposures		
	Chronic							Chronic	Chronic											
CHEMICAL	Oral	RfD	Test	Study Type	Critical Effect	Confidence	Uncertainty	Inhalation	Inhalation	RfC	Test	Study Type	Critical Effect	Confidence	Uncertainty	Modifying	Soil Ingestion	Soil Dermal Absorption	Dermal Water	Inhalation
	RfD	Source	Species	& Length		Level	Modifying	RfD	RfC	Source	Species	& Length		Level	Factor	Factor	RAF	RAF	RAF	RAF
	(mg/kg/day)						Factors	(mg/kg-day)	(mg/m^3)								(unitless)	(unitless)	(unitless)	(unitless)
Nickel	2.00E-02	IRIS (nickel soluble salts)	rat	2 year, feeding study	decreased body and liver weights, increased heart to body weight ratio	medium-low	3.00E+02	2.86E-04	1.00E-03	MADEP (1995) (ATC) as cited in MADEP (2006)	NA	NA	NA	NA	NA	NA	1.0E+00	2.0E-01	1.0E+01	1.0E+00
Vanadium	9.00E-03	MADEP 2014	NA	NA	NA	NA	NA	2.86E-04	1.00E-03	MADEP (1995) (ATC) as cited in MADEP (2006)	NA	NA	NA	NA	NA	NA	1.0E+00	1.0E-01	2.0E+01	1.0E+00
Zinc	3.00E-01	IRIS	human	clinical studies of diet supplements	decreased erythrocyte Cu, Zn-superoxide dismutase (ESOD) activity	med - high	3.00E+00	4.00E-04	1.40E-03	MADEP ORS as cited in MADEP (2006)	NA	NA	NA	NA	NA	NA	1.0E+00	1.0E-01	2.2E+00	1.0E+00
Notes:																				
NA = not available/not applicable																				
References:																				

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Table G-6
Cancer Potency Factors
Parcel P-3
Boston, Massachusetts

CHEMICAL	Cancer Slope Factor (CSF) (mg/kg/day)$^{-1}$	Source	Weight of Evidence Classification	Test Species	Study Type & Length	Tumor Type	Inhalation Slope Factor (mg/kg-day)$^{-1}$	Unit Risk Factor (URF) (mg/m^3)$^{-1}$	Source	Weight of Evidence Classification	Test Species	Study Type & Length	Tumor Type	Absorption Factors for Evaluating Carcinogenicity			
														Soil Ingestion RAF (unitless)	Soil Dermal Absorption RAF (unitless)	Dermal Water RAF (unitless)	Inhalation RAF (unitless)
Volatile Organic Compounds																	
Benzene	5.50E-02	IRIS Oral Slope Factor Range (1.5E-2 to 5.5E-2)	A	human	occupational, inhalation	leukemia	2.73E-02	7.80E-06	MADEP 2014	NA	NA	NA	NA	1.0E+00	3.0E-02	1.0E+00	1.0E+00
Chloroform	NA	IRIS (mode of action is non-linear, chronic RfD is protective of cancer)	B2 *	dog	7.5-years oral capsule	liver and kidney	8.05E-02	2.30E-05	IRIS -Do not use if [air] exceeds 400 ug/c.m. **	B2 *	mouse	78-week gavage	hepatocellular carcinoma	NC	NC	1.0E+00	1.0E+00
1,2-Dichloroethylene (mixed isomers)	NA	MADEP 2014	NA	NA	NA	NA	NA	NA	MADEP 2014	NA	NA	NA	NA	NC	NC	1.0E+00	NC
1,2-Dichloroethylene (cis)	NA	MADEP 2014	NA	NA	NA	NA	NA	NA	MADEP 2014	NA	NA	NA	NA	NC	NC	1.0E+00	NC
Ethyl ether	NA						NA	NA						NC	NC	1.0E+00	NA
Tetrachloroethylene (PCE)	2.00E-02	MADEP 2014	NA	NA	NA	NA	1.05E-02	3.00E-06	MADEP 2014	NA	NA	NA	NA	1.0E+00	3.0E-02	1.0E+00	1.0E+00
Trichloroethylene (TCE)	5.00E-02	MADEP 2014	NA	NA	NA	NA	1.40E-02	4.00E-06	MADEP 2014	NA	NA	NA	NA	1.0E+00	3.0E-02	1.0E+00	1.0E+00
Vinyl chloride	1.40E+00	IRIS (number is based on lifetime exposure from birth SEE IRIS for lifetime exposure during adulthood for non-residential scenarios)	A	rat	144-week oral diet	liver tumors	3.08E-02	8.80E-06	IRIS (number is based on lifetime exposure from birth SEE IRIS for lifetime exposure during adulthood for non-residential scenarios)	A	rat	52-week inhalation	liver tumors	1.0E+00	3.0E-02	1.6E+00	1.0E+00
Xylenes (mixed isomers)	NA	MADEP 2014	NA	NA	NA	NA	NA	NA	MADEP 2014	NA	NA	NA	NA	NC	NC	1.0E+00	NA
Semivolatile Organic Compounds																	
Non-Carcinogenic PAHs																	
Acenaphthene	NA	MADEP 2014	NA	NA	NA	NA	NA	NA	IRIS	NA	NA	NA	NA	NC	NC	1.0E+00	NA
Acenaphthylene	NA	IRIS	D	NA	NA	NA	NA	NA	IRIS	D	NA	NA	NA	NC	NC	1.0E+00	NA
Anthracene	NA	IRIS	D	NA	NA	NA	NA	NA	IRIS	D	NA	NA	NA	NC	NC	1.0E+00	NA
Benzo(ghi)perylene	NA	IRIS	D	NA	NA	NA	NA	NA	IRIS	D	NA	NA	NA	NC	NC	1.0E+00	NA
Fluoranthene	NA	IRIS	D	NA	NA	NA	NA	NA	IRIS	D	NA	NA	NA	NC	NC	1.0E+00	NA
Fluorene	NA	IRIS	D	NA	NA	NA	NA	NA	IRIS	D	NA	NA	NA	NC	NC	1.0E+00	NA
2-Methylnaphthalene	NA	IRIS	data are inadequate to assess carcinogenic potential	NA	NA	NA	NA	NA	IRIS	data are inadequate to assess carcinogenic potential	NA	NA	NA	NC	NC	1.0E+00	NA
Naphthalene	NA	IRIS	C	NA	NA	NA	NA	NA	IRIS	C	NA	NA	NA	NC	NC	1.0E+00	NA
Phenanthrene	NA	IRIS	D	NA	NA	NA	NA	NA	IRIS	D	NA	NA	NA	NC	NC	1.0E+00	NA
Pyrene	NA	IRIS	D	NA	NA	NA	NA	NA	IRIS	D	NA	NA	NA	NC	NC	1.0E+00	NA
Carcinogenic PAHs																	
Benz(a)anthracene	7.30E-01	USEPA (1993) (provisional value based on benzo[a]pyrene) as cited in MADEP (2006)	B2	NA	NA	NA	7.32E-01	2.09E-04	MADEP (2006) (Converted from oral cancer slope factor[2])	B2	NA	NA	NA	3.0E-01	2.0E-02	1.1E+00	1.0E+00
Benzo(a)pyrene	7.30E+00	IRIS	B2	mouse	1 to 197-days diet	forestomach, squamous cell papillomas and carcinomas	7.32E+00	2.09E-03	MADEP (2006) (Converted from oral cancer slope factor[2])	B2	NA	NA	NA	3.0E-01	2.0E-02	1.1E+00	1.0E+00
Benzo(b)fluoranthene	7.30E-01	USEPA (1993) (provisional value based on benzo[a]pyrene) as cited in MADEP (2006)	B2	NA	NA	NA	7.32E-01	2.09E-04	MADEP (2006) (Converted from oral cancer slope factor[2])	B2	NA	NA	NA	3.0E-01	2.0E-02	1.1E+00	1.0E+00
Benzo(k)fluoranthene	7.30E-02	USEPA (1993) (provisional value based on benzo[a]pyrene) as cited in MADEP (2006)	B2	NA	NA	NA	7.32E-02	2.09E-05	MADEP (2006) (Converted from oral cancer slope factor[2])	B2	NA	NA	NA	3.0E-01	2.0E-02	1.1E+00	1.0E+00
Chrysene	7.30E-02	MADEP (2006) (provisional value based on benzo(a)pyrene[3])	B2	NA	NA	NA	7.32E-02	2.09E-05	MADEP (2006) (Converted from oral cancer slope factor[2])	B2	NA	NA	NA	3.0E-01	2.0E-02	1.1E+00	1.0E+00
Dibenz(ah)anthracene	7.30E+00	USEPA (1993) (provisional value based on benzo[a]pyrene) as cited in MADEP (2006)	B2	NA	NA	NA	7.32E+00	2.09E-03	MADEP (2006) (Converted from oral cancer slope factor[2])	B2	NA	NA	NA	3.0E-01	2.0E-02	1.1E+00	1.0E+00
Indeno(1,2,3-cd)pyrene	7.30E-01	USEPA (1993) (provisional value based on benzo[a]pyrene) as cited in MADEP (2006)	B2	NA	NA	NA	7.32E-01	2.09E-04	MADEP (2006) (Converted from oral cancer slope factor[2])	B2	NA	NA	NA	3.0E-01	2.0E-02	1.1E+00	1.0E+00
Polychlorinated Biphenyls																	
Polychlorinated biphenyls (PCBs)	2.00E+00	IRIS (PCBs); High risk and persistence; Upper-bound	B2	rat	25 weeks gavage	liver adenoma, carcinoma, cholangiomas	3.50E-01	1.00E-04	IRIS					1.0E+00	1.0E-01	1.1E+00	1.0E+00
Metals																	
Arsenic	1.50E+00	IRIS	A	human	occupational inhalation; drinking water	lung cancer; multiple organ cancers, skin cancer	1.05E+01	3.00E-03	MADEP 2014	NA	NA	NA	NA	5.0E-01	3.0E-02	1.0E+00	1.0E+00

Table G-6
Cancer Potency Factors
Parcel P-3
Boston, Massachusetts

														Absorption Factors for Evaluating Carcinogenicity			
CHEMICAL	**Cancer Slope Factor (CSF)**	**Source**	**Weight of Evidence**	**Test**	**Study Type & Length**	**Tumor Type**	**Inhalation Slope Factor**	**Unit Risk Factor (URF)**	**Source**	**Weight of Evidence**	**Test**	**Study Type & Length**	**Tumor Type**	**Soil Ingestion RAF**	**Soil Dermal Absorption RAF**	**Dermal Water RAF**	**Inhalation RAF**
	$(mg/kg/day)^{-1}$		**Classification**	**Species**			**$(mg/kg\text{-}day)^{-1}$**	**$(mg/m^3)^{-1}$**		**Classification**				**(unitless)**	**(unitless)**	**(unitless)**	**(unitless)**
Barium	NA	MADEP 2014	NA	NA	NA	NA	NA	NA	IRIS	D	NA	NA	NA	NC	NC	1.0E+00	NA
Beryllium	NA	MADEP 2014	NA	NA	NA	NA	8.40E+00	2.40E-03	IRIS-Do not use if [air] exceeds 4 ug/c.m.	B2	human	inhalation occupational study	lung, tumors	NC		1.0E+02	1.0E+00
Cadmium (in soil, sediment, or tissue)	NA	MADEP 2014	NA	NA	NA	NA	6.30E+00	1.80E-03	MADEP 2014	NA	NA	NA	NA	NC	NC	1.0E+00	1.0E+00
Chromium, total (assumes 1:6 ratio Cr VI:Cr III)	NA	IRIS	D	NA	NA	NA	NA	NA	IRIS	D	NA	NA	NA	NC	NC	1.0E+00	NA
Lead	NA	IRIS	B2	rat	dietary, subcutaneous injection	renal tumors	NA	NA	IRIS	B2	NA	NA	NA	NC	NC	1.0E+00	NA
Mercury	NA	IRIS (mercuric chloride)	C	NA	NA	NA	NA	NA	IRIS (elemental mercury)	D	NA	NA	NA	NC	NC	1.0E+00	NA
Nickel	NA	IRIS (nickel soluble salts)	NA	NA	NA	NA	1.68E+00	4.80E-04	IRIS (nickel subsulfide) MADEP 2007	A	human	occupational	lung and nasal	NC	NC	1.0E+00	1.0E+00
Vanadium	NA	MADEP 2014	NA	NA	NA	NA	NA	NA	IRIS (vanadium pentoxide)	NA	NA	NA	NA	NC	NC	1.0E+00	NA
Zinc	NA	IRIS	data are inadequate to assess carcinogenic potential	NA	NA	NA	NA	NA	IRIS	data are inadequate to assess carcinogenic potential	NA	NA	NA	NC	NC	1.0E+00	NA

Notes:
NA = not available/not applicable

References:

Massachusetts Department of Environmental Protection (MADEP). 2002. Characterizing Risks Posed by Petroleum Contaminated Sites: Implementation of MADEP VPH/EPH Approach, Final Policy. Bureau of Waste Site Cleanup. October.

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Table G-7
SUBCHRONIC RISK CALCULATIONS
Default Tresspasser
Parcel P-3, Tremont Street & Whittier Streets
Boston, Massachusetts

	Exposure Point Concentrations		Subchronic Average Daily Dose and Exposure Estimates				Subchronic Hazard Index Estimates				Total Subchronic Hazard Index Estimates	
CHEMICAL	Soil (mg/kg)	Fugitive Dust (mg/m^3)	Soil Ingestion (mg/kg/day)	Soil Dermal (mg/kg/day)	Fugitive Dust Ingestion (mg/kg/day)	Fugitive Dust Inhalation (mg/m3)	Soil Ingestion	Soil Dermal	Fugitive Dust Ingestion	Fugitive Dust Inhalation	Soil	All Media
Volatile Organic Compounds												
Benzene	4.90E-02	1.57E-09	3.52E-08	2.40E-09	3.24E-11	2.21E-11	4E-06	2E-07	3E-09	2E-09	4.E-06	4.E-06
Trichloroethylene (TCE)												
Xylenes (mixed isomers)												
Petroleum Hydrocarbon Fractions												
EPH												
C19-C36 Aliphatic	5.50E+01	1.76E-06	3.95E-05	5.38E-05	3.64E-08	---	7E-06	9E-06	6E-09	---	2.E-05	2.E-05
C11-C22 Aromatic	1.90E+02	6.08E-06	4.09E-05	9.30E-05	3.77E-08	8.55E-08	1E-04	3E-04	1E-07	2E-07	4.E-04	4.E-04
Semivolatile Organic Compounds												
Non-Carcinogenic PAHs												
Acenaphthene	1.60E+00	5.12E-08	3.45E-07	7.83E-07	3.18E-10	7.20E-10	2E-06	4E-06	2E-09	1E-09	6.E-06	6.E-06
Acenaphthylene	6.70E-01	2.14E-08	1.44E-07	3.28E-07	1.33E-10	3.02E-10	5E-07	1E-06	4E-10	6E-10	2.E-06	2.E-06
Anthracene	3.70E+00	1.18E-07	7.97E-07	1.81E-06	7.35E-10	1.67E-09	8E-07	2E-06	7E-10	3E-09	3.E-06	3.E-06
Benzo(ghi)perylene	6.10E+00	1.95E-07	1.31E-06	2.99E-06	1.21E-09	2.75E-09	4E-06	1E-05	4E-09	5E-09	1.E-05	1.E-05
Fluoranthene	2.00E+01	6.40E-07	4.31E-06	9.79E-06	3.97E-09	9.00E-09	1E-05	2E-05	1E-08	2E-08	4.E-05	4.E-05
Fluorene	1.40E+00	4.48E-08	3.02E-07	6.85E-07	2.78E-10	6.30E-10	8E-07	2E-06	7E-10	1E-09	2.E-06	2.E-06
2-Methylnaphthalene	3.40E-01	1.09E-08	7.33E-08	1.66E-07	6.75E-11	1.53E-10	2E-05	4E-05	2E-08	3E-10	6.E-05	6.E-05
Naphthalene	6.90E-01	2.21E-08	1.49E-07	3.38E-07	1.37E-10	3.11E-10	7E-07	2E-06	7E-10	1E-07	3.E-06	3.E-06
Phenanthrene	1.80E+01	5.76E-07	3.88E-06	8.81E-06	3.57E-09	8.10E-09	1E-05	3E-05	1E-08	2E-08	4.E-05	4.E-05
Pyrene	1.60E+01	5.12E-07	3.45E-06	7.83E-06	3.18E-09	7.20E-09	1E-05	3E-05	1E-08	1E-08	4.E-05	4.E-05
Carcinogenic PAHs												
Benz(a)anthracene	9.40E+00	3.01E-07	2.03E-06	9.20E-07	1.87E-09	4.23E-09	7E-06	3E-06	6E-09	8E-09	1.E-05	1.E-05
Benzo(a)pyrene	8.70E+00	2.78E-07	1.87E-06	8.52E-07	1.73E-09	3.92E-09	6E-06	3E-06	6E-09	8E-09	9.E-06	9.E-06
Benzo(b)fluoranthene	1.20E+01	3.84E-07	2.59E-06	1.17E-06	2.38E-09	5.40E-09	9E-06	4E-06	8E-09	1E-08	1.E-05	1.E-05
Benzo(k)fluoranthene	4.40E+00	1.41E-07	9.48E-07	4.31E-07	8.74E-10	1.98E-09	3E-06	1E-06	3E-09	4E-09	5.E-06	5.E-06
Chrysene	9.10E+00	2.91E-07	1.96E-06	8.91E-07	1.81E-09	4.10E-09	7E-06	3E-06	6E-09	8E-09	1.E-05	1.E-05
Dibenz(ah)anthracene	1.60E+00	5.12E-08	3.45E-07	1.57E-07	3.18E-10	7.20E-10	1E-06	5E-07	1E-09	1E-09	2.E-06	2.E-06
Indeno(1,2,3-cd)pyrene	7.00E+00	2.24E-07	1.51E-06	6.85E-07	1.39E-09	3.15E-09	5E-06	2E-06	5E-09	6E-09	7.E-06	7.E-06
Polychlorinated Biphenyls												
Polychlorinated biphenyls (PCBs)	6.80E-02	2.18E-09	4.88E-08	3.33E-08	4.50E-11	3.06E-11	1E-03	7E-04	9E-07	2E-06	2.E-03	2.E-03
Metals												
Arsenic	1.37E+01	4.37E-07	4.90E-06	2.00E-06	4.52E-09	6.14E-09	2E-02	7E-03	2E-05	3E-04	2.E-02	2.E-02
Barium	7.76E+01	2.48E-06	5.58E-05	3.80E-05	5.14E-08	3.49E-08	8E-04	5E-04	7E-07	7E-06	1.E-03	1.E-03
Beryllium	3.60E-01	1.15E-08	2.59E-07	1.76E-07	2.38E-10	1.62E-10	5E-05	4E-05	5E-08	8E-06	1.E-04	1.E-04
Cadmium (in soil, sediment, or tissue)	2.40E+00	7.68E-08	1.72E-06	1.17E-07	1.59E-09	1.08E-09	3E-03	2E-04	3E-06	5E-05	4.E-03	4.E-03
Chromium, total (assumes 1:6 ratio Cr VI:Cr III)	2.61E+01	8.35E-07	1.87E-05	1.28E-05	1.73E-08	1.17E-08	9E-04	6E-04	9E-07	4E-05	2.E-03	2.E-03
Lead	3.36E+02	1.08E-05	1.21E-04	9.87E-06	1.11E-07	1.51E-07	*2E-01*	1E-02	1E-04	2E-04	*2.E-01*	*2.E-01*
Mercury	8.08E-01	2.59E-08	2.90E-07	3.95E-07	2.67E-10	3.64E-10	1E-03	1E-03	9E-07	1E-06	2.E-03	2.E-03
Nickel	1.10E+01	3.52E-07	7.90E-06	1.08E-05	7.28E-09	4.95E-09	4E-04	5E-04	4E-07	5E-06	9.E-04	9.E-04
Vanadium	2.10E+01	6.72E-07	1.51E-05	1.03E-05	1.39E-08	9.45E-09	2E-03	1E-03	2E-06	9E-06	3.E-03	3.E-03
Zinc	1.10E+02	3.52E-06	7.90E-05	5.38E-05	7.28E-08	4.95E-08	3E-04	2E-04	2E-07	4E-05	5.E-04	5.E-04

Pathway Risks				Media Risks	Total
2E-01	3E-02	2E-04	6E-04	*2.E-01*	2.1.E-01

Table G-8
CHRONIC RISK CALCULATIONS
Default Tresspasser
Parcel P-3, Tremont Street & Whittier Streets
Boston, Massachusetts

	Exposure Point Concentrations		Chronic Average Daily Dose and Exposure Estimates				Chronic Hazard Index Estimates				Total Chronic Hazard Index Estimates	
CHEMICAL	Soil (mg/kg)	Fugitive Dust (mg/m^3)	Soil Ingestion (mg/kg/day)	Soil Dermal (mg/kg/day)	Fugitive Dust Ingestion (mg/kg/day)	Fugitive Dust Inhalation (mg/m3)	Soil Ingestion	Soil Dermal	Fugitive Dust Ingestion	Fugitive Dust Inhalation	Soil	All Media
Volatile Organic Compounds												
Benzene	4.90E-02	1.57E-09	1.17E-08	---	1.08E-11	1.11E-11	3E-06	---	3E-09	1E-09	3.E-06	3.E-06
Trichloroethylene (TCE)												
Xylenes (mixed isomers)												
Petroleum Hydrocarbon Fractions												
EPH												
C19-C36 Aliphatic	5.50E+01	1.76E-06	1.32E-05	2.43E-05	1.21E-08	---	7E-06	1E-05	6E-09	---	2.E-05	2.E-05
C11-C22 Aromatic	1.90E+02	6.08E-06	1.36E-05	4.19E-05	1.26E-08	4.31E-08	5E-04	1E-03	4E-07	9E-07	2.E-03	2.E-03
Semivolatile Organic Compounds												
Non-Carcinogenic PAHs												
Acenaphthene	1.60E+00	5.12E-08	1.15E-07	3.53E-07	1.06E-10	3.63E-10	2E-06	6E-06	2E-09	7E-09	8.E-06	8.E-06
Acenaphthylene	6.70E-01	2.14E-08	4.81E-08	1.48E-07	4.44E-11	1.52E-10	2E-06	5E-06	1E-09	3E-09	7.E-06	7.E-06
Anthracene	3.70E+00	1.18E-07	2.66E-07	8.16E-07	2.45E-10	8.39E-10	9E-07	3E-06	8E-10	2E-08	4.E-06	4.E-06
Benzo(ghi)perylene	6.10E+00	1.95E-07	4.38E-07	1.35E-06	4.04E-10	1.38E-09	1E-05	4E-05	1E-08	3E-08	6.E-05	6.E-05
Fluoranthene	2.00E+01	6.40E-07	1.44E-06	4.41E-06	1.32E-09	4.53E-09	4E-05	1E-04	3E-08	9E-08	1.E-04	1.E-04
Fluorene	1.40E+00	4.48E-08	1.01E-07	3.09E-07	9.27E-11	3.17E-10	3E-06	8E-06	2E-09	6E-09	1.E-05	1.E-05
2-Methylnaphthalene	3.40E-01	1.09E-08	2.44E-08	7.50E-08	2.25E-11	7.71E-11	6E-06	2E-05	6E-09	2E-09	2.E-05	2.E-05
Naphthalene	6.90E-01	2.21E-08	4.96E-08	1.52E-07	4.57E-11	1.56E-10	2E-06	8E-06	2E-09	5E-08	1.E-05	1.E-05
Phenanthrene	1.80E+01	5.76E-07	1.29E-06	3.97E-06	1.19E-09	4.08E-09	4E-05	1E-04	4E-08	8E-08	2.E-04	2.E-04
Pyrene	1.60E+01	5.12E-07	1.15E-06	3.53E-06	1.06E-09	3.63E-09	4E-05	1E-04	4E-08	7E-08	2.E-04	2.E-04
Carcinogenic PAHs												
Benz(a)anthracene	9.40E+00	3.01E-07	6.75E-07	4.15E-07	6.22E-10	2.13E-09	2E-05	1E-05	2E-08	4E-08	4.E-05	4.E-05
Benzo(a)pyrene	8.70E+00	2.78E-07	6.25E-07	3.84E-07	5.76E-10	1.97E-09	2E-05	1E-05	2E-08	4E-08	3.E-05	3.E-05
Benzo(b)fluoranthene	1.20E+01	3.84E-07	8.62E-07	5.29E-07	7.94E-10	2.72E-09	3E-05	2E-05	3E-08	5E-08	5.E-05	5.E-05
Benzo(k)fluoranthene	4.40E+00	1.41E-07	3.16E-07	1.94E-07	2.91E-10	9.97E-10	1E-05	6E-06	1E-08	2E-08	2.E-05	2.E-05
Chrysene	9.10E+00	2.91E-07	6.54E-07	4.01E-07	6.02E-10	2.06E-09	2E-05	1E-05	2E-08	4E-08	4.E-05	4.E-05
Dibenz(ah)anthracene	1.60E+00	5.12E-08	1.15E-07	7.06E-08	1.06E-10	3.63E-10	4E-06	2E-06	4E-09	7E-09	6.E-06	6.E-06
Indeno(1,2,3-cd)pyrene	7.00E+00	2.24E-07	5.03E-07	3.09E-07	4.63E-10	1.59E-09	2E-05	1E-05	2E-08	3E-08	3.E-05	3.E-05
Polychlorinated Biphenyls												
Polychlorinated biphenyls (PCBs)	6.80E-02	2.18E-09	1.63E-08	1.50E-08	1.50E-11	1.54E-11	8E-04	7E-04	8E-07	8E-07	2.E-03	2.E-03
Metals												
Arsenic	1.37E+01	4.37E-07	1.63E-06	9.03E-07	1.51E-09	3.09E-09	5E-03	3E-03	5E-06	2E-04	9.E-03	9.E-03
Barium	7.76E+01	2.48E-06	1.86E-05	1.71E-05	1.71E-08	1.76E-08	9E-05	9E-05	9E-08	4E-05	2.E-04	2.E-04
Beryllium	3.60E-01	1.15E-08	8.62E-08	7.94E-08	7.94E-11	8.16E-11	4E-05	4E-05	4E-08	4E-06	9.E-05	9.E-05
Cadmium (in soil, sediment, or tissue)	2.40E+00	7.68E-08	5.75E-07	5.29E-08	5.30E-10	5.44E-10	1E-03	1E-04	1E-06	3E-05	1.E-03	1.E-03
Chromium, total (assumes 1:6 ratio Cr VI:Cr III)	2.61E+01	8.35E-07	6.25E-06	5.76E-06	5.76E-09	5.91E-09	4E-06	4E-06	4E-09	6E-05	7.E-05	7.E-05
Lead	3.36E+02	1.08E-05	4.03E-05	4.45E-06	3.71E-08	7.62E-08	5E-02	6E-03	5E-05	8E-05	6.E-02	6.E-02
Mercury	8.08E-01	2.59E-08	9.67E-08	1.78E-07	8.91E-11	1.83E-10	3E-04	6E-04	3E-07	6E-07	9.E-04	9.E-04
Nickel	1.10E+01	3.52E-07	2.63E-06	4.85E-06	2.43E-09	2.49E-09	1E-04	2E-04	1E-07	2E-06	4.E-04	4.E-04
Vanadium	2.10E+01	6.72E-07	5.03E-06	4.63E-06	4.63E-09	4.76E-09	6E-04	5E-04	5E-07	5E-06	1.E-03	1.E-03
Zinc	1.10E+02	3.52E-06	2.63E-05	2.43E-05	2.43E-08	2.49E-08	9E-05	8E-05	8E-08	2E-05	2.E-04	2.E-04

Pathway Risks				Media Risks	Total
6E-02	1E-02	6E-05	4E-04	8E-02	8E-02

Table G-9
CANCER RISK CALCULATIONS
Default Tresspasser
Parcel P-3, Tremont Street & Whittier Streets
Boston, Massachusetts

	Exposure Point Concentrations		Average Daily Dose (lifetime) Estimates				Carcinogenic Risk Estimates				Total Carcinogenic Risk Estimates	
CHEMICAL	Soil (mg/kg)	Fugitive Dust (mg/m^3)	Soil Ingestion (mg/kg/day)	Soil Dermal (mg/kg/day)	Fugitive Dust Ingestion (mg/kg/day)	Fugitive Dust Inhalation (ug/m3)	Soil Ingestion	Soil Dermal	Fugitive Dust Ingestion	Fugitive Dust Inhalation	Soil	All Media
Volatile Organic Compounds												
Benzene	4.90E-02	1.57E-09	1.17E-09	3.24E-10	1.08E-12	1.11E-09	6.E-11	2.E-11	6.E-14	9.E-15	8.E-11	8.E-11
Trichloroethylene (TCE)												
Xylenes (mixed isomers)												
Petroleum Hydrocarbon Fractions												
EPH												
C19-C36 Aliphatic	5.50E+01	1.76E-06	---	---	---	---	---	---	---	---	---	---
C11-C22 Aromatic	1.90E+02	6.08E-06	---	---	---	---	---	---	---	---	---	---
Semivolatile Organic Compounds												
Non-Carcinogenic PAHs												
Acenaphthene	1.60E+00	5.12E-08	---	---	---	---	---	---	---	---	---	---
Acenaphthylene	6.70E-01	2.14E-08	---	---	---	---	---	---	---	---	---	---
Anthracene	3.70E+00	1.18E-07	---	---	---	---	---	---	---	---	---	---
Benzo(ghi)perylene	6.10E+00	1.95E-07	---	---	---	---	---	---	---	---	---	---
Fluoranthene	2.00E+01	6.40E-07	---	---	---	---	---	---	---	---	---	---
Fluorene	1.40E+00	4.48E-08	---	---	---	---	---	---	---	---	---	---
2-Methylnaphthalene	3.40E-01	1.09E-08	---	---	---	---	---	---	---	---	---	---
Naphthalene	6.90E-01	2.21E-08	---	---	---	---	---	---	---	---	---	---
Phenanthrene	1.80E+01	5.76E-07	---	---	---	---	---	---	---	---	---	---
Pyrene	1.60E+01	5.12E-07	---	---	---	---	---	---	---	---	---	---
Carcinogenic PAHs												
Benz(a)anthracene	9.40E+00	3.01E-07	6.75E-08	4.15E-08	6.22E-11	2.13E-07	5.E-08	3.E-08	5.E-11	4.E-11	8.E-08	8.E-08
Benzo(a)pyrene	8.70E+00	2.78E-07	6.25E-08	3.84E-08	5.76E-11	1.97E-07	5.E-07	3.E-07	4.E-10	4.E-10	7.E-07	7.E-07
Benzo(b)fluoranthene	1.20E+01	3.84E-07	8.62E-08	5.29E-08	7.94E-11	2.72E-07	6.E-08	4.E-08	6.E-11	6.E-11	1.E-07	1.E-07
Benzo(k)fluoranthene	4.40E+00	1.41E-07	3.16E-08	1.94E-08	2.91E-11	9.97E-08	2.E-09	1.E-09	2.E-12	2.E-12	4.E-09	4.E-09
Chrysene	9.10E+00	2.91E-07	6.54E-08	4.01E-08	6.02E-11	2.06E-07	5.E-09	3.E-09	4.E-12	4.E-12	8.E-09	8.E-09
Dibenz(ah)anthracene	1.60E+00	5.12E-08	1.15E-08	7.06E-09	1.06E-11	3.63E-08	8.E-08	5.E-08	8.E-11	8.E-11	1.E-07	1.E-07
Indeno(1,2,3-cd)pyrene	7.00E+00	2.24E-07	5.03E-08	3.09E-08	4.63E-11	1.59E-07	4.E-08	2.E-08	3.E-11	3.E-11	6.E-08	6.E-08
Polychlorinated Biphenyls												
Polychlorinated biphenyls (PCBs)	6.80E-02	2.18E-09	1.63E-09	1.50E-09	1.50E-12	1.54E-09	3.E-09	3.E-09	3.E-12	2.E-13	6.E-09	6.E-09
Metals												
Arsenic	1.37E+01	4.37E-07	1.63E-07	9.03E-08	1.51E-10	3.09E-07	2.E-07	1.E-07	2.E-10	9.E-10	4.E-07	4.E-07
Barium	7.76E+01	2.48E-06	---	---	---	---	---	---	---	---	---	---
Beryllium	3.60E-01	1.15E-08	---	---	---	8.16E-09	---	---	---	2.E-11	2.E-11	2.E-11
Cadmium (in soil, sediment, or tissue)	2.40E+00	7.68E-08	---	---	---	5.44E-08	---	---	---	1.E-10	1.E-10	1.E-10
Chromium, total (assumes 1:6 ratio Cr VI:Cr III)	2.61E+01	8.35E-07	---	---	---	---	---	---	---	---	---	---
Lead	3.36E+02	1.08E-05	---	---	---	---	---	---	---	---	---	---
Mercury	8.08E-01	2.59E-08	---	---	---	---	---	---	---	---	---	---
Nickel	1.10E+01	3.52E-07	---	---	---	2.49E-07	---	---	---	1.E-10	1.E-10	1.E-10
Vanadium	2.10E+01	6.72E-07	---	---	---	---	---	---	---	---	---	---
Zinc	1.10E+02	3.52E-06	---	---	---	---	---	---	---	---	---	---

Pathway Risks				Media Risks	Total
9E-07	6E-07	9E-10	2E-09	*2.E-06*	*2.E-06*

Table G-10
SUBCHRONIC RISK CALCULATIONS
Commercial Worker
Parcel P-3, Tremont Street & Whittier Streets
Boston, Massachusetts

	Exposure Point Concentrations		Subchronic Average Daily Dose and Exposure Estimates				Subchronic Hazard Index Estimates				Total Subchronic Hazard Index Estimates	
CHEMICAL	Soil (mg/kg)	Fugitive Dust (mg/m^3)	Soil Ingestion (mg/kg/day)	Soil Dermal (mg/kg/day)	Fugitive Dust Ingestion (mg/kg/day)	Fugitive Dust Inhalation (mg/m3)	Soil Ingestion	Soil Dermal	Fugitive Dust Ingestion	Fugitive Dust Inhalation	Soil	All Media
Volatile Organic Compounds												
Benzene	4.90E-02	1.57E-09	3.05E-08	6.50E-10	3.75E-10	1.86E-10	3E-06	6E-08	4E-08	2E-08	3.E-06	3.E-06
Trichloroethylene (TCE)												
Xylenes (mixed isomers)												
Petroleum Hydrocarbon Fractions												
EPH												
C19-C36 Aliphatic	5.50E+01	1.76E-06	3.43E-05	1.46E-05	4.21E-07	---	6E-06	2E-06	7E-08	---	8.E-06	8.E-06
C11-C22 Aromatic	1.90E+02	6.08E-06	3.55E-05	2.52E-05	4.36E-07	7.19E-07	1E-04	8E-05	1E-06	1E-06	2.E-04	2.E-04
Semivolatile Organic Compounds												
Non-Carcinogenic PAHs												
Acenaphthene	1.60E+00	5.12E-08	2.99E-07	2.12E-07	3.67E-09	6.06E-09	1E-06	1E-06	2E-08	1E-08	3.E-06	3.E-06
Acenaphthylene	6.70E-01	2.14E-08	1.25E-07	8.89E-08	1.54E-09	2.54E-09	4E-07	3E-07	5E-09	5E-09	7.E-07	7.E-07
Anthracene	3.70E+00	1.18E-07	6.91E-07	4.91E-07	8.49E-09	1.40E-08	7E-07	5E-07	8E-09	3E-08	1.E-06	1.E-06
Benzo(ghi)perylene	6.10E+00	1.95E-07	1.14E-06	8.09E-07	1.40E-08	2.31E-08	4E-06	3E-06	5E-08	5E-08	7.E-06	7.E-06
Fluoranthene	2.00E+01	6.40E-07	3.74E-06	2.65E-06	4.59E-08	7.57E-08	9E-06	7E-06	1E-07	2E-07	2.E-05	2.E-05
Fluorene	1.40E+00	4.48E-08	2.62E-07	1.86E-07	3.21E-09	5.30E-09	7E-07	5E-07	8E-09	1E-08	1.E-06	1.E-06
2-Methylnaphthalene	3.40E-01	1.09E-08	6.35E-08	4.51E-08	7.81E-10	1.29E-09	2E-05	1E-05	2E-07	3E-09	3.E-05	3.E-05
Naphthalene	6.90E-01	2.21E-08	1.29E-07	9.15E-08	1.58E-09	2.61E-09	6E-07	5E-07	8E-09	9E-07	2.E-06	2.E-06
Phenanthrene	1.80E+01	5.76E-07	3.36E-06	2.39E-06	4.13E-08	6.82E-08	1E-05	8E-06	1E-07	1E-07	2.E-05	2.E-05
Pyrene	1.60E+01	5.12E-07	2.99E-06	2.12E-06	3.67E-08	6.06E-08	1E-05	7E-06	1E-07	1E-07	2.E-05	2.E-05
Carcinogenic PAHs												
Benz(a)anthracene	9.40E+00	3.01E-07	1.76E-06	2.49E-07	2.16E-08	3.56E-08	6E-06	8E-07	7E-08	7E-08	7.E-06	7.E-06
Benzo(a)pyrene	8.70E+00	2.78E-07	1.63E-06	2.31E-07	2.00E-08	3.29E-08	5E-06	8E-07	7E-08	7E-08	6.E-06	6.E-06
Benzo(b)fluoranthene	1.20E+01	3.84E-07	2.24E-06	3.18E-07	2.76E-08	4.54E-08	7E-06	1E-06	9E-08	9E-08	9.E-06	9.E-06
Benzo(k)fluoranthene	4.40E+00	1.41E-07	8.22E-07	1.17E-07	1.01E-08	1.67E-08	3E-06	4E-07	3E-08	3E-08	3.E-06	3.E-06
Chrysene	9.10E+00	2.91E-07	1.70E-06	2.41E-07	2.09E-08	3.45E-08	6E-06	8E-07	7E-08	7E-08	7.E-06	7.E-06
Dibenz(ah)anthracene	1.60E+00	5.12E-08	2.99E-07	4.24E-08	3.67E-09	6.06E-09	1E-06	1E-07	1E-08	1E-08	1.E-06	1.E-06
Indeno(1,2,3-cd)pyrene	7.00E+00	2.24E-07	1.31E-06	1.86E-07	1.61E-08	2.65E-08	4E-06	6E-07	5E-08	5E-08	5.E-06	5.E-06
Polychlorinated Biphenyls												
Polychlorinated biphenyls (PCBs)	6.80E-02	2.18E-09	4.24E-08	9.02E-09	5.20E-10	2.57E-10	8E-04	2E-04	1E-05	1E-05	1.E-03	1.E-03
Metals												
Arsenic	1.37E+01	4.37E-07	4.25E-06	5.43E-07	5.22E-08	5.17E-08	1E-02	2E-03	2E-04	3E-03	2.E-02	2.E-02
Barium	7.76E+01	2.48E-06	4.84E-05	1.03E-05	5.94E-07	2.94E-07	7E-04	1E-04	8E-06	6E-05	9.E-04	9.E-04
Beryllium	3.60E-01	1.15E-08	2.24E-07	4.77E-08	2.76E-09	1.36E-09	4E-05	1E-05	6E-07	7E-05	1.E-04	1.E-04
Cadmium (in soil, sediment, or tissue)	2.40E+00	7.68E-08	1.49E-06	3.18E-08	1.84E-08	9.09E-09	3E-03	6E-05	4E-05	5E-04	4.E-03	4.E-03
Chromium, total (assumes 1:6 ratio Cr VI:Cr III)	2.61E+01	8.35E-07	1.62E-05	3.46E-06	2.00E-07	9.88E-08	8E-04	2E-04	1E-05	3E-04	1.E-03	1.E-03
Lead	3.36E+02	1.08E-05	1.05E-04	2.68E-06	1.29E-06	1.27E-06	1E-01	4E-03	2E-03	1E-03	1.E-01	1.E-01
Mercury	8.08E-01	2.59E-08	2.52E-07	1.07E-07	3.09E-09	3.06E-09	8E-04	4E-04	1E-05	1E-05	1.E-03	1.E-03
Nickel	1.10E+01	3.52E-07	6.85E-06	2.92E-06	8.42E-08	4.17E-08	3E-04	1E-04	4E-06	4E-05	5.E-04	5.E-04
Vanadium	2.10E+01	6.72E-07	1.31E-05	2.79E-06	1.61E-07	7.95E-08	1E-03	3E-04	2E-05	8E-05	2.E-03	2.E-03
Zinc	1.10E+02	3.52E-06	6.85E-05	1.46E-05	8.42E-07	4.17E-07	2E-04	5E-05	3E-06	3E-04	6.E-04	6.E-04

Pathway Risks				Media Risks	Total
2E-01	7E-03	2E-03	5E-03	*2.E-01*	1.8.E-01

Table G-11
CHRONIC RISK CALCULATIONS
Commercial Worker
Parcel P-3, Tremont Street & Whittier Streets
Boston, Massachusetts

	Exposure Point Concentrations		Chronic Average Daily Dose and Exposure Estimates				Chronic Hazard Index Estimates				Total Chronic Hazard Index Estimates	
CHEMICAL	Soil (mg/kg)	Fugitive Dust (mg/m^3)	Soil Ingestion (mg/kg/day)	Soil Dermal (mg/kg/day)	Fugitive Dust Ingestion (mg/kg/day)	Fugitive Dust Inhalation (mg/m3)	Soil Ingestion	Soil Dermal	Fugitive Dust Ingestion	Fugitive Dust Inhalation	Soil	All Media
Volatile Organic Compounds												
Benzene	4.90E-02	1.57E-09	1.72E-08	---	2.11E-10	1.10E-10	4E-06	---	5E-08	1E-08	4.E-06	4.E-06
Trichloroethylene (TCE)												
Xylenes (mixed isomers)												
Petroleum Hydrocarbon Fractions												
EPH												
C19-C36 Aliphatic	5.50E+01	1.76E-06	1.93E-05	8.20E-06	2.37E-07	---	1E-05	4E-06	1E-07	---	1.E-05	1.E-05
C11-C22 Aromatic	1.90E+02	6.08E-06	2.00E-05	1.42E-05	2.45E-07	4.26E-07	7E-04	5E-04	8E-06	9E-06	1.E-03	1.E-03
Semivolatile Organic Compounds												
Non-Carcinogenic PAHs												
Acenaphthene	1.60E+00	5.12E-08	1.68E-07	1.19E-07	2.06E-09	3.58E-09	3E-06	2E-06	3E-08	7E-08	5.E-06	5.E-06
Acenaphthylene	6.70E-01	2.14E-08	7.04E-08	4.99E-08	8.64E-10	1.50E-09	2E-06	2E-06	3E-08	3E-08	4.E-06	4.E-06
Anthracene	3.70E+00	1.18E-07	3.89E-07	2.76E-07	4.77E-09	8.29E-09	1E-06	9E-07	2E-08	2E-07	2.E-06	2.E-06
Benzo(ghi)perylene	6.10E+00	1.95E-07	6.41E-07	4.55E-07	7.87E-09	1.37E-08	2E-05	2E-05	3E-07	3E-07	4.E-05	4.E-05
Fluoranthene	2.00E+01	6.40E-07	2.10E-06	1.49E-06	2.58E-08	4.48E-08	5E-05	4E-05	6E-07	9E-07	9.E-05	9.E-05
Fluorene	1.40E+00	4.48E-08	1.47E-07	1.04E-07	1.81E-09	3.14E-09	4E-06	3E-06	5E-08	6E-08	6.E-06	6.E-06
2-Methylnaphthalene	3.40E-01	1.09E-08	3.57E-08	2.53E-08	4.39E-10	7.62E-10	9E-06	6E-06	1E-07	2E-08	2.E-05	2.E-05
Naphthalene	6.90E-01	2.21E-08	7.25E-08	5.14E-08	8.90E-10	1.55E-09	4E-06	3E-06	4E-08	5E-07	7.E-06	7.E-06
Phenanthrene	1.80E+01	5.76E-07	1.89E-06	1.34E-06	2.32E-08	4.03E-08	6E-05	4E-05	8E-07	8E-07	1.E-04	1.E-04
Pyrene	1.60E+01	5.12E-07	1.68E-06	1.19E-06	2.06E-08	3.58E-08	6E-05	4E-05	7E-07	7E-07	1.E-04	1.E-04
Carcinogenic PAHs												
Benz(a)anthracene	9.40E+00	3.01E-07	9.87E-07	1.40E-07	1.21E-08	2.11E-08	3E-05	5E-06	4E-07	4E-07	4.E-05	4.E-05
Benzo(a)pyrene	8.70E+00	2.78E-07	9.14E-07	1.30E-07	1.12E-08	1.95E-08	3E-05	4E-06	4E-07	4E-07	4.E-05	4.E-05
Benzo(b)fluoranthene	1.20E+01	3.84E-07	1.26E-06	1.79E-07	1.55E-08	2.69E-08	4E-05	6E-06	5E-07	5E-07	5.E-05	5.E-05
Benzo(k)fluoranthene	4.40E+00	1.41E-07	4.62E-07	6.56E-08	5.68E-09	9.86E-09	2E-05	2E-06	2E-07	2E-07	2.E-05	2.E-05
Chrysene	9.10E+00	2.91E-07	9.56E-07	1.36E-07	1.17E-08	2.04E-08	3E-05	5E-06	4E-07	4E-07	4.E-05	4.E-05
Dibenz(ah)anthracene	1.60E+00	5.12E-08	1.68E-07	2.38E-08	2.06E-09	3.58E-09	6E-06	8E-07	7E-08	7E-08	7.E-06	7.E-06
Indeno(1,2,3-cd)pyrene	7.00E+00	2.24E-07	7.35E-07	1.04E-07	9.03E-09	1.57E-08	2E-05	3E-06	3E-07	3E-07	3.E-05	3.E-05
Polychlorinated Biphenyls												
Polychlorinated biphenyls (PCBs)	6.80E-02	2.18E-09	2.38E-08	5.07E-09	2.92E-10	1.52E-10	1E-03	3E-04	1E-05	8E-06	1.E-03	1.E-03
Metals												
Arsenic	1.37E+01	4.37E-07	2.39E-06	3.05E-07	2.94E-08	3.06E-08	8E-03	1E-03	1E-04	2E-03	1.E-02	1.E-02
Barium	7.76E+01	2.48E-06	2.72E-05	5.79E-06	3.34E-07	1.74E-07	1E-04	3E-05	2E-06	3E-04	5.E-04	5.E-04
Beryllium	3.60E-01	1.15E-08	1.26E-07	2.68E-08	1.55E-09	8.06E-10	6E-05	1E-05	8E-07	4E-05	1.E-04	1.E-04
Cadmium (in soil, sediment, or tissue)	2.40E+00	7.68E-08	8.40E-07	1.79E-08	1.03E-08	5.38E-09	2E-03	4E-05	2E-05	3E-04	2.E-03	2.E-03
Chromium, total (assumes 1:6 ratio Cr VI:Cr III)	2.61E+01	8.35E-07	9.13E-06	1.94E-06	1.12E-07	5.84E-08	6E-06	1E-06	7E-08	6E-04	6.E-04	6.E-04
Lead	3.36E+02	1.08E-05	5.89E-05	1.50E-06	7.23E-07	7.53E-07	8E-02	2E-03	1E-03	8E-04	8.E-02	8.E-02
Mercury	8.08E-01	2.59E-08	1.41E-07	6.02E-08	1.74E-09	1.81E-09	5E-04	2E-04	6E-06	6E-06	7.E-04	7.E-04
Nickel	1.10E+01	3.52E-07	3.85E-06	1.64E-06	4.73E-08	2.46E-08	2E-04	8E-05	2E-06	2E-05	3.E-04	3.E-04
Vanadium	2.10E+01	6.72E-07	7.35E-06	1.57E-06	9.03E-08	4.70E-08	8E-04	2E-04	1E-05	5E-05	1.E-03	1.E-03
Zinc	1.10E+02	3.52E-06	3.85E-05	8.20E-06	4.73E-07	2.46E-07	1E-04	3E-05	2E-06	2E-04	3.E-04	3.E-04

Pathway Risks				Media Risks	Total
9E-02	4E-03	1E-03	4E-03	1E-01	1E-01

Table G-12
CANCER RISK CALCULATIONS
Commercial Worker
Parcel P-3, Tremont Street & Whittier Streets
Boston, Massachusetts

	Exposure Point Concentrations		Average Daily Dose (lifetime) Estimates				Carcinogenic Risk Estimates				Total Carcinogenic Risk Estimates	
CHEMICAL	Soil (mg/kg)	Fugitive Dust (mg/m^3)	Soil Ingestion (mg/kg/day)	Soil Dermal (mg/kg/day)	Fugitive Dust Ingestion (mg/kg/day)	Fugitive Dust Inhalation (ug/m3)	Soil Ingestion	Soil Dermal	Fugitive Dust Ingestion	Fugitive Dust Inhalation	Soil	All Media
Volatile Organic Compounds												
Benzene	4.90E-02	1.57E-09	6.13E-09	3.91E-10	7.53E-11	3.92E-08	3.E-10	2.E-11	4.E-12	3.E-13	4.E-10	4.E-10
Trichloroethylene (TCE)												
Xylenes (mixed isomers)												
Petroleum Hydrocarbon Fractions												
EPH												
C19-C36 Aliphatic	5.50E+01	1.76E-06	---	---	---	---	---	---	---	---	---	---
C11-C22 Aromatic	1.90E+02	6.08E-06	---	---	---	---	---	---	---	---	---	---
Semivolatile Organic Compounds												
Non-Carcinogenic PAHs												
Acenaphthene	1.60E+00	5.12E-08	---	---	---	---	---	---	---	---	---	---
Acenaphthylene	6.70E-01	2.14E-08	---	---	---	---	---	---	---	---	---	---
Anthracene	3.70E+00	1.18E-07	---	---	---	---	---	---	---	---	---	---
Benzo(ghi)perylene	6.10E+00	1.95E-07	---	---	---	---	---	---	---	---	---	---
Fluoranthene	2.00E+01	6.40E-07	---	---	---	---	---	---	---	---	---	---
Fluorene	1.40E+00	4.48E-08	---	---	---	---	---	---	---	---	---	---
2-Methylnaphthalene	3.40E-01	1.09E-08	---	---	---	---	---	---	---	---	---	---
Naphthalene	6.90E-01	2.21E-08	---	---	---	---	---	---	---	---	---	---
Phenanthrene	1.80E+01	5.76E-07	---	---	---	---	---	---	---	---	---	---
Pyrene	1.60E+01	5.12E-07	---	---	---	---	---	---	---	---	---	---
Carcinogenic PAHs												
Benz(a)anthracene	9.40E+00	3.01E-07	3.53E-07	5.00E-08	4.33E-09	7.52E-06	3.E-07	4.E-08	3.E-09	2.E-09	3.E-07	3.E-07
Benzo(a)pyrene	8.70E+00	2.78E-07	3.26E-07	4.63E-08	4.01E-09	6.96E-06	*2.E-06*	3.E-07	3.E-08	1.E-08	*3.E-06*	*3.E-06*
Benzo(b)fluoranthene	1.20E+01	3.84E-07	4.50E-07	6.39E-08	5.53E-09	9.60E-06	3.E-07	5.E-08	4.E-09	2.E-09	4.E-07	4.E-07
Benzo(k)fluoranthene	4.40E+00	1.41E-07	1.65E-07	2.34E-08	2.03E-09	3.52E-06	1.E-08	2.E-09	1.E-10	7.E-11	1.E-08	1.E-08
Chrysene	9.10E+00	2.91E-07	3.41E-07	4.84E-08	4.19E-09	7.28E-06	2.E-08	4.E-09	3.E-10	2.E-10	3.E-08	3.E-08
Dibenz(ah)anthracene	1.60E+00	5.12E-08	6.00E-08	8.52E-09	7.37E-10	1.28E-06	4.E-07	6.E-08	5.E-09	3.E-09	5.E-07	5.E-07
Indeno(1,2,3-cd)pyrene	7.00E+00	2.24E-07	2.63E-07	3.73E-08	3.23E-09	5.60E-06	2.E-07	3.E-08	2.E-09	1.E-09	2.E-07	2.E-07
Polychlorinated Biphenyls												
Polychlorinated biphenyls (PCBs)	6.80E-02	2.18E-09	8.50E-09	1.81E-09	1.04E-10	5.44E-08	2.E-08	4.E-09	2.E-10	5.E-12	2.E-08	2.E-08
Metals												
Arsenic	1.37E+01	4.37E-07	8.53E-07	1.09E-07	1.05E-08	1.09E-05	1.E-06	2.E-07	2.E-08	3.E-08	1.E-06	1.E-06
Barium	7.76E+01	2.48E-06	---	---	---	---	---	---	---	---	---	---
Beryllium	3.60E-01	1.15E-08	---	---	---	2.88E-07	---	---	---	7.E-10	7.E-10	7.E-10
Cadmium (in soil, sediment, or tissue)	2.40E+00	7.68E-08	---	---	---	1.92E-06	---	---	---	3.E-09	3.E-09	3.E-09
Chromium, total (assumes 1:6 ratio Cr VI:Cr III)	2.61E+01	8.35E-07	---	---	---	---	---	---	---	---	---	---
Lead	3.36E+02	1.08E-05	---	---	---	---	---	---	---	---	---	---
Mercury	8.08E-01	2.59E-08	---	---	---	---	---	---	---	---	---	---
Nickel	1.10E+01	3.52E-07	---	---	---	8.80E-06	---	---	---	4.E-09	4.E-09	4.E-09
Vanadium	2.10E+01	6.72E-07	---	---	---	---	---	---	---	---	---	---
Zinc	1.10E+02	3.52E-06	---	---	---	---	---	---	---	---	---	---

Pathway Risks				Media Risks	Total
5E-06	7E-07	6E-08	6E-08	*6.E-06*	*6.E-06*

Table G-13
SUBCHRONIC RISK CALCULATIONS
Emergency Utility Worker
Parcel P-3, Tremont Street & Whittier Streets
Boston, Massachusetts

	Exposure Point Concentrations			Subchronic Average Daily Dose and Exposure Estimates					Subchronic Hazard Index Estimates					Total Subchronic Hazard Index Estimates		
CHEMICAL	Soil (mg/kg)	Fugitive Dust (mg/m^3)	Groundwater (mg/l)	Soil Ingestion (mg/kg/day)	Soil Dermal (mg/kg/day)	Fugitive Dust Ingestion (mg/kg/day)	Fugitive Dust Inhalation (mg/m3)	Groundwater Dermal (mg/kg/day)	Soil Ingestion	Soil Dermal	Fugitive Dust Ingestion	Fugitive Dust Inhalation	Groundwater Dermal	Soil	Groundwater	All Media
Volatile Organic Compounds																
Benzene	4.90E-02	2.94E-09		2.58E-10	2.65E-11	8.91E-12	1.47E-12		3E-08	3E-09	9E-10	1E-10		3.E-08		3.E-08
Chloroform			9.10E-03					1.60E-08					2E-06		2.E-06	2.E-06
Ethyl ether			2.40E-03					1.07E-09					5E-10		5.E-10	5.E-10
Tetrachloroethylene (PCE)			1.90E-02					2.18E-07					4E-05		4.E-05	4.E-05
Trichloroethylene (TCE)	2.50E-01	1.50E-08	9.30E-02	1.32E-09	4.06E-10	4.55E-11	7.50E-12	3.10E-07	3E-06	8E-07	9E-08	4E-09	6E-04	4.E-06	6.E-04	6.E-04
Vinyl chloride			6.30E-03					6.44E-09					2E-06		2.E-06	2.E-06
Xylenes (mixed isomers)	3.20E-02	1.92E-09		1.68E-10	5.20E-11	5.82E-12	9.60E-13		4E-10	1E-10	1E-11	2E-12		6.E-10		6.E-10
Petroleum Hydrocarbon Fractions																
EPH																
C19-C36 Aliphatic	5.50E+01	3.30E-06	1.40E-01	2.89E-07	5.96E-07	1.00E-08	---	2.16E-04	5E-08	1E-07	2E-09	---	4E-05	1.E-07	4.E-05	4.E-05
C11-C22 Aromatic	1.82E+02	1.09E-05	1.60E-01	2.87E-07	9.86E-07	9.93E-09	5.46E-09	1.02E-05	1E-06	3E-06	3E-08	1E-08	3E-05	4.E-06	3.E-05	4.E-05
Semivolatile Organic Compounds																
Non-Carcinogenic PAHs																
Acenaphthene	2.56E+00	1.54E-07	2.25E-03	4.05E-09	1.39E-08	1.40E-10	7.69E-11	6.56E-08	2E-08	7E-08	7E-10	2E-10	3E-07	9.E-08	3.E-07	4.E-07
Acenaphthylene	6.00E-01	3.60E-08		9.47E-10	3.25E-09	3.27E-11	1.80E-11		3E-09	1E-08	1E-10	4E-11		1.E-08		1.E-08
Anthracene	3.70E+00	2.22E-07	9.94E-04	5.84E-09	2.00E-08	2.02E-10	1.11E-10	6.46E-08	6E-09	2E-08	2E-10	2E-10	6E-08	3.E-08	6.E-08	9.E-08
Benzo(ghi)perylene	4.10E+00	2.46E-07		6.47E-09	2.22E-08	2.24E-10	1.23E-10		2E-08	7E-08	7E-10	2E-10		1.E-07		1.E-07
Fluoranthene	1.72E+01	1.03E-06	1.57E-03	2.72E-08	9.32E-08	9.39E-10	5.16E-10	1.65E-07	7E-08	2E-07	2E-09	1E-09	4E-07	3.E-07	4.E-07	7.E-07
Fluorene	2.29E+00	1.38E-07	2.10E-03	3.62E-09	1.24E-08	1.25E-10	6.88E-11	8.80E-08	9E-09	3E-08	3E-10	1E-10	2E-07	4.E-08	2.E-07	3.E-07
2-Methylnaphthalene	2.60E+00	1.56E-07	6.52E-04	4.11E-09	1.41E-08	1.42E-10	7.80E-11	1.87E-08	1E-06	4E-06	4E-08	2E-10	5E-06	5.E-06	5.E-06	9.E-06
Naphthalene	1.50E+00	9.00E-08	1.45E-03	2.37E-09	8.13E-09	8.19E-11	4.50E-11	2.02E-08	1E-08	4E-08	4E-10	2E-08	1E-07	7.E-08	1.E-07	2.E-07
Phenanthrene	1.68E+01	1.01E-06	5.53E-03	2.66E-08	9.12E-08	9.19E-10	5.05E-10	3.16E-07	9E-08	3E-07	3E-09	1E-09	1E-06	4.E-07	1.E-06	1.E-06
Pyrene	1.44E+01	8.66E-07	9.42E-04	2.28E-08	7.82E-08	7.88E-10	4.33E-10	1.23E-07	8E-08	3E-07	3E-09	9E-10	4E-07	3.E-07	4.E-07	7.E-07
Carcinogenic PAHs																
Benz(a)anthracene	7.50E+00	4.50E-07		1.18E-08	8.13E-09	4.09E-10	2.25E-10		4E-08	3E-08	1E-09	5E-10		7.E-08		7.E-08
Benzo(a)pyrene	6.64E+00	3.98E-07		1.05E-08	7.19E-09	3.62E-10	1.99E-10		3E-08	2E-08	1E-09	4E-10		6.E-08		6.E-08
Benzo(b)fluoranthene	8.20E+00	4.92E-07		1.29E-08	8.88E-09	4.47E-10	2.46E-10		4E-08	3E-08	1E-09	5E-10		7.E-08		7.E-08
Benzo(k)fluoranthene	5.22E+00	3.13E-07		8.24E-09	5.65E-09	2.85E-10	1.57E-10		3E-08	2E-08	9E-10	3E-10		5.E-08		5.E-08
Chrysene	7.28E+00	4.37E-07		1.15E-08	7.89E-09	3.97E-10	2.18E-10		4E-08	3E-08	1E-09	4E-10		7.E-08		7.E-08
Dibenz(ah)anthracene	1.20E+00	7.20E-08		1.89E-09	1.30E-09	6.55E-11	3.60E-11		6E-09	4E-09	2E-10	7E-11		1.E-08		1.E-08
Indeno(1,2,3-cd)pyrene	4.70E+00	2.82E-07		7.42E-09	5.09E-09	2.56E-10	1.41E-10		2E-08	2E-08	9E-10	3E-10		4.E-08		4.E-08
Polychlorinated Biphenyls																
Polychlorinated biphenyls (PCBs)	4.64E-02	2.78E-09		2.44E-10	2.51E-10	8.44E-12	1.39E-12		5E-06	5E-06	2E-07	7E-08		1.E-05		1.E-05
Metals																
Arsenic	1.01E+01	6.07E-07		2.66E-08	1.64E-08	9.19E-10	3.03E-10		9E-05	5E-05	3E-06	2E-05		2.E-04		2.E-04
Barium	7.03E+01	4.22E-06	1.50E-04	3.70E-07	3.81E-07	1.28E-08	2.11E-09	1.54E-11	5E-06	5E-06	2E-07	4E-07	2E-10	1.E-05	2.E-10	1.E-05
Beryllium	3.60E-01	2.16E-08		1.89E-09	1.95E-09	6.55E-11	1.08E-11		4E-07	4E-07	1E-08	5E-07		1.E-06		1.E-06
Cadmium (in soil, sediment, or tissue)	2.40E+00	1.44E-07	4.10E-04	1.26E-08	1.30E-09	4.37E-10	7.20E-11	---	3E-05	3E-06	9E-07	4E-06	---	3.E-05	---	3.E-05
Cadmium (in groundwater or suface water)	2.40E+00	1.44E-07	4.10E-04	---	---	---	7.20E-11	7.66E-10	---	---	---	2E-07	2E-06	2.E-07	2.E-06	2.E-06
Chromium, total (assumes 1:6 ratio Cr VI:Cr III)	2.83E+01	1.70E-06		1.49E-07	1.53E-07	5.14E-09	8.48E-10		7E-06	8E-06	3E-07	3E-06		2.E-05		2.E-05
Lead	1.16E+03	6.98E-05		3.06E-06	3.78E-07	1.06E-07	3.49E-08		4E-03	5E-04	1E-04	3E-05		5.E-03		5.E-03
Mercury	5.76E-01	3.46E-08		1.52E-09	3.12E-09	5.24E-11	1.73E-11		5E-06	1E-05	2E-07	6E-08		2.E-05		2.E-05
Nickel	2.40E+01	1.44E-06	2.45E-03	1.26E-07	2.60E-07	4.37E-09	7.20E-10	4.58E-10	6E-06	1E-05	2E-07	7E-07	2E-08	2.E-05	2.E-08	2.E-05
Vanadium	2.30E+01	1.38E-06		1.21E-07	1.25E-07	4.18E-09	6.90E-10		1E-05	1E-05	5E-07	7E-07		3.E-05		3.E-05
Zinc	1.90E+02	1.14E-05		1.00E-06	1.03E-06	3.46E-08	5.70E-09		3E-06	3E-06	1E-07	4E-06		1.E-05		1.E-05

Pathway Risks					Media Risks		Total
4E-03	6E-04	1E-04	6E-05	8E-04	5.E-03	8E-04	5.8.E-03

Table G-14
CANCER RISK CALCULATIONS
Emergency Utility Worker
Parcel P-3, Tremont Street & Whittier Streets
Boston, Massachusetts

	Exposure Point Concentrations			Average Daily Dose (lifetime) Estimates					Carcinogenic Risk Estimates					Total Carcinogenic Risk Estimates		
CHEMICAL	Soil (mg/kg)	Fugitive Dust (mg/m^3)	Groundwater (mg/l)	Soil Ingestion (mg/kg/day)	Soil Dermal (mg/kg/day)	Fugitive Dust Ingestion (mg/kg/day)	Fugitive Dust Inhalation (ug/m3)	Groundwater Dermal (mg/kg/day)	Soil Ingestion	Soil Dermal	Fugitive Dust Ingestion	Fugitive Dust Inhalation	Groundwater Dermal	Soil	Groundwater	All Media
Volatile Organic Compounds																
Benzene	4.90E-02	2.94E-09		3.68E-12	1.14E-12	1.27E-13	2.10E-11		2.E-13	6.E-14	7.E-15	2.E-16		3.E-13		3.E-13
Chloroform			9.10E-03					2.28E-10					---		---	---
Ethyl ether			2.40E-03					1.52E-11					---		---	---
Tetrachloroethylene (PCE)			1.90E-02					3.12E-09					6.E-11		6.E-11	6.E-11
Trichloroethylene (TCE)	2.50E-01	1.50E-08	9.30E-02	1.88E-11	5.80E-12	6.50E-13	1.07E-10	4.43E-09	9.E-13	3.E-13	3.E-14	4.E-16	2.E-10	1.E-12	2.E-10	2.E-10
Vinyl chloride			6.30E-03					1.41E-10					2.E-10		2.E-10	2.E-10
Xylenes (mixed isomers)	3.20E-02	1.92E-09		---	---	---	---		---	---	---	---		---		---
Petroleum Hydrocarbon Fractions																
Total Petroleum Hydrocarbons (TPH)	1.24E+03	7.43E-05		---	---	---	---		---	---	---	---		---		---
EPH																
C19-C36 Aliphatic	5.50E+01	3.30E-06	1.40E-01	---	---	---	---	3.08E-06	---	---	---	---	---	---	---	---
C11-C22 Aromatic	1.82E+02	1.09E-05	1.60E-01	---	---	---	---	1.35E-07	---	---	---	---	---	---	---	---
Semivolatile Organic Compounds																
Non-Carcinogenic PAHs																
Acenaphthene	2.56E+00	1.54E-07	2.25E-03	---	---	---	---	8.62E-10	---	---	---	---	---	---	---	---
Acenaphthylene	6.00E-01	3.60E-08		---	---	---	---		---	---	---	---		---		---
Anthracene	3.70E+00	2.22E-07	9.94E-04	---	---	---	---	8.50E-10	---	---	---	---	---	---	---	---
Benzo(ghi)perylene	4.10E+00	2.46E-07		---	---	---	---		---	---	---	---		---		---
Fluoranthene	1.72E+01	1.03E-06	1.57E-03	---	---	---	---	2.17E-09	---	---	---	---	---	---	---	---
Fluorene	2.29E+00	1.38E-07	2.10E-03	---	---	---	---	1.16E-09	---	---	---	---	---	---	---	---
2-Methylnaphthalene	2.60E+00	1.56E-07	6.52E-04	---	---	---	---	2.46E-10	---	---	---	---	---	---	---	---
Naphthalene	1.50E+00	9.00E-08	1.45E-03	---	---	---	---	2.66E-10	---	---	---	---	---	---	---	---
Phenanthrene	1.68E+01	1.01E-06	5.53E-03	---	---	---	---	4.16E-09	---	---	---	---	---	---	---	---
Pyrene	1.44E+01	8.66E-07	9.42E-04	---	---	---	---	1.62E-09	---	---	---	---	---	---	---	---
Carcinogenic PAHs																
Benz(a)anthracene	7.50E+00	4.50E-07		1.69E-10	1.16E-10	5.85E-12	3.21E-09		1.E-10	8.E-11	4.E-12	7.E-13		2.E-10		2.E-10
Benzo(a)pyrene	6.64E+00	3.98E-07		1.50E-10	1.03E-10	5.17E-12	2.84E-09		1.E-09	7.E-10	4.E-11	6.E-12		2.E-09		2.E-09
Benzo(b)fluoranthene	8.20E+00	4.92E-07		1.85E-10	1.27E-10	6.39E-12	3.51E-09		1.E-10	9.E-11	5.E-12	7.E-13		2.E-10		2.E-10
Benzo(k)fluoranthene	5.22E+00	3.13E-07		1.18E-10	8.08E-11	4.07E-12	2.24E-09		9.E-12	6.E-12	3.E-13	5.E-14		1.E-11		1.E-11
Chrysene	7.28E+00	4.37E-07		1.64E-10	1.13E-10	5.67E-12	3.12E-09		1.E-11	8.E-12	4.E-13	7.E-14		2.E-11		2.E-11
Dibenz(ah)anthracene	1.20E+00	7.20E-08		2.71E-11	1.86E-11	9.35E-13	5.14E-10		2.E-10	1.E-10	7.E-12	1.E-12		3.E-10		3.E-10
Indeno(1,2,3-cd)pyrene	4.70E+00	2.82E-07		1.06E-10	7.27E-11	3.66E-12	2.01E-09		8.E-11	5.E-11	3.E-12	4.E-13		1.E-10		1.E-10
Polychlorinated Biphenyls																
Polychlorinated biphenyls (PCBs)	4.64E-02	2.78E-09		3.49E-12	3.59E-12	1.21E-13	1.99E-11		7.E-12	7.E-12	2.E-13	2.E-15		1.E-11		1.E-11
Metals																
Arsenic	1.01E+01	6.07E-07		3.80E-10	2.35E-10	1.31E-11	4.33E-09		6.E-10	4.E-10	2.E-11	1.E-11		1.E-09		1.E-09
Barium	7.03E+01	4.22E-06	1.50E-04	---	---	---	---	2.00E-13	---	---	---	---	---	---	---	---
Beryllium	3.60E-01	2.16E-08		---	---	---	1.54E-10		---	---	---	4.E-13		4.E-13		4.E-13
Cadmium (in soil, sediment, or tissue)	2.40E+00	1.44E-07	4.10E-04	---	---	---	1.03E-09	5.47E-13	---	---	---	2.E-12	---	2.E-12	---	2.E-12
Cadmium (in groundwater or suface water)	2.40E+00	1.44E-07	4.10E-04	---	---	---	1.03E-09	5.47E-13	---	---	---	2.E-12	---	2.E-12	---	2.E-12
Chromium, total (assumes 1:6 ratio Cr VI:Cr III)	2.83E+01	1.70E-06		---	---	---	---		---	---	---	---		---		---
Lead	1.16E+03	6.98E-05		---	---	---	---		---	---	---	---		---		---
Mercury	5.76E-01	3.46E-08		---	---	---	---		---	---	---	---		---		---
Nickel	2.40E+01	1.44E-06	2.45E-03	---	---	---	1.03E-08	6.54E-13	---	---	---	5.E-12	---	5.E-12	---	5.E-12
Vanadium	2.30E+01	1.38E-06		---	---	---	---		---	---	---	---		---		---
Zinc	1.90E+02	1.14E-05		---	---	---	---		---	---	---	---		---		---

Pathway Risks					Media Risks		Total
2E-09	1E-09	8E-11	3E-11	5E-10	4.E-09	5.E-10	4.E-09

Table G-15. Substantial Hazard Evaluation Summary
Supplemental Phase II CSA, Phase III RAP Addendum, and Temporary Solution Statement
Parcel P-3, Tremont Street & Whittier Streets
Boston, Massachusetts

Receptor			Hazard Index (HI)			Excess Lifetime Cancer Risk (ELCR)		
			Soil	Groundwater	Cumulative HI	Soil	Groundwater	Cumulative ELCR
0-3'	**Tresspasser** Current	**Subchronic** **Chronic**	0.2 0.08	-- --	0.2 0.08	2E-06	--	2E-06
0-3'	**Commercial Worker** Current	**Subchronic** **Chronic**	0.2 0.1	-- --	0.2 0.1	6E-06	--	6E-06
0-15'	**Emergency Utillity Worker** Maximum Detected Concentration	**Subchronic**	0.005	0.001	0.01	4E-09	5E-10	4E-09
		MCP Cumulative Risk Limit:			**1**	**MCP Cumulative Risk Limit:**		**1E-05**