

Phase I Initial Site Investigation Report and Tier Classification Submittal

478 – 480 Union Street
New Bedford, Massachusetts
RTN 4-23596

October 2012

Weston&Sampson[®]

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**City of New Bedford
Weston & Sampson Project No. 2100451**

October 3, 2012

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup, Southeast Region
20 Riverside Drive
Lakeville, Massachusetts 02347

**Re: Phase I Initial Site Investigation Report and
Tier Classification Submittal**
478 – 480 Union Street
New Bedford, Massachusetts
Release Tracking Number (RTN) 4-23596

Dear Sir or Madam:

Weston & Sampson has prepared this Phase I Initial Site Investigation Report and Tier Classification Submittal for RTN 4-23596. This report has been prepared on behalf of the City of New Bedford, the owner of 478 – 480 Union Street (the Site). RTN 4-23596 is associated with the detection of petroleum constituents and lead in soil above Reportable Concentration (RC) S-1 standards at the Site. The Site is an undeveloped 0.42 acre parcel of land that was historically occupied by a gasoline filling station and automobile service garage.

Weston & Sampson performed an initial subsurface investigation at the Site in the spring of 2011. The investigation identified petroleum and lead impacted soil above applicable RCS-1 standards. On October 3, 2011, the 120-day release condition was reported to the DEP. RTN 4-23596 was subsequently assigned to the Site.

Weston & Sampson completed additional Phase I Site Investigation activities in 2012 to further assess petroleum and lead impacted soil and groundwater at the Site. Based on the results of the investigation, Comprehensive Response Actions are required at the Site. Based on a Numerical Ranking System (NRS) score of 267, the Disposal Site is classified as a Tier II site.

This Phase I Report and Tier Classification submittal has been prepared in accordance with the MCP, 310 CMR 40.0000 and has been submitted electronically via the eDEP online system. If you have any questions or concerns, please do not hesitate to contact the undersigned at (978) 532-1900.

Very truly yours,

WESTON & SAMPSON,

A handwritten signature in blue ink that reads "George D. Naslas".

George Naslas, LSP, P.G.
Associate

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EXECUTIVE SUMMARY

Weston & Sampson has prepared this Phase I Initial Site Investigation Report and Tier Classification Submittal for 478 - 480 Union Street, New Bedford Massachusetts, Release Tracking Number (RTN) 4-23596. This report is submitted on behalf of the City of New Bedford, the owner of 478 – 480 Union Street (the Site). RTN 4-23596 is associated with the detection of petroleum constituents and lead in soil above Reportable Concentration (RC) S-1 standards at the Site.

As detailed in this report, the Site consists of an undeveloped 0.42 acre parcel of land. A gasoline filling station and automobile service garage existed at the Site between 1915 and the late 1970's. Numerous underground storage tanks (USTs) were historically located at the Site. Information regarding the assessment and closure of the USTs is very limited.

Weston & Sampson performed an initial subsurface investigation at the Site in the spring of 2011 which included the performance of a geophysical survey, excavation of 9 test pits, advancement of 11 soil borings, installation of 8 groundwater monitoring wells, and soil/groundwater sampling and analysis. The investigation did not identify any abandoned USTs at the Site. However, analysis of soil samples identified petroleum impacts in exceedance of applicable Massachusetts Department of Environmental Protection (DEP) RCS-1 standards at the Site. The impacted soils were identified on the northwestern and northern portion of the Site in the area of former gasoline USTs and on the western portion of the Site in the area of former fuel oil USTs. Additionally, a concentration of lead was identified in fill material soils on the northern portion of the Site above the RCS-1 standard.

The identification of soil impacted above RCS-1 standards represented a 120-day reportable release condition to the DEP. On October 3, 2011, Weston & Sampson reported the release condition to the DEP on behalf of the City of New Bedford. At that time the DEP assigned RTN 4-23596 to the Site.

Weston & Sampson completed additional Phase I Site investigation activities at the Site in 2012. The activities included the advancement of 13 additional soil borings and installation of 2 additional groundwater monitoring wells and the collection and analysis of soil/groundwater samples. Results of the Phase I investigation have confirmed that petroleum impacted soil exists above Method 1 S-1 standards between 10 to 19 feet below grade surface (bgs) on the northwestern and northern portion of the Site in two separate areas where gasoline USTs were previously located. Additionally, petroleum impacted soil exists above Method 1 S-1 standards between 7 and 15 feet bgs on the western portion of the Site in an area where former fuel oil USTs were previously located. Lead has been detected in fill material soil on the northern portion of the Site at average concentrations below the Method 1 S-1 standard. Analysis of groundwater samples collected throughout the Site has not identified concentrations of petroleum constituents or lead above applicable GW-2/3 standards.

Weston & Sampson completed a Numerical Ranking System (NRS) Scoresheet to classify the Site. Based on a score of 267, the Site is classified as a Tier II site.

1.0 GENERAL DISPOSAL SITE INFORMATION

1.1 Introduction

Weston & Sampson, on behalf of the City of New Bedford, has prepared this Phase I Initial Site Investigation Report and Tier Classification submittal for RTN 4-23596. This RTN is associated with the detection of petroleum constituents and lead in soil above RCS-1 standards. A Release Notification Form (RNF) for the 120-day release condition was submitted to the DEP on October 3, 2011. The DEP subsequently issued RTN 4-23596 for the Site.

This Phase I report and Tier Classification were prepared in accordance with the MCP, 310 CMR 40.0000 and are subject to the Limitations presented in Section 8.0 of this report. The Bureau of Waste Site Cleanup (BWSC) forms BWSC-107 and BWSC-108 have been submitted electronically and copies of public notification letters and legal notice are presented in Appendix A.

1.2 Site Description and Location

The Site is an unoccupied 0.42 acre parcel of vacant land located at 478 - 480 Union Street in New Bedford, Massachusetts. The geographical coordinates for the Site using a USGS topographical map are:

UTM Coordinates: 4,610,806 m N
338,481 m E

Latitude/Longitude: 41° 37' 57" N
70° 56' 21" W

See Figures 1, 2 and 3 for a depiction of the Site vicinity.

1.3 Residential Population/On-Site Workers

According to an on-line profile (City-Data.com), the 2010 estimated residential population of the City of New Bedford is 95,072 people with a population density of 4,752 people per square mile. The Site is a vacant parcel of land with no workers except for occasional municipal landscaping maintenance employees, and is located in a residential and commercial area of the City of New Bedford.

1.4 Land Use of Surrounding Area

The Site is located on the south side of Union Street southeast of the intersection of Union Street and Newton Street. Union Street is located north of the Site, across which are a residence, a church and a medical supply office. Residential properties abut the Site to the east, south and west. A school is located northwest of the Site across Union Street.

Residential properties are located within 500 feet of the Site. However, no institutions, as defined by the MCP to include hospitals, health care facilities orphanages, nursing homes, convalescent homes, educational facilities, correctional facilities, or other such facilities that provide overnight housing, were identified within 500 feet of the Site.

1.5 Natural Resource Areas

As depicted in the attached Figure 3 - Area Receptors Map, the Site is not located within a DEP Approved Zone II, Interim Wellhead Protection Area, or Potentially Productive Aquifer. The Site is also not located within an Area of Critical Environmental Concern or Protected Open Space. No surface water bodies or wetlands have been identified at the Site. The nearest surface water body and associated wetlands to the Site is the Acushnet River which is located approximately 1 mile east of the Site.

1.6 Conceptual Site Model

Weston & Sampson was initially contracted by the City of New Bedford to perform an investigation of the Site in 2011 as part of the City's Brownfield Program. The objective of the investigation was to assess potential impacts to the Site from historic use as a gasoline filling station and automotive repair facility with numerous historic Underground Storage Tanks (USTs).

Weston & Sampson developed a field program to determine if USTs remained at the Site and to evaluate subsurface conditions throughout the Site with a focus on former UST locations. Initial fieldwork was performed in April 2011 and included the performance of a geophysical survey, installation of soil borings / groundwater monitoring wells throughout the Site, and the collection and laboratory analysis of soil / groundwater samples. As detailed further in this report, the initial investigation identified petroleum constituents and lead in soil at concentrations that exceeded RCS-1 standards. In support of the Phase I Site Investigation, Weston & Sampson conducted additional investigation in May 2012, which included the installation of additional soil boring / groundwater monitoring wells at the Site and the collection and analysis of additional soil / groundwater samples. The investigation identified further petroleum impacts in soil at the Site which require additional delineation. Analysis of groundwater samples has not identified impacts above RCGW-2 standards at the Site.

The conceptual model is that the petroleum impacted soil exists on the northwestern, northern, and western portion of the Site in areas where former USTs were located. Lead has also been identified in fill material soil on the northern portion of the Site..

1.7 Phase I Scope of Work

The scope of work for the Phase I investigation performed at the Site included the following:

- Review and compilation of available background information for the release, the Site and surrounding areas;
- Performance of a geophysical survey of the Site to identify remaining USTs.
- Advancement of soil borings and installation of groundwater monitoring wells;
- Soil and groundwater sampling and analysis;

- Groundwater elevation survey;
- Evaluation of environmental monitoring data; and
- Preparation of a Phase I Report, Conceptual Phase II Scope of Work, and Tier Classification.

2.0 DISPOSAL SITE HISTORY

2.1 Owner/Operator History

Records at the City of New Bedford Assessor's Office indicate the Site is currently owned by the City of New Bedford. The City acquired the property from Martins Family Nominee Trust through non-payment of taxes in 2009. George and Karen Martin had acquired the property from the Alan Cohen Trust on July 17, 1997. Alan Cohen purchased the property from Colonial Restaurant and Store Equipment Co. on December 11, 1986.

Historical atlas maps indicate that the Site was developed with two residential structures in 1906. The structures were removed and a gasoline filling station and automobile service garage occupied the Site between 1915 and the late 1970s. The Site was reportedly utilized by a restaurant supply company in the 1980s (which coincides with the above information) and a dance studio in the 1990's. Figure 2 depicts the former building location. The building was removed from the Site by the City in the spring of 2011 prior to Weston & Sampson's initial investigation.

2.2 Release History

Weston & Sampson performed an initial subsurface investigation at the Site in the spring of 2011 which included the performance of a geophysical survey, excavation of test pits, advancement of soil borings, installation of groundwater monitoring wells, and soil/groundwater sampling and analysis. Soil analysis identified petroleum impacted soil in exceedance of applicable RCS-1 standards at the Site. The impacted soils were identified on the northwestern and northern portion of the Site in the area of former gasoline USTs and on the western portion of the Site in the area of former fuel oil USTs. Additionally, lead was identified in fill material soils on the northern portion of the Site above the RCS-1 standard.

The identification of soil impacted above RCS-1 standards constituted a 120-day reportable release condition to the DEP. On October 3, 2011, Weston & Sampson reported the release condition to the DEP on behalf of the City of New Bedford. At that time the DEP assigned Release Tracking Number (RTN) 4-23596 to the Site.

Previous Site Release (RTN 4-1265)

The Site is also listed with the DEP for a release of petroleum hydrocarbons to soil and groundwater, identified during a previous investigation performed by Harborline Engineering in 1992. The release was reported to the DEP in 1993 and RTN 4-1265 was assigned to the Site. Prime Engineering performed additional assessment of the Site in 1997 and submitted a Class B-1 Response Action Outcome (RAO) Statement to the DEP for RTN 4-1265 in support of regulatory closure. Please see Section 3.1 for additional details regarding investigation performed at the Site for RTN 4-1265.

No other known releases associated with the Site were identified.

2.3 OHM Use and Storage History

The Site is a vacant lot where OHM is not currently used or stored. Historic use of the Site as a gasoline filling station and automotive service garage included the use and storage of OHM. Additional information regarding OHM use and storage history at the Site is limited.

Municipal records and historic Sanborn atlas maps indicated that numerous USTs were historically located at the Site. Five gasoline tanks were depicted in a 1924 atlas map on the northern portion of the Site. A 1950 atlas map indicates three additional gasoline tanks were located on the northwestern portion of the Site. Municipal records indicate that two 1,000-gallon #2 fuel oil USTs were removed from the Site in 1984 and 1992 and a 550-gallon waste oil UST was removed from the Site in 1989. Tank installation and/or removal permits also exist for numerous other USTs including one 3,000-gallon gasoline UST and one 2,000-gallon gasoline UST. However, additional UST information including reports detailing the removal of the historic USTs at the Site was not identified. Figure 2 depicts the location of some of the historic on-Site USTs as identified in the historic atlas maps and previous reports for the Site. No other current or historic OHM storage has been identified at the Site.

Historic information/mapping did not include information about utilities and/or floor drains at the Site. The former Site building was previously serviced with municipal water and sewer from mains located in Union Street. All utilities were disconnected prior to demolition and removal of the building. There are currently no subsurface utilities at the Site.

2.4 Environmental Permits and Compliance History

There are no known environmental permits for the Site documented with the DEP, Environmental Protection Agency (EPA), or the City of New Bedford. The following submittals associated with RTN 4-23596 have been made to DEP:

<u>Date</u>	<u>Notification or Submittal</u>
October 3, 2011:	RNF was submitted to the DEP for a 120-day reportable condition. The DEP subsequently issued RTN 4-23596.

No other MCP notifications or submittals have been made for the RTN.

2.5 MCP Sites within 500 feet of the Subject Property

Weston & Sampson conducted a review of files available in the DEP database to identify MCP sites within 500 feet of the Site. There were no MCP sites identified within 500 feet of the Site.

3.0 SUBSURFACE INVESTIGATION AND SITE HYDROGEOLOGICAL CHARACTERISTICS

Initial subsurface investigation activities were conducted at the Site in 1992 and 1997 for previous RTN 4-1265. In 2011 and 2012, Weston & Sampson performed Phase I Site investigation activities at the Site for RTN 4-23596. The following provides a summary of the investigations:

3.1 Previous Investigations

The following investigation and remedial activities were performed at the Site by others. Sample locations are depicted in Figure 2 attached. Copies of reports for the previous investigations are provided in Appendix B.

A previous subsurface investigation was performed at the Site in 1992 by Harborline Engineering. The City of New Bedford provided Weston & Sampson a report of the investigation. The investigation included the installation of three monitoring wells (MW-1, MW-2 and MW-3) on the northwestern and northern portion of the Site. Photoionization Detector (PID) field screening of soil samples collected from the borings identified concentrations of total volatile organics (TVOCs) ranging from 1.2 to 65 parts per million by volume (ppmv). However, soil samples were not submitted for laboratory analysis. Laboratory analysis of groundwater samples collected from the monitoring wells identified a concentration of Total Petroleum Hydrocarbons (TPH) at 679 mg/l in the sample obtained from MW-1 (west of the former Site building) and 1,2 Dichlorobenzene (13.6 ug/l) in the sample obtained from MW-3 (northeast of the former Site building). Harborline determined that results indicated that a release of oil or hazardous material was identified at the Site. The release was subsequently reported to the DEP and RTN 4-1265 was assigned to the Site.

Weston & Sampson was also provided with a copy of an RAO Statement report for RTN 4-1265, prepared by Prime Engineering, Inc. dated October 13, 1997. The report indicates that Prime installed two additional soil borings (P-1 and P2) on the northern portion of the Site in 1997. Field screening of soil samples collected from the borings identified concentrations of TVOCs ranging from 3.5 to 121 ppmv. A single composite soil sample was submitted for laboratory analysis from each of the borings. Analysis did not identify concentrations of petroleum hydrocarbons above applicable DEP Method 1 S-1 soil standards. Prime also collected groundwater samples from MW-1, MW-2, and MW-3. Analysis of the groundwater samples did not identify concentrations of petroleum hydrocarbons above applicable DEP Method 1 GW-2 / GW-3 groundwater standards. Prime concluded that based on the results of their investigation a condition of No Significant Risk existed at the Site.

Although an RAO had been issued to the DEP in support of regulatory closure, the soil and groundwater sampling performed in support of the 1997 RAO did not include sampling in the area of many of the historic UST locations at the Site. Weston & Sampson conducted additional investigation in those historic petroleum storage areas on the Site on behalf of the City of New Bedford as part of the City's Brownfield Program.

3.2 Weston & Sampson Investigations

Weston & Sampson performed Phase I investigation activities at the Site between April 2011 and May 2012 as detailed below. The investigations included the performance of a geophysical survey, excavation of test pits, advancement of soil borings, and the installation of monitoring wells to further assess soil and groundwater conditions at the Site. Please see Figure 2 for all sampling locations.

3.2.1 Geophysical Survey

On March 17, 2011, Weston & Sampson documented a geophysical survey at the Site by Hager Geoscience, Inc. The survey was performed on the northern and northwestern portions of the Site using ground penetrating radar (GPR) and was supplemented with a Schonstedt metal detector. Weston & Sampson was present during the survey and specified the survey locations. A report detailing the results of the survey is provided in Appendix C.

As detailed in the attached report, the survey identified two GPR anomalies interpreted as possible USTs, as well as two areas of potential past excavation on the northern portion of the Site. Three areas of high magnetic response were also identified on the northern portion of the Site. Each of these areas was investigated during test pit activities detailed below.

3.2.2 Test Pit Excavation

On April 14 and 15, 2011, Weston & Sampson observed and documented test pit excavation activities by JM Environmental Corp. Nine test pits (TP-1 through TP-9) were advanced throughout the Site utilizing a track mounted excavator. The test pits were advanced in strategic locations to assess historic UST areas and the two areas of possible USTs identified during the geophysical survey. The test pits were advanced to depths between 9-13 feet below ground surface (bgs). Test pit logs are included in Appendix D.

No USTs were identified during the test pit activities. In addition to the test pits, shallow excavations were performed in four areas where potential buried metal was identified during the geophysical survey. The excavations did not identify any utilities or structures..

3.2.3 Soil Boring / Monitoring Well Installation

Weston & Sampson observed the advancement/installation of a series of soil borings/monitoring wells at the Site in an effort to assess the nature and extent of soil and groundwater impacts. The soil borings were advanced to depths ranging from 15 to 20 feet bgs by New England Geotech, Inc. utilizing a truck mounted Geoprobe drilling rig.

On April 21 and 22, 2011, eleven soil borings (WS-1 through WS-11) were advanced at the Site to assess potential impacts from historic Site use as a gasoline filling station and automotive repair facility with numerous USTs. Permanent monitoring wells were installed in 8 of the boring locations (WS-1 through WS-8) to depths of approximately 15 feet bgs.

On May 11, 2012, Weston & Sampson observed the advancement of thirteen additional soil borings (WS-12 through WS-24) at the Site to further assess petroleum and lead impacted soil. Permanent monitoring wells were installed in two of the borings locations (WS-12 and WS-23) to depths of approximately 17 and 19 feet bgs, respectively.

Each monitoring well was constructed of a 10-foot length of 2-inch diameter PVC well screen followed by a length of 2-inch diameter PVC riser to grade level. Number 2 washed sand was packed to approximately 1-2 foot above the screen followed by a 1-2 foot thick bentonite grout packing. The remainder of each boring was backfilled with native soil and then sealed to grade with concrete and completed with a flush mount road box. Soil boring and monitoring well construction logs are included in Appendix E.

3.2.4 Soil Sampling / Analysis

Soil samples were collected continuously within the borings utilizing dedicated sample liners. Soils were classified in the field using the Burmeister Soil Classification system by a Weston & Sampson geologist. Each of the soil samples was screened in the field for TVOCs using a PID via the DEP jar headspace method. Field screening results are detailed in Section 4.1.2.

Discrete soil samples were selected for laboratory analysis based on field screening results with the objective of delineating the horizontal and vertical extent of impacts, and to obtain a representative data set for risk characterization. A total of 33 soil samples were selected and submitted to for laboratory analysis.

Samples collected from borings advanced in April 2011 were submitted to Groundwater Analytical Laboratories in Buzzards Bay, Massachusetts for varying laboratory analyses to assess for potential impacts from historic Site use. Analyses included Extractable Petroleum Hydrocarbons (EPH) with Polynuclear Aromatic Hydrocarbons (PAHs) and Volatile Petroleum Hydrocarbons (VPH) with targeted Volatile Organic Compounds (VOCs) via DEP Methodology, VOCs via EPA Method 8260, 8 RCRA Metals via EPA Method 6010B, and/or Polychlorinated Biphenyls (PCBs) via EPA Method 8082.

The samples collected in May 2012 were submitted to Premier Laboratory in Dayville, Connecticut for varying laboratory analyses to further assess petroleum and lead impacted soils identified at the Site. Analyses included EPH with PAHs via DEP Methodology, VPH with targeted VOCs via DEP Methodology and Total Lead via EPA Method 6010B.

All samples were stored on ice after collection and during transportation to the laboratories and were handled and relinquished using standard quality assurance and chain-of-custody procedures. See Table 2a and 2b for a summary of soil analytical results. See Table 4 for Maximum and Minimum concentrations. Laboratory Analytical Reports are included in Appendix F.

3.2.5 Groundwater Sampling / Analysis

Weston & Sampson performed groundwater sampling events at the Site on April 28 and 29, 2011 (WS-1 through WS-8 and previously installed monitoring wells MW-1 and 2) and May 25, 2012 (WS-12 and WS-23).

The groundwater samples were collected using EPA-approved low-flow sampling procedures. Parameters including pH, temperature, specific conductivity, dissolved oxygen, oxidation reduction potential (ORP) and turbidity were recorded using a groundwater quality meter. Groundwater samples were collected from the monitoring wells upon parameter stabilization.

Groundwater samples collected in April 2011 were submitted to Groundwater Analytical Laboratories for varying laboratory analyses to assess for potential impacts from historic Site use. Analyses included EPH with PAHs, VPH with targeted VOCs via DEP Methodology, VOCs

via EPA Method 8260, 8 RCRA Metals (Dissolved) via EPA Method 6010B, and/or PCBs via EPA Method 8082.

Groundwater samples collected in May 2012 were submitted to Premier Laboratory for varying laboratory analyses to further assess petroleum impacts identified at the Site. Analyses included including EPH with PAHs via DEP Methodology and EPA Method 8270 and VPH with targeted VOCs via DEP Methodology.

All samples were stored on ice after collection and during transportation to the laboratories and were handled and relinquished using standard quality assurance and chain-of-custody procedures. See Table 3 for a summary of groundwater analytical results. Laboratory Analytical Reports are included in Appendix F.

3.2.6 Groundwater Elevation Survey

On May 26, 2011, Weston & Sampson performed a field survey to locate groundwater monitoring wells at the Site. As part of the survey, the elevations of the top of casing and the top of PVC riser were recorded for Site monitoring wells. A groundwater gauging event was performed and groundwater depths were recorded at each monitoring well location. Groundwater was identified between 8 and 12 feet bgs in the monitoring wells. Results of the survey and gauging event indicate that groundwater flows to the northeast at the Site. See Table 5 for a summary groundwater elevations and Figure 4 – Groundwater Contour Map.

3.3 Geology

3.3.1 Regional Geology

According to the USGS Bedrock Geologic Map of Massachusetts (Zen et al., 1983) the Site is underlain by Alaskite (Proterozoic Z), part of the Milford-Dedham Zone, which consists of light-gray, pinkish-gray to tan, mafic-poor granite commonly containing muscovite. Bedrock outcrops were not observed at or near the immediate vicinity of the Site. Bedrock was not encountered in any of the soil borings.

3.3.2 Local Geology

In general, soils encountered at the Site during the excavation of the test pits and advancement of the soil borings consisted of fine to medium sand and gravel with some cobbles to depths of approximately 10-13 feet bgs; followed by silty sand from approximately 10 to 18 feet bgs; and fine to coarse sand and gravel from 18-20 feet bgs, the maximum depth of investigation.

Fill material was identified on the northern portion of the Site during the advancement of test pit TP-4 and borings WS-2, 16, 17, 18, and 19 to a maximum depth of 10 feet bgs. The fill material consisted of fine to medium sand and silt. Pieces of metal pipe, brick, wood, and ash was observed in the fill. Similar fill was also identified in the area of TP-5 to a depth of 3 feet bgs.

Fill material was identified on the western portion of the Site during the advancement of test pit TP-8. The fill consisted of fine to medium sand and silt with pieces of brick, concrete, stone, asphalt, metal, and wood to a maximum depth of 5 feet bgs.

4.0 NATURE AND EXTENT OF CONTAMINATION

In this Section of the report, we have compared analytical results to MCP Method 1 standards as a preliminary screening of the risk at the Site. Once additional data is collected in the Phase II Comprehensive Site Assessment, we will evaluate site specific risk either by comparing applicable exposure point concentrations developed from site wide data, to applicable Method 1 standards, derived Method 2 standards, or via a Method 3 site specific risk characterization.

4.1 Releases of OHM to Soil

4.1.1 Soil Classification

Three soil categories for use in risk characterization have been developed by the DEP based on exposure potential defined by soil accessibility and frequency and intensity of exposure to Site soils. Based on the relative degree of importance of each of these factors, soils are classified as S-1, S-2, or S-3 soils. Category S-1 applies to those soils with the greatest exposure potential.

The applicable soil category for the Site was selected in accordance with 310 CMR 40.0933 based on Site use, receptors and accessibility. The northern and western portions of the Site are paved. The remaining portions of the Site are unpaved. Soil located between 0 and 3 feet below grade in unpaved areas are considered “accessible” and soil between 0 and 3 feet below grade in paved areas are considered “potentially accessible”. Soil located between 3 and 15 feet below grade is also considered “potentially accessible”. Adults may be present at the Site during potential subsurface utility repairs or landscaping, at low frequency and high intensity. Adult and children trespassers are also considered potential receptors at low frequency and low intensity. Based on the current Site use, the S-2 category is applicable to surficial soil within 0 and 3 feet below grade and category S-3 is applicable to remaining soil at the Site. However, as a conservative measure and to evaluate potential future unrestricted use of the Site, the S-1 category, has also been selected for purposes of initial risk characterization.

4.1.2 Soil Field Screening Results

Complete field screening results are provided in the attached test pit and soil boring logs. Additionally, Table 1a, 1b, and 1c depicts field screening results for three separate areas of the Site where significant impacts were identified: *Area 1 - Former Gasoline USTs - Northwestern Portion of Site*; *Area 2 - Former Gasoline USTs - Northern Portion of Site*; and *Area 3 - Former Fuel Oil USTs - Western Portion of Site*. Each of these areas is depicted in Figure 2.

In summary field screening of soil samples collected from the test pits and soil borings identified the following:

Area 1 - Former Gasoline USTs - Northwestern Portion of Site: Field screening of soil samples collected from test pit TP-1 and borings WS-12, 13, 14 and 15 identified petroleum impacted soil between 6 and 20 feet bgs with TVOCs ranging from 31.9 to 2,478 ppmv.

Area 2 - Former Gasoline USTs - Northern Portion of Site: Field screening of soil samples collected from test pit TP-4 and borings WS-2, WS-16, 17, 18 and 19 identified petroleum impacted soil between 10 and 20 feet bgs with TVOCs ranging from 18.7 to

1,652 ppmv. Additionally, field screening of soil samples collected from test pit TP-3 and boring WS-1 identified petroleum impacted soil between 10 and 20 feet bgs with TVOCs ranging from 40 to 516 ppmv. TP-3 and WS-1 were advanced north of Area 2.

Area 3 - Former Fuel Oil USTs - Western Portion of Site: Field screening of soil samples collected from test pit TP-8 and borings WS-6, WS-20, 21, 22, 23 and 24 identified petroleum impacted soil between 6 and 20 feet bgs with TVOCs ranging from 5.4 to 385.9 ppmv.

Field screening of the remaining soil samples collected during the investigation did not identify concentrations of TVOCs above 1 ppmv¹.

4.1.3 Soil Analytical Results

As shown Tables 2a and 2b, analysis of soil samples detected the following:

Area 1 - Former Gasoline USTs - Northwestern Portion of Site: Analysis of soil samples collected from TP-1, WS-12, and WS-15 at depths between 10 and 15 feet bgs identified VPH fractions above Method 1 S-1 soil standards. VPH and targeted VOCs were not detected above S-1 standards in the remaining soil samples selected from this area.

Area 2 - Former Gasoline USTs - Northern Portion of Site: Analysis of soil samples collected from WS-2, WS-16 and WS-17 at depths between 15 and 19 feet bgs identified VPH fractions above Method 1 S-1 and/or S-3 soil standards. Analysis did not identify concentrations of VPH or targeted VOCs above S-1 standards in the remaining soil samples selected from this area.

Additionally, analysis of soil samples collected from TP 4 and WS-19 at depths between 0-5 feet bgs, identified concentrations of lead which may be attributable to ash observed in fill material.

Area 3 - Former Fuel Oil USTs - Western Portion of Site: Analysis of soil samples collected from TP-8, WS-6, WS-20, WS-21, WS-22, WS-23 and WS-24 at depths between 7 and 15 feet bgs identified concentrations of EPH, PAHs, and VPH fractions above Method 1 S-1 standards.

4.2 Releases of OHM to Groundwater

4.2.1 Groundwater Classification

The groundwater categories for the Site were determined pursuant to the MCP, 310 CMR 40.0932. Based on potential exposures, the DEP has defined three categories of groundwater for risk characterization as follows:

- Groundwater category GW-1 applies to groundwater located within current or potential drinking water sources areas;

¹ Field screening of soil samples collected from soil borings WS-9 through WS-11 identified concentrations of TVOCs ranging from 8.6 to 29 ppmv; however, visual and olfactory evidence of impact was not identified in any of the soil samples. .

- Groundwater category GW-2 includes groundwater where the average annual depth to the water table is less than 15 feet bgs and groundwater is located within 30 feet of an occupied building; and,
- Groundwater category GW-3 applies to all groundwater in Massachusetts due to its potential to discharge to surface water bodies.

A review of the Area Receptors Map included as Figure 3 and information in Section 1.4 indicates that the Site is not located within a current or potential drinking water source area. In addition, there are currently no known private drinking water wells located within 500 feet of the Site. Therefore, groundwater category GW-1 is not applicable to the Site. The depth to groundwater at the Site is less than 15 feet bgs and groundwater at the Site is within 30 feet of an occupied building; as such, groundwater category GW-2 is applicable to the Site. Groundwater category GW-3 is applicable to all wells at the Site. In summary, the applicable groundwater cleanup categories for the Site are GW-2 and GW-3.

4.2.2 Groundwater Analytical Results

As shown in Table 3, laboratory analysis of the groundwater samples collected during the Site investigations indicated the following:

Area 1 - Former Gasoline USTs - Northwestern Portion of Site: Analysis of the groundwater sample collected from monitoring well WS-12 did not identify concentrations of VPH or targeted VOCs.

Area 2 - Former Gasoline USTs - Northern Portion of Site: Analysis of the groundwater sample collected from monitoring well WS-2 identified VPH fractions and targeted VOCs below Method 1 GW-2 / GW-3 standards.

Area 3 - Former Fuel Oil USTs - Western Portion of Site: Analysis of groundwater samples collected from monitoring well WS-6 and WS-23 identified EPH, VPH fractions, PAHs, and VOCs below Method 1 GW-2 / GW-3 standards.

Additionally, analysis of a groundwater sample collected from other monitoring wells installed throughout this Site (MW-1, MW-2, WS-1, WS-3, WS-4, WS-5, WS-7, and WS-8) did not identify concentrations of targeted analytes above GW-2/GW-3 standards.

4.3 Releases of OHM to Surface Water

No surface water bodies or wetlands were identified at the Site or in the vicinity of the Site. As such, surface water sampling was not performed as part of the Site investigations.

4.4 Releases of OHM to Soil Gas or Indoor Air

The Site is a vacant lot with no occupied structures. Additionally, groundwater impacts have not been identified above Method 1 GW-2 standards. Therefore, soil gas and indoor air sampling was not warranted and was not performed as part of Site investigations.

5.0 MIGRATION PATHWAYS AND EXPOSURE POTENTIAL

5.1 Soil

Petroleum related compounds, particularly VPH fractions and VOCs may volatilize and migrate through air. Soluble petroleum compounds may also migrate to groundwater during stormwater infiltration and be further transported by groundwater migration. The fairly localized distribution of these compounds indicates that substantial migration through either of these pathways is not likely.

Petroleum impacted soil above S-1 standards is generally located at depths greater than 7 feet bgs at the Site. Therefore, potential exposure to these soils through ingestion, inhalation, absorption and dermal contact is limited. However, access to these soils by utility / construction workers during excavation and/or response actions at the Site is considered a potential exposure pathway.

Fill material exhibiting lead concentrations above DEP's published background levels is located at the Site between 0-5'. Based on the current limited Site use, exposure to these soils through ingestion, inhalation, absorption and dermal contact is limited. However, access to these soils by possible future child/adult trespassers or by possible future utility/construction workers at the Site is considered a potential exposure pathway.

5.2 Groundwater

The Site is currently a vacant lot. No public or private drinking water exist on the Site or in the vicinity of the Site. Furthermore, Site groundwater is not located within a Current or Potential Drinking Water Source Area as defined in the MCP (310 CMR 40.006). Monitoring wells installed at the Site for this investigation must be considered a potential route of exposure to the impacted groundwater at the Site. Potential human exposure of this groundwater would most likely be limited to dermal contact of the water during routine environmental sampling or exposure to workers during potential future excavation within the groundwater table.

The absence of petroleum compounds in downgradient groundwater monitoring wells and the apparent age of the release(s) at the Site indicate that substantial migration of impacted groundwater is not likely.

5.3 Surface Water and Sediment

The nearest surface water body and associated wetlands is the Acushnet River which is located approximately 1 mile east of the Site. Based on the limited groundwater impacts identified at the Site, potential impacts to this surface water body and associated wetland are unlikely. Therefore, surface water and sediment are not considered potential migration pathways at the Site.

5.4 Air

The Site is a vacant lot with no structures. Additionally, groundwater impacts have not been identified above Method 1 GW-2 standards. Therefore, Air is not considered to be a potential migration pathway.

6.0 EVALUATION FOR IMMEDIATE RESPONSE ACTIONS

Pursuant to 310 CMR 40.0412, IRAs are required at the following disposal sites:

- 1) where a release or threat of release of oil and/or hazardous material has occurred which requires notification to the DEP under the “two hour” notification provisions of 310 CMR 40.0311 or 40.0312;
- 2) where a release or threat of release of oil and/or hazardous material has occurred which requires notification to the DEP under the “72 hour” notification provisions of 310 CMR 40.0313 or 40.0314;
- 3) where a release of oil and/or hazardous material has resulted in conditions which have been determined to pose an Imminent Hazard pursuant to 310 CMR 40.0950; and
- 4) any other Site where the DEP determines that immediate or accelerated response actions are necessary to prevent, eliminate, or minimize damage to health, safety, public welfare or the environment.

Results of Site investigations indicate that impacts to the Site are limited to subsurface soil and groundwater and a two hour or 72 hour notification condition has not been identified. Critical Exposure Pathways (CEPs) and Substantial Release Migration (SRM) Conditions have not been identified. The nature and location of compounds identified at the Site do not trigger an Imminent Hazard evaluation. Additionally the DEP has not determined that immediate or accelerated response actions are necessary at the Site. As such, an IRA is not required at the Site.

7.0 TIER CLASSIFICATION, CONCLUSIONS AND PHASE II SCOPE OF WORK

7.1 Numerical Ranking Score and Tier Classification Submittal

In accordance with 310 CMR 40.1500, Weston & Sampson completed a Numerical Ranking System (NRS) Scoresheet and Tier Classification for RTN 4-23596. The NRS scoring was based on the data collected during Site investigations in 2011 and 2012. An NRS score of 267 was estimated for this Site, indicating a Tier II Classification.

As required by the MCP, public notification letters to the Chief Municipal Officer and the Board of Health have been sent identifying the availability of the Phase I report and Tier Classification Submittal. Copies of the letters, as well as the legal notice for the Site, are included in Appendix A of this report. The legal notice will be published in a local newspaper within 7 days of submittal of this report.

7.2 Conclusions

Based on our file review and data collected at the Site, Weston & Sampson concludes the following:

1. Weston & Sampson performed an initial Site investigation in the spring of 2011. Analysis of soil samples collected during the investigation identified petroleum impacted soil above RCS-1 standards. The impacted soils were identified on the northwestern and northern portion of the Site in the area of former gasoline USTs and on the western portion of the Site in the area of former fuel oil USTs. Additionally, lead was identified in fill material soils on the northern portion of the Site above the RCS-1 standard. A RNF for the 120-day release condition was submitted to the DEP on October 3, 2011. At that time the DEP assigned RTN 4-23596 to the Site.
2. Between May 2011 and September 2012, Weston & Sampson completed Phase I investigation activities at the Site. The activities included a geophysical survey, excavation of test pits, advancement of soil borings, installation of groundwater monitoring wells, and soil and groundwater sampling and analysis. For initial screening purposes, resulting concentrations of compounds in soil were compared to Method 1 S-1 standards. Results of soil analyses indicate petroleum impacted soil exists at the Site above Method 1 S-1 standards. Lead has also been identified in fill material soil with average exposure point concentrations below S-1 standards at the Site.
3. For initial screening purposes, resulting concentrations of compounds in soil were compared to Method 1 GW-2 and GW-3 standards. Analysis of groundwater samples indicates localized petroleum impact to site groundwater; however, no compounds have been identified above GW-2/GW-3 standards.
4. Based on the data collected to date, an IRA is not required for the Site. However, Comprehensive Response Actions are required at the Site relative petroleum impacted soil. Based on a NRS score of 267, the Site is classified as a Tier II site.

7.3 Conceptual Phase II Scope of Work

Pursuant to 310 CMR 40.0510(f)2.a, a Conceptual Phase II Scope of Work has been developed for the Site. The Scope of Work will focus on further assessment of soil and groundwater

conditions to support a Phase II CSA Report and/or Response Action Outcome (RAO) Statement. Specifically, additional investigation is necessary to further define the horizontal and vertical extent of petroleum impacted soil. Additional groundwater sampling is necessary to confirm that groundwater is not impacted above Method 2 standards.

We anticipate performing the following general tasks for the Phase II Scope of Work.

1. Site Characterization: Additional soil and groundwater samples will be collected and analyzed for EPH, PAH, VPH and VOCs via DEP Methodology.
2. Risk Characterization: In accordance with MCP risk to human health and environment will be estimated.

The anticipated schedule for completing the Phase II field activities is the fall of 2012 and spring of 2013. The cost for the additional Phase II site characterization and risk characterization is estimated to be approximately \$16,000 to \$20,000.

8.0 LIMITATIONS

This report was prepared for the use by the City of New Bedford, exclusively. The findings provided by Weston & Sampson in this report are based solely on the information reported in this document. Future investigations, and/or information that was not available to Weston & Sampson at the time of the investigation, may result in a modification of the findings stated in this report.

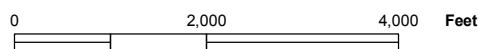
Should additional information become available concerning this Property or neighboring properties that could directly impact the Property in the future that information should be made available to Weston & Sampson for review so that, if necessary, conclusions presented in this report may be modified. The conclusions of this report are based on conditions observed by Weston & Sampson personnel at the time of the investigation, information provided by the City of New Bedford and samples collected and analyzed on the dates shown or stated in this report. This report has been prepared in general accordance with generally accepted engineering and geological practices. No other warranty, express or implied, is made.

FIGURES



FIGURE 1
NEW BEDFORD, MASSACHUSETTS
478-480 UNION STREET

LOCUS MAP



S:\SH ESS Projects\New Bedford Brownfields\CADD\Union St\Survey\052611\dwg\UNION Street 061812rev.dwg

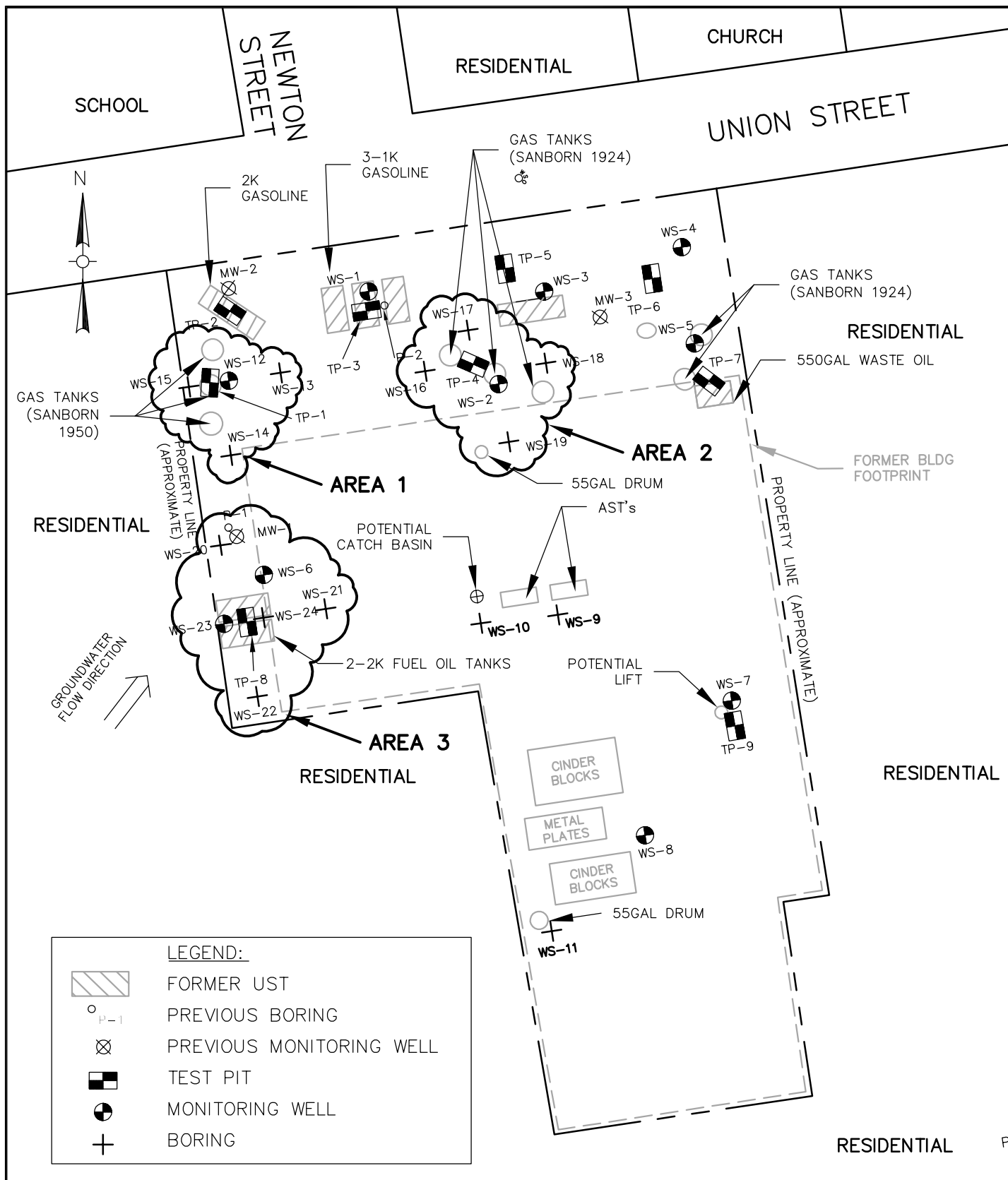
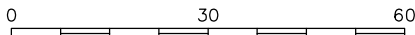


FIGURE 2
 478-480 UNION STREET
 NEW BEDFORD, MASSACHUSETTS
 SITE PLAN

SCALE: 1"=30'

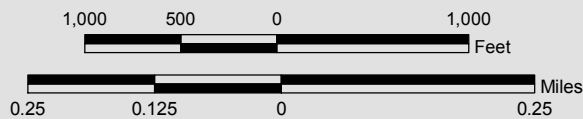




- Legend**
- Town Boundaries
 - State Boundary
 - ▲ Ground Water
 - ▲ Surface Water
 - ▲ Non-Community
 - ★ NHESP Certified Vernal Pools
 - Railroads by Ownership
 - Pipeline
 - Pipeline Arbitrary Extension
 - Powerline
 - Powerline Arbitrary Extension
 - Ski Lift/Tramway
 - Substation
 - Landing Strip/Airport
 - ◆ Highway Exit Locations
- All Roads**
- Road Classification**
- Limited Access Highway
 - Multi-lane Hwy, not limited access
 - Other Numbered Highway
 - Major Road, Collector
 - Minor Road, Arterial
 - Sub-basins
 - Major Basins
 - Solid Waste Facilities
 - Protected Open Space
 - ACECs
 - Zone A
 - IWPA's
 - DEP Approved Zone IIs
 - River, Stream, Shoreline
 - Water
 - Wetland
 - Sole Source Aquifers
 - NHESP Estimated Habitats of Rare Wildlife
 - NHESP Priority Habitats of Rare Species
- Non Potential Drinking Water Source Area**
- High Yield
 - Medium Yield
- Aquifers**
- High Yield
 - Medium Yield
- MA Towns (from Survey Points)**
- MA Towns (from Survey Points)

FIGURE 3

Area Receptors Map
478-480 Union Street
New Bedford, MA



Data Source: Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Environmental Affairs

Radii shown are approximately 500 feet and 1/2-mile from center of Site.

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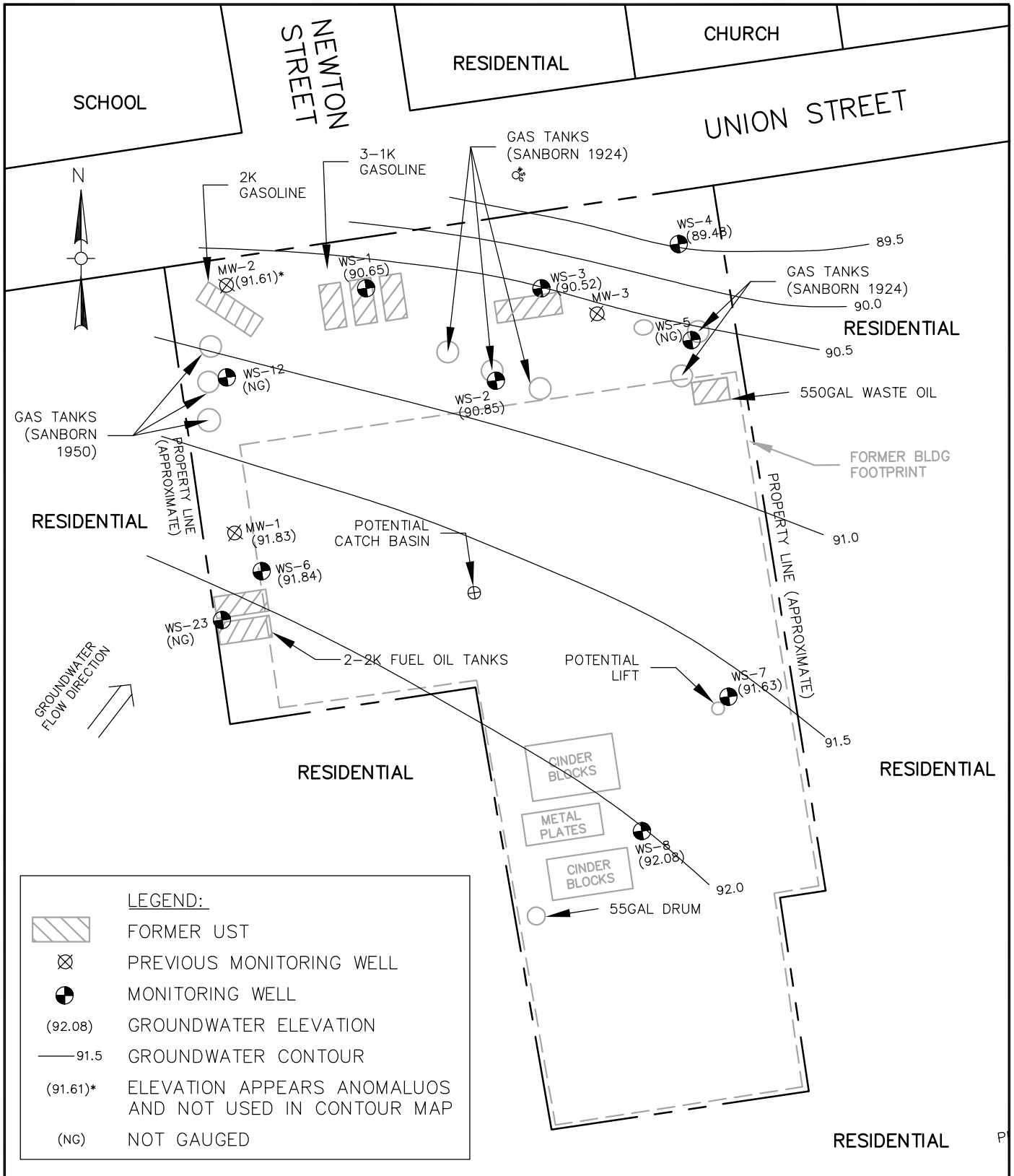
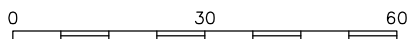


FIGURE 4
478-480 UNION STREET
NEW BEDFORD, MASSACHUSETTS
GROUNDWATER CONTOUR MAP

SCALE: 1"=30'



TABLES

Table 1a
Area 1
Former Gasoline USTs - Northwestern Portion of Site (1950 Sanborn)
Field Screening Results – Soil Sampling

Location	Sample ID	TVOCs (ppmv)
Area of Former Gasoline USTs – Northwestern Portion of Site (1950 Sanborn)	TP-1 (6-9')	31.9
	TP-1 (10-12')	360
	WS-12 (13.5-15')	2,478
	WS-12 (15-16')	1,044
	WS-12 (16-18')	101.7
	WS-12 (16-18')	23.3
	WS-13 (13.5 -15)	19.5
	WS-14 (7-10')	335.1
	WS-14 (13.5-15')	173.8
	WS-14 (15-19')	160
	WS-14 (19-20')	19.1
	WS-15 (12.5-13.5')	847.1
	WS-15 (13.5-15')	1,566
	WS-15 (15-19')	1,175
	WS-15 (19 -20')	37.1

Table 1b
Area 2
Former Gasoline USTs - Northern Portion of Site (1924 Sanborn)
Field Screening Results – Soil Sampling

Location	Sample ID	TVOCs (ppmv)
Area of Former Gasoline USTs – Northern Portion of Site (1924 Sanborn)	TP-4 (11.5-12.5')	249
	WS-2 (10-15')	518
	WS-2 (15-19')	564
	WS-2 (19-20')	25
	WS-16 (10-13')	1,355
	WS-16 (13-15')	1,208
	WS-16 (15-17')	935.2
	WS-16 (17-20')	981.3
	WS-17 (13-15')	1,652
	WS-17 (15-19')	971
	WS-17 (19-20')	52.6
	WS-18 (13-15')	18.7
	WS-18 (15-18')	28.7
	WS-18 (18-20')	27.2
	WS-19 (10-15')	47.6
	WS-19 (15-19')	101.7
	WS-19 (19-20')	130

Table 1c
Area 3
Former 2K Fuel Oil USTs - Western Portion of Site
Field Screening Results – Soil Sampling

Location	Sample ID	TVOCs (ppmv)
Area of Former Fuel Oil USTs – Western Portion of Site	TP-8 (7-9')	78
	WS-6 (8-10')	248
	WS-6 (10-15')	155
	WS-20 (12-14')	12.8
	WS-20 (14-15')	284
	WS-20 (15-19')	121.8
	WS-20 (19-20')	9.6
	WS-21 (8-10')	268.4
	WS-21 (10-12')	211.5
	WS-21 (12-15')	385.9
	WS-21 (15-18')	70.8
	WS-21 (18-20')	5.4
	WS-22 (5-7')	19.8
	WS-22 (7-10')	1.7
	WS-22 (10-11')	1.9
	WS-22 (11-15')	141.2
	WS-22 (15-20)	30.3
	WS-23 (13-15')	206.9
	WS-23 (15-17')	123.5
	WS-23 (17-19')	41.6
	WS-24 (10-12')	265.3
	WS-24 (12-13')	281.4
	WS-24 (13-15')	300.4

Table 2a
Weston & Sampson
Summary of Soil Analytical Results
478-480 Union Street
New Bedford, MA

Sample ID	TP-1	TP-2	DUP-1	TP-3	TP-4	TP-4	TP-5	TP-6	TP-7	TP-8	TP-9	Method 1 Soil Standards	
	(10-12')	(6-9')	TP-2 6-9'	(9-12')	(2-5')	(11.5-12.5')	(10-13')	(7-9')	(9-11')	(7-9')	(9-11')	S1/GW2	S1/GW3
Date Sampled	4/14/11	4/14/11	4/14/11	4/14/11	4/14/11	4/14/11	4/14/11	4/15/11	4/15/11	4/15/11	4/15/11	mg/kg	mg/kg
Parameters (mg/kg)													
EPH													
C9-C18 Aliphatics	--	--	--	--	--	--	--	--	<34	1,800	<32	1,000	1,000
C19-C36 Aliphatics	--	--	--	--	--	--	--	--	<34	320	<32	3,000	3,000
C11-C22 Aromatics	--	--	--	--	--	--	--	--	<34	1,400	<32	1,000	1,000
PAH's													
Acenaphthene	--	--	--	--	<0.55	--	--	--	<0.56	2.1	<0.54	1,000	1,000
Acenaphthylene	--	--	--	--	<0.55	--	--	--	<0.56	<0.55	<0.54	600	10
Anthracene	--	--	--	--	<0.55	--	--	--	<0.56	<0.55	<0.54	1,000	1,000
Benzo(a)anthracene	--	--	--	--	<0.55	--	--	--	<0.56	<0.55	<0.54	7	7
Benzo(a)pyrene	--	--	--	--	<0.55	--	--	--	<0.56	<0.55	<0.54	2	2
Benzo(b)fluoranthene	--	--	--	--	<0.55	--	--	--	<0.56	<0.55	<0.54	7	7
Benzo(g,h,i)perylene	--	--	--	--	<0.55	--	--	--	<0.56	<0.55	<0.54	1,000	1,000
Benzo(k)fluoranthene	--	--	--	--	<0.55	--	--	--	<0.56	<0.55	<0.54	70	70
Chrysene	--	--	--	--	<0.55	--	--	--	<0.56	<0.55	<0.54	70	70
Dibenzo(a,h)anthracene	--	--	--	--	<0.55	--	--	--	<0.56	<0.55	<0.54	0.7	0.7
Fluoranthene	--	--	--	--	0.56	--	--	--	<0.56	2.0	<0.54	1,000	1,000
Fluorene	--	--	--	--	<0.55	--	--	--	<0.56	<0.55	<0.54	1,000	1,000
Indeno(1,2,3-cd) Pyrene	--	--	--	--	<0.55	--	--	--	<0.56	<0.55	<0.54	7	7
2-Methylnaphthalene	--	--	--	--	<0.55	--	--	--	<0.56	2.2	<0.54	80	300
Naphthalene	--	--	--	--	<0.55	--	--	--	<0.56	<0.55	<0.54	40	500
Phenanthrene	--	--	--	--	<0.55	--	--	--	<0.56	2.4	<0.54	500	500
Pyrene	--	--	--	--	<0.55	--	--	--	<0.56	<0.55	<0.54	1,000	1,000
VPH													
C5-C8 Aliphatics	45	2.6	2.4	6.2	2.8	1.7	<1.0	<1.1	<1.0	7.4	<1.2	100	100
C9-C12 Aliphatics	430	<1.2	<1.0	63	<1.4	18	<1.0	<1.1	<1.0	120	<1.2	1,000	1,000
C9-C10 Aromatics	480	<1.2	<1.0	53	<1.4	16	<1.0	<1.1	<1.0	180	<1.2	100	100
Targeted VOCs													
Benzene	<1.6	0.14	0.13	<0.22	--	<0.11	<0.10	<0.11	--	<0.29	--	30	30
Toluene	<1.6	0.39	0.38	<0.22	--	<0.11	<0.10	<0.11	--	<0.29	--	500	500
Ethylbenzene	10	<0.12	<0.10	0.88	--	0.23	<0.10	<0.11	--	0.74	--	500	500
Napthalene	<4.0	<0.30	<0.26	<0.55	--	<0.27	<0.26	<0.27	--	11	--	40	500
Total Xylenes	5.8	0.59	0.55	0.27	--	<0.11	<0.10	<0.11	--	0.96	--	300	500
VOCs 8260													
	--	--	--	--	ND	--	--	--	ND	--	ND	**	**
Trace Metals													
Arsenic	--	<3.5	--	--	<3.5	--	--	--	<3.3	--	<3.3	20	20
Barium	--	31	--	--	120	--	--	--	40	--	18	1,000	1,000
Cadmium	--	<0.58	--	--	0.59	--	--	--	<0.56	--	<0.55	2	2
Chromium	--	8.1	--	--	12	--	--	--	13	--	9.6	30	30
Lead	10	22	--	<5.3	370	<5.3	--	--	<5.6	--	<5.5	300	300
Mercury	--	0.044	--	--	<0.34	--	--	--	<0.19	--	<0.018	20	20
PCBs													
	--	--	--	--	<0.093	--	--	--	<.088	--	<.082	2	2

Notes:

"--" = Not Analyzed

NS = No Standard

ND= Not Detected. Detection Limit Varies

EPH = Extractable Petroleum Hydrocarbons

PAH = Polycyclic Aromatic Hydrocarbons

VPH = Volatile Petroleum Hydrocarbons

VOCs = Volatile Organic Compounds

SVOCS = Semil-Volatile Organic Compounds

PCBs = Polychlorinated Biphenyls

** Standard Varies with Compound

BOLD = Parameter detected above laboratory detection limit

Exceeds Method 1 Soil Standards S1/GW2

Standards obtained from 310 CMR 40.0000, revised June 26, 2009.

Table 3
Weston & Sampson
Summary of Groundwater Analytical Results
478-480 Union Street
New Bedford, MA

Sample ID Date Sampled	MW-1	WS-1	WS-2	MW-2	WS-3	WS-4	WS-5	WS-6	WS-7	WS-8	WS-12	WS-23	WS-23 DUP-1	Method 1 Groundwater Standards	
	4/29/11	4/29/11	4/29/11	4/29/11	4/28/11	4/28/11	4/28/11	4/29/11	4/28/11	4/28/11	5/25/12	5/25/12	5/25/12	GW-2	GW-3
Parameters (Units)															
EPH (ug/l)															
C9-C18 Aliphatics	<100	--	--	--	--	--	<200	320	<200	<120	--	260	250	5,000	50,000
C19-C36 Aliphatics	130	--	--	--	--	--	<200	160	<200	<120	--	<100	<100	NS	50,000
C11-C22 Aromatics	190	--	--	--	--	--	<200	1,100	<200	<120	--	730	770	50,000	5,000
PAHs (ug/l)															
Acenaphthene	<0.5	--	--	--	--	--	<0.5	3.4	<0.5	<0.5	--	11	13	NS	6,000
Acenaphthylene	<0.5	--	--	--	--	--	<0.5	0.8	<0.5	<0.5	--	<2	<2	10,000	40
Fluorene	<0.5	--	--	--	--	--	<0.5	6.4	<0.5	<0.5	--	8.7	9.2	NS	40
2-Methylnaphthalene	<0.5	--	--	--	--	--	<0.5	160	<0.5	<0.5	--	130	140	2,000	20,000
Naphthalene	1.7	--	--	--	--	--	<0.5	100	<0.5	<0.5	--	120	130	1,000	20,000
Phenanthrene	<0.5	--	--	--	--	--	<0.5	5.4	<0.5	<0.5	--	3.7	4.0	NS	10,000
VPH (ug/l)															
C5-C8 Aliphatics	<20	1,400	910	<20	<20	<20	<20	<40	<20	<20	<100	<100	<100	3,000	50,000
C9-C12 Aliphatics	<20	440	320	<20	<20	<20	<20	510	<20	<20	<100	410	460	5,000	50,000
C9-C10 Aromatics	<20	930	440	<20	<20	<20	<20	1,100	<20	<20	<100	780	840	7,000	50,000
Targeted VOCs (ug/l)															
Ethylbenzene	<5	7	8	<5	<5	<5	--	27	--	--	<5	12	12	20,000	5,000
Naphthalene	<5	<5	<5	<5	<5	<5	--	210	--	--	<5	190	200	1,000	20,000
Xylenes	5	<10	5	<10	<10	<10	--	46	--	--	<10	33	34	9,000	5,000
VOCs 8260B (ug/l)															
Acetone	--	--	--	--	--	<10	<10	--	<10	<10	--	--	--	50,000	50,000
Benzene	--	--	--	--	--	<0.50	<0.50	--	<0.50	<0.50	--	--	--	2,000	10,000
Naphthalene	--	--	--	--	--	<0.50	<0.50	--	<0.50	<0.50	--	--	--	1,000	20,000
Toluene	--	--	--	--	--	<0.50	<0.50	--	<0.50	<0.50	--	--	--	50,000	40,000
PCBs (ug/l)															
	--	--	<0.2	--	--	<0.2	<0.2	--	<0.2	<0.2	--	--	--	5	10
Trace Metals (mg/l)															
Barium	--	--	--	--	--	--	0.19	--	<0.05	0.07	--	--	--	NS	50
Mercury	--	--	--	--	--	--	<0.0002	--	<0.0002	0.0002	--	--	--	NS	0.02
SVOCs 8270 (ug/l)															
Benzo(a)anthracene	--	--	--	--	--	--	--	--	--	--	--	<0.025	<0.025	NS	1,000
Benzo(b)fluoranthene	--	--	--	--	--	--	--	--	--	--	--	<0.025	<0.025	NS	400
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--	<0.025	<0.025	NS	20
Benzo(k)fluoranthene	--	--	--	--	--	--	--	--	--	--	--	<0.025	<0.025	NS	100
Chrysene	--	--	--	--	--	--	--	--	--	--	--	<0.025	<0.025	NS	70
Dibenzo(a,h)anthracene	--	--	--	--	--	--	--	--	--	--	--	<0.025	<0.025	NS	40
Indeno(1,2,3-cd)pyrene	--	--	--	--	--	--	--	--	--	--	--	<0.025	<0.025	NS	100

Notes:
Only compounds detected are listed
-- = Not Analyzed
NS = No Standard Established
ug/l = micrograms per liter
mg/l = milligram per liter
EPH = Extractable Petroleum Hydrocarbons

PAH = Polycyclic Aromatic Hydrocarbons
VPH = Volatile Petroleum Hydrocarbons
VOCs = Volatile Organic Compounds
PCBs = Polychlorinated Biphenyls
SVOCs = Semi-Volatile Organic Compounds
BOLD = Parameter detected above laboratory detection limit
BOLD Exceeds RCGW-2 or Method 1 GW-2/3
MCP Method 1 Standards are from the Massachusetts Contingency Plan (MCP), 310 CMR 40.0000, revised June 26, 2009

Table 4
Maximum and Minimum Concentrations
478-480 Union Street
New Bedford, MA

Constituent/OHM	Maximum Concentration Soil (ug/g)	Minimum Concentration Soil (ug/g)	Maximum Concentration Groundwater (ug/L)	Minimum Concentration Groundwater (ug/L)
<u>EPH</u>				
C-9, C-18 Aliphatics	32,000	1,800	320	250
C-19, C-36 Aliphatics	8,200	320	160	130
C-11, C-22 Aliphatics	14,000	1,400	1,100	190
<u>VPH</u>				
C-5, C-8 Aliphatics	4,400	1.7	1,400	910
C-9, C-12 Aliphatics	2,800	18	510	320
C-9, C-10 Aliphatics	1,400	16	1,100	440
<u>PAHs</u>				
Acenaphthene	40	2.1	13	3
Acenaphthylene	110	18	0.8	0.8
Anthracene	9.4	1.5	--	--
Chrysene	0.57	0.57	--	--
Flouranthene	4.10	0.56	--	--
Flourene	110	8.6	9.2	6.4
2-Methylnaphthalene (PAH)	470	2.2	160	130
Napthalene	120	9.6	130	2
Phenanthrene	73	2.4	5.4	3.7
Pyrene	7.70	0.98	--	--
<u>VOCs</u>				
Benzene	0.54	0.13	--	--
Toluene	1.80	0.38	--	--
Napthalene (VOC)	32	2.9	210	190
Ethylbenzene	9.50	0.23	27	12
Total Xylenes	5.40	0.27	46	5
<u>Metals</u>				
Barium	120	10	0.19	0.07
Cadmium	0.59	0.59	--	--
Chromium	14	8.1	--	--
Lead	370	10	--	--
Mercury	0.044	0.044	0.0002	0.0002

Notes:
-- Not Detected above laboratory reporting limits

Table 5
Groundwater Elevations
478-480 Union Street
New Bedford, MA

Monitoring Well ID	Top of PVC elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)
MW-1	101.67	9.84	91.83
MW-2	101.60	9.99	91.61
WS-1	100.94	10.29	90.65
WS-2	100.91	10.06	90.85
WS-3	100.99	10.47	90.52
WS-4	100.92	11.44	89.48
WS-6	100.91	9.07	91.84
WS-7	100.76	9.13	91.63
WS-8	100.90	8.82	92.08

Notes:

1. Elevations are referenced to a temporary bench mark on site set at 100.00'.
2. Groundwater depth measurements obtained May 26, 2011.

APPENDIX A

Copies of Public Notice Letters and Legal Notice

**478 – 480 Union Street
New Bedford, Massachusetts**

October 3, 2012

Mayor Jonathan F. Mitchell
Office of the Mayor
City Hall, Room 311
133 Williams Street
New Bedford, MA 02740

Re: **Phase I Initial Site Investigation and Tier Classification**
478 - 480 Union Street
New Bedford, Massachusetts
Release Tracking Number 4-23596

Dear Mayor Mitchell:

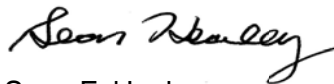
Weston & Sampson is hereby notifying your office that a Phase I-Initial Site Investigation Report and Tier Classification Submittal (Phase I / TC) have been submitted to the Massachusetts Department of Environmental Protection (DEP) for the above-referenced location ("the Site"). A Phase I / TC have been prepared based on our assessment of the Site. Based on the Numerical Ranking System score, the Site has been classified as a Tier II site.

This notification is provided in accordance with the public involvement requirements of the Massachusetts Contingency Plan (MCP), 310 CMR 40.0000. The Phase I / TC is on file and available for public review at DEP's Southeast Regional Office in Lakeville, Massachusetts.

If you have any questions or concerns regarding this notice, please do not hesitate to contact the undersigned at (978) 532-1900.

Very truly yours,

WESTON & SAMPSON



Sean F. Healey
Project Manager

cc: DEP-SERO, Lakeville, MA

**478 – 480 Union Street
New Bedford, Massachusetts**

October 3, 2012

Marianne B. De Souza, R.D.H., B.A., M.S.
Director - Health Department
First Floor 1213 Purchase Street
New Bedford, MA 02740

Re: **Phase I Initial Site Investigation and Tier Classification**
478 - 480 Union Street
New Bedford, Massachusetts
Release Tracking Number 4-23596

Dear Ms. De Souza:


Weston & Sampson is hereby notifying your office that a Phase I-Initial Site Investigation Report and Tier Classification Submittal (Phase I / TC) have been submitted to the Massachusetts Department of Environmental Protection (DEP) for the above-referenced location ("the Site"). A Phase I / TC have been prepared based on our assessment of the Site. Based on the Numerical Ranking System score, the Site has been classified as a Tier II site.

This notification is provided in accordance with the public involvement requirements of the Massachusetts Contingency Plan (MCP), 310 CMR 40.0000. The Phase I / TC is on file and available for public review at DEP's Southeast Regional Office in Lakeville, Massachusetts.

If you have any questions or concerns regarding this notice, please do not hesitate to contact the undersigned at (978) 532-1900.

Very truly yours,

WESTON & SAMPSON



Sean F. Healey
Project Manager

cc: DEP-SERO, Lakeville, MA

**NOTICE OF AN INITIAL SITE INVESTIGATION AND
TIER CLASSIFICATION**

**478 – 480 UNION STREET
NEW BEDFORD, MASSACHUSETTS
RELEASE TRACKING NUMBER (RTN) 4-23596**

Pursuant to the Massachusetts Contingency Plan, (310 CMR 40.0480) an Initial Site Investigation and Tier Classification has been performed at the above-referenced location.

A release of oil and/or hazardous materials has occurred at this location, which is a disposal site (defined by M.G.L. c. 21E, Section 2). This site has been classified as Tier II, pursuant to 310 CMR 40.0500. Response actions at this site will be conducted by Weston & Sampson Engineers Inc., in accordance with the Massachusetts Contingency Plan, (310 CMR 40.0000).

M.G.L. c. 21E and the Massachusetts Contingency Plan provide additional opportunities for public notice of and involvement in decisions regarding response actions at disposal sites: 1) The Chief Municipal Official and Board of Health of the community in which the site is located will be notified of major milestones and events, pursuant to 310 CMR 40.1403; and 2) Upon receipt of a petition from ten or more residents of the municipality in which the disposal site is located, or of a municipality potentially affected by the disposal site, a plan for involving the public in decisions regarding response actions at the site will be prepared and implemented, pursuant to 310 CMR 40.1405.

To obtain more information on this disposal site and the opportunities for public involvement during its remediation, please contact: Mr. George Naslas, LSP of Weston & Sampson Inc., Five Centennial Drive, Peabody, Massachusetts 01960, (1-978-532-1900).

APPENDIX B

Reports of Previous Investigations

Copy 1 of 2
To: JEP
Date: 10/27/92
Initial: JEP

OCT 27 1992

SCANNED

PHASE I SITE INVESTIGATION

For the Site known as:

Union Street
New Bedford, Massachusetts

SCANNED
4-1265

Prepared for:

Mr. Alan Cohen
38 Beverly Street
North Dartmouth, Massachusetts

Prepared by:

Harborline Engineering, Inc.
286 Herman Melville Blvd.
New Bedford, Massachusetts 02740

September 10, 1992

September 10, 1992

Mr. Alan Cohen
38 Beverly Street
North Dartmouth, Massachusetts

RE: Phase I - Limited Site Investigation relative to MGL CH 21E
Union Street
New Bedford, MA

Dear Mr. Cohen:

Harborline Engineering Inc., is pleased to submit a Phase I - Limited Site Investigation for the above-referenced location, relative to Massachusetts General Law Chapter 21E (MGL Chapter 21E), the Massachusetts Oil and Hazardous Material Release Prevention and Response Act, and the Massachusetts Contingency Plan (310 CMR 40.00).

The assessment included a visual inspection of the Site and surrounding properties, review of state and local records relative to the use, storage, and/or release of oil and hazardous materials at the Site or in the Site vicinity, interviews and discussions with local officials and Site personnel regarding the Site history and usage, the installation and sampling of test borings and groundwater monitoring wells, electronic soil screening, and laboratory analyses of groundwater. The report that follows summarizes our findings and interpretations.

Based upon the above cited investigations, we conclude that there has been a release of oil or hazardous materials as defined by MGL CH 21E and 310 CMR 40.00, at the above-referenced location.

It has been a pleasure working with you on this project. If we can be of further assistance, please do not hesitate to call. My associates and I will be glad to answer any questions or comments you may have.

Sincerely,


Robert D. Martin
President

INTRODUCTION

Mr. Alan Cohen contracted Harborline Engineering, Inc. ("Harborline") to conduct a Phase I-Limited Site Investigation of the property located on Union Street in New Bedford, Massachusetts (the "Site"). The investigation was designed to satisfy requirements pursuant to Massachusetts General Law Chapter 21E (MGL CH 21E) the Massachusetts Oil and Hazardous Materials Release Prevention and Response Act, and the Massachusetts Contingency Plan (310 CMR 40.00). Harborline's assessment did not include an evaluation for the possible presence of radon, asbestos, or asbestos-containing material.

Harborline's investigation consisted of:

- a. A visual site inspection;
- b. Historical records research;
- c. Interviews with municipal officials and Site personnel regarding the Site history and usage;
- d. Environmental records review at state and local agencies regarding the use, storage, and/or release of oil and hazardous material at the site or in the Site vicinity;
- e. Data reduction, interpretation, and evaluation.

Subsurface investigations consisted of the following:

- a. Three test borings with associated groundwater monitoring wells;
- b. Electronic soil screening to determine the presence of volatile organic compounds within the soil matrices;
- c. Groundwater sampling and related laboratory analyses for volatile organic compounds and total petroleum hydrocarbons by EPA methods;
- d. Data reduction, interpretation, and evaluation.

The findings and interpretations of Harborline's investigations are contained in this report.

GEOGRAPHIC LOCATION, IDENTIFICATION AND TOPOGRAPHY

This section was compiled from information reviewed at the ~~Town~~ of City of New Bedford Assessor's Office and from United States Geological Survey (USGS) Topographic Maps and is intended to locate and bound the Site.

The Site is located on the south side of Union Street in a mixed residential-commercial area in New Bedford, Massachusetts. The property consists of an 18,329 square foot parcel. The Site is shown as Lot 9 on Map 45 on the New Bedford Assessor's Maps.

Topography on the Site is relatively flat, at an elevation of approximately 120 feet NGVD (National Geodetic Vertical Datum). The Site is located approximately 1 mile west of the Acushnet River (source: USGS Topographic Map, New Bedford-North Quadrangle-Appendix A).

Site coordinates are 41° 37' 58" N latitude by 70° 56' 23" W longitude. Universal Transverse Mercator coordinates are 338,425 meters east by 4,610,600 meters north.

A more complete description of the Site parcel and surrounding areas is contained within the Site Inspection of this report.

REGIONAL GEOLOGIC AND HYDROGEOLOGIC SETTING

According to available geologic and hydrogeologic maps the Site lies within the Buzzards Bay Drainage Basin. The Buzzards Bay Drainage Basin is located within the Narragansett Geologic Basin. A basin is a geologic term used to describe a low area in the earth's crust, of Tectonic Origin, in which sediments have accumulated.

The Narragansett Basin, comprising areas in both Massachusetts and Rhode Island is constructed of four stratigraphic units or formations. In order from youngest to oldest, they include:

1. Dighton Conglomerate
2. Rhode Island Formation
3. Wamsutta Formation
4. Pondville Conglomerate

According to a bedrock geologic map of Massachusetts, the Site and Site vicinity consists mainly of nonmarine sedimentary rock such as the Rhode Island Formation which is comprised of sandstone, graywacke, shale, and conglomerate. These sedimentary rocks were deposited in a broad crustal downwrap (geosyncline) during the Upper and Middle Pennsylvanian period (of the Paleozoic Era) on the geologic time scale, approximately 280-330 million years ago. The sedimentary rock (or bedrock) can be expected to be encountered at depths ranging from five to fifteen feet below grade.

During the Wisconsin Glacial Episode (the last major ice advance) massive ice sheets moved southward and south eastward, scapping all of the preglacial deposits from the bedrock surfaces, and depositing a layer of glacial till (approximately 15 feet in thickness), or unsorted, nonstratified glacial drift consisting of clay, silt, sand and boulders transported and deposited thick stratified sediments or glacial outwash (from glacial meltwater) in the bedrock valleys. Also, during the glacial retreat, isolated blocks of ice remained in the bedrock valleys and lakes formed around them, creating lake deposits or glaciolacustrine sediments (mostly silt and clay). When the remaining glacial ice had melted and the glacial lakes had drained, many shallow lakes, streams, and wetlands were created.

The surficial geology or unconsolidated deposits of the Site consist of compact, unsorted, silty, bouldery gravel (till).

According to the "Soil Survey of Bristol County Massachusetts (Southern Part)" performed by the United States Department of Agriculture Soil Conservation Service, the Site is located on urban land. Urban land has nearly level to moderately steep areas which are occupied by urban works and structures; on glacial uplands. Some examples are industrial areas, shopping centers, parking lots and roads.

SITE HISTORY

According to a review of available files and plans at the New Bedford Building Department, the Bristol County Registry of Deeds, and the personal recollections of municipal officials and others familiar with the Site, the earliest Site development occurred circa 1915, with the construction of a service garage. Associated underground gasoline storage tanks were also installed. All of the gasoline tanks were allegedly removed by 1958 when the garage stopped operation, however, definitive records were not available. Between that time and 1989 the Site building was used for various other businesses which included a restaurant supply company. A 19' x 32' brick addition was constructed in 1984. The Site building currently houses a dance studio.

No other evidence of Site development was discovered.

SITE DESCRIPTION

On April 11, 1992 the Site property, buildings, and surrounding properties were inspected by Robert D. Martin from Harborline Engineering, Inc. The Site was traversed on foot, on a representative transect basis and thoroughly visually inspected. The following Site description was compiled from information obtained during the visual inspection, interviews and discussions with municipal officials and Site personnel, and review of environmental records at state and local agencies.

Lot Size , Building Description and Utilities

The Site consists of an irregular shaped 18,329 square foot parcel. The Site is occupied primarily by the Site building. A small grassy area is located in the rear of the building. All other areas contain asphalt or concrete paving.

The Site building consists of two separate units. The one to the west consists of a dance studio which contains office and studio areas. The eastern unit consists of open shop areas and several smaller storage rooms. A catch basin was observed near the boiler room of the shop area. Several large steel plates were observed on the floor but no pits and or breaks in the floor were observed under several that were moved. A 55 gallon drum which contained liquid soap was observed towards the rear of the shop area.

There is service by the following utilities: water; sewer; electric; and telephone.

Zoning

The area in which the site is located is zoned residential-commercial.

Abutting Properties

The following properties abut the Site:

- North: The Site is abutted to the north by Union Street, a paved public way, and both multifamily homes and small businesses.
- East: The Site is abutted to the east by multifamily homes.
- South: The Site is abutted to the south by multifamily homes.
- West: The Site is abutted to the west by multifamily homes.

ENVIRONMENTAL RECORDS REVIEW

Record reviews were conducted at the Massachusetts Department of Environmental Protection (DEP), the New Bedford Fire Department, the New Bedford Public Health Department, the New Bedford Building Inspector's Office, and the Municipal Clerk's Office. All available information pertaining to a release or threat of release of oil or hazardous material at the Site or in the Site vicinity is listed below.

Massachusetts DEP

Available records regarding releases of oil and hazardous materials were reviewed at the DEP Southeast Regional Office in Lakeville, MA on April 6, 1992. No record of a release on the Site parcel or adjacent parcels was discovered during this review. Neither the Site property nor any nearby properties are listed on the DEP "List Of Confirmed Disposal Sites And Locations To Be Investigated" (January 15, 1991).

Environmental Protection Agency

The EPA's List of Hazardous Waste Generators registered under the Resource Conservation and Recovery Act (RCRA) did not identify any generator on or in close proximity to the Site.

The Comprehensive Environmental Response, Conservation and Liability Act Information System (CERCLIS) list of Sites for possible investigation under the Federal Superfund Program does not include any Sites within close proximity to the "Site".

Fire Department

A review of available files at the New Bedford Fire Prevention Bureau concerning the Site was performed by at the request of Harborline. No record of a release of oil or hazardous material on or affecting the Site was discovered in the available files. The following is a table of oil and hazardous material storage records relative to the Site at the New Bedford Fire Prevention Bureau:

UNDERGROUND STORAGE TANKS

<u>LOCATION</u>	<u>QUANTITY/SIZE (GAL)/PRODUCT</u>	<u>STATUS</u>
480 UNION STREET THE "SITE"	2 - 2,000 GALLON GASOLINE	ALL GAS TANKS
	3 - 1,000 GALLON GASOLINE	ALLEGEDLY REMOVED BY 1958.
	1 - 1,000 GALLON #2 FUEL OIL	REMOVED 1984
	1 - 550 GALLON WASTE OIL	REMOVED 1989
	1 - 1,000 GALLON #2 FUEL OIL	REMOVED 1992

Public Health Department

A review of files concerning the Site at the New Bedford Public Health Department was performed by Mr. Raymond Belanger of the Health Department at the request of Harborline. No record of a release of oil or hazardous material on or affecting the Site was discovered in this review of available files.

Water Department

According to water department records, the Site was connected to municipal water in 1915.

Municipal Clerk's Office

A review of available files at the New Bedford Municipal Clerk's Office concerning the Site was performed at the request of Harborline. No evidence of a release was encountered.

Building Inspector's Office

A review of available files concerning the Site at the New Bedford Building Department was performed at the request of Harborline. No record of a release of oil or hazardous material on or affecting the Site was discovered during this review of available department files. The earliest Site development occurred in 1915.

Engineering Department

According to Engineering Department records the Site building was connected to municipal sewer in 1915.

SUBSURFACE INVESTIGATIONS

In order to assess the subsurface and groundwater conditions at the Site. Harborline implemented subsurface investigations. These investigations consisted of test borings, the installation of groundwater monitoring wells, electronic soil screening, groundwater sampling and laboratory analyses.

Site Health and Safety Plan

All personnel at the work Site has conformed with EPA and OSHA protocols for Level D Personal Protection. Level D consists primarily of a work uniform affording minimal protection and provides for nuisance contamination only. Level D is generally used when the atmosphere contains no known hazards and the work functions preclude splashes, immersion, or the potential for unexpected inhalation of or contact with hazardous levels of any chemicals.

The following personal protective equipment was worn by all on-Site personnel:

1. Work clothes or overalls
2. Gloves, leather or rubber
3. Boots/shoes, chemical-resistant, steel toe and shank
4. Safety glasses or face shield
5. Hardhat
6. Other optional protective equipment

Some pieces of protective equipment (such as hardhats and boots) have specific standards for manufacture. Only those items meeting these standards were used.

An H-Nu Systems, Inc. Model GP-101 photoionization detector was used when on-Site to continuously monitor for the presence of volatile organic compounds in the ambient air. Monitoring equipment is calibrated regularly per manufacturers recommendations.

Prior to the start of a project, certain provisions were made for prompt medical attention in case of serious injury or illness. At least one person at the worksite was trained in first aid. First aid supplies were readily available, stored in sanitary and weatherproof containers, and kept in individually sealed packages. First aid supplies included materials such as bandaids, gauze, bandages, and sterile dressings. Proper equipment was provided for prompt transportation of an injured or ill person to a physician or hospital.

NOTE: Harborline and associated personnel adhered to the above health and safety plan during the performance of all on-site investigations.

Test Borings

Test borings were performed by Enviro Tech of Boston, Massachusetts, using 4.25 inch hollow stem augers, driven on a truck mounted rotary drill rig. The borings were completed to depths of 21.5 feet in boring #1, 17.5 feet in boring #2, and 19.5 feet in boring #3, below grade into the groundwater table.

The borings were continuously observed and logged. The exploration logs enclosed in this report are based on field logs. Disturbed but representative soil samples were obtained by using the Standard Penetration Procedure in accordance with ASTM: D1587. The test and sampling method consists of driving a standard 2 inch outside diameter split spoon sampler a distance of 18 inches into the soil with a 140 pound hammer free falling a distance of 30 inches. The blow count provides a measure of the relative density of granular soils or the relative consistency of cohesive soils.

The various types of soil and depth where soils or characteristics of the soils changed are indicated on the boring logs. The soils were classified using the Unified Soil Classification System. The depth indicated on the boring logs where soil conditions changed may represent gradational changes between soil types in the field. If changes occurred between sample intervals in the boring they were interpreted.

Monitoring Wells

Test borings were continued approximately 5 to 10 feet into the groundwater table. Prior to the removal of the augers from the ground, a monitoring well was constructed in each boring. Monitoring wells consist of 5-10 feet of 2 inch diameter Schedule 40 slotted PVC well screen with sufficient riser (unslotted) pipe to reach surface grade. Environmental filter sand was then placed in the boring, up to one foot above the well screen. This allows for sufficient groundwater flow to the well and to prevent clogging of the well screen by fine soil particles. A one foot bentonite pellet seal was placed approximately one foot above the well screen to protect the integrity of the monitoring well from surface water contamination. The monitoring wells are protected by cast iron roadway boxes cemented in place at grade. Boring logs, which describe the well construction and soils encountered, are attached in Appendix D. Approximate locations of the groundwater monitoring wells are shown on the Site plan, attached in Appendix C.

Electronic Soil Screening

Soil samples collected during the boring operations were immediately placed into clean glass jars and screened for the presence of volatile organic compounds (VOC's) via the standard jar headspace method using an H-Nu Systems, Inc. Model GP-101 Photoionization Detector, equipped with a 10.2 eV lamp probe and calibrated to benzene.

Most of the light permanent gases such as the ambient gases hydrogen, helium, etc. have ionization potentials of 12 eV or more. Volatile organic compounds generally have ionization potentials below 10 eV. The photoionization readings are shown in the margins of the boring logs (Appendix D). The H-Nu screening is a measure of the total volatiles and does not distinguish between different components. Results of the photoionization screening are shown below in Table 1.

TABLE 1
RESULTS OF PHOTOIONIZATION SCREENING
IN PARTS PER MILLION (PPM)

SAMPLE	DEPTH	BORING MW-1	BORING MW-2	BORING MW-3
S-1	0'-2'	1.2	7	10.4
S-2	5'-7'	4.6	12.4	13.2
S-3	10'-12'	22	13.2	---
S-4	15'-17'	65	16.4	---
S-5	19'-21'	---	15.4	13

Groundwater Sampling and Gauging

On April 17, 1992, prior to sample collection, monitoring wells MW-1, MW-2, and MW-3, were purged of at least three well volumes of groundwater using clean, dedicated PVC bailers suspended on a teflon line. After purging, groundwater samples were recovered, placed in duplicate clean, laboratory-prepared VOA vials and 1-liter glass jars equipped with teflon caps and placed in refrigerated coolers for preservation.

Samples were transported on the date of collection to American Environmental Laboratories, Inc., a state-certified analytical testing laboratory. CERT # ?

Prior to purging and sampling of the wells, the depth to groundwater in each well was gauged using an ORS Instruments Groundwater Interface Probe. In addition, a stadia survey of well head elevations was performed in relation to an arbitrary benchmark (assumed elevation = 100 feet). The stadia survey and well gauging measurements were combined for the calculation of relative groundwater elevations, which allows the determination of approximate groundwater flow direction(s).

Groundwater gauging and stadia survey results are presented below in Table 2. These results indicate that the approximate groundwater flow direction on the property is generally to the northeast. The approximate groundwater flow direction is shown on the Site plan in Appendix C.

TABLE 2
MONITORING WELL GAUGING AND STADIA SURVEY RESULTS
FOR THE DETERMINATION OF GROUNDWATER ELEVATIONS AND FLOW DIRECTION
(IN FEET)

STA	BS(+)	HI	FS(-)	ELEV	<u>DEPTH TO GW</u>	<u>GW ELEV</u>
BM-1	3.4	103.40		100.00 ✓ (Assumed)		
MW-1			3.86	99.54 ✓	11.27	88.27 ✓
MW-2			4.20	99.20 ✓	11.06	88.14 ✓
MW-3			4.38	99.02 ✓	12.48	86.54 ✓
BM-1 (Check)			3.40	100.00 ✓		

LEGEND

STA	=	STATION	ELEV	=	ELEVATION
BS	=	BACKSIGHT	GW	=	GROUNDWATER
HI	=	HEIGHT OF INSTRUMENT	BM	=	BENCHMARK
FS	=	FORESIGHT	MW	=	MONITORING WELL

STATION DESCRIPTION

BM 1 = NORTHWEST CORNER OF BRICK WALL

Laboratory Analyses

Groundwater samples recovered from monitoring wells MW-1, MW-2, and MW-3, were subjected to laboratory analyses for EPA Methods 624 Volatile Organic Compounds (VOC's) and 418.1 Total Petroleum Hydrocarbons (TPH). The results of these tests determine the quality of the groundwater in relation to EPA Primary Drinking Water Standards. Groundwater samples were recovered on April 17, 1992.

The analytical laboratory results are attached in Appendix F.

ENVIRONMENTAL ASSESSMENT AND OPINION

The environmental quality of the property located on Union Street in New Bedford, Massachusetts was assessed by means of a field investigation based upon; a visual Site inspection, investigation of records at state and local agencies, interviews and discussions with local officials and Site personnel, a review of the Site history, subsurface explorations, photoionization of soils, and limited chemical analyses of the on-site groundwater.

Photoionization of soils did not reveal levels which exceeded 100 ppm.

Laboratory analyses of groundwater indicated the presence of TPH (679 ppm) in MW-1 and 1,2 Dichlorobenzene (13.6 ppb) in MW-3.

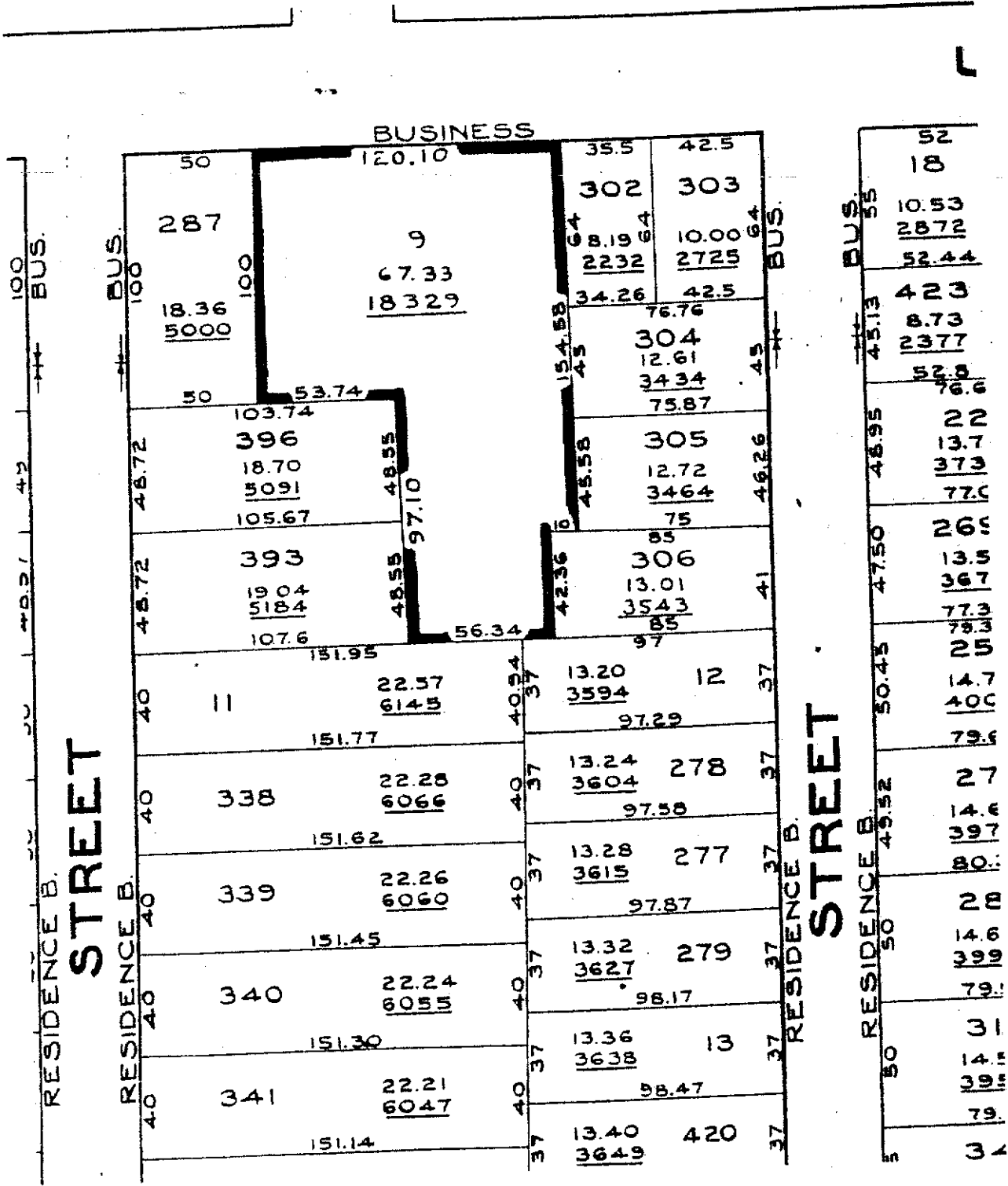
It is possible that the levels of TPH are the result of a historic release from a UST which was removed several years ago.

Based upon the investigation cited above, it is the opinion of Harborline Engineering, Inc. that evidence exists, as of the date of this report, of a release of oil or hazardous materials at the Site as defined by Massachusetts General Law Chapter 21E and the Massachusetts Contingency Plan 310 CMR 40.00. However, since the area of contamination is small, is capped by asphalt, and the local groundwater is not used for drinking, Harborline does not see this as a threat to the environment or human health, and therefore requires no further action.

RECOMMENDATIONS

Harborline Engineering, Inc. would like to make the following recommendations:

Any level of contamination is reportable to the DEP. Harborline recommends that a copy of this report be forwarded to the Lakeville offices;



PLAT PLAN



HARBORLINE ENGINEERING INC.
 286 HERMAN MELVILLE BLVD.
 NEW BEDFORD, MA. 02740

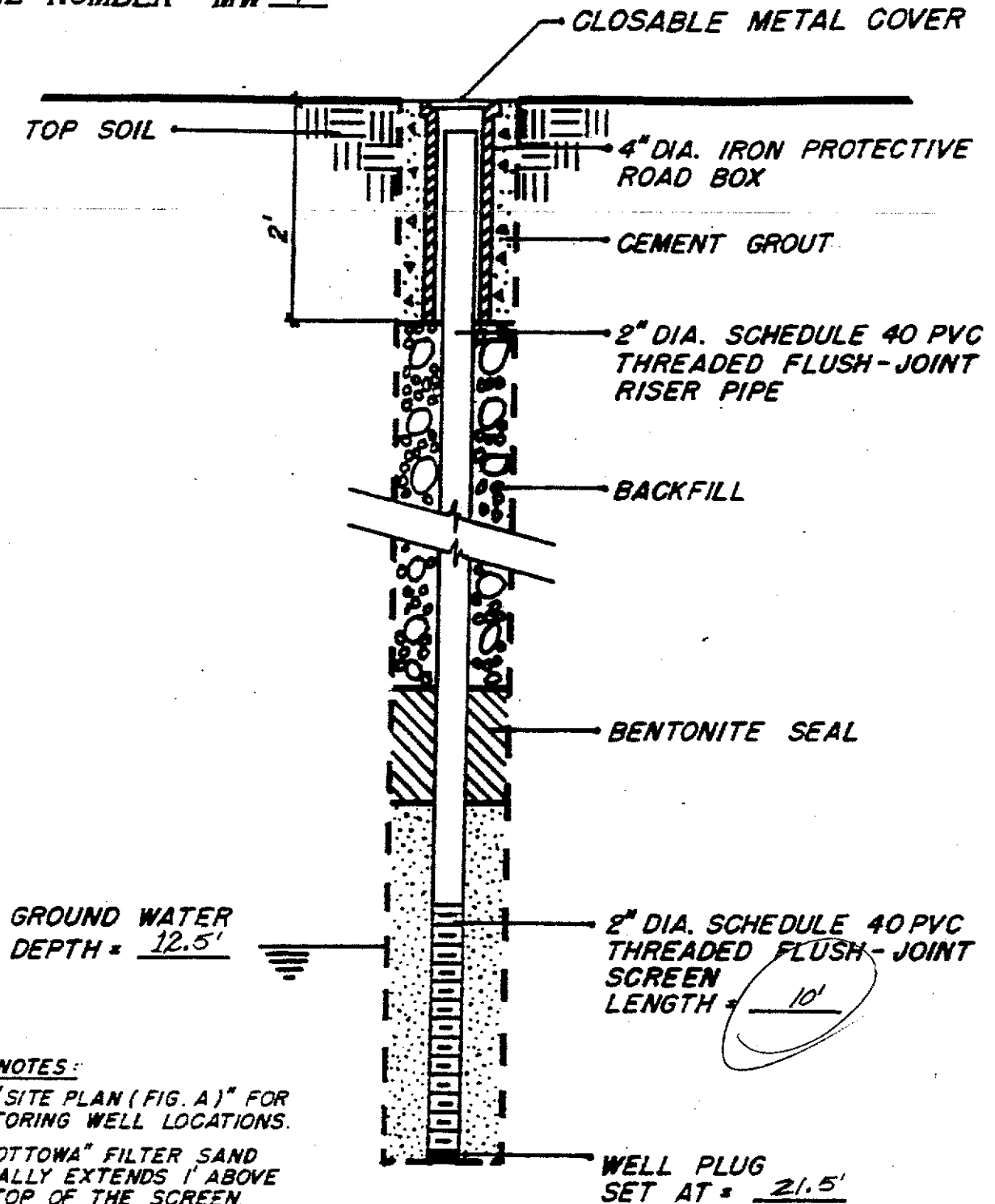
BORING LOG | BORING / WELL NO.: TP-1/MW-1 | PAGE 1 OF 3
 INSTALLATION: 2" .010 PVC MW | SITE: 480 Union Street, New Bedford
 PROJECT NO.: | CLIENT / PROJECT: Alan Cohen | DRILLER:
 HAZWRAP CONTRACTOR: | DRLG. CONTRACTOR: Enviro Tech | BOREHOLE DIA.(S) 4.25"
 DRLG. STARTED: 4/12/92 (8:30 a.m.) | DRLG. ENDED: 4/12/92 (10:00 a.m.)
 DRLG. METHOD / RIG TYPE: Hollow stem auger, Split spoon/Acker AD II | PROTECTION LVL.: D
 LOGGED BY: P.T.C. | E-LOG (Y/N) FROM _____ TO _____

DEPTH (FT.) | SAMPLE NO. | SAMPLE P.T.D. | HDSP (PPM) RECOVERY (Lins.) | LITHOLOGIC DESCRIPTION | BLOWS / 6" GRAPHIC LOG | WELL DATA | WATER DEPTH + REMARKS | ELEV.

DEPTH (FT.)	SAMPLE NO.	SAMPLE P.T.D.	HDSP (PPM) RECOVERY (Lins.)	LITHOLOGIC DESCRIPTION	BLOWS / 6" GRAPHIC LOG	WELL DATA	WATER DEPTH + REMARKS	ELEV.
	A	1.2	na	10 yr 3/2 (very dark grayish brown), loamy coarse sand, dry, coarse fragments 5%	17 21 11			
5	B	4.6	14	10 yr 5/3 (brown), silt loam, moist	14 20 27			5
10	C	22	16	10 yr 5/3 (brown), loamy med/coarse sand, moist, <u>petroleum odor</u>	12 23 31		Water at 12.5 feet	10
15	D	65	12	10 yr 5/1 (gray), loamy med/coarse sand, very moist, <u>petroleum odor</u>				15
20				Well set at 21.5' 10' PVC screen 11.5' PVC riser 200 lbs. filter sand 25 lbs. bentonite Road box				20
25								25
30								30
35								35

U = THIN WALL TUBE | R = ROCK CORING | FIELD G/C (MAKE / MOD.) GP-101 (H-Nu)
 S = SPLIT SPOON (TUBE) | O = OTHER | G/C OPER.: PC
 C = CUTTINGS | NOTES: Dig Safe # 92151959

WELL NUMBER - MW 1



GENERAL NOTES:

- 1.) SEE "SITE PLAN (FIG. A)" FOR MONITORING WELL LOCATIONS.
- 2.) THE "OTTAWA" FILTER SAND TYPICALLY EXTENDS 1' ABOVE THE TOP OF THE SCREEN.
- 3.) THE BENTONITE SEAL IS TYPICALLY 1' THICK.



Harborline
Engineering, Inc.

PLAN TITLE:

MONITORING WELL DETAIL

DRAWN BY: P. C.

DATE:

FIGURE



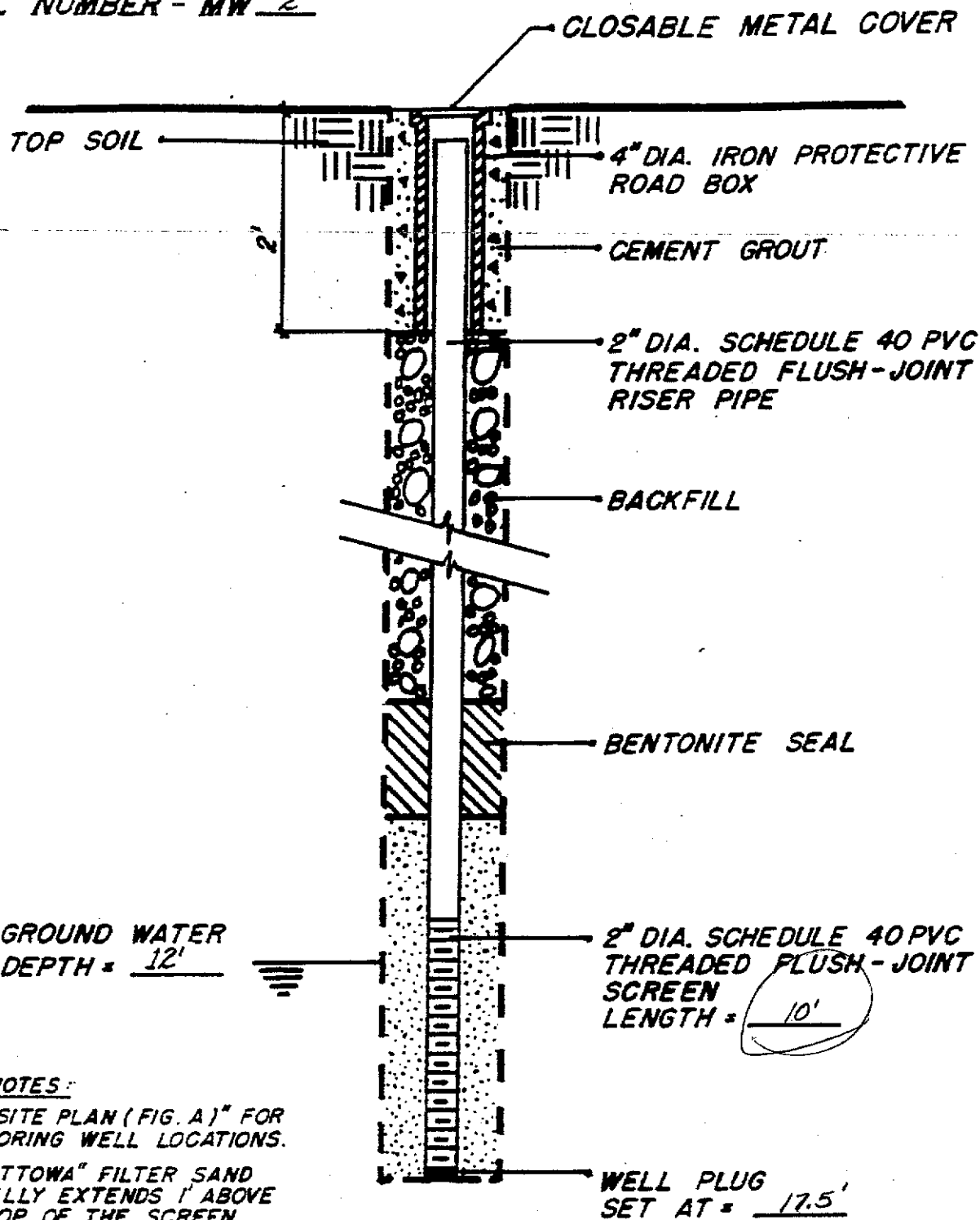
HARBORLINE ENGINEERING INC.
 286 HERMAN MELVILLE BLVD.
 NEW BEDFORD, MA. 02740

BORING LOG		BORING / WELL NO.: TP-2/MW-2	PAGE <u>2</u> OF <u>3</u>
INSTALLATION: 2" .010 Slot PVC MW		SITE: 480 Union St., New Bedford	
PROJECT NO.:	CLIENT / PROJECT: Alan Cohen		
HAZWRAP CONTRACTOR:	DRLG. CONTRACTOR: Enviro Tech	DRILLER:	
DRLG. STARTED: 4/12/92 (10:45 a.m.)	DRLG. ENDED: 4/12/92 (11:45 a.m.)	BOREHOLE DIA.(S) 4.25"	
DRLG. METHOD / RIG TYPE: Hollow stem auger, Split spoon/Acker AD II			
LOGGED BY: PTC	E-LOG (Y/N) FROM _____ TO _____	PROTECTION LVL: D	

DEPTH(FT.)	SAMPLE NO.	SAMPLE PID	HDSP (ppm)	RECOVERY (ins.)	LITHOLOGIC DESCRIPTION	BLOWS / 6"	GRAPHIC LOG	WELL DATA	WATER DEPTH + REMARKS	ELEV.
	A	7.0	12		10 yr 4/3 (brown), fine/med sandy loam, dry					
5	B	12.4	13		10 yr 4/4 (dark yellowish brown), loamy sand, dry	41 79 75				5
10	C	13.2	12		10 yr 5/4 (yellowish brown), loamy sand, dry	10 22 25				10
	D	16.4	14		10 yr 5/3 (brown), very fine sandy loam, wet	17 19 21			Water at 12 feet	15
15	E	15.4			10 yr 5/3 (brown), very fine sandy loam, wet					15
20					Well set at 17.5' 200 lbs. filter sand 25 lbs. bentonite 10' PVC screen 7.5' PVC riser Road box					20
25										25
30										30
35										35

U = THIN WALL TUBE R = ROCK CORING FIELD G/C (MAKE / MOD.) GP-101 (H-Nu)
 S = SPLIT SPOON(TUBE) O = OTHER G/C OPER.: PC
 C = CUTTINGS NOTES: Dig Safe # 92151959

WELL NUMBER - MW 2



GENERAL NOTES:

- 1.) SEE "SITE PLAN (FIG. A)" FOR MONITORING WELL LOCATIONS.
- 2.) THE "OTTAWA" FILTER SAND TYPICALLY EXTENDS 1' ABOVE THE TOP OF THE SCREEN.
- 3.) THE BENTONITE SEAL IS TYPICALLY 1' THICK.



Harborline
Engineering, Inc.

PLAN TITLE:

MONITORING WELL DETAIL

DRAWN BY: P. C.

DATE:

FIGURE



HARBORLINE ENGINEERING INC.
 286 HERMAN MELVILLE BLVD.
 NEW BEDFORD, MA. 02740

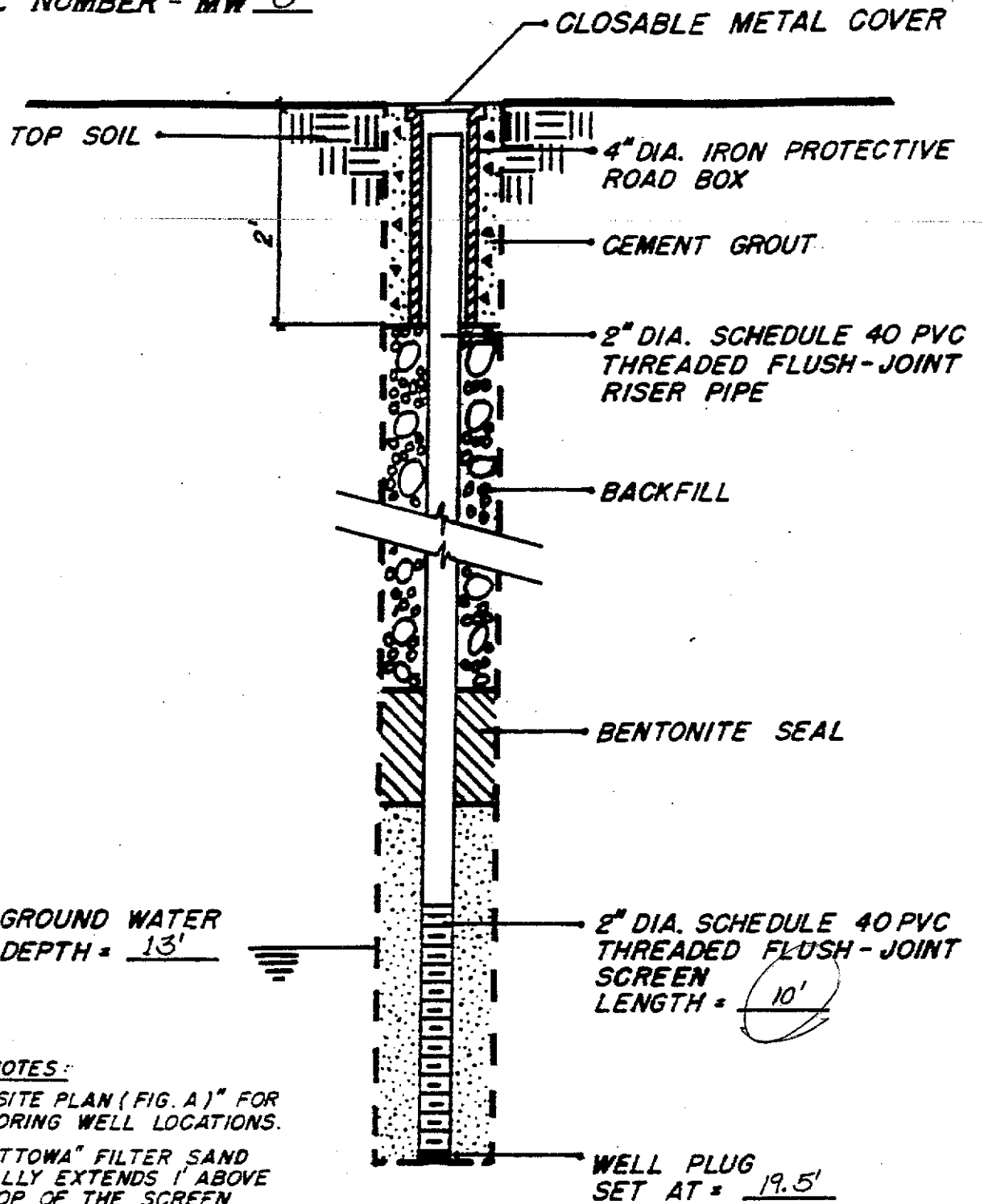
BORING LOG | BORING / WELL NO.: TP-3/MW-3 | PAGE 3 OF 3
 INSTALLATION: 2" .010 Slotted PVC MW | SITE: 480 Union St., New Bedford
 PROJECT NO.: | CLIENT / PROJECT: Alan Cohen
 HAZWRAP CONTRACTOR: | DRLG. CONTRACTOR: Enviro Tech | DRILLER:
 DRLG. STARTED: 4/12/92 (12:00 P.M.) | DRLG. ENDED: (: M) | BOREHOLE DIA.(S) 4.25"
 DRLG. METHOD / RIG TYPE: Hollow stem auger, Split spoon/Acker AD II
 LOGGED BY: PTC | E-LOG (Y/N) FROM _____ TO _____ | PROTECTION LVL: D

DEPTH(FT.) SAMPLE NO. HDSP (ppm) RECOVERY (ins.) LITHOLOGIC DESCRIPTION BLOWS / 6" GRAPHIC LOG WELL DATA WATER DEPTH + REMARKS ELEV.

DEPTH(FT.)	SAMPLE NO.	HDSP (ppm)	RECOVERY (ins.)	LITHOLOGIC DESCRIPTION	BLOWS / 6"	GRAPHIC LOG	WELL DATA	WATER DEPTH + REMARKS	ELEV.	
	A 10.4	12		10 yr 4/2 (dark grayish brown), loamy med/coarse sand, moist						
5	B 13.2	10		10 yr 4/6 (dark yellowish brown), fine/med sandy loam, moist	34 11 10				5	
10	C ---	0		---	64 41 30				10	
15	D ---	4		2/5 y 4/4 (olive brown), sandy loam, moist, high mica content	21 12 10			Water at 13 feet	15	
20	E 13	14		2.5 y 4/4 (olive brown), sandy loam, moist, high mica content	27 40 103				20	
25	Well set at 19.5 10 ft. PVC screen 9.5 ft. PVC riser 200 lbs. filter sand 25 lbs. bentonite Road box									25
30										30
35										35

U = THIN WALL TUBE R = ROCK CORING _____ FIELD G/C (MAKE / MOD.) GP-101 (H-Nu)
 S = SPLIT SPOON(TUBE) O = OTHER _____ G/C OPER.: PC
 C = CUTTINGS NOTES: Dig Safe # 92151959

WELL NUMBER - MW 3



GENERAL NOTES:

- 1.) SEE "SITE PLAN (FIG. A)" FOR MONITORING WELL LOCATIONS.
- 2.) THE "OTTOWA" FILTER SAND TYPICALLY EXTENDS 1' ABOVE THE TOP OF THE SCREEN.
- 3.) THE BENTONITE SEAL IS TYPICALLY 1' THICK.



Harborline
Engineering, Inc.

PLAN TITLE:

MONITORING WELL DETAIL

DRAWN BY: P. C.

DATE:

FIGURE

REPORT NO. 49220-1492-1494



AMERICAN ENVIRONMENTAL LABORATORIES, INC.

(508) 534-1444

60 Elm Hill Ave. Leominster, MA 01453

LAB ID #MA076

800-LAB-0094

SAMPLE INFORMATION

Requested By: Harborline Engineering
 Address: 286 Herman Melville Blvd.
 City: New Bedford, MA 02740
 Sample ID: PD No: Union St.
 Matrix: Water
 Sample Location (if different): See Below

Date Received: 04/20/92
 Date Analyzed: 04/22/92
 Collected By: Eugene Carpenter
 ATTN: Gene Carpenter

Date Sampled: 04/17/92

PARAMETER	RESULT	MCL	MDL	UOM	METHOD NO.
49220-1492: MW-1 T. Petroleum Hydrocarbon Monitoring Well #1	679		5.0	mg/l	EPA# 418.1
49220-1493: MW-2 T. Petroleum Hydrocarbon Monitoring Well #2	ND		5.0	mg/l	EPA# 418.1
49220-1494: MW-3 T. Petroleum Hydrocarbon Monitoring Well #3	ND		5.0	mg/l	EPA# 418.1

Comments:

Misc

Analyst: Sherri Robichaud

★ = Exceeds EPA Proposed MCL Limits
 MDL = Minimum Detection Limit
 MCL LIMIT = Proposed EPA Maximum contaminant level
 ND = Level present is below detection limit
 NT = Not Tested

PLEASE NOTE
 The results here, can not be reproduced in whole or in part without our prior consent. The results apply only to the actual sample tested. American shall be held harmless from any liability arising out of the use of such results. The integrity of the sample and results is dependent on the quality of sampling.

REPORT NO. 49220-1494



AMERICAN ENVIRONMENTAL LABORATORIES, INC.

(508) 534-1444

60 Elm Hill Ave. Leominster, MA 01453

LAB ID #MA076 800-LAB-0094

SAMPLE INFORMATION

Requested By: Harborline Engineering
 Address: 286 Herman Ave.
 City: New Bedford, MA 02740
 Sample ID: PO No: Union St.
 Matrix: Water (Date Sampled: 4/17/92)
 Sample Location (if different):

Date Received: 04/20/92
 Date Analyzed: 04/23/92
 Collected By: Eugene Carpenter
 ATTN: Gene Carpenter

MW#3 Monitoring Well #3

PARAMETER	RESULT (ug/l)	MDL (ug/l)
Benzene	ND	5.0
Bromodichloromethane (THM)	ND	5.0
Bromoform (THM)	ND	5.0
Bromomethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Chlorobenzene	ND	5.0
Chloroethane	ND	5.0
2-Chloroethylvinyl ether	ND	10.0
Chloroform (THM)	ND	5.0
Chloromethane	ND	5.0
Dibromochloromethane (THM)	ND	5.0
1,2 Dichlorobenzene	13.6	5.0
1,3 Dichlorobenzene	ND	5.0
1,4 Dichlorobenzene	ND	5.0
1,1 Dichloroethane	ND	5.0
1,2 Dichloroethane	ND	5.0
1,1 Dichloroethene	ND	5.0
Trans-1,2 Dichloroethene	ND	5.0
1,2 Dichloropropane	ND	5.0
Cis-1,3 Dichloropropene	ND	5.0
Trans-1,3 Dichloropropene	ND	5.0
Ethyl benzene	ND	5.0
Methylene Chloride	ND	10.0
1,1,2,2 Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
1,1,1 Trichloroethane	ND	5.0
1,1,2 Trichloroethane	ND	5.0
Trichloroethene	ND	5.0
Trichloro Fluoromethane	ND	5.0
Vinyl Chloride	ND	5.0
Xylene	ND	5.0

Comments: Sample Dilution: None

EPA 624

Lisa Cormier

Analyst: *LC*

* = Exceeds EPA Proposed MCL Limits
 MDL = Minimum Detection Limit
 MCL LIMIT = Proposed EPA Maximum contaminant level
 ND = Level present is below detection limit
 NT = Not Tested

PLEASE NOTE
 The results here, can not be reproduced in whole or in part without our prior consent. The results apply only to the actual sample tested. American shall be held harmless from any liability arising out of the use of such results. The integrity of the sample and results is dependent on the quality of sampling.



AMERICAN ENVIRONMENTAL LABORATORIES, INC.

(508) 534-1444

60 Elm Hill Ave. Leominster, MA 01453

LAB ID #MA076

800-LAB-0094

SAMPLE INFORMATION

Requested By: Harborline Engineering
 Address: 286 Herman Ave.
 City: New Bedford, MA 02740
 Sample ID: PO No: Union St.
 Matrix: Water (Date Sampled: 4/17/92)
 Sample Location (if different):

Date Received: 04/20/92
 Date Analyzed: 04/23/92
 Collected By: Eugene Carpenter
 ATTN: Gene Carpenter

MW#2 Monitoring Well #2

PARAMETER	RESULT (ug/l)	MDL (ug/l)
Benzene	ND	5.0
Bromodichloromethane (THM)	ND	5.0
Bromoform (THM)	ND	5.0
Bromomethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Chlorobenzene	ND	5.0
Chloroethane	ND	5.0
2-Chloroethylvinyl ether	ND	10.0
Chloroform (THM)	ND	5.0
Chloromethane	ND	5.0
Dibromochloromethane (THM)	ND	5.0
1,2 Dichlorobenzene	ND	5.0
1,3 Dichlorobenzene	ND	5.0
1,4 Dichlorobenzene	ND	5.0
1,1 Dichloroethane	ND	5.0
1,2 Dichloroethane	ND	5.0
1,1 Dichloroethene	ND	5.0
Trans-1,2 Dichloroethane	ND	5.0
1,2 Dichloropropane	ND	5.0
Cis-1,3 Dichloropropene	ND	5.0
Trans-1,3 Dichloropropene	ND	5.0
Ethyl benzene	ND	5.0
Methylene Chloride	ND	10.0
1,1,1,2 Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
1,1,1 Trichloroethane	ND	5.0
1,1,2 Trichloroethane	ND	5.0
Trichloroethene	ND	5.0
Trichloro Fluoromethane	ND	5.0
Vinyl Chloride	ND	5.0
Xylene	ND	5.0

Comments: Sample Dilution: None

EPA 624

Lisa Cormier

Analyst: *LC*

* = Exceeds EPA Proposed MCL Limits
 MDL = Minimum Detection Limit
 MCL LIMIT = Proposed EPA Maximum contaminant level
 ND = Level present is below detection limit
 NT = Not Tested

"PLEASE NOTE"
 The results here, can not be reproduced in whole or in part without our prior consent. The results apply only to the actual sample tested. American shall be held harmless from any liability arising out of the use of such results. The integrity of the sample and results is dependent on the quality of sampling.



AMERICAN ENVIRONMENTAL LABORATORIES, INC.

(508) 534-1444

60 Elm Hill Ave. Leominster, MA 01453

LAB ID #MA076

800H.AB-0094

SAMPLE INFORMATION

Requested By: Harbortine Engineering
 Address: 286 Herman Melville Blvd.
 City: New Bedford, MA 02740
 Sample ID: PO No: Union St.
 Matrix: Water (Date Sampled: 4/17/92)
 Sample Location (if different):

Date Received: 04/20/92
 Date Analyzed: 04/23/92
 Collected By: Eugene Carpenter
 ATTN: Gene Carpenter

MW#1 Monitoring Well #1

PARAMETER	RESULT (ug/l)	MDL (ug/l)
Benzene	ND	5.0
Bromodichloromethane (THM)	ND	5.0
Bromoform (THM)	ND	5.0
Bromomethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Chlorobenzene	ND	5.0
Chloroethane	ND	5.0
2-Chloroethylvinyl ether	ND	10.0
Chloroform (THM)	ND	5.0
Chloromethane	ND	5.0
Dibromochloromethane (THM)	ND	5.0
1,2 Dichlorobenzene	ND	5.0
1,3 Dichlorobenzene	ND	5.0
1,4 Dichlorobenzene	ND	5.0
1,1 Dichloroethane	ND	5.0
1,2 Dichloroethane	ND	5.0
1,1 Dichloroethene	ND	5.0
Trans-1,2 Dichloroethene	ND	5.0
1,2 Dichloropropane	ND	5.0
Cis-1,3 Dichloropropene	ND	5.0
Trans-1,3 Dichloropropene	ND	5.0
Ethyl benzene	ND	5.0
Methylene Chloride	ND	10.0
1,1,2,2 Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
1,1,1 Trichloroethane	ND	5.0
1,1,2 Trichloroethane	ND	5.0
Trichloroethene	ND	5.0
Trichloro Fluoromethane	ND	5.0
Vinyl Chloride	ND	5.0
Xylene	ND	5.0

Comments: Sample Dilution: None

EPA 624

Lisa Cormier

Analyst:

* = Exceeds EPA Proposed MCL Limits

MDL = Minimum Detection Limit

MCL LIMIT = Proposed EPA Maximum contaminant level

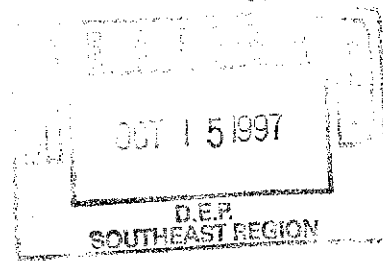
ND = Level present is below detection limit

NT = Not Tested

"PLEASE NOTE"

The results here, can not be reproduced in whole or in part without our prior consent. The results apply only to the actual sample tested. American shall be held harmless from any liability arising out of the use of such results. The integrity of the sample and results is dependent on the quality of sampling.

SCANNED



**RESPONSE ACTION OUTCOME STATEMENT
480 UNION STREET
NEW BEDFORD, MASSACHUSETTS**

DEP RTN 4-1265

SCANNED

PREPARED FOR:

**Alan S. Cohen
6226 Water Lily Lane
Boynton Beach, Florida 33437-4928**

PREPARED BY:

**PRIME Engineering, Inc.
P.O. Box 1088, 350 Bedford Street
Lakeville, MA 02347**

October 13, 1997

1.0 INTRODUCTION

This report presents background information on 480 Union Street, New Bedford, Massachusetts (the Site) and the results of assessment related to the release of oil and/or hazardous material which occurred at the site, and provides the basis for the Response Action Outcome (RAO) Statement which is presented in Section 5.

1.1 SITE DESCRIPTION

The property is an irregularly shaped 18,329 square foot parcel located along the southern side of Union Street in New Bedford, Massachusetts. The general locus is shown on the 1985 USGS Topographic Quadrangle Map of New Bedford-North, Massachusetts, which is presented as Figure No. 1 - Site Locus Map. Site coordinates are 41° 37' 58" N latitude by 70° 56' 23" W longitude. Universal Transverse Mercator coordinates are 338,425 meters east by 4,610,600 meters north.

The property is improved with a single story building of concrete block construction, and associated utilities. The property is comprised of a single lot referenced as Lot 9 on the New Bedford Assessors Map No. 45. The general property layout is presented on Figure No. 2 - Site Schematic.

The Site is bordered to the north by Union Street (paved public way), beyond which are multi-family homes and small businesses. The properties to the west, east and south of the subject site are occupied by multi-family residential dwellings. The site is accessed via paved drives that extend from Union Street onto the northern portion of the site.

1.2 SITE HISTORY

The following summary of historical property use was taken from a report entitled, "Phase I Site Investigation for the Property Located at 480 Union Street, New Bedford, MA", by Harborline Engineering, Inc. According to this report which included a review of New Bedford Building Department, Bristol County Registry of Deeds and personal recollection of municipal officials and others familiar with the Site, the earliest Site development occurred circa 1915, with the construction of a service garage. According to this report, a total of eight Underground Storage Tanks (USTs) were also installed around this period and were removed when the garage stopped operation in 1958. However, this report indicates definitive records that these tanks were removed was not available. Since 1958 the Site has been utilized for several different retail and commercial activities. The site is currently used as a small convenience store and U-Haul drop-off center.

Harborline's Site history revealed that the Site was used as a garage/service station for approximately 40 years, and suggests that gasoline, oils, and other lubricants were stored on Site.

1.3 REGULATORY HISTORY

As part of Harborline's Phase I Investigation of the Site, a series of borings and monitoring wells were installed and the site soils and groundwater were assessed for the presence of oil and/or hazardous material. A total of three test borings were advanced at the site by Harborline. All three borings were completed as monitoring wells.

On April 17, 1992, groundwater samples were collected from all three monitoring wells and analyzed for Volatile Organic Compounds (VOCs) by EPA Method 624 and Total Petroleum Hydrocarbons by EPA Method 418.1. Laboratory analyses of the groundwater samples indicated the presence of TPH (679 ppm) in MW-1 and 1,2 Dichlorobenzene (13.6 ppb) in MW-3. Based on these results, the site was reported to the Massachusetts Department of Environmental Protection (MADEP) and was subsequently listed as a Location to Be Investigated (LTBI). On November 29, 1993, the site was granted a Waiver Approval.

2.0 NATURE AND EXTENT OF CONTAMINATION

This section presents the nature and extent of contamination.

2.1. Initial Investigation

An exploratory soil boring and soil sampling program was conducted by Harborline Engineering, Inc. at the Site in August, 1992. Harborline oversaw the installation of three borings by Enviro Tech of Boston, Massachusetts. The purpose of the exploratory program was to determine if historical operations at the Site had impacted the soil or groundwater. A total of three exploratory borings, B-1 through B-3, were advanced into overburden with a truck mounted rotary drill rig. The soil borings were advanced to depths of 21.5 feet in B-1, 17.5 feet in B-2, and 19.5 feet in B-3. Soil samples were collected continuously. All three of the soil borings were completed as monitoring wells which are identified as MW-1, MW-2, and MW-3, the locations of which are shown on Figure 2. Soil samples collected were classified in the field in accordance with the Modified Burmister Soil Classification System.

During drilling activities a H-Nu Systems, Inc. Model GP-101 Photo Ionization Detector (PID) was used to screen the headspace of soil samples for the presence of volatile organic compounds. Results of the photoionization screening are shown below in Table 1.

TABLE 2.0
Summary of Results of Photoionization Screening of Soil Samples
August 1992

SAMPLE ID	DEPTH	PID READINGS IN PARTS PER MILLION		
		BORING MW-1	BORING MW-2	BORING MW-3
S-1	0' - 2'	1.2	7	10.4
S-2	5' - 7'	4.6	12.4	13.2
S-3	10' - 12'	22	13.2	---
S-4	15' - 17'	65	16.4	---
S-5	19' - 21'	---	15.4	13

Due to the low PID readings (i.e. less than 100 ppm), Harborline did not collect soil samples for confirmatory analysis.

On April 17, 1992, groundwater samples were collected from all three monitoring wells and analyzed for Volatile Organic Compounds (VOCs) by EPA Method 624 and Total Petroleum Hydrocarbons by EPA Method 418.1. Laboratory analyses of the groundwater samples indicated the presence of TPH (679 ppm) in MW-1 and 1,2 Dichlorobenzene (13.6 ppb) in MW-3.

Additional groundwater samples were collected by Olde Boston Environmental from these monitoring wells on October 1, 1993, June 17, 1994, and May 22, 1997. On October 1, 1993, samples were collected from MW-1, MW-2, and MW-3. All three of the samples was analyzed for the presence of volatile organic compounds (VOCs) by EPA Method 8260. The samples collected from MW-1 and MW-2 were also analyzed for Total Petroleum Hydrocarbons (TPH) by EPA Method 418.1. The results of the analysis are summarized on Table 2.1 which is presented in the Tables Section at the rear of this Report. A review of the results revealed low levels of VOCs and slightly elevated levels of TPH were present in the groundwater samples collected from MW-1. As a result of these slightly elevated readings, MW-1 was re-sampled on June 17, 1994 and May 22, 1997 and analyzed for VOCs by EPA Method 8260 and TPH by EPA Method 418.1. The results of the laboratory analysis are summarized on Table 2.1.

2.2 Recent Exploratory Boring and Soil Sampling Program

An exploratory soil boring and soil sampling program was conducted by PRIME at the Site in September, 1997. PRIME oversaw the installation of two borings by Geoserach of Leominster, Massachusetts. The purpose of the exploratory boring program was to confirm the results obtained as part of the initial subsurface investigation. A total of two exploratory borings, P-1 and P-2, were advanced into overburden with a truck mounted rotary drill rig. Boring P-1 and P-2 were advanced through the former on-site UST locations. The location of the borings is shown on Figure 2. The soil borings were advanced to depths of 15 feet in B-1 and 12 feet in B-2. Soil samples were collected continuously. Soil samples collected were classified in the field in accordance with the Modified Burmister Soil Classification System.

During drilling activities a Thermo Environmental Photo Ionization Detector (PID) was used to screen the headspace of soil samples for the presence of volatile organic compounds. Results of the photoionization screening are shown on the boring logs which are included in Appendix A. Confirmatory samples were collected for laboratory analysis. A single composite sample from each boring was collected and submitted for confirmatory Extractable Petroleum Hydrocarbons (EPH) and Volatile Petroleum Hydrocarbons (VPH) analysis. A summary of the soil results is presented in Table 2.2. A review of the results reveals the concentration of each of the EPH and VPH analytes is below the applicable MCP Method 1/Method 2 standard (i.e. S-1/GW-2 and S-1/GW-3).

2.3 Recent Groundwater Sampling and Analysis Program

A single groundwater sample was collected from each of the three existing on-site monitoring wells. Low flow sampling methodologies using EPA protocol were utilized to limit the suspended particle concentrations in the collected samples and, thereby eliminated much of the artificial bias that results

from standard purging and sampling techniques. The following low flow sampling technique was utilized: Prior to purging, the groundwater level and total depth of the monitoring well were measured to the nearest 0.01 foot using an electronic water level sensing device. The recorded measurements were used to calculate the volume of standing water in the well. Prior to purging, all wells were examined for the presence of free-phase petroleum product by observing the condition of the water level indicator when it was withdrawn from the well. No measurable free-phase product was observed in any of the wells. Low flow sampling of the monitoring wells was performed in accordance with EPA protocol (SOP #GW 0001). Monitoring wells were purged and sampled using a Grundfos pump and virgin HDPE tubing. Temperature, pH, specific conductivity, and turbidity were recorded at three and five minute intervals. Sampling occurred when field indicator parameters remained within 10% for three consecutive readings, and turbidity had fallen to less than 5 NTU's. Groundwater samples were collected from the monitoring well locations for analysis of EPH and VPH.

All non-disposable down hole equipment was decontaminated prior to submersion with a scrub of Alconox solution and rinses of tap water followed by distilled water. Activities associated with monitoring well sampling were performed in Level D personal protection. The samples were submitted to Toxikon which is a Massachusetts certified analytical laboratory.

The result of the laboratory analysis are summarized on Table 2.3. The complete results are presented in Appendix B. A review of the results reveals that those compounds which were detected were well below MCP Method 2 Risk Standards.

3.0 RISK CHARACTERIZATION

The Massachusetts Contingency Plan requires that a risk characterization be performed for a Response Action Outcome Statement. This section presents that risk characterization.

3.1 SELECTION OF RISK CHARACTERIZATION METHOD

A Method 2 Risk Characterization, as described in 310 CMR 40.0980, was used to characterize the risk of harm to health, public welfare and the environment. Method 2 is applicable to this disposal site for the following reasons:

- Oil and/or hazardous materials (OHM) have only been detected in soil and groundwater.
- Not all OHM detected at the site are listed in 310 CMR 40.0974 and 40.0975.
- OHM present on-site are not known to bioaccumulate.
- No environmental receptors have been identified that could be impacted by the disposal site.

3.2 POTENTIAL ROUTES OF EXPOSURE

Potential routes of exposure identified include dermal contact with groundwater and soil, ingestion of soil and inhalation of particulates and OHM vapors during future excavation or construction work

3.2.1. Identification of Exposure Point Concentrations

The exposure point concentrations for soil and groundwater are summarized below.

Exposure Point Concentrations in Soil

Exposure point concentrations in soil used in this risk characterization represent the maximum concentration of each study chemical detected in the soil. Two soil samples were collected and analyzed for EPH and VPH. The concentration of EPH and VPH in each of the samples was below the applicable Method 2 standard.

Exposure Point Concentrations in Water

Exposure point concentrations in groundwater used in this risk characterization represent the maximum concentration of each study chemical detected in groundwater during the most recent sampling activities. A total of three groundwater samples were collected from the site. All three samples were analyzed for VPH and EPH. The concentration of EPH and VPH in each of the groundwater samples was below the applicable MCP standard.

Note: The groundwater and soil results were compared to EPH and VPH standards that will not be officially promulgated until October 31, 1997. This comparison is pursuant to 310 CMR 40.0982 and, as such, is considered a Method 2 Risk Characterization.

3.3 SENSITIVE RECEPTORS

This section identifies and describes the potential human and environmental receptors which are likely to be present at the site or in the surrounding environment, and which, as a result, could potentially be exposed to oil and/or hazardous material (OHM).

Potential Human Receptors:

Pursuant to 310 CMR 40.0921, the following identifies and describes potential human receptors who are likely to be present at or in the surrounding environment, and who, as a result, could potentially be exposed to the OHM. The following justification is provided for consideration or elimination of potential human receptors:

Site: As the site is zoned and used for commercial purposes, residential use of the site, now or in the future, is unlikely. Lifelong residents of the site, women of childbearing age, children (ages 1 to 8) and other sensitive subpopulations are, therefore, not considered potential receptors. The site is currently utilized as a convenience store and U-Haul drop-off facility and, as such, future potential site receptors will likely include only site workers, customers, and trespassers.

Surrounding Environment: Contamination originating from the subject site has not been identified in the subsurface soil and groundwater at adjacent properties. As a result, there will be no potential off-site receptors.

Potential Environmental Receptors:

Pursuant to 310 CMR 40.0922, the following identifies and describes potential environmental receptors which are likely to be present at or within the surrounding environment and which could potentially be exposed to the OHM. The following justification is provided for consideration or elimination of potential environmental receptors:

Biota: No species of concern, Threatened Species, or Endangered Species are known or likely to be located at the site or within a one-half mile radius surrounding the property. As such, the potential for exposure by biota is unlikely.

Habitats: Based on a review of a MAGIS Scoring Map compiled for the area surrounding the property, no Areas of Environmental Concern have been identified on the property or within the surrounding environment. The closest water body to the site is the New Bedford Harbor located approximately 1 mile east of the subject site. Based on the distance and the subsurface conditions, groundwater from the site is not expected to impact the harbor.

No off-site testing has been conducted

An elementary school is within 100' / 500' / 100'

3.4 FORESEEABLE SITE USES AND ACTIVITIES

3.4.1 Site

The anticipated future use of the site will be consistent with the current use.

3.4.2 Groundwater

Based on a review of the Massachusetts Department of Environmental Protection (MADEP) Site Scoring Map, the site is not located within an Interim Wellhead Protection Area or a potential drinking water source area. Groundwater beneath the site is, therefore, not considered a current or potential future source of drinking water.

3.5 APPLICABLE SOIL AND GROUNDWATER CATEGORIES

3.5.1 Soil Categories

Pursuant to 310 CMR 40.0933, this section identifies soil categories applicable to the site. The soil at the site is categorized based on available information regarding frequency of use, intensity of use, and accessibility. Soil at the site is not classified as S-1 for the following reasons (310 CMR 40.0933(5)).

- Potentially contaminated soil is located beneath the paved surface and, as such, the soil is considered potentially accessible.
- Soil is not used for growing fruits or vegetables and is not expected to be used for that purpose.
- A child's frequency and intensity of use are low.
- An adult would not have high frequency, high intensity of use.

Soil at the site is not classified as S-2 for the following reasons (310 CMR 40.0933(6)).

- The soil is potentially accessible as described above.
- A child's frequency and intensity of use are low.
- an adult would not have high frequency high intensity use.

Soil at this site is classified as S-3 as it does not meet any of the criteria outlined in 310 CMR 40.0933(5) or 310 CMR 40.0933(6).

Note: Although S-3 is the applicable soil category, S-1 was used in the risk characterization in order to consider the most conservative scenario, and eliminate the need for any activity and use limitations.

3.5.2 Groundwater Categories

Pursuant to 310 CMR 40.0932, this section identifies groundwater categories applicable to the site. Based on available information regarding groundwater use at and within the vicinity of the site, groundwater category GW-1 is not applicable to the site. GW-1 is not applicable for the following reasons:

- The site is not located in a Zone II;
- The site is not located within an Interim Wellhead Protection Area;
- The site is not located within a Potential Drinking Water Source Area;
- The site is not located within the Zone A of a Class A Surface Water Body;
- The site is not located over 500 feet of a public water system distribution pipeline; and
- The site is not located within 500 feet of a private supply well used for drinking water.

In accordance with 310 CMR 40.0932(6), groundwater on and within the vicinity of the site is categorized as Groundwater Category GW-2 as groundwater is located within 30 feet of an occupied building or structure and the average annual depth to groundwater is 15 feet or less.

In accordance with 310 CMR 40.0932(3), groundwater on and in the vicinity of the site would also be categorized as Groundwater Category GW-3 because all groundwater is considered a potential source of discharge to surface water.

3.6 CHARACTERIZATION OF RISK TO SAFETY

Pursuant to 310 CMR 40.0960, the risk of harm to safety is characterized by comparison of conditions at the site to applicable or suitably analogous safety standards. No safety standards were identified which were applicable to the soil or groundwater for this site.

There are no open pits, lagoons, rusted or corroded drums or similar hazards to public welfare or safety at the site. Conditions on the property do not pose fire or explosion threats. There is no threat posed by uncontained materials which exhibit the characteristics of corrosivity, reactivity, or flammability as described by 310 CMR 40.0347 from the contaminants on the property.

Pursuant to 310 CMR 40.0960(3), a level of no significant risk to safety has been achieved since conditions do not currently, and will not in the foreseeable future, pose a threat of physical harm or bodily injury.

3.7 CHARACTERIZATION OF HARM TO PUBLIC WELFARE

This section of the risk characterization consists of a qualitative evaluation of the risk posed by the site to public welfare. The risk of harm to public welfare considers the existence of aesthetic degradation, nuisance conditions, loss of property value, and limitations on property use.

The site maintains a low likelihood of adversely impacting public or private properties within the vicinity of the site for the following reasons:

- Site contamination is restricted to subsurface soil.
- Existing data indicates soil contamination has been reduced to below applicable Method 2 standards.
- Since the primary pathway for offsite migration is advective transport of groundwater and since concentrations of OHM were not detected in the on-site groundwater, offsite migration of OHM in groundwater is not considered a concern.

In summary, pursuant to 310 CMR 40.0994(4)(a), a level of no significant risk of harm to public welfare exists.

3.8 RISK OF HARM TO HUMAN HEALTH AND THE ENVIRONMENT

Pursuant to 310 CMR 40.0988, for sites at which a Method 2 Risk Assessment is applicable, the risk of harm to human health and the environment is determined through a comparison of conditions at the disposal site to promulgated MCP Standards and any MCP Method 2 Standards identified pursuant to 310 CMR 40.0980. As discussed in Section 2.2 and 2.3, the exposure point concentrations in the groundwater and soil at the site are below the applicable MCP Method 1 and established Method 2 soil and groundwater standards. Therefore, pursuant to 310 CMR 40.099, the site does not pose risk of harm to human health or the environment.

4.0 COMPONENTS OF THE RESPONSE ACTION OUTCOME STATEMENT

The MCP prescribes the essential components of a Response Action Outcome (RAO) Statement in 310 CMR 40.1056. This section presents each of these elements as listed in that subsection of the MCP.

1A. Site Name, Address, and Tracking Number

480 Union Street
New Bedford, MA 02745
RTN: 4-1265

1B. Class of Response Action Outcome

The category of this RAO was determined in accordance with 310 CMR 40.1036. Class B-1 is appropriate to this site for the following reasons:

- A Permanent Solution has been achieved;
- Response actions have not been employed to achieve a condition of No Significant Risk;
- Levels of oil and/or hazardous materials (OHM) at the site have not been reduced to background; and
- No Activity and Use Limitation (AUL) is required to ensure the existence or maintenance of a level of No Significant Risk.

1C. Risk Assessment Method

A Method 2 Risk Characterization has been used to characterize the risk from the Site.

1D. Statement of Need

No additional response actions are needed at the Site. There have been no other RAO Statements that have been filed for the disposal site.

1E. Post-RAO Activities

There is no need for post-RAO operation or maintenance activities.

1F. Activity and Use Limitations

There is no need for an Activity and Use Limitation at this Site.

1G. LSP Opinion

Section 5.0 of this report presents the LSP opinion that the requirements of Response Action Outcome as prescribed in 310 CMR 40.1000 have been met.

1H. RAO Certification

Section 6.0 of this report presents the certification of the Response Action Outcome.

2A. Site Description

Section 1 of this report presents a clear and accurate description of the location and boundary limits of both the site and the property. The site is defined by the legal boundary of the property.

2B. Elimination of Uncontrolled Sources

Not Applicable

2C. Determination of No Significant Risk

Current concentrations of OHM in site soil and groundwater are less than the applicable Method 2 Standards.

- The site does not pose a risk to public health.
- The site does not pose a risk to public safety.
- The site does not pose a risk to public welfare.
- The site does not pose a risk to the environment.
- A condition of No Significant Risk, pursuant to 310 CMR 40.0900, has been satisfied for the site.

2D. Determination of Substantial Hazard

Not Applicable.

2E. Feasibility of Achieving Background Conditions

Reduction of concentrations of oil and hazardous materials in the environment at the property to background levels is not feasible. As discussed below, this conclusion is based on the fact that reduction to background levels is not justified by a cost-benefit analysis under 310 CMR 40.0860(6).

1. Background Conditions

The presumed background concentration of EPH and VPH in the soils and groundwater are assumed to be non-detectable concentrations.

2. Technical Infeasibility of Treatment to Background Conditions

Implementation of available technologies would not achieve background conditions with respect to these contaminants within any reasonable expenditure of time and effort. Overall, continued remediation would be inefficient and costly. The achievement of background levels is, therefore, not feasible.

2F. Activity and Use Limitations

Not Applicable.

2G. Activity and Use Limitation Opinion

Not Applicable.

2H. Operation Maintenance and Monitoring

There is no need for any operation, maintenance or monitoring to confirm or maintain the conditions upon which the RAO is based.

2I. Steps Taken Toward Achieving Permanent Solution

Not Applicable.

3. Fee

Payment of the RAO fee is not required as this site is an approved Waiver Site governed by the Transition Provisions of the MCP.



LICENSED SITE PROFESSIONAL (LSP)
EVALUATION OPINION TRANSMITTAL FORM
Pursuant to 310 CMR 40.0600 (Subpart F)

Release Tracking Number

4 - 1265

A. SITE OR LOCATION TO BE INVESTIGATED (LTBI) INFORMATION:

Provide the following information as it appears on the Transition List of Confirmed Disposal Sites and Locations To Be Investigated.

Site or LTBI Name: _____
Street: 480 Union Street Location Aid: _____
City/Town: New Bedford ZIP Code: 02740-0000
Site Status: (check one) Location To Be Investigated Unclassified Disposal Site Non-Priority Disposal Site without a Waiver
Date First Listed in Above Category: 11/29/93
Related Release Tracking Numbers that this LSP Evaluation Opinion Addresses: _____

B. LSP EVALUATION OF SITE OR LOCATION TO BE INVESTIGATED: (check one of the following)

- Check here if this location is NOT a Site where a Release of Oil(s) or Hazardous Material(s) occurred that is subject to the notification requirements of 310 CMR 40.0300, and no further response actions are required.
- Check here if a Release of Oil(s) and Hazardous Material(s) subject to the notification requirements of 310 CMR 40.0300 occurred or may have occurred at this location, but Response Actions completed prior to the date of this LSP Evaluation Opinion meet the requirements of a Class A or Class B Response Action Outcome.

If this LSP Evaluation Opinion is checked, you must meet all appropriate Response Action Outcome requirements described at 310 CMR 40.1000. You must include with this submittal documentation equivalent to a Response Action Outcome, including all supporting materials.

Indicate the class of the equivalent Response Action Outcome:

- Class A-1 Class A-2 Class A-3 Class B-1 Class B-2

You may choose to submit a completed Response Action Outcome Statement (BWSC-104) and supporting documentation in lieu of an LSP Evaluation Opinion, provided that you make the submittal prior to the LSP Evaluation Opinion deadline.

- Check here if a Release subject to the notification requirements of 310 CMR 40.0300 occurred or may have occurred at this location, and further Response Actions are necessary, pursuant to 310 CMR 40.0000.

If this option is checked you must make one of the following submittals by the applicable LSP Evaluation Opinion deadline: (i) provide a Tier Classification Submittal Transmittal Form (BWSC-107) and, if necessary, a Tier I Permit Application; (ii) provide a Response Action Outcome Statement (BWSC-104); (iii) or provide a Downgradient Property Status Submittal (BWSC-104).

- Check here if this location is a Site that is Adequately Regulated, pursuant to 310 CMR 40.0110. Specify which other regulatory authority applies:

- Response Actions at this Site, which are being conducted as a HSWA Corrective Action, are Adequately Regulated, pursuant to 310 CMR 40.0112.
- Response Actions at this Site, which is a 21C facility under the RCRA Authorized State Hazardous Waste Program, are Adequately Regulated under M.G.L. c. 21C and 310 CMR 30.000, pursuant to 310 CMR 40.0113.
- Response Actions at this Site, which is a Solid Waste Management facility, are Adequately Regulated under M.G.L. c. 21H, M.G.L. c. 111, § 150A and/or 310 CMR 19.000, pursuant to 310 CMR 40.0114.

You must attach all supporting documentation for the LSP Evaluation Opinion indicated, including copies of any Legal Notices and Notices to Public Officials required by 310 CMR 40.1400.

C. LSP OPINION:

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 (iii) the provisions of 309 CMR 4.03(5), to the best of my knowledge, information and belief, this LSP Evaluation Opinion was developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and the response action(s) upon which this opinion is based, if any, were reasonable and appropriate 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.

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.

SECTION C IS CONTINUED ON THE NEXT PAGE.



LICENSED SITE PROFESSIONAL (LSP)
EVALUATION OPINION TRANSMITTAL FORM
Pursuant to 310 CMR 40.0600 (Subpart F)

Release Tracking Number

4 - 1265

C. LSP OPINION: (continued)

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

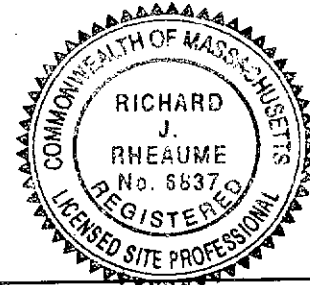
LSP Name: Richard J. Rheume LSP #: 6837 Stamp:

Telephone: 508-947-0050 Ext.: _____

FAX: (optional) 508-947-2004

Signature: Richard J. Rheume

Date: October 7, 1997



D. PERSON SUBMITTING LSP EVALUATION OPINION:

Name of Organization: Alan S. Cohen

Name of Contact: Alan S. Cohen Title: _____

Street: 6226 Water Lilly Lane

City/Town: Boyton Beach State: FL ZIP Code: 33437-4928

Telephone: 561-736-2589 Ext.: _____ FAX: (optional) _____

E. RELATIONSHIP TO SITE OR LOCATION TO BE INVESTIGATED OF PERSON SUBMITTING LSP EVALUATION OPINION: (check one)

RP or PRP Specify: Owner Operator Generator Transporter Other RP or PRP: _____

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

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

Any Other Person Submitting LSP Evaluation Opinion Specify Relationship: _____

F. CERTIFICATION OF PERSON SUBMITTING LSP EVALUATION OPINION:

I, Alan S. Cohen, 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.

By: Alan S. Cohen Title: _____
(signature)

For: ALAN S. COHEN Date: 10/8/97
(print name of person or entity recorded in Section D)

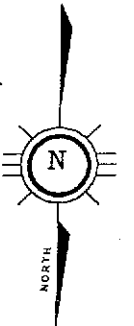
Enter address of the person providing certification, if different from address recorded in Section D:

Street: _____

City/Town: _____ State: _____ ZIP Code: _____

Telephone: _____ Ext.: _____ FAX: (optional) _____

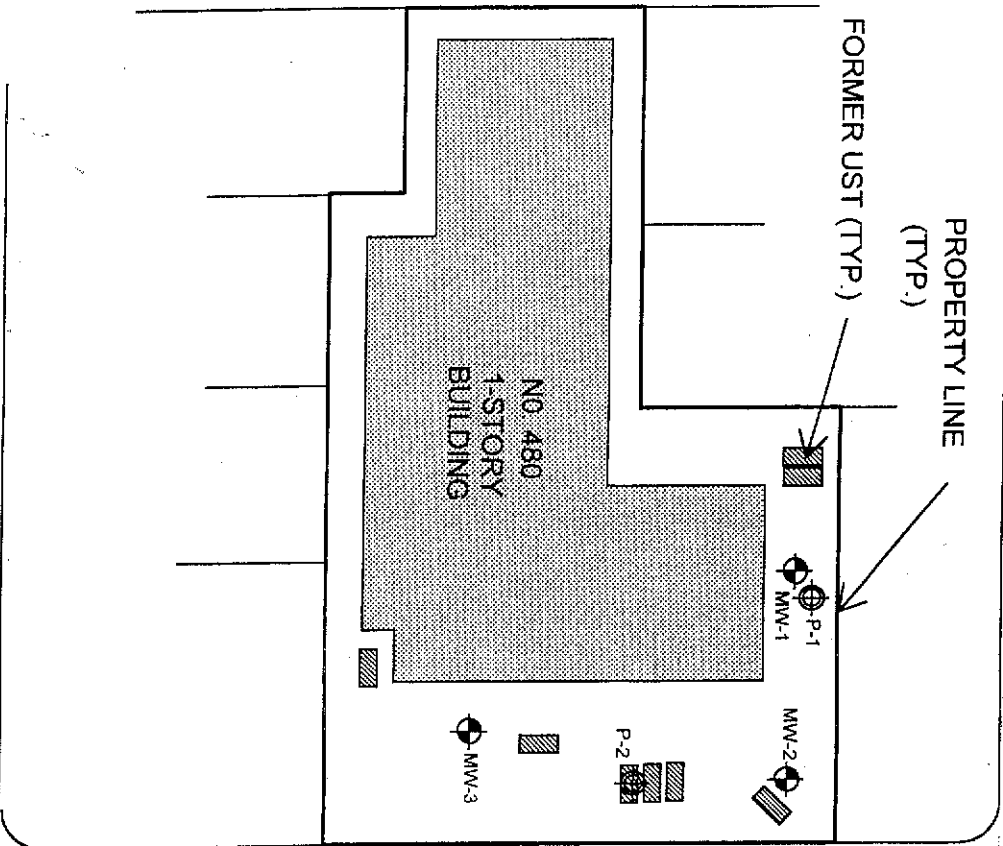
YOU MUST COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE, AND YOU MAY INCUR ADDITIONAL COMPLIANCE FEES.



OCEAN STREET

PROPERTY LINE
(TYP.)

FORMER UST (TYP.)



UNION STREET

ATLANTIC STREET

LEGEND

 BORING LOCATION

TABLE 2.1
HISTORICAL SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
480 UNION STREET, NEW BEDFORD, MA

ANALYTES	UNITS	MCP STANDARDS			20-Apr-92			1-Oct-93			17-Jun-94	22-May-97
		GW-2	GW-3	GW-3	MW-1	MW-2	MW-3	MW-1	MW-2	MW-3	MW-1	MW-1
TPH	mg/l	1	20	ND	679	ND	ND	63	ND	ND	73	6.65
Benzene	ug/l	2,000	7,000	ND	ND	ND	ND	ND	ND	ND	3j	NS
Toluene	ug/l	6,000	50,000	ND	ND	ND	ND	ND	ND	ND	ND	NS
Ethylbenzene	ug/l	30,000	4,000	ND	ND	ND	ND	140	ND	ND	11	NS
Xylene (total)	ug/l	6,000	50,000	ND	ND	ND	ND	580	ND	ND	53	NS
1,2 Dichlorobenzene	ug/l	10,000	8,000	ND	13.6	ND	ND	ND	ND	ND	ND	NS

NOTE:
 ND - Not Detected
 NS - Not Sampled
 NA - Standard is Not Applicable

TABLE 2.2

SUMMARY OF ANALYTICAL RESULTS FOR
SOIL SAMPLES COLLECTED ON SEPTEMBER 12, 1997 AT
480 UNION STREET, NEW BEDFORD, MA

ANALYSIS	UNITS	MCP STANDARDS		SAMPLE	
		S-1/GW-2 STANDARD	S-1/GW-3 STANDARD	P-1	P-2
VPH					
C5-C8 Aliphatics	ug/g	100	100	1.37	14.2
C9-C12 Aliphatics	ug/g	1,000	1,000	ND	26.1
C9-C10 Aromatics	ug/g	100	100	ND	8.1
Total VPH	ug/g	NA	NA	1.37	48.4
VOCs					
MTBE	ug/g	100	100	ND	ND
Benzene	ug/g	40	40	0.063	0.078
Toluene	ug/g	500	500	0.0728	0.268
Ethylbenzene	ug/g	500	500	0.0363	0.161
Xylene (total)	ug/g	500	500	0.147	0.504
Napthalene	ug/g	100	100	0.132	0.5
EPH					
C9-C18 Aliphatics	ug/g	1,000	1,000	ND	ND
C19-C36 Aliphatics	ug/g	2,500	2,500	ND	ND
C11-C22 Aromatics	ug/g	800	800	ND	ND
Total EPH	ug/g	NA	NA	ND	ND
PAHs					
Acenaphthene	ug/g	1,000	1,000	ND	ND
Acenaphthylene	ug/g	100	100	ND	ND
Anthracene	ug/g	1,000	1,000	ND	ND
Benzo(a)Anthracene	ug/g	0.7	0.7	ND	ND
Benzo(a)Pyrene	ug/g	0.7	0.7	ND	ND
Benzo(b)Fluoranthene	ug/g	0.7	0.7	ND	ND
Benzo(g,h,i)Perylene	ug/g	1,000	1,000	ND	ND
Benzo(k)Fluoranthene	ug/g	7	7	ND	ND
Chrysene	ug/g	7	7	ND	ND
Dibenzo(a,h)Anthracene	ug/g	0.7	0.7	ND	ND
Fluoranthene	ug/g	1,000	1,000	ND	ND
Fluorene	ug/g	1,000	1,000	ND	ND
Indeno(1,2,3-cd)Pyrene	ug/g	0.7	0.7	ND	ND
Naphthalene	ug/g	100	100	ND	ND
Phenanthrene	ug/g	1,000	1,000	ND	ND
Pyrene	ug/g	700	700	ND	ND
2-Methylnaphthalene	ug/g	500	500	ND	ND

NOTE:

ND - Not Detected

---- - Not Analyzed

NA - Standard Not Applicable

TABLE 2.3

SUMMARY OF ANALYTICAL RESULTS FOR
GROUNDWATER SAMPLES COLLECTED ON AUGUST 20, 1997 AT
480 UNION STREET, NEW BEDFORD, MA

ANALYSIS	UNITS	MCP STANDARDS		SAMPLE		
		GW-2 STANDARD	GW-3 STANDARD	MW-1	MW-2	MW-3
TPH						
TPH	ug/l	1,000	20,000	—	—	—
VPH						
C5-C8 Aliphatics	ug/l	1,000	40,000	11	ND	ND
C9-C12 Aliphatics	ug/l	1,000	20,000	275	10	26.7
C9-C10 Aromatics	ug/l	5,000	4,000	253	ND	21.3
Total VPH	ug/l	NS	NS	539	10	48
VOCs						
MTBE	ug/l	50,000	50,000	ND	ND	ND
Benzene	ug/l	2,000	7,000	ND	ND	ND
Toluene	ug/l	6,000	50,000	2.1	ND	ND
Ethylbenzene	ug/l	30,000	4,000	17.1	ND	ND
Xylene (total)	ug/l	6,000	50,000	71	ND	2.2
Napthalene	ug/l	6,000	6,000	113	2.3	6.6
EPH						
C9-C18 Aliphatics	ug/l	1,000	20,000	690	293	ND
C19-C36 Aliphatics	ug/l	NA	50,000	773	ND	ND
C11-C22 Aromatics	ug/l	50,000	30,000	ND	ND	333
Total EPH	ug/l	NS	NS	1,463	293	333
PAHs						
Acenaphthene	ug/l	NA	5,000	ND	ND	ND
Acenaphthylene	ug/l	NA	3,000	ND	ND	ND
Anthracene	ug/l	NA	3,000	ND	ND	ND
Benzo(a)Anthracene	ug/l	NA	3,000	ND	ND	ND
Benzo(a)Pyrene	ug/l	NA	3,000	ND	ND	ND
Benzo(b)Fluoranthene	ug/l	NA	3,000	ND	ND	ND
Benzo(g,h,i)Perylene	ug/l	NA	3,000	ND	ND	ND
Benzo(k)Fluoranthene	ug/l	NA	3,000	ND	ND	ND
Chrysene	ug/l	NA	3,000	ND	ND	ND
Dibenzo(a,h)Anthracene	ug/l	NA	3,000	ND	ND	ND
Fluoranthene	ug/l	NA	200	ND	ND	ND
Fluorene	ug/l	NA	3,000	ND	ND	ND
Indeno(1,2,3-cd)Pyrene	ug/l	NA	3,000	ND	ND	ND
Napthalene	ug/l	6,000	6,000	ND	ND	ND
Phenanthrene	ug/l	NA	50	ND	ND	ND
Pyrene	ug/l	NA	3,000	ND	ND	ND
2-Methylnapthalene	ug/l	10,000	3,000	ND	ND	ND

NOTE:
 ND - Not Detected
 --- - Not Analyzed
 NA - Standard is Not Applicable

PRIME ENGINEERING, INC. 350 Bedford Street, Lakeville, MA 02347				Client: Alan Cohen		Boring No: P-1		
				Project: 1880101		MW No: NA		
				Location: 480 Union Street New Bedford, MA		Sheet No: 1 of 1		
Engineer: Susan McGrail			Date Start: 9/12/97		Elevation: N/A			
Driller: Tom, Steve			Date Finish: 9/12/97		Water Elev: N/A			
Company: Geosearch			Field Eq: Thermo Env. 580B		Cal Gas: Isobutylene			
Drill Method: HS		Casing Dia: 4.25"		Sample: SS		Wt: 140 lbs		Fall: 30"
Sample				Strata Change	Classification and Remarks			
Depth (Feet)	No.	PID Reading	Rec.					
0-2'	SS-1.1	0 ppm	NA		Medium brown fine SAND, trace silt Dry - no odor			
5-7'	SS-1.2	0 ppm	18"/24"		Light brown fine SAND, little silt Dry - no odor			
10-12'	SS-1.3	14 ppm	15"/24"		Light brown very fine SAND, little silt Damp at 12' Slight petroleum odor			
12-14'	SS-1.4	90 ppm	24"/24"		brown fine to medium SAND, trace silt Wet at 13' Distinct petroleum odor			
								Bottom of Boring at 14.5'
Cohesionless Density			Cohesive Consistency			Proportions		
0-4	Very	Loose	0-2	Very	Soft	trace	0 to 10%	
5-9		Loose	3-4		Soft	little	10 to 20%	
10-29	Md.	Dense	5-8	Med.	Stiff	some	20 to 35%	
30-49		Dense	9-15		Stiff	and	35 to 50%	
50+	Very	Dense	16-30	Very	Stiff (hard)			

PRIME ENGINEERING, INC.
350 Bedford Street, Lakeville, MA 02347

Client: Alan Cohen
Project: 1880101
Location: 480 Union Street
New Bedford, MA

Boring No: P-2
MW No: NA
Sheet No: 1
of 1

Engineer: Susan McGrail
Driller: Tom, Steve
Company: Geosearch

Date Start: 9/12/97
Date Finish: 9/12/97
Field Eq: Thermo Env. 580B

Elevation: N/A
Water Elev: N/A
Cal Gas: Isobutylene

Drill Method: HS Casing Dia: 4.25" Sample: SS Wt: 140 lbs Fall: 30"

Sample				Strata Change	Classification and Remarks
Depth (Feet)	No.	PID Reading	Rec.		
0-2'	SS-2.1	3.5 ppm	NA		Medium brown fine SAND, trace silt Dry - slight odor
5-7	SS-2.2	5.4 ppm	18"/24"		Medium brown fine SAND, little silt Dry - slight odor
10-12'	SS-2.3	121 ppm	15"/24"		Light brown very fine SAND, little silt Wet - distinct petroleum odor
					Bottom of Boring @ 12'

Cohesionless Density			Cohesive Consistency			Proportions	
0-4	Very	Loose	0-2	Very	Soft	trace	0 to 10%
5-9		Loose	3-4		Soft	little	10 to 20%
10-29	Md.	Dense	5-8	Med.	Stiff	some	20 to 35%
30-49		Dense	9-15		Stiff	and	35 to 50%
50+	Very	Dense	16-30	Very	Stiff (hard)		

SAMPLE ID P-1 FRACTION 01A TEST CODE VPH S NAME VOLATILE PHC
Date & Time Collected 09/12/97 Category SOIL

VOLATILE PETROLEUM HYDROCARBONS

	RESULT	REPORTING LIMIT
C5-C8 Aliphatics	<u>1370</u>	<u>500</u>
C9-C12 Aliphatics	<u>ND</u>	<u>500</u>
C9-C10 Aromatics	<u>ND</u>	<u>500</u>
TOTAL VOLATILE PETROLEUM HYDROCARBONS	<u>1370</u>	<u>500</u>

TARGET VPH ANALYTES

Benzene	<u>63.0</u>	<u>20</u>
Toluene	<u>72.8</u>	<u>20</u>
Ethylbenzene	<u>36.3</u>	<u>20</u>
Xylenes (Total)	<u>147</u>	<u>20</u>
MTBE	<u>ND</u>	<u>20</u>
Naphthalene	<u>132</u>	<u>20</u>

Notes and Definitions for this Report:

UNITS: ug/Kg
DATE RUN: 09/19/97
ANALYST: NLC
INSTRUMENT: V3
DIL. FACTOR: 1
MATRIX: SOIL
%MOISTURE: 7

ND = not detected at detection limit

SAMPLE ID P-2 FRACTION 02A TEST CODE VPH S NAME VOLATILE PHC
Date & Time Collected 09/12/97 Category SOIL

VOLATILE PETROLEUM HYDROCARBONS

	REPORTING	
	RESULT	LIMIT
C5-C8 Aliphatics	<u>14200</u>	<u>500</u>
C9-C12 Aliphatics	<u>26100</u>	<u>500</u>
C9-C10 Aromatics	<u>8100</u>	<u>500</u>
TOTAL VOLATILE PETROLEUM HYDROCARBONS	<u>48400</u>	<u>500</u>

TARGET VPH ANALYTES

Benzene	<u>78.0</u>	<u>20</u>
Toluene	<u>268</u>	<u>20</u>
Ethylbenzene	<u>161</u>	<u>20</u>
Xylenes (Total)	<u>504</u>	<u>20</u>
MTBE	<u>ND</u>	<u>20</u>
Naphthalene	<u>500</u>	<u>20</u>

Notes and Definitions for this Report:

UNITS: ug/Kg
DATE RUN: 09/19/97
ANALYST: NLC
INSTRUMENT: V3
DIL. FACTOR: 1
MATRIX: SOIL
%MOISTURE: 7

ND = not detected at detection limit

SAMPLE ID P-1 FRACTION 03A TEST CODE EPH S NAME EXTRACTABLE PHC
Date & Time Collected 09/12/97 Category SOIL

EXTRACTABLE PETROLEUM HYDROCARONS

	RESULT	REPORTING LIMIT
C9-C18 Aliphatics	<u>ND</u>	<u>100</u>
C19-C36 Aliphatics	<u>ND</u>	<u>100</u>
C11-C22 Aromatics	<u>ND</u>	<u>100</u>
Total EPH Concentration	<u>ND</u>	<u>100</u>

TARGET PAH ANALYTES

Naphthalene	<u>ND</u>	<u>5.0</u>
2-Methylnaphthalene	<u>ND</u>	<u>5.0</u>
Acenaphthylene	<u>ND</u>	<u>5.0</u>
Acenaphthene	<u>ND</u>	<u>5.0</u>
Fluorene	<u>ND</u>	<u>5.0</u>
Phenanthrene	<u>ND</u>	<u>5.0</u>
Anthracene	<u>ND</u>	<u>5.0</u>
Fluoranthene	<u>ND</u>	<u>5.0</u>
Pyrene	<u>ND</u>	<u>5.0</u>
Benzo(a)Anthracene	<u>ND</u>	<u>5.0</u>
Chrysene	<u>ND</u>	<u>5.0</u>
Benzo(b)Fluoranthene	<u>ND</u>	<u>5.0</u>
Benzo(k)Fluoranthene	<u>ND</u>	<u>5.0</u>
Benzo(a)Pyrene	<u>ND</u>	<u>5.0</u>
Indeno(1,2,3-cd)Pyrene	<u>ND</u>	<u>5.0</u>
Dibenz(a,h)Anthracene	<u>ND</u>	<u>5.0</u>
Benzo(g,h,i)Perylene	<u>ND</u>	<u>5.0</u>

Notes and Definitions for this Report:

EXTRACTED 09/18/97
DATE RUN 09/25/97
ANALYST DS
INSTRUMENT HP7
DIL. FACTOR: 1
UNITS mg/Kg
MATRIX: SOIL
%MOISTURE: 7

ND = not detected at detection limit

Received: 09/16/97

Results by Sample

SAMPLE ID P-2 FRACTION 04A TEST CODE EPH S NAME EXTRACTABLE PHC
 Date & Time Collected 09/12/97 Category SOIL

EXTRACTABLE PETROLEUM HYDROCARONS

	RESULT	REPORTING LIMIT
C9-C18 Aliphatics	<u>ND</u>	<u>100</u>
C19-C36 Aliphatics	<u>ND</u>	<u>100</u>
C11-C22 Aromatics	<u>ND</u>	<u>100</u>
Total EPH Concentration	<u>ND</u>	<u>100</u>

TARGET PAH ANALYTES

Naphthalene	<u>ND</u>	<u>5.0</u>
2-Methylnaphthalene	<u>ND</u>	<u>5.0</u>
Acenaphthylene	<u>ND</u>	<u>5.0</u>
Acenaphthene	<u>ND</u>	<u>5.0</u>
Fluorene	<u>ND</u>	<u>5.0</u>
Phenanthrene	<u>ND</u>	<u>5.0</u>
Anthracene	<u>ND</u>	<u>5.0</u>
Fluoranthene	<u>ND</u>	<u>5.0</u>
Pyrene	<u>ND</u>	<u>5.0</u>
Benzo(a)Anthracene	<u>ND</u>	<u>5.0</u>
Chrysene	<u>ND</u>	<u>5.0</u>
Benzo(b)Fluoranthene	<u>ND</u>	<u>5.0</u>
Benzo(k)Fluoranthene	<u>ND</u>	<u>5.0</u>
Benzo(a)Pyrene	<u>ND</u>	<u>5.0</u>
Indeno(1,2,3-cd)Pyrene	<u>ND</u>	<u>5.0</u>
Dibenz(a,h)Anthracene	<u>ND</u>	<u>5.0</u>
Benzo(g,h,i)Perylene	<u>ND</u>	<u>5.0</u>

Notes and Definitions for this Report:

EXTRACTED 09/18/97
 DATE RUN 09/25/97
 ANALYST DS
 INSTRUMENT HP7
 DIL. FACTOR: 1
 UNITS mg/Kg
 MATRIX: SOIL
 %MOISTURE: 7

ND = not detected at detection limit

TOXIKON

EXTRACTABLE PETROLEUM HYDROCARBON (EPH) ANALYSIS

CLIENT: Prime Engineering
 SITE: 480 Union St.
 PROJECT #: 9708393
 MATRIX: WATER

CLIENT ID: MW-1
 LAB ID: 9708393.1
 DATE RECEIVED: 8/21/97
 DATE EXTRACTED: 8/22/97
 DATE ANALYZED: 8/26/97

REF METHOD: MADEP EPH

DILUTION FACTOR: 1
 INJECTION VOLUME μ l: 1
 EXTRACT VOLUME ml: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	
C9-C18 Aliphatics (FID)	690	100	ug/L	
C19-C36 Aliphatics (FID)	773	100	ug/L	
C11-C22 Aromatics (FID) **	ND	100	ug/L	
Total EPH	1463	100	ug/L	
** Excludes Targeted PAH Analytes				
TARGETED PAH ANALYTES				
ANALYTE	CAS #	RESULT	REPORTING LIMIT	UNITS
Acenaphthene	93-32-9	ND	5.0	ug/L
Acenaphthylene	208-96-8	ND	5.0	ug/L
Anthracene	120-12-7	ND	5.0	ug/L
Benzo(a)Anthracene	56-55-3	ND	5.0	ug/L
Benzo(a)Pyrene	50-32-8	ND	5.0	ug/L
Benzo(b)Fluoranthene	205-99-2	ND	5.0	ug/L
Benzo(g,h,i)Perylene	191-24-2	ND	5.0	ug/L
Benzo(k)Fluoranthene	207-08-9	ND	5.0	ug/L
Chrysene	218-01-9	ND	5.0	ug/L
Dibenzo(a,h)Anthracene	53-70-3	ND	5.0	ug/L
Fluoranthene	206-44-0	ND	5.0	ug/L
Fluorene	86-73-7	ND	5.0	ug/L
Indeno(1,2,3-cd)Pyrene	193-39-5	ND	5.0	ug/L
Naphthalene	91-20-3	ND	5.0	ug/L
Phenanthrene	85-01-8	ND	5.0	ug/L
Pyrene	129-00-0	ND	5.0	ug/L
2-Methylnaphthalene	91-57-6	ND	5.0	ug/L

TOXIKON

VOLATILE PETROLEUM HYDROCARBON (VPH) ANALYSIS

CLIENT: Prime Engineering
 SITE: 480 Union St.
 PROJECT #: 9708393
 MATRIX: WATER

CLIENT ID: MW-1
 LAB ID: 9708393.1
 DATE RECEIVED: 8/21/97
 DATE ANALYZED: 8/28/97
 DILUTION FACTOR: 1
 INJECTION VOLUME ml: 5

REF METHOD: MADEP VPH

PARAMETER	RESULT	REPORTING LIMIT	UNITS	
C5-C8 Aliphatics (FID)	11.0	10	ug/L	
C9-C12 Aliphatics (FID)	275	10	ug/L	
C9-C10 Aromatics (PID)	253	10	ug/L	
Total VPH	539	10	ug/L	
TARGETED VPH ANALYTES				
ANALYTE	CAS #	RESULT	REPORTING LIMIT	UNITS
Methyl-tert-butylether	1634-04-4	ND	2.0	ug/L
Benzene	71-43-2	ND	2.0	ug/L
Toluene	108-88-3	2.1	2.0	ug/L
Ethylbenzene	100-41-4	17.1	2.0	ug/L
Xylene (total)	1330-20-7	71.0	2.0	ug/L
Naphthalene	91-20-3	113	2.0	ug/L

TOXIKON

EXTRACTABLE PETROLEUM HYDROCARBON (EPH) ANALYSIS

CLIENT: Prime Engineering
 SITE: 480 Union St.
 PROJECT #: 9708393
 MATRIX: WATER

CLIENT ID: MW-2
 LAB ID: 9708393.2
 DATE RECEIVED: 8/21/97
 DATE EXTRACTED: 8/22/97
 DATE ANALYZED: 8/26/97

REF METHOD: MADEP EPH

DILUTION FACTOR: 1
 INJECTION VOLUME ul: 1
 EXTRACT VOLUME ml: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	
C9-C18 Aliphatics (FID)	293	100	ug/L	
C19-C36 Aliphatics (FID)	ND	100	ug/L	
C11-C22 Aromatics (FID) **	ND	100	ug/L	
Total EPH	293	100	ug/L	
** Excludes Targeted PAH Analytes				
TARGETED PAH ANALYTES				
ANALYTE	CAS #	RESULT	REPORTING LIMIT	UNITS
Acenaphthene	93-32-9	ND	5.0	ug/L
Acenaphthylene	208-96-8	ND	5.0	ug/L
Anthracene	120-12-7	ND	5.0	ug/L
Benzo(a)Anthracene	56-55-3	ND	5.0	ug/L
Benzo(a)Pyrene	50-32-8	ND	5.0	ug/L
Benzo(b)Fluoranthene	205-99-2	ND	5.0	ug/L
Benzo(g,h,i)Perylene	191-24-2	ND	5.0	ug/L
Benzo(k)Fluoranthene	207-08-9	ND	5.0	ug/L
Chrysene	218-01-9	ND	5.0	ug/L
Dibenzo(a,h)Anthracene	53-70-3	ND	5.0	ug/L
Fluoranthene	206-44-0	ND	5.0	ug/L
Fluorene	86-73-7	ND	5.0	ug/L
Indeno(1,2,3-cd)Pyrene	193-39-5	ND	5.0	ug/L
Naphthalene	91-20-3	ND	5.0	ug/L
Phenanthrene	85-01-8	ND	5.0	ug/L
Pryene	129-00-0	ND	5.0	ug/L
2-Methylnaphthalene	91-57-6	ND	5.0	ug/L

TOXIKON

VOLATILE PETROLEUM HYDROCARBON (VPH) ANALYSIS

CLIENT: Prime Engineering
 SITE: 480 Union St.
 PROJECT #: 9708393
 MATRIX: WATER

CLIENT ID: MW-2
 LAB ID: 9708393.2
 DATE RECEIVED: 8/21/97
 DATE ANALYZED: 8/27/97
 DILUTION FACTOR: 1
 INJECTION VOLUME ml: 5

REF METHOD: MADEP VPH

PARAMETER	RESULT	REPORTING LIMIT	UNITS	
C5-C8 Aliphatics (FID)	ND	10	ug/L	
C9-C12 Aliphatics (FID)	10.0	10	ug/L	
C9-C10 Aromatics (PID)	ND	10	ug/L	
Total VPH	10.0	10	ug/L	
TARGETED VPH ANALYTES				
ANALYTE	CAS #	RESULT	REPORTING LIMIT	UNITS
Methyl-tert-butylether	1634-04-4	ND	2.0	ug/L
Benzene	71-43-2	ND	2.0	ug/L
Toluene	108-88-3	ND	2.0	ug/L
Ethylbenzene	100-41-4	ND	2.0	ug/L
Xylene (total)	1330-20-7	ND	2.0	ug/L
Naphthalene	91-20-3	2.3	2.0	ug/L

TOXIKON

EXTRACTABLE PETROLEUM HYDROCARBON (EPH) ANALYSIS

CLIENT: Prime Engineering
 SITE: 480 Union St.
 PROJECT #: 9708393
 MATRIX: WATER

CLIENT ID: MW-3
 LAB ID: 9708393.3
 DATE RECEIVED: 8/21/97
 DATE EXTRACTED: 8/22/97
 DATE ANALYZED: 8/26/97

REF METHOD: MADEP EPH

DILUTION FACTOR: 1
 INJECTION VOLUME ul: 1
 EXTRACT VOLUME ml: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	
C9-C18 Aliphatics (FID)	ND	100	ug/L	
C19-C36 Aliphatics (FID)	ND	100	ug/L	
C11-C22 Aromatics (FID) **	333	100	ug/L	
Total EPH	333	100	ug/L	
** Excludes Targeted PAH Analytes				
TARGETED PAH ANALYTES				
ANALYTE	CAS #	RESULT	REPORTING LIMIT	UNITS
Acenaphthene	93-32-9	ND	5.0	ug/L
Acenaphthylene	208-96-8	ND	5.0	ug/L
Anthracene	120-12-7	ND	5.0	ug/L
Benzo(a)Anthracene	56-55-3	ND	5.0	ug/L
Benzo(a)Pyrene	50-32-8	ND	5.0	ug/L
Benzo(b)Fluoranthene	205-99-2	ND	5.0	ug/L
Benzo(g,h,i)Perylene	191-24-2	ND	5.0	ug/L
Benzo(k)Fluoranthene	207-08-9	ND	5.0	ug/L
Chrysene	218-01-9	ND	5.0	ug/L
Dibenzo(a,h)Anthracene	53-70-3	ND	5.0	ug/L
Fluoranthene	206-44-0	ND	5.0	ug/L
Fluorene	86-73-7	ND	5.0	ug/L
Indeno(1,2,3-cd)Pyrene	193-39-5	ND	5.0	ug/L
Naphthalene	91-20-3	ND	5.0	ug/L
Phenanthrene	85-01-8	ND	5.0	ug/L
Pryene	129-00-0	ND	5.0	ug/L
2-Methylnaphthalene	91-57-6	ND	5.0	ug/L

TOXIKON

VOLATILE PETROLEUM HYDROCARBON (VPH) ANALYSIS

CLIENT: Prime Engineering
 SITE: 480 Union St.
 PROJECT #: 9708393
 MATRIX: WATER

CLIENT ID: MW-3
 LAB ID: 9708393.3
 DATE RECEIVED: 8/21/97
 DATE ANALYZED: 8/27/97
 DILUTION FACTOR: 1
 INJECTION VOLUME ml: 5

REF METHOD: MADEP VPH

PARAMETER	RESULT	REPORTING LIMIT	UNITS	
C5-C8 Aliphatics (FID)	ND	10	ug/L	
C9-C12 Aliphatics (FID)	26.7	10	ug/L	
C9-C10 Aromatics (PID)	21.3	10	ug/L	
Total VPH	48.0	10	ug/L	
TARGETED VPH ANALYTES				
ANALYTE	CAS #	RESULT	REPORTING LIMIT	UNITS
Methyl-tert-butylether	1634-04-4	ND	2.0	ug/L
Benzene	71-43-2	ND	2.0	ug/L
Toluene	108-88-3	ND	2.0	ug/L
Ethylbenzene	100-41-4	ND	2.0	ug/L
Xylene (total)	1330-20-7	2.2	2.0	ug/L
Naphthalene	91-20-3	5.5	2.0	ug/L

APPENDIX C

Geophysical Survey Report

**UST INVESTIGATION
478-480 UNION STREET
NEW BEDFORD, MASSACHUSETTS**

Prepared for:

Weston & Sampson Engineers, Inc.
100 Foxborough Boulevard
Foxborough, MA 02035

Prepared by:

Hager GeoScience, Inc.
596 Main Street
Woburn, Massachusetts 01801-2924

File 2011011
March 2011

1.0 INTRODUCTION

This report details the results of a geophysical survey conducted by Hager GeoScience, Inc. (HGI) for Weston & Sampson Engineers, Inc. (WSE) at 478-480 Union Street, New Bedford, Massachusetts. The purpose of the survey was to locate suspected underground storage tanks (USTs) possibly present in the parking lot.

2.0 DATA ACQUISITION

HGI personnel performed the survey on Thursday, March 17th, 2011, using ground penetrating radar (GPR), supplemented with a Schonstedt metal detector. A WSE representative, who was present during the fieldwork, specified the survey location.

HGI personnel used paint and fiberglass tapes to lay out a survey grid covering the potential UST area identified by the WSE representative. The locations of surface features as well as the survey traverses are shown on Plate 1, an AutoCAD map created from the HGI field notes.

GPR data were collected using a GSSI SIR-3000 digital ground penetrating radar system with 400-MHz antenna and a survey wheel for horizontal distance control. GPR data were collected along orthogonal traverses spaced 2.5 feet apart and displayed in real time on a color monitor. They were simultaneously recorded on the system's flash memory. The acquisition time window was set at 120 nanoseconds (ns), for an average signal penetration of 12 to 15 feet in urban fill.

Data from the GPR survey were downloaded to a PC at the HGI office for processing and analysis using GSSI's RADAN for Windows XPTM software.

A Schonstedt MAC-51B metal detector was used in conjunction with GPR to sweep the grid for areas of high magnetic response. The locations of areas so identified during the sweep were marked on the ground using violet paint.

Section 4 discusses the geophysical techniques and their limitations.

3.0 RESULTS

Plate 1 shows the results of the geophysical survey at 478-480 Union Street in New Bedford. Two GPR anomalies interpreted as possible USTs were detected, as well as two areas of potential past excavation. The possible USTs, shown as light blue hatched rectangles, are 3.5 to 4.0 feet below the ground surface. The areas of potential past excavation are shown in green hatch. Multiple utilities were also detected, including a water line (dark blue) and utilities of unknown origin (violet). Dashed lines indicate a lower confidence level in the utility interpretation.

As previously noted, areas of high magnetic response identified with the Schonstedt MAC-51B were marked on the ground with violet paint at the time of the survey.

In our judgment, USTs may be the cause of the GPR-identified anomalies, with the most likely UST the rectangular anomaly west of the water line. The magnetic anomalies identified by the Schonstedt are probably caused by other types of buried metal, some of them likely related to the USTs previously removed. We recommend test pits to “ground truth” these conclusions.

4.0 THE GEOPHYSICAL METHODS

4.1 Ground Penetrating Radar

Description of the Method. The principle of ground penetrating radar (GPR) is the same as that used by police radar, except that GPR transmits electromagnetic energy into the ground. The energy is reflected back to the surface from interfaces between materials with contrasting electrical (dielectric and conductivity) and physical properties. The greater the contrast between two materials in the subsurface, the stronger the reflection observed on the GPR record. The depth of GPR signal penetration depends on the properties of the subsurface materials and the frequency of the antenna used to collect radar data. The lower the antenna frequency, the greater the signal penetration, but the lower the signal resolution.

Data Collection. HGI collects GPR data using a Geophysical Survey Systems (GSSI) SIR 2 or SIR-3000 ground penetrating radar system. Data are digitally recorded on the internal hard drive or flash memory of the GPR system. System controls allow the GPR operator to filter out noise, attributed to coupling noise caused by conductive soil conditions, spurious noise caused by local EMF fields, and internal system noise. For shallow surveys, we use 2,000-, 1500-, 900-, or 400-megahertz (MHz) antennas. For deeper penetration, we use lower frequency antennas ranging from 200 MHz to 15 MHz, depending on the anticipated target depth and the degree of signal penetration. All of these antenna configurations can collect data in continuous mode, distance mode, or as discrete point measurements using signal-stacking techniques. Since there is a trade-off between signal penetration and resolution, test data are sometimes collected using antennas at several different frequencies, with the highest frequency antenna that produces the highest quality data used. In some cases, data are collected with several antenna frequencies.

The horizontal scale of the GPR record shows distance along the survey traverse. In the continuous data collection mode, the horizontal scale on each GPR record is determined by the antenna speed along the surface. When a survey wheel is used, the GPR system records data with a fixed number of traces per unit distance. The GPR record is automatically marked at specified distance intervals along the survey line. The vertical scale of the radar record is determined by the velocity of the transmitted signal in the media under study and the range setting, or recording time window of the GPR system. The recording time interval, or range, represents the maximum two-way travel time in which data are recorded. The conversion of the two-way travel time of the transmitted signals to depth is determined by the propagation velocity of the GPR signal, which is site (media) specific. When little or no information is available about the makeup of subsurface materials, we estimate propagation velocities from handbook values and experience at similar sites or by CDP velocity surveys with a bi-static antenna.

Data Processing. After completion of data collection, the GPR data are transferred to a PC for review and processing using RADAN for Windows XP™ software. When appropriate, we

prepare 3D models of GPR data, which can be sliced in the X, Y, and Z directions.

The size, shape, and amplitude of GPR reflections are used to interpret GPR data. Objects such as metallic UST's and utilities produce reflections with high amplitude and distinctive hyperbolic shapes. Clay, concrete pipes boulders and other in-situ features may produce radar signatures of similar shape but lower amplitude. The boundaries between saturated and unsaturated materials such as sand and clay, bedrock and overburden, generally also produce strong reflections.

Limitations of the Method. GPR signal penetration is site-specific. It is determined by the dielectric properties of local soil and fill materials. GPR signals propagate well in resistive materials such as sand and gravel; however, soils containing clay, ash- or cinder-laden fill or fill saturated with brackish or otherwise electrically conductive groundwater cause GPR signal attenuation and loss of target resolution. Concrete containing rebar or wire mesh also inhibits signal penetration.

The interpreted depths of objects detected using GPR are based on on-site calibration, handbook values, and/or estimated GPR signal propagation velocities from similar sites. GPR velocities and depth estimates may vary if the medium under investigation or soil water content is not uniform throughout the site.

Utilities are interpreted on the basis of reflections of similar size and depth that exhibit a linear trend; however GPR cannot unambiguously determine that all such reflectors are related. Fiberglass USTs or utilities composed of plastic or clay may be difficult to detect if situated in soils with similar electromagnetic properties, or if situated in fill with other reflecting targets that generate "clutter" or signal scattering and thus obscure other deeper reflectors. Objects buried beneath reinforced concrete pads or slabs may also be difficult, but possible, to detect.

As a rule of thumb, GPR can resolve utilities with a diameter of 1" per foot of depth (i.e., a 1" diameter utility can be detected to a burial depth of 1 foot).

Changes in the speed at which the GPR antenna is moved along the surface causes slight variations in the horizontal scale of the recorded traverse. Distance interpolation may be performed to minimize the error in interpreted object positions. The variation in the horizontal scale of the GPR record may be controlled, to a certain extent, with a distance encoder or survey wheel. The GPR antenna produces a cone-shaped signal pattern that emanates approximately 45 degrees from horizontal front and back of the antenna. Therefore, buried objects may be detected before the antenna is located directly over them. GPR anomalies may appear larger than actual target dimensions.

GPR interpretation is more subjective than other geophysical methods. The interpretive method is based on the identification of reflection patterns that do not uniquely identify a subsurface target. Borings, test pits, site utility plans and other ground-truth are recommended to verify the interpreted GPR results.

4.2 Precision Utility Locating

Description of the Method. HGI uses a Schonstedt MAC-51B, SUBSITE 950 R/T, or a 3M Dynatel 2250 pipe and cable locator for utility location. The locator is a two-part system consisting of a signal transmitter and receiver. In active mode using the transmitter, utilities are traced by inducing a variety of signals onto exposed portions of conduits and piping. Alternatively, in the absence of convenient exposures, signals can be induced onto the lines by placing the transmitter on the ground above the suspected utility location. The receiver can also be used without the transmitter as a magnetic locator or to detect signal emissions (e.g., 60 Hertz for electric lines) at specific frequencies.

Limitations of the Method. Mapping subsurface objects, pipes, and utilities using a locator depends on recognizing physical phenomena at the ground surface. These phenomena can be electromagnetic waves or magnetic fields that are interpreted as being caused by subsurface objects. These waves or fields, however, can be attenuated and/or distorted by factors including soil moisture, steel reinforced concrete, and proximity to other surface and subsurface utilities.

LEGEND	
	GPR Traverse
	GPR - Potential Utility
	GPR - Potential UST
	PUL - Buried Metal
	GPR - Prior Excavation
	Reinforced Concrete Pad

- Notes:
- 1) Plot based on HGI field notes and measurements to site features.
 - 2) The "~" symbol indicates the termination of a linear feature.
 - 3) The arrow symbol indicates that a linear feature may continue beyond the survey area.
 - 4) Dashed lines indicate lower confidence in feature identification.
 - 5) GPR anomalous zones are identified by a change in signal strength with respect to background values.
 - 6) Depths are based on GPR two way travel time velocity conversions and are approximate.



PLATE 1

MARCH 2011	FILE NO. 2011011
UST INVESTIGATION RESULTS 478-480 UNION STREET NEW BEDFORD, MA	
Hager GeoScience, Inc. 596 Main Street, Woburn, MA 01801 (781) 935-8111 hgj@hagergeo.com	
NOT ALL SUBSURFACE UTILITIES MAY BE DEPICTED ON THIS MAP	



APPENDIX D

Test Pit Logs

TEST PIT LOG

PROJECT NAME/NO.	<u>478-480 Union Street</u>	TEST PIT NUMBER	
LOCATION	<u>New Bedford MA</u>	TP -1	
CLIENT	<u>City of New Bedford</u>	GROUND SURFACE	
CONTRACTOR	<u>New England Geotech</u>	FOREMAN:	<u>B. Zoulious</u>
OBSERVED BY	<u>Padriac Kavanagh</u>	DATE	<u>4/14/11</u>
CHECKED BY	_____	DATE	_____
		ELEVATION	<u>Grade</u>
		DEPTH TO GROUNDWATER BELOW	
		SURFACE	<u>~10'</u>

DEPTH BELOW GROUND SURFACE (ft.)	SOIL DESCRIPTION
0-3'	0-4" Asphalt; Light brown fine to medium SAND some cobbles
3-6'	Brown to grey fine to medium SAND and GRAVEL with cobbles
6-9'	Brown to grey fine to medium SAND and GRAVEL with cobbles
9-12'	Brown to grey fine to medium SAND and GRAVEL with cobbles.
10-12'	Grey silty SAND with coarse SAND and Gravel. Odor. Water visiable at 10'.
	End of excavation @ 12'

NOTES: PID Samples: 0-3' <0.1 ppm 3-6' <0.1 ppm 6-9' 31.9 ppm 10-12' 360 ppm	TEST PIT NUMBER
	TP -1
WESTON & SAMPSON ENGINEERS, INC.	

TEST PIT LOG

PROJECT NAME/NO.	478-480 Union Street New Bedford MA		TEST PIT NUMBER TP -2	
LOCATION	New Bedford MA			
CLIENT	City of New Bedford		GROUND SURFACE	
CONTRACTOR	New England Geotech	FOREMAN: B. Zoulious	ELEVATION Grade _____	
OBSERVED BY	Padriac Kavanagh	DATE 4/14/11	DEPTH TO GROUNDWATER BELOW	
CHECKED BY	_____	DATE _____	SURFACE ~10.5'	

DEPTH BELOW GROUND SURFACE (ft.)	SOIL DESCRIPTION
0-3'	Light brown fine to medium SAND with Gravel and cobbles; underlain by dark brown silty SAND.
3-6'	Dark brown silty SAND underlain by blue/grey fine silty SAND.
6-9'	Brown fine medium to coarse SAND and GRAVEL with cobbles.
9-12.5'	Brown fine medium to coarse SAND and GRAVEL with cobbles. Water at 10.5'.
	End of excavation @ 12.5'

NOTES: PID Samples: 0-3' <0.1 ppm 3-6' <0.1 ppm 6-9' <0.1 ppm 10.5-12.5' <0.1 ppm	TEST PIT NUMBER TP -2
	WESTON & SAMPSON ENGINEERS, INC.

TEST PIT LOG

PROJECT NAME/NO.	<u>478-480 Union Street New Bedford MA</u>		TEST PIT NUMBER TP -3
LOCATION	<u>New Bedford MA</u>		
CLIENT	<u>City of New Bedford</u>		GROUND SURFACE
CONTRACTOR	<u>New England Geotech</u>	FOREMAN: <u>B. Zoulious</u>	ELEVATION <u>Grade</u>
OBSERVED BY	<u>Padriac Kavanagh</u>	DATE <u>4/14/11</u>	DEPTH TO GROUNDWATER BELOW
CHECKED BY	_____	DATE _____	SURFACE <u>--</u>

DEPTH BELOW GROUND SURFACE (ft.)	SOIL DESCRIPTION
0-3'	Brown fine to medium SAND and GRAVEL with cobbles underlaid by dark brown fine silty SAND at 2'. Light brown fine to medium SAND 2-3'.
3-6'	Dark brown fine silty SAND
6-9'	Brown reddish/brown fine silty SAND with Gravel and cobbles
9-11.5'	Blue-grey fine silty SAND and GRAVEL; odor at 11-11.5' Hole is collapsing and no visible water at 11.5'
	End of excavation @ 11.5'

NOTES: PID Samples: 0-3' <0.1 ppm 3-6' <0.1 ppm 6-9' <0.1 ppm 9-11' <0.1 ppm 11-11.5' 440 ppm	TEST PIT NUMBER TP -3
	WESTON & SAMPSON ENGINEERS, INC.

TEST PIT LOG

PROJECT NAME/NO.	<u>478-480 Union Street New Bedford MA</u>		TEST PIT NUMBER TP -4
LOCATION	<u>New Bedford MA</u>		
CLIENT	<u>City of New Bedford</u>		GROUND SURFACE
CONTRACTOR	<u>New England Geotech</u>	FOREMAN: <u>B. Zoulious</u>	ELEVATION <u>Grade</u>
OBSERVED BY	<u>Padriac Kavanagh</u>	DATE <u>4/14/11</u>	DEPTH TO GROUNDWATER BELOW
CHECKED BY	_____	DATE _____	SURFACE <u>~11.5'</u>

DEPTH BELOW GROUND SURFACE (ft.)	SOIL DESCRIPTION
0-3'	Fill material with brown fine to medium SAND and SILT; metal pipe, bricks, wood, and ash
3-6'	Fill material with brown fine to medium SAND and SILT; metal pipe, bricks, wood, and ash. Fine silty SAND at 6'
6-9'	Grey to brown fine silty SAND with very large boulder
9-12.5'	Light brown fine to medium SAND and GRAVEL underlaid by blue/grey fine silty SAND and GRAVEL; water at 11.5-12.5' strong odor
	End of excavation @ 12.5'

NOTES: PID Samples: 0-3' 0.9 ppm 3-6' <0.1 ppm 6-9' <0.1 ppm 11.5-12.5' 249 ppm	TEST PIT NUMBER TP -4
	WESTON & SAMPSON ENGINEERS, INC.

TEST PIT LOG

PROJECT NAME/NO.	<u>478-480 Union Street New Bedford MA</u>	TEST PIT NUMBER	
LOCATION	<u>New Bedford MA</u>	TP -5	
CLIENT	<u>City of New Bedford</u>	GROUND SURFACE	
CONTRACTOR	<u>New England Geotech</u>	FOREMAN:	<u>B. Zoulious</u>
OBSERVED BY	<u>Padriac Kavanagh</u>	DATE	<u>4/14/11</u>
CHECKED BY	_____	DATE	_____
		ELEVATION	<u>Grade</u>
		DEPTH TO GROUNDWATER BELOW	
		SURFACE	<u>--</u>

DEPTH BELOW GROUND SURFACE (ft.)	SOIL DESCRIPTION
0-3'	Fill material with brown fine to medium SAND and GRAVEL; brick and concrete fragments
3-6'	Brown fine to medium SAND and GRAVEL, some silty Sand, cobbles and boulders
6-9'	Brown fine to medium SAND and GRAVEL, some silty Sand, cobbles and boulders
9-13'	9-10' Brown fine to medium SAND and GRAVEL, some silty Sand, cobbles and boulder at 12' 12-13' Moist brown fine to medium SAND and GRAVEL with silty Sand
	End of excavation @ 13'

NOTES: PID Samples: 0-3' <0.1 ppm 3-6' <0.1 ppm 6-9' <0.1 ppm 12-13' 0.5 ppm	TEST PIT NUMBER
	TP -5
WESTON & SAMPSON ENGINEERS, INC.	

TEST PIT LOG

PROJECT NAME/NO.	<u>478-480 Union Street New Bedford MA</u>		TEST PIT NUMBER	
LOCATION	<u>New Bedford MA</u>		TP -6	
CLIENT	<u>City of New Bedford</u>		GROUND SURFACE	
CONTRACTOR	<u>New England Geotech</u>	FOREMAN: <u>B. Zoulious</u>	ELEVATION	<u>Grade</u>
OBSERVED BY	<u>Padriac Kavanagh</u>	DATE <u>4/15/11</u>	DEPTH TO GROUNDWATER BELOW	
CHECKED BY	_____	DATE _____	SURFACE <u>--</u>	

DEPTH BELOW GROUND SURFACE (ft.)	SOIL DESCRIPTION
0-3'	Brown fine to medium SAND and GRAVEL with Silt and cobbles; dark brown SILT at 3'
3-6'	Brown fine to medium SAND and GRAVEL with blue/grey silty SAND
6-9'	Grey to brown fine silty SAND and Gravel with cobbles
	End of excavation @ 9' refusal

NOTES: PID Samples: 0-3' <0.1 ppm 3-6' <0.1 ppm 6-9' <0.1 ppm	TEST PIT NUMBER
	TP -6
	WESTON & SAMPSON ENGINEERS, INC.

TEST PIT LOG

PROJECT NAME/NO.	<u>478-480 Union Street New Bedford MA</u>		TEST PIT NUMBER	
LOCATION	<u>New Bedford MA</u>		TP -7	
CLIENT	<u>City of New Bedford</u>		GROUND SURFACE	
CONTRACTOR	<u>New England Geotech</u>	FOREMAN: <u>B. Zoulious</u>	ELEVATION	<u>Grade</u>
OBSERVED BY	<u>Padriac Kavanagh</u>	DATE <u>4/15/11</u>	DEPTH TO GROUNDWATER BELOW	
CHECKED BY	_____	DATE _____	SURFACE <u>~12'</u>	

DEPTH BELOW GROUND SURFACE (ft.)	SOIL DESCRIPTION
0-3'	Brown fine silty SAND and GRAVEL; footing rebar at 3'
3-6'	Light brown to grey fine silty SAND and GRAVEL with cobbles
6-9'	Light brown to grey fine silty SAND and GRAVEL with cobbles
9-12'	Moist light brown to grey fine silty SAND and GRAVEL with cobbles. Water at 12'
	End of excavation @ 12'

NOTES: PID Samples: 0-3' <0.1 ppm 3-6' <0.1 ppm 6-9' <0.1 ppm 9-12' <0.1 ppm	TEST PIT NUMBER
	TP -7
WESTON & SAMPSON ENGINEERS, INC.	

TEST PIT LOG

PROJECT NAME/NO.	478-480 Union Street New Bedford MA		TEST PIT NUMBER	
LOCATION	New Bedford MA		TP -8	
CLIENT	City of New Bedford		GROUND SURFACE	
CONTRACTOR	New England Geotech	FOREMAN: B. Zoulious	ELEVATION Grade	
OBSERVED BY	Padriac Kavanagh	DATE 4/15/11	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE	SURFACE --	

DEPTH BELOW GROUND SURFACE (ft.)	SOIL DESCRIPTION
0-3'	Fill with concrete blocks, pea stone, asphalt, cast iron pipe, wood; very large piece of concrete slab
3-6'	Grey fine silty SAND; concrete footing at 4'
6-9'	Grey fine silty SAND; lense of blue silty SAND at 8'
	End of excavation @ 9'

NOTES: PID Samples: 0-3' <0.1 ppm 3-6' <0.1 ppm 6-9' <0.1 ppm 6-9' 78 ppm	TEST PIT NUMBER
	TP -8
	WESTON & SAMPSON ENGINEERS, INC.

TEST PIT LOG

PROJECT NAME/NO.	<u>478-480 Union Street New Bedford MA</u>		TEST PIT NUMBER TP -9	
LOCATION	<u>New Bedford MA</u>			
CLIENT	<u>City of New Bedford</u>		GROUND SURFACE	
CONTRACTOR	<u>New England Geotech</u>	FOREMAN: <u>B. Zoulious</u>	ELEVATION <u>Grade</u>	
OBSERVED BY	<u>Padriac Kavanagh</u>	DATE <u>4/15/11</u>	DEPTH TO GROUNDWATER BELOW	
CHECKED BY	_____	DATE _____	SURFACE <u>~12'</u>	

DEPTH BELOW GROUND SURFACE (ft.)	SOIL DESCRIPTION
0-3'	Brown fine to medium SAND and GRAVEL with cobbles; very large concrete piece with 1" pipe
3-6'	Brown fine to medium SAND and GRAVEL with cobbles and silty Sand
6-9'	Brown fine to medium SAND and GRAVEL with cobbles and silty Sand
9-12'	Brown fine to medium SAND and GRAVEL with cobbles and silty Sand. Water at 11'.
	End of excavation @ 12'

NOTES: PID Samples: 0-3' <0.1 ppm 3-6' <0.1 ppm 6-9' 0.5 ppm 10-12' 0.1 ppm	TEST PIT NUMBER TP -9
	WESTON & SAMPSON ENGINEERS, INC.

APPENDIX E

Soil Boring / Monitoring Well Construction Logs

<h1>Weston & Sampson</h1>	<u>PROJECT</u>	REPORT OF BORING No. <u>WS-1</u>
	478-480 Union Street New Bedford MA	SHEET <u>1</u> OF <u>1</u>
		Project No. <u>2100451</u> CHKD BY _____

BORING Co. <u>New England Geotech</u>	BORING LOCATION <u>See attached plan</u>
FOREMAN <u>Hayze Rembijas</u>	GROUND SURFACE ELEV. _____ DATUM _____
WSE GEOLOGIST: <u>Padriac Kavanagh</u>	DATE START <u>4/21/11</u> DATE END <u>4/21/11</u>

SAMPLER: <u>Geoprobe 6600</u>	GROUNDWATER READINGS															
CASING: _____	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>DATE</th> <th>TIME</th> <th>WATER AT</th> <th>CASING AT</th> <th>STABILIZATION TIME</th> </tr> <tr> <td></td> <td></td> <td style="text-align: center;">~10' bgl</td> <td></td> <td></td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	DATE	TIME	WATER AT	CASING AT	STABILIZATION TIME			~10' bgl							
DATE	TIME	WATER AT	CASING AT	STABILIZATION TIME												
		~10' bgl														
CASING SIZE: <u>N/A</u> Method <u>Direct Push</u>																

DEPTH (feet)	CASING (lb/ft)	SAMPLE				PID (ppm)	SAMPLE DESCRIPTION Burmister Classification	NOTES
		No.	PEN/REC (in)	DEPTH (ft)	BLOWS/6"			
5		S-1	60/36	0-5		<0.1	Brown fine to medium SAND and GRAVEL	
10		S-2	60/24	5-10		0.2	SAND with broken rock fragments	
15		S-3	60/48	10-15			10-13' Wet SAND with broken rock fragments 13-15' Grey/blue silty SAND with strong odor	
						516		
20		S-4	60/50	15-20			15-18' Wet blue/grey fine to coarse silty SAND and Gravel 18-20' Brown fine to coarse SAND and GRAVEL	
						40.0		
25							EOB @ 20'	
30								

GRANULAR SOILS	COHESIVE SOILS	REMARKS:
BLOWS/FT	DENSITY	
BLOWS/FT	DENSITY	

NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THIS BORING LOG. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS ARE MADE.

BORING No. <u>WS-1</u>

<h1 style="margin: 0;">Weston & Sampson</h1>	PROJECT 478-480 Union Street New Bedford MA	REPORT OF BORING No. <u>WS-2</u>
		SHEET <u>1</u> OF <u>1</u>
		Project No. <u>2100451</u> CHKD BY _____

BORING Co. <u>New England Geotech</u>	BORING LOCATION <u>See attached plan</u>
FOREMAN <u>Hayze Rembijas</u>	GROUND SURFACE ELEV. _____ DATUM _____
WSE GEOLOGIST: <u>Padriac Kavanagh</u>	DATE START <u>4/21/11</u> DATE END <u>4/21/11</u>

SAMPLER: <u>Geoprobe 6600</u> CASING: _____ CASING SIZE: <u>N/A</u> Method <u>Direct Push</u>	GROUNDWATER READINGS <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>DATE</th> <th>TIME</th> <th>WATER AT</th> <th>CASING AT</th> <th>STABILIZATION TIME</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td style="text-align: center;">~10' bgl</td> <td></td> <td></td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	DATE	TIME	WATER AT	CASING AT	STABILIZATION TIME			~10' bgl												
DATE	TIME	WATER AT	CASING AT	STABILIZATION TIME																	
		~10' bgl																			

DEPTH (feet)	CASING (lb/ft)	SAMPLE				PID (ppm)	SAMPLE DESCRIPTION Burmister Classification	NOTES
		No.	PEN/REC (in)	DEPTH (ft)	BLOWS/6"			
5		S-1	60/36	0-5		0.1	Fill with brown to grey fine to medium silty SAND and GRAVEL with brick and rock fragments	
10		S-2	60/24	5-10		0.5	Brown to grey fine silty SAND with Gravel and broken rock fragments	
15		S-3	60/24	10-15		518	Wet blue/grey fine silty SAND and GRAVEL	
20		S-4	60/48	15-20		564	15-19' Wet blue/grey fine silty SAND and GRAVEL 19-20' Brown medium to coarse SAND and GRAVEL	
						25.0		
25							EOB @ 20'	
30								

GRANULAR SOILS		COHESIVE SOILS		REMARKS:
BLOWS/FT	DENSITY	BLOWS/FT	DENSITY	

NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
 2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THIS BORING LOG. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS ARE MADE.

BORING No. <u>WS-2</u>

Weston & Sampson	<u>PROJECT</u>	REPORT OF BORING No. <u>WS-3</u>
	478-480 Union Street New Bedford MA	SHEET <u>1</u> OF <u>1</u>
		Project No. <u>2100451</u> CHKD BY _____

BORING Co. <u>New England Geotech</u>	BORING LOCATION <u>See attached plan</u>
FOREMAN <u>Hayze Rembijas</u>	GROUND SURFACE ELEV. _____ DATUM _____
WSE GEOLOGIST: <u>Padriac Kavanagh</u>	DATE START <u>4/21/11</u> DATE END <u>4/21/11</u>

SAMPLER: <u>Geoprobe 6600</u>	GROUNDWATER READINGS
CASING: _____	DATE TIME WATER AT CASING AT STABILIZATION TIME
CASING SIZE: <u>N/A</u> Method <u>Direct Push</u>	_____

DEPTH (feet)	CASING (lb/ft)	SAMPLE				PID (ppm)	SAMPLE DESCRIPTION Burmister Classification	NOTES
		No.	PEN/REC (in)	DEPTH (ft)	BLOWS/6"			
5		S-1	60/36	0-5		<0.1	Brown to grey fine silty SAND with Gravel and broken wood fragments	
10		S-2	60/36	5-10		<0.1	Brown to grey fine silty SAND with Gravel and broken wood fragments	
15		S-3	60/45	10-15		1.0	Wet brown to grey fine silty SAND with Gravel and broken wood fragments	
20		S-4	60/60	15-20		0.2 0.4	Wet brown to grey fine silty SAND with Gravel and broken wood fragments	
25							EOB @ 20'	
30								

GRANULAR SOILS	COHESIVE SOILS	REMARKS:
BLOWS/FT	DENSITY	
BLOWS/FT	DENSITY	

NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THIS BORING LOG. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS ARE MADE.

BORING No. <u>WS-3</u>

Weston & Sampson	<u>PROJECT</u>	REPORT OF BORING No. <u>WS-4</u>
	478-480 Union Street New Bedford MA	SHEET <u>1</u> OF <u>1</u>
		Project No. <u>2100451</u> CHKD BY _____

BORING Co. <u>New England Geotech</u>	BORING LOCATION <u>See attached plan</u>
FOREMAN <u>Hayze Rembijas</u>	GROUND SURFACE ELEV. _____ DATUM _____
WSE GEOLOGIST: <u>Padriac Kavanagh</u>	DATE START <u>4/21/11</u> DATE END <u>4/21/11</u>

SAMPLER: <u>Geoprobe 6600</u>	GROUNDWATER READINGS
CASING: _____	DATE TIME WATER AT CASING AT STABILIZATION TIME
CASING SIZE: <u>N/A</u> Method <u>Direct Push</u>	_____

DEPTH (feet)	CASING (lb/ft)	SAMPLE				PID (ppm)	SAMPLE DESCRIPTION Burmister Classification	NOTES
		No.	PEN/REC (in)	DEPTH (ft)	BLOWS/6"			
5		S-1	60/30	0-5		<0.1	0-3" Asphalt Brown to light brown fine silty SAND and GRAVEL with broken rock fragments	
10		S-2	60/48	5-10		<0.1	5-6' Grey/blue fine silty SAND with Gravel 6-8' Brown soft Clay 8-10' Fine silty SAND and GRAVEL	
15		S-3	60/36	10-15		0.1	Brown to blue/grey fine silty SAND and GRAVEL with broken rock fragments; wet @ 11'	
20		S-4	60/60	15-20		0.1	Brown to blue/grey fine silty SAND and GRAVEL ; wet @ 11'	
25							EOB @ 20'	
30								

GRANULAR SOILS	COHESIVE SOILS	REMARKS:
BLOWS/FT	DENSITY	

NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THIS BORING LOG. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS ARE MADE.

BORING No. <u>WS-4</u>

Weston & Sampson	<u>PROJECT</u>	REPORT OF BORING No. <u>WS-5</u>
	478-480 Union Street New Bedford MA	SHEET <u>1</u> OF <u>1</u>
		Project No. <u>2100451</u> CHKD BY _____

BORING Co. <u>New England Geotech</u>	BORING LOCATION <u>See attached plan</u>
FOREMAN <u>Hayze Rembijas</u>	GROUND SURFACE ELEV. _____ DATUM _____
WSE GEOLOGIST: <u>Padriac Kavanagh</u>	DATE START <u>4/21/11</u> DATE END <u>4/21/11</u>

SAMPLER: <u>Geoprobe 6600</u>	GROUNDWATER READINGS
CASING: _____	DATE TIME WATER AT CASING AT STABILIZATION TIME
CASING SIZE: <u>N/A</u> Method <u>Direct Push</u>	_____

DEPTH (feet)	CASING (lb/ft)	SAMPLE				PID (ppm)	SAMPLE DESCRIPTION Burmister Classification	NOTES
		No.	PEN/REC (in)	DEPTH (ft)	BLOWS/6"			
5		S-1	60/45	0-5		<0.1	Brown to grey fine silty SAND and GRAVEL with broken rock fragments	
10		S-2	60/60	5-10		<0.1	Brown to grey fine silty SAND and GRAVEL with broken rock fragments	
15		S-3	60/60	10-15		<0.1	Brown to grey fine silty SAND and GRAVEL	
20		S-4	60/60	15-20		<0.1	Saturated brown to grey fine silty SAND and GRAVEL	
25							EOB @ 20'	
30								

GRANULAR SOILS	COHESIVE SOILS	REMARKS:
BLOWS/FT	DENSITY	
BLOWS/FT	DENSITY	

NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THIS BORING LOG. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS ARE MADE.

BORING No. <u>WS-5</u>

<h1>Weston & Sampson</h1>	<u>PROJECT</u>	REPORT OF BORING No. <u>WS-6</u>
	478-480 Union Street New Bedford MA	SHEET <u>1</u> OF <u>1</u>
		Project No. <u>2100451</u> CHKD BY _____

BORING Co. <u>New England Geotech</u>	BORING LOCATION <u>See attached plan</u>
FOREMAN <u>Hayze Rembijas</u>	GROUND SURFACE ELEV. _____ DATUM _____
WSE GEOLOGIST: <u>Padriac Kavanagh</u>	DATE START <u>4/21/11</u> DATE END <u>4/21/11</u>

SAMPLER: <u>Geoprobe 6600</u>	GROUNDWATER READINGS
CASING: _____	DATE TIME WATER AT CASING AT STABILIZATION TIME
CASING SIZE: <u>N/A</u> Method <u>Direct Push</u>	_____

DEPTH (feet)	CASING (lb/ft)	SAMPLE				PID (ppm)	SAMPLE DESCRIPTION Burmister Classification	NOTES
		No.	PEN/REC (in)	DEPTH (ft)	BLOWS/6"			
5		S-1	60/36	0-5		<0.1	Brown to grey fine silty SAND and GRAVEL with dark brown silty SAND	
10		S-2	60/60	5-10		<0.1	5-8' Brown to grey fine silty SAND and GRAVEL with dark brown silty Sand 8-10' Blue to grey fine silty SAND with odor	
						248		
15		S-3	60/60	10-15		155	Blue to grey fine silty SAND with odor	
20							EOB @ 15'	
25								
30								

GRANULAR SOILS	COHESIVE SOILS	REMARKS:
BLOWS/FT	DENSITY	
BLOWS/FT	DENSITY	

NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THIS BORING LOG. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS ARE MADE.

BORING No. <u>WS-6</u>

<h1>Weston & Sampson</h1>	<u>PROJECT</u>	REPORT OF BORING No. <u>WS-7</u>
	478-480 Union Street New Bedford MA	SHEET <u>1</u> OF <u>1</u>
		Project No. <u>2100451</u> CHKD BY _____

BORING Co. <u>New England Geotech</u>	BORING LOCATION <u>See attached plan</u>
FOREMAN <u>Hayze Rembijas</u>	GROUND SURFACE ELEV. _____ DATUM _____
WSE GEOLOGIST: <u>Sam Quattrini</u>	DATE START <u>4/22/11</u> DATE END <u>4/22/11</u>

SAMPLER: <u>Geoprobe 6600</u>	GROUNDWATER READINGS
CASING: _____	DATE TIME WATER AT CASING AT STABILIZATION TIME
CASING SIZE: <u>N/A</u> Method <u>Direct Push</u>	_____

DEPTH (feet)	CASING (lb/ft)	SAMPLE				PID (ppm)	SAMPLE DESCRIPTION Burmister Classification	NOTES
		No.	PEN/REC (in)	DEPTH (ft)	BLOWS/6"			
5		S-1	60/35	0-5		<0.1	0-22" Dry fine SAND and SILT , some Gravel and medium Sand	
						<0.1	22-31" Dark brown SILT, some fine Sand and Gravel	
							<0.1	
10		S-2	60/48	5-10		<0.1	0-48" Brown fine to medium SAND and SILT, trace Gravel; wet at the bottom	
15		S-3	60/34	10-15		<0.1	0-9" Wet brown to grey fine to medium SAND, trace Gravel	
							9-34" Brown to grey fine SAND and SILT, trace Gravel	
							EOB @ 15'	
20								
25								
30								

GRANULAR SOILS	COHESIVE SOILS	REMARKS:
BLOWS/FT	DENSITY	

NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
 2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THIS BORING LOG. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS ARE MADE.

BORING No. <u>WS-7</u>

<h1>Weston & Sampson</h1>	<u>PROJECT</u>	REPORT OF BORING No. <u>WS-8</u>
	478-480 Union Street New Bedford MA	SHEET <u>1</u> OF <u>1</u>
		Project No. <u>2100451</u> CHKD BY _____

BORING Co. <u>New England Geotech</u>	BORING LOCATION <u>See attached plan</u>
FOREMAN <u>Hayze Rembijas</u>	GROUND SURFACE ELEV. _____ DATUM _____
WSE GEOLOGIST: <u>Sam Quattrini</u>	DATE START <u>4/22/11</u> DATE END <u>4/22/11</u>

SAMPLER: <u>Geoprobe 6600</u>	GROUNDWATER READINGS				
	DATE	TIME	WATER AT	CASING AT	STABILIZATION TIME
CASING: _____			<u>-10' bgl</u>		
CASING SIZE: <u>N/A</u> Method <u>Direct Push</u>					

DEPTH (feet)	CASING (lb/ft)	SAMPLE				PID (ppm)	SAMPLE DESCRIPTION Burmister Classification	NOTES
		No.	PEN/REC (in)	DEPTH (ft)	BLOWS/6"			
5		S-1	60/39	0-5		<0.1	0-21" Dry fine SAND and SILT, some angular 3/8 inch Gravel	
						<0.1	21-29" Dark brown SILT, some roots	
							<0.1	
10		S-2	60/43	5-10		<0.1	0-10" Brown to red fine to medium SAND, trace Gravel	
						<0.1	10-43" Wet light brown to grey fine to medium SAND, trace Gravel	
15		S-3	60/49	10-15		<0.1	0-49" Brown fine to medium SAND, trace Silt and Gravel; layers of medium Sand with iron stain	
20		S-4	60/24	15-17		<0.1	0-24" Brown to grey fine to medium SAND, trace Gravel	
							EOB @ 17'	
25								
30								

GRANULAR SOILS	COHESIVE SOILS	REMARKS:
BLOWS/FT	DENSITY	

NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
 2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THIS BORING LOG. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS ARE MADE.

Weston & Sampson	<u>PROJECT</u>	REPORT OF BORING No. <u>WS-9</u>
	478-480 Union Street New Bedford MA	SHEET <u>1</u> OF <u>1</u>
		Project No. <u>2100451</u> CHKD BY _____

BORING Co. <u>New England Geotech</u>	BORING LOCATION <u>See attached plan</u>
FOREMAN <u>Hayze Rembijas</u>	GROUND SURFACE ELEV. _____ DATUM _____
WSE GEOLOGIST: <u>Sam Quattrini</u>	DATE START <u>4/22/11</u> DATE END <u>4/22/11</u>

SAMPLER: <u>Geoprobe 6600</u>	GROUNDWATER READINGS
CASING: _____	DATE TIME WATER AT CASING AT STABILIZATION TIME
CASING SIZE: <u>N/A</u> Method <u>Direct Push</u>	_____

DEPTH (feet)	CASING (lb/ft)	SAMPLE				PID (ppm)	SAMPLE DESCRIPTION Burmister Classification	NOTES
		No.	PEN/REC (in)	DEPTH (ft)	BLOWS/6"			
5		S-1	60/35	0-5		27.9	0-35" Dark brown fine SAND and SILT, some Gravel and medium Sand	
10		S-2	60/47.5	5-10		28.8	0-10" Dark brown fine SAND and SILT, some Gravel and medium Sand	
						29.0	10-45" Light brown fine SAND and SILT, occasional pebbles and Gravel	
							45-47.5" Brown medium to fine SAND	
15		S-3	60/32	10-15		27.2	0-18" Wet brown fine SAND and SILT, layer of medium Sand at tip	
						27.2	18-26" Grey fine SAND and GRAVEL (angular 1-inch)	
						21.2	26-32" Grey fine SAND and rock fragments	
20		S-4	60/29	15-20		10.0	0-20" Brown fine to medium SAND, trace Silt and Gravel	
						10.4	20-29" Grey fine SAND and SILT, trace Gravel	
							EOB @ 20'	
25								
30								

GRANULAR SOILS	COHESIVE SOILS	REMARKS:
BLOWS/FT	DENSITY	
BLOWS/FT	DENSITY	

NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THIS BORING LOG.
FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS ARE MADE.

BORING No. <u>WS-9</u>

<h1>Weston & Sampson</h1>	<u>PROJECT</u>	REPORT OF BORING No. <u>WS-10</u>
	478-480 Union Street New Bedford MA	SHEET <u>1</u> OF <u>1</u>
		Project No. <u>2100451</u>
		CHKD BY _____

BORING Co. <u>New England Geotech</u>	BORING LOCATION <u>See attached plan</u>
FOREMAN <u>Hayze Rembijas</u>	GROUND SURFACE ELEV. _____ DATUM _____
WSE GEOLOGIST: <u>Sam Quattrini</u>	DATE START <u>4/22/11</u> DATE END <u>4/22/11</u>

SAMPLER: <u>Geoprobe 6600</u> CASING: _____ CASING SIZE: <u>N/A</u> Method <u>Direct Push</u>	GROUNDWATER READINGS				
	DATE	TIME	WATER AT	CASING AT	STABILIZATION TIME
			~10' bgl		

DEPTH (feet)	CASING (lb/ft)	SAMPLE				PID (ppm)	SAMPLE DESCRIPTION Burmister Classification	NOTES
		No.	PEN/REC (in)	DEPTH (ft)	BLOWS/6"			
5		S-1	60/40	0-5		17.1	0-22" Brown fine SAND and SILT, trace Gravel	Light odor
						19.8	22-33" Dark brown SILT	
						13.4	33-40" Light brown fine SAND and SILT	
10		S-2	60/45	5-10		17.1	0-36" Light brown fine SAND, trace Gravel and medium Sand with iron stain	
							36-38" Rock fragment	
						15.9	38-45" Wet brown fine SAND and SILT	
15		S-3	60/37	10-15		24.2	0-37" Wet light brown to grey fine SAND, some Silt, Gravel, and medium Sand	
20		S-4	60/47	15-20		24.9	0-29" Wet grey fine to medium SAND, trace Silt and Gravel	
						23.0	29-47" Grey to brown fine SAND and SILT, trace Gravel, iron stain	
							EOB @ 20'	
25								
30								

GRANULAR SOILS	COHESIVE SOILS	REMARKS:
BLOWS/FT	DENSITY	
BLOWS/FT	DENSITY	

NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
 2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THIS BORING LOG. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS ARE MADE.

BORING No. <u>WS-10</u>

<h1>Weston & Sampson</h1>	PROJECT	REPORT OF BORING No. <u>WS-11</u>
	478-480 Union Street New Bedford MA	SHEET <u>1</u> OF <u>1</u>
		Project No. <u>2100451</u> CHKD BY _____

BORING Co. <u>New England Geotech</u>	BORING LOCATION <u>See attached plan</u>
FOREMAN <u>Hayze Rembijas</u>	GROUND SURFACE ELEV. _____ DATUM _____
WSE GEOLOGIST: <u>Sam Quattrini</u>	DATE START <u>4/22/11</u> DATE END <u>4/22/11</u>

SAMPLER: <u>Geoprobe 6600</u>	GROUNDWATER READINGS
CASING: _____	DATE TIME WATER AT CASING AT STABILIZATION TIME
CASING SIZE: <u>N/A</u> Method <u>Direct Push</u>	_____ ~10' bgl _____

DEPTH (feet)	CASING (lb/ft)	SAMPLE				PID (ppm)	SAMPLE DESCRIPTION Burmister Classification	NOTES
		No.	PEN/REC (in)	DEPTH (ft)	BLOWS/6"			
5		S-1	60/36	0-5		<0.1	0-5" Dark brown fine SAND and SILT	
						20.1	5-20" Brown fine SAND, some Gravel	
						19.1	20-36" Dark brown SILT and fine SAND, some Gravel	
10		S-2	60/47	5-10		13.8	0-10" Brown to grey fine to medium SAND, some Gravel	
						13.4	10-47" Grey fine SAND and SILT, some Gravel	
15		S-3	60/44	10-15		9.4	0-31" Grey fine SAND, trace Silt and Gravel (some iron stain)	
						8.5	31-32" Rock fragment	
							32-41" Grey fine to medium SAND, trace Silt and Gravel	
20							41-44" Brown fine SAND, trace Gravel; iron stain	
		S-4	60/12	15-16		8.6	0-12" Brown grey fine to medium SAND	
							EOB @ 16' for refusal	
25								
30								

GRANULAR SOILS	COHESIVE SOILS	REMARKS:
BLOWS/FT	DENSITY	

NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THIS BORING LOG. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS ARE MADE.

BORING No. <u>WS-11</u>

GROUNDWATER MONITORING WELL INSTALLATION REPORT

PROJECT NAME/NO. _____ LOCATION <u>478-480 Union Street New Bedford MA</u> CLIENT _____ CONTRACTOR <u>New England Geotech</u> DRILLER <u>H. Rembijas</u> OBSERVED BY <u>Padriac Kavanagh</u> DATE <u>4/21/11</u> CHECKED BY _____ DATE _____	MONITORING WELL NO. WS-1 ELEVATION _____ TOP OF PVC _____ DEPTH TO GROUNDWATER FROM TOP OF PVC <u>~10'</u>
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GROUND ELEVATION _____ GENERAL SOIL CONDITIONS (NOT TO SCALE)		<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;"></td> <td style="width: 80%;">THICKNESS OF SURFACE SEAL(S)</td> <td style="width: 10%; text-align: right;">12"</td> </tr> <tr> <td style="text-align: center;"><-----</td> <td>TYPE OF SURFACE SEAL(S)</td> <td style="text-align: right;"><u>Concrete</u></td> </tr> <tr> <td style="text-align: center;"> </td> <td>TYPE OF SURFACE CASING</td> <td style="text-align: right;"><u>Aluminum/Cast Iron</u></td> </tr> <tr> <td style="text-align: center;"><-----</td> <td>ID OF SURFACE CASING</td> <td style="text-align: right;"><u>4"</u></td> </tr> <tr> <td style="text-align: center;"><-----</td> <td>DEPTH BOTTOM OF CASING</td> <td style="text-align: right;"><u>12"</u></td> </tr> <tr> <td style="text-align: center;"> </td> <td>ID OF RISER PIPE</td> <td style="text-align: right;"><u>2"</u></td> </tr> <tr> <td style="text-align: center;"><-----</td> <td>TYPE OF RISER PIPE</td> <td style="text-align: right;"><u>PVC</u></td> </tr> <tr> <td style="text-align: center;"><-----</td> <td>TYPE OF BACKFILL AROUND RISER PIPE</td> <td style="text-align: right;"><u>Bentonite</u></td> </tr> <tr> <td style="text-align: center;"> </td> <td>DEPTH TOP OF SEAL</td> <td style="text-align: right;"><u>4.5'</u></td> </tr> <tr> <td style="text-align: center;"><-----</td> <td>TYPE OF SEAL</td> <td style="text-align: right;"><u>Bentonite</u></td> </tr> <tr> <td style="text-align: center;"> </td> <td>DEPTH BOTTOM OF SEAL/TOP OF SAND COLUMN</td> <td style="text-align: right;"><u>4.5"</u></td> </tr> <tr> <td style="text-align: center;"><-----</td> <td>DEPTH TOP OF SCREEN</td> <td style="text-align: right;"><u>5'</u></td> </tr> <tr> <td style="text-align: center;"> </td> <td>TYPE OF SCREEN</td> <td style="text-align: right;"><u>PVC</u></td> </tr> <tr> <td style="text-align: center;"><-----</td> <td>SIZE OPENINGS</td> <td style="text-align: right;"><u>0.010"</u></td> </tr> <tr> <td style="text-align: center;"> </td> <td>ID OF SCREEN</td> <td style="text-align: right;"><u>2"</u></td> </tr> <tr> <td style="text-align: center;"><-----</td> <td>TYPE OF BACKFILL AROUND SCREEN</td> <td style="text-align: right;"><u>#2 Sand</u></td> </tr> <tr> <td style="text-align: center;"><-----</td> <td>DEPTH BOTTOM OF SCREEN</td> <td style="text-align: right;"><u>15'</u></td> </tr> <tr> <td style="text-align: center;"><-----</td> <td>DEPTH BOTTOM OF SAND COLUMN</td> <td style="text-align: right;"><u>15'</u></td> </tr> <tr> <td style="text-align: center;"><-----</td> <td>TYPE OF BACKFILL BELOW SCREEN</td> <td style="text-align: right;"><u>na</u></td> </tr> <tr> <td style="text-align: center;"><-----</td> <td>DIAMETER OF BOREHOLE</td> <td style="text-align: right;"><u>3-1/8"</u></td> </tr> <tr> <td style="text-align: center;"><-----</td> <td>DEPTH BOTTOM OF BOREHOLE</td> <td style="text-align: right;"><u>20'</u></td> </tr> </table>		THICKNESS OF SURFACE SEAL(S)	12"	<-----	TYPE OF SURFACE SEAL(S)	<u>Concrete</u>		TYPE OF SURFACE CASING	<u>Aluminum/Cast Iron</u>	<-----	ID OF SURFACE CASING	<u>4"</u>	<-----	DEPTH BOTTOM OF CASING	<u>12"</u>		ID OF RISER PIPE	<u>2"</u>	<-----	TYPE OF RISER PIPE	<u>PVC</u>	<-----	TYPE OF BACKFILL AROUND RISER PIPE	<u>Bentonite</u>		DEPTH TOP OF SEAL	<u>4.5'</u>	<-----	TYPE OF SEAL	<u>Bentonite</u>		DEPTH BOTTOM OF SEAL/TOP OF SAND COLUMN	<u>4.5"</u>	<-----	DEPTH TOP OF SCREEN	<u>5'</u>		TYPE OF SCREEN	<u>PVC</u>	<-----	SIZE OPENINGS	<u>0.010"</u>		ID OF SCREEN	<u>2"</u>	<-----	TYPE OF BACKFILL AROUND SCREEN	<u>#2 Sand</u>	<-----	DEPTH BOTTOM OF SCREEN	<u>15'</u>	<-----	DEPTH BOTTOM OF SAND COLUMN	<u>15'</u>	<-----	TYPE OF BACKFILL BELOW SCREEN	<u>na</u>	<-----	DIAMETER OF BOREHOLE	<u>3-1/8"</u>	<-----	DEPTH BOTTOM OF BOREHOLE	<u>20'</u>
	THICKNESS OF SURFACE SEAL(S)	12"																																																															
<-----	TYPE OF SURFACE SEAL(S)	<u>Concrete</u>																																																															
	TYPE OF SURFACE CASING	<u>Aluminum/Cast Iron</u>																																																															
<-----	ID OF SURFACE CASING	<u>4"</u>																																																															
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	DEPTH TOP OF SEAL	<u>4.5'</u>																																																															
<-----	TYPE OF SEAL	<u>Bentonite</u>																																																															
	DEPTH BOTTOM OF SEAL/TOP OF SAND COLUMN	<u>4.5"</u>																																																															
<-----	DEPTH TOP OF SCREEN	<u>5'</u>																																																															
	TYPE OF SCREEN	<u>PVC</u>																																																															
<-----	SIZE OPENINGS	<u>0.010"</u>																																																															
	ID OF SCREEN	<u>2"</u>																																																															
<-----	TYPE OF BACKFILL AROUND SCREEN	<u>#2 Sand</u>																																																															
<-----	DEPTH BOTTOM OF SCREEN	<u>15'</u>																																																															
<-----	DEPTH BOTTOM OF SAND COLUMN	<u>15'</u>																																																															
<-----	TYPE OF BACKFILL BELOW SCREEN	<u>na</u>																																																															
<-----	DIAMETER OF BOREHOLE	<u>3-1/8"</u>																																																															
<-----	DEPTH BOTTOM OF BOREHOLE	<u>20'</u>																																																															

NOTES: 	MONITORING WELL NO. WS-1 WESTON & SAMPSON ENGINEERS, INC.
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GROUNDWATER MONITORING WELL INSTALLATION REPORT

PROJECT NAME/NO. _____	MONITORING WELL NO.
LOCATION <u>478-480 Union Street New Bedford MA</u>	WS-2
CLIENT _____	ELEVATION _____
CONTRACTOR <u>New England Geotech</u> DRILLER <u>H. Rembijas</u>	TOP OF PVC _____
OBSERVED BY <u>Padriac Kavanagh</u> DATE <u>4/21/11</u>	DEPTH TO GROUNDWATER FROM _____
CHECKED BY _____ DATE _____	TOP OF PVC <u>~10'</u>

GROUND ELEVATION _____			GROUND SURFACE)
GENERAL SOIL CONDITIONS (NOT TO SCALE)		THICKNESS OF SURFACE SEAL(S)	<u>12"</u>
	<-----	TYPE OF SURFACE SEAL(S)	<u>Concrete</u>
		TYPE OF SURFACE CASING	<u>Aluminum/Cast Iron</u>
	<-----	ID OF SURFACE CASING	<u>4"</u>
	<-----	DEPTH BOTTOM OF CASING	<u>12"</u>
		ID OF RISER PIPE	<u>2"</u>
	<-----	TYPE OF RISER PIPE	<u>PVC</u>
	<-----	TYPE OF BACKFILL AROUND RISER PIPE	<u>Bentonite</u>
		DEPTH TOP OF SEAL	<u>4.5'</u>
	<-----	TYPE OF SEAL	<u>Bentonite</u>
		DEPTH BOTTOM OF SEAL/TOP OF SAND COLUMN	<u>4.5"</u>
	<-----	DEPTH TOP OF SCREEN	<u>5'</u>
		TYPE OF SCREEN	<u>PVC</u>
	<-----	SIZE OPENINGS	<u>0.010"</u>
		ID OF SCREEN	<u>2"</u>
<-----	TYPE OF BACKFILL AROUND SCREEN	<u>#2 Sand</u>	
<-----	DEPTH BOTTOM OF SCREEN	<u>15'</u>	
<-----	DEPTH BOTTOM OF SAND COLUMN	<u>15'</u>	
<-----	TYPE OF BACKFILL BELOW SCREEN	<u>na</u>	
<-----	DIAMETER OF BOREHOLE	<u>3-1/8"</u>	
<-----	DEPTH BOTTOM OF BOREHOLE	<u>20'</u>	

NOTES:	MONITORING WELL NO. WS-2 WESTON & SAMPSON ENGINEERS, INC.
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GROUNDWATER MONITORING WELL INSTALLATION REPORT

PROJECT NAME/NO. _____	MONITORING WELL NO.
LOCATION <u>478-480 Union Street New Bedford MA</u>	WS-3
CLIENT _____	ELEVATION _____
CONTRACTOR <u>New England Geotech</u> DRILLER <u>H. Rembijas</u>	TOP OF PVC _____
OBSERVED BY <u>Padriac Kavanagh</u> DATE <u>4/21/11</u>	DEPTH TO GROUNDWATER FROM _____
CHECKED BY _____ DATE _____	TOP OF PVC <u>~10'</u>

GROUND ELEVATION _____ GENERAL SOIL CONDITIONS (NOT TO SCALE)		<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;"></td> <td style="width: 80%;">THICKNESS OF SURFACE SEAL(S) _____</td> <td style="width: 10%; text-align: right;">12"</td> </tr> <tr> <td style="text-align: center;"><-----</td> <td>TYPE OF SURFACE SEAL(S) _____</td> <td style="text-align: right;">Concrete</td> </tr> <tr> <td style="text-align: center;"> </td> <td>TYPE OF SURFACE CASING _____</td> <td style="text-align: right;">Aluminum/Cast Iron</td> </tr> <tr> <td style="text-align: center;"><-----</td> <td>ID OF SURFACE CASING _____</td> <td style="text-align: right;">4"</td> </tr> <tr> <td style="text-align: center;"><-----</td> <td>DEPTH BOTTOM OF CASING _____</td> <td style="text-align: right;">12"</td> </tr> <tr> <td style="text-align: center;"> </td> <td>ID OF RISER PIPE _____</td> <td style="text-align: right;">2"</td> </tr> <tr> <td style="text-align: center;"><-----</td> <td>TYPE OF RISER PIPE _____</td> <td style="text-align: right;">PVC</td> </tr> <tr> <td style="text-align: center;"><-----</td> <td>TYPE OF BACKFILL AROUND RISER PIPE _____</td> <td style="text-align: right;">Bentonite</td> </tr> <tr> <td style="text-align: center;"> </td> <td>DEPTH TOP OF SEAL _____</td> <td style="text-align: right;">4.5'</td> </tr> <tr> <td style="text-align: center;"><-----</td> <td>TYPE OF SEAL _____</td> <td style="text-align: right;">Bentonite</td> </tr> <tr> <td style="text-align: center;"> </td> <td>DEPTH BOTTOM OF SEAL/TOP OF SAND COLUMN _____</td> <td style="text-align: right;">4.5"</td> </tr> <tr> <td style="text-align: center;"><-----</td> <td>DEPTH TOP OF SCREEN _____</td> <td style="text-align: right;">5'</td> </tr> <tr> <td style="text-align: center;"> </td> <td>TYPE OF SCREEN _____</td> <td style="text-align: right;">PVC</td> </tr> <tr> <td style="text-align: center;"><-----</td> <td>SIZE OPENINGS _____</td> <td style="text-align: right;">0.010"</td> </tr> <tr> <td style="text-align: center;"> </td> <td>ID OF SCREEN _____</td> <td style="text-align: right;">2"</td> </tr> <tr> <td style="text-align: center;"><-----</td> <td>TYPE OF BACKFILL AROUND SCREEN _____</td> <td style="text-align: right;">#2 Sand</td> </tr> <tr> <td style="text-align: center;"><-----</td> <td>DEPTH BOTTOM OF SCREEN _____</td> <td style="text-align: right;">15'</td> </tr> <tr> <td style="text-align: center;"><-----</td> <td>DEPTH BOTTOM OF SAND COLUMN _____</td> <td style="text-align: right;">15'</td> </tr> <tr> <td style="text-align: center;"><-----</td> <td>TYPE OF BACKFILL BELOW SCREEN _____</td> <td style="text-align: right;">na</td> </tr> <tr> <td style="text-align: center;"><-----</td> <td>DIAMETER OF BOREHOLE _____</td> <td style="text-align: right;">3-1/8"</td> </tr> <tr> <td style="text-align: center;"><-----</td> <td>DEPTH BOTTOM OF BOREHOLE _____</td> <td style="text-align: right;">20'</td> </tr> </table>		THICKNESS OF SURFACE SEAL(S) _____	12"	<-----	TYPE OF SURFACE SEAL(S) _____	Concrete		TYPE OF SURFACE CASING _____	Aluminum/Cast Iron	<-----	ID OF SURFACE CASING _____	4"	<-----	DEPTH BOTTOM OF CASING _____	12"		ID OF RISER PIPE _____	2"	<-----	TYPE OF RISER PIPE _____	PVC	<-----	TYPE OF BACKFILL AROUND RISER PIPE _____	Bentonite		DEPTH TOP OF SEAL _____	4.5'	<-----	TYPE OF SEAL _____	Bentonite		DEPTH BOTTOM OF SEAL/TOP OF SAND COLUMN _____	4.5"	<-----	DEPTH TOP OF SCREEN _____	5'		TYPE OF SCREEN _____	PVC	<-----	SIZE OPENINGS _____	0.010"		ID OF SCREEN _____	2"	<-----	TYPE OF BACKFILL AROUND SCREEN _____	#2 Sand	<-----	DEPTH BOTTOM OF SCREEN _____	15'	<-----	DEPTH BOTTOM OF SAND COLUMN _____	15'	<-----	TYPE OF BACKFILL BELOW SCREEN _____	na	<-----	DIAMETER OF BOREHOLE _____	3-1/8"	<-----	DEPTH BOTTOM OF BOREHOLE _____	20'
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NOTES: 	MONITORING WELL NO. WS-3 WESTON & SAMPSON ENGINEERS, INC.
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GROUNDWATER MONITORING WELL INSTALLATION REPORT

PROJECT NAME/NO. _____	MONITORING WELL NO.
LOCATION <u>478-480 Union Street New Bedford MA</u>	WS-4
CLIENT _____	ELEVATION _____
CONTRACTOR <u>New England Geotech</u> DRILLER <u>H. Rembijas</u>	TOP OF PVC _____
OBSERVED BY <u>Padriac Kavanagh</u> DATE <u>4/21/11</u>	DEPTH TO GROUNDWATER FROM _____
CHECKED BY _____ DATE _____	TOP OF PVC <u>~10'</u>

GROUND ELEVATION _____		GROUND SURFACE)																																																															
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NOTES:	MONITORING WELL NO. WS-4 WESTON & SAMPSON ENGINEERS, INC.
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GROUNDWATER MONITORING WELL INSTALLATION REPORT

PROJECT NAME/NO. _____	MONITORING WELL NO.
LOCATION <u>478-480 Union Street New Bedford MA</u>	WS-5
CLIENT _____	ELEVATION _____
CONTRACTOR <u>New England Geotech</u> DRILLER <u>H. Rembijas</u>	TOP OF PVC _____
OBSERVED BY <u>Padriac Kavanagh</u> DATE <u>4/21/11</u>	DEPTH TO GROUNDWATER FROM _____
CHECKED BY _____ DATE _____	TOP OF PVC <u>~10'</u>

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NOTES:	MONITORING WELL NO. WS-5 WESTON & SAMPSON ENGINEERS, INC.
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GROUNDWATER MONITORING WELL INSTALLATION REPORT

PROJECT NAME/NO. _____	MONITORING WELL NO.
LOCATION <u>478-480 Union Street New Bedford MA</u>	WS-6
CLIENT _____	ELEVATION _____
CONTRACTOR <u>New England Geotech</u> DRILLER <u>H. Rembijas</u>	TOP OF PVC _____
OBSERVED BY <u>Padriac Kavanagh</u> DATE <u>4/21/11</u>	DEPTH TO GROUNDWATER FROM _____
CHECKED BY _____ DATE _____	TOP OF PVC <u>~10'</u>

GROUND ELEVATION _____ GENERAL SOIL CONDITIONS (NOT TO SCALE)		<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;"></td> <td style="width: 80%;">THICKNESS OF SURFACE SEAL(S) _____</td> <td style="width: 10%; text-align: right;">12"</td> </tr> <tr> <td><-----</td> <td>TYPE OF SURFACE SEAL(S) _____</td> <td style="text-align: right;">Concrete</td> </tr> <tr> <td style="border-top: 1px solid black;"></td> <td style="border-top: 1px solid black;">TYPE OF SURFACE CASING _____</td> <td style="border-top: 1px solid black; text-align: right;">Aluminum/Cast Iron</td> </tr> <tr> <td><-----</td> <td>ID OF SURFACE CASING _____</td> <td style="text-align: right;">4"</td> </tr> <tr> <td><-----</td> <td>DEPTH BOTTOM OF CASING _____</td> <td style="text-align: right;">12"</td> </tr> <tr> <td style="border-top: 1px solid black;"></td> <td style="border-top: 1px solid black;">ID OF RISER PIPE _____</td> <td style="border-top: 1px solid black; text-align: right;">2"</td> </tr> <tr> <td><-----</td> <td>TYPE OF RISER PIPE _____</td> <td style="text-align: right;">PVC</td> </tr> <tr> <td><-----</td> <td>TYPE OF BACKFILL AROUND RISER PIPE _____</td> <td style="text-align: right;">Bentonite</td> </tr> <tr> <td style="border-top: 1px solid black;"></td> <td style="border-top: 1px solid black;">DEPTH TOP OF SEAL _____</td> <td style="border-top: 1px solid black; text-align: right;">4.5'</td> </tr> <tr> <td><-----</td> <td>TYPE OF SEAL _____</td> <td style="text-align: right;">Bentonite</td> </tr> <tr> <td style="border-top: 1px solid black;"></td> <td style="border-top: 1px solid black;">DEPTH BOTTOM OF SEAL/TOP OF SAND COLUMN _____</td> <td style="border-top: 1px solid black; text-align: right;">4.5"</td> </tr> <tr> <td><-----</td> <td>DEPTH TOP OF SCREEN _____</td> <td style="text-align: right;">5'</td> </tr> <tr> <td style="border-top: 1px solid black;"></td> <td style="border-top: 1px solid black;">TYPE OF SCREEN _____</td> <td style="border-top: 1px solid black; text-align: right;">PVC</td> </tr> <tr> <td><-----</td> <td>SIZE OPENINGS _____</td> <td style="text-align: right;">0.010"</td> </tr> <tr> <td style="border-top: 1px solid black;"></td> <td style="border-top: 1px solid black;">ID OF SCREEN _____</td> <td style="border-top: 1px solid black; text-align: right;">2"</td> </tr> <tr> <td><-----</td> <td>TYPE OF BACKFILL AROUND SCREEN _____</td> <td style="text-align: right;">#2 Sand</td> </tr> <tr> <td><-----</td> <td>DEPTH BOTTOM OF SCREEN _____</td> <td style="text-align: right;">15'</td> </tr> <tr> <td><-----</td> <td>DEPTH BOTTOM OF SAND COLUMN _____</td> <td style="text-align: right;">15'</td> </tr> <tr> <td><-----</td> <td>TYPE OF BACKFILL BELOW SCREEN _____</td> <td style="text-align: right;">na</td> </tr> <tr> <td><-----</td> <td>DIAMETER OF BOREHOLE _____</td> <td style="text-align: right;">3-1/8"</td> </tr> <tr> <td><-----</td> <td>DEPTH BOTTOM OF BOREHOLE _____</td> <td style="text-align: right;">15'</td> </tr> </table>		THICKNESS OF SURFACE SEAL(S) _____	12"	<-----	TYPE OF SURFACE SEAL(S) _____	Concrete		TYPE OF SURFACE CASING _____	Aluminum/Cast Iron	<-----	ID OF SURFACE CASING _____	4"	<-----	DEPTH BOTTOM OF CASING _____	12"		ID OF RISER PIPE _____	2"	<-----	TYPE OF RISER PIPE _____	PVC	<-----	TYPE OF BACKFILL AROUND RISER PIPE _____	Bentonite		DEPTH TOP OF SEAL _____	4.5'	<-----	TYPE OF SEAL _____	Bentonite		DEPTH BOTTOM OF SEAL/TOP OF SAND COLUMN _____	4.5"	<-----	DEPTH TOP OF SCREEN _____	5'		TYPE OF SCREEN _____	PVC	<-----	SIZE OPENINGS _____	0.010"		ID OF SCREEN _____	2"	<-----	TYPE OF BACKFILL AROUND SCREEN _____	#2 Sand	<-----	DEPTH BOTTOM OF SCREEN _____	15'	<-----	DEPTH BOTTOM OF SAND COLUMN _____	15'	<-----	TYPE OF BACKFILL BELOW SCREEN _____	na	<-----	DIAMETER OF BOREHOLE _____	3-1/8"	<-----	DEPTH BOTTOM OF BOREHOLE _____	15'
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NOTES: 	MONITORING WELL NO. WS-6 WESTON & SAMPSON ENGINEERS, INC.
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GROUNDWATER MONITORING WELL INSTALLATION REPORT

PROJECT NAME/NO. _____ LOCATION <u>478-480 Union Street New Bedford MA</u> CLIENT _____ CONTRACTOR <u>New England Geotech</u> DRILLER <u>H. Rembijas</u> OBSERVED BY <u>Sam Quattrini</u> DATE <u>4/22/11</u> CHECKED BY _____ DATE _____	MONITORING WELL NO. WS-7 ELEVATION _____ TOP OF PVC _____ DEPTH TO GROUNDWATER FROM TOP OF PVC <u>~10'</u>
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GROUND ELEVATION _____ GENERAL SOIL CONDITIONS (NOT TO SCALE)		<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%; border-left: 1px solid black; padding-left: 5px;">THICKNESS OF SURFACE SEAL(S)</td> <td style="width: 40%;"></td> <td style="width: 30%; text-align: right; border-bottom: 1px solid black;">12"</td> </tr> <tr> <td style="border-left: 1px solid black; padding-left: 5px;">TYPE OF SURFACE SEAL(S)</td> <td></td> <td style="text-align: right; border-bottom: 1px solid black;">Concrete</td> </tr> <tr> <td style="border-left: 1px solid black; padding-left: 5px;">TYPE OF SURFACE CASING</td> <td></td> <td style="text-align: right; border-bottom: 1px solid black;">Aluminum/Cast Iron</td> </tr> <tr> <td style="border-left: 1px solid black; padding-left: 5px;">ID OF SURFACE CASING</td> <td></td> <td style="text-align: right; border-bottom: 1px solid black;">4"</td> </tr> <tr> <td style="border-left: 1px solid black; padding-left: 5px;">DEPTH BOTTOM OF CASING</td> <td></td> <td style="text-align: right; border-bottom: 1px solid black;">12"</td> </tr> <tr> <td style="border-left: 1px solid black; padding-left: 5px;">ID OF RISER PIPE</td> <td></td> <td style="text-align: right; border-bottom: 1px solid black;">2"</td> </tr> <tr> <td style="border-left: 1px solid black; padding-left: 5px;">TYPE OF RISER PIPE</td> <td></td> <td style="text-align: right; border-bottom: 1px solid black;">PVC</td> </tr> <tr> <td style="border-left: 1px solid black; padding-left: 5px;">TYPE OF BACKFILL AROUND RISER PIPE</td> <td></td> <td style="text-align: right; border-bottom: 1px solid black;">Bentonite</td> </tr> <tr> <td style="border-left: 1px solid black; padding-left: 5px;">DEPTH TOP OF SEAL</td> <td></td> <td style="text-align: right; border-bottom: 1px solid black;">4.5'</td> </tr> <tr> <td style="border-left: 1px solid black; padding-left: 5px;">TYPE OF SEAL</td> <td></td> <td style="text-align: right; border-bottom: 1px solid black;">Bentonite</td> </tr> <tr> <td style="border-left: 1px solid black; padding-left: 5px;">DEPTH BOTTOM OF SEAL/TOP OF SAND COLUMN</td> <td></td> <td style="text-align: right; border-bottom: 1px solid black;">4.5"</td> </tr> <tr> <td style="border-left: 1px solid black; padding-left: 5px;">DEPTH TOP OF SCREEN</td> <td></td> <td style="text-align: right; border-bottom: 1px solid black;">5'</td> </tr> <tr> <td style="border-left: 1px solid black; padding-left: 5px;">TYPE OF SCREEN</td> <td></td> <td style="text-align: right; border-bottom: 1px solid black;">PVC</td> </tr> <tr> <td style="border-left: 1px solid black; padding-left: 5px;">SIZE OPENINGS</td> <td></td> <td style="text-align: right; border-bottom: 1px solid black;">0.010"</td> </tr> <tr> <td style="border-left: 1px solid black; padding-left: 5px;">ID OF SCREEN</td> <td></td> <td style="text-align: right; border-bottom: 1px solid black;">2"</td> </tr> <tr> <td style="border-left: 1px solid black; padding-left: 5px;">TYPE OF BACKFILL AROUND SCREEN</td> <td></td> <td style="text-align: right; border-bottom: 1px solid black;">#2 Sand</td> </tr> <tr> <td style="border-left: 1px solid black; padding-left: 5px;">DEPTH BOTTOM OF SCREEN</td> <td></td> <td style="text-align: right; border-bottom: 1px solid black;">15'</td> </tr> <tr> <td style="border-left: 1px solid black; padding-left: 5px;">DEPTH BOTTOM OF SAND COLUMN</td> <td></td> <td style="text-align: right; border-bottom: 1px solid black;">15'</td> </tr> <tr> <td style="border-left: 1px solid black; padding-left: 5px;">TYPE OF BACKFILL BELOW SCREEN</td> <td></td> <td style="text-align: right; border-bottom: 1px solid black;">na</td> </tr> <tr> <td style="border-left: 1px solid black; padding-left: 5px;">DIAMETER OF BOREHOLE</td> <td></td> <td style="text-align: right; border-bottom: 1px solid black;">3-1/8"</td> </tr> <tr> <td style="border-left: 1px solid black; padding-left: 5px;">DEPTH BOTTOM OF BOREHOLE</td> <td></td> <td style="text-align: right; border-bottom: 1px solid black;">15'</td> </tr> </table>	THICKNESS OF SURFACE SEAL(S)		12"	TYPE OF SURFACE SEAL(S)		Concrete	TYPE OF SURFACE CASING		Aluminum/Cast Iron	ID OF SURFACE CASING		4"	DEPTH BOTTOM OF CASING		12"	ID OF RISER PIPE		2"	TYPE OF RISER PIPE		PVC	TYPE OF BACKFILL AROUND RISER PIPE		Bentonite	DEPTH TOP OF SEAL		4.5'	TYPE OF SEAL		Bentonite	DEPTH BOTTOM OF SEAL/TOP OF SAND COLUMN		4.5"	DEPTH TOP OF SCREEN		5'	TYPE OF SCREEN		PVC	SIZE OPENINGS		0.010"	ID OF SCREEN		2"	TYPE OF BACKFILL AROUND SCREEN		#2 Sand	DEPTH BOTTOM OF SCREEN		15'	DEPTH BOTTOM OF SAND COLUMN		15'	TYPE OF BACKFILL BELOW SCREEN		na	DIAMETER OF BOREHOLE		3-1/8"	DEPTH BOTTOM OF BOREHOLE		15'
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NOTES: _____ _____ _____	MONITORING WELL NO. WS-7 WESTON & SAMPSON ENGINEERS, INC.
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GROUNDWATER MONITORING WELL INSTALLATION REPORT

PROJECT NAME/NO. _____	MONITORING WELL NO.
LOCATION <u>478-480 Union Street New Bedford MA</u>	WS-8
CLIENT _____	ELEVATION _____
CONTRACTOR <u>New England Geotech</u> DRILLER <u>H. Rembijas</u>	TOP OF PVC _____
OBSERVED BY <u>Sam Quattrini</u> DATE <u>4/22/11</u>	DEPTH TO GROUNDWATER FROM _____
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NOTES:	MONITORING WELL NO. WS-8 WESTON & SAMPSON ENGINEERS, INC.
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Weston & Sampson	<u>PROJECT</u>	REPORT OF BORING No. <u>WS-12</u>
	478-480 Union Street New Bedford, MA	SHEET <u>1</u> OF <u>1</u>
		Project No. <u>2100451</u>
	CHKD BY _____	

BORING Co. <u>New England Geotech</u>	BORING LOCATION <u>See attached plan</u>
FOREMAN <u>Hayes</u>	GROUND SURFACE ELEV. _____ DATUM _____
WSE GEOLOGIST: <u>Joseph Spencer</u>	DATE START <u>5/11/12</u> DATE END <u>5/11/12</u>

SAMPLER: <u>Geoprobe Truck Rig</u> CASING: _____ CASING SIZE: <u>N/A</u> Method <u>Direct push</u>	GROUNDWATER READINGS				
	DATE	TIME	WATER AT	CASING AT	STABILIZATION TIME
			11		

DEPTH (feet)	CASING (lb/ft)	SAMPLE				PID (ppm)	SAMPLE DESCRIPTION Burmister Classification	NOTES	STRATUM DESCRIPTION
		No.	PEN/REC (in)	DEPTH (ft)	BLOWS/6"				
5		60/18		0-5	0	0-3' Brown med to coarse SAND with some GRAVEL 3-4' med SAND with black ASH 4-5' Brown med to coarse SAND with some GRAVEL			
10		60/30		5-10	0	5-8' Brown med to coarse SAND 8-10" Tan fine to med SAND with some 'GRAVEL			
15		60/60		10-15	1.4 5.6 2475	10-11' Brown med to coarse SAND 11-13.5' Tan med SAND (moist) 13.5-15' Grey fine to med SAND (saturated)			
20		60/60		15-20	1044 101.7 23.3	15-16' Grey fine to med SAND (saturated) 16-18' Grey fine to med SAND (saturated) 18-19' Tan fine SILTY SAND (saturated) 19-20' Brown fine SILTY SAND (moist)			
25									
30									
35									

GRANULAR SOILS		COHESIVE SOILS		REMARKS: Monitoring Well WS-12 installed here. TD = 16.15; DTW = 11.0 VPH sample taken @ 13.5-15' DUP-1 taken here
BLOWS/FT	DENSITY	BLOWS/FT	DENSITY	
0-4	V. LOOSE	0-2	V. SOFT	
4-10	LOOSE	2-4	SOFT	
10-30	M. DENSE	4-8	M. STIFF	
30-50	DENSE	8-15	STIFF	
> 50	V. DENSE	15-30	V. STIFF	
		> 30	HARD	

NOTES:

- THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
- WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THIS BORING LOG. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS ARE MADE.

BORING No. WS-12

Weston & Sampson	<u>PROJECT</u>	REPORT OF BORING No. <u>WS-13</u>
	478-480 Union Street New Bedford, MA	SHEET <u>1</u> OF <u>1</u>
		Project No. <u>2100451</u>
		CHKD BY _____

BORING Co. <u>New England Geotech</u>	BORING LOCATION <u>See attached plan</u>
FOREMAN <u>Hayes</u>	GROUND SURFACE ELEV. _____ DATUM _____
WSE GEOLOGIST: <u>Joseph Spencer</u>	DATE START <u>5/11/12</u> DATE END <u>5/11/12</u>

SAMPLER: <u>Geoprobe Truck Rig</u> CASING: _____ CASING SIZE: <u>N/A</u> Method <u>Direct push</u>	GROUNDWATER READINGS				
	DATE	TIME	WATER AT	CASING AT	STABILIZATION TIME

DEPTH (feet)	CASING (lb/ft)	SAMPLE				PID (ppm)	SAMPLE DESCRIPTION Burmister Classification	NOTES	STRATUM DESCRIPTION
		No.	PEN/REC (in)	DEPTH (ft)	BLOWS/6"				
5		60/36		0-5		0.2	0-1' Tan med to coarse SAND		
						0.8	1-4' Tan med to coarse SILTY SAND with some GRAVEL		
						0.2	4-5' Black fine organic SILTY SAND		
10		60/48		5-10		0.4	5-10' med to coarse SAND with weathered		
15		60/54		10-15		0.7	10-11' Grey med to coarse SAND with GRAVEL		
						0.8	11-13.5' Coarse red/brown SAND		
						19.5	13.5-15' Grey fine to med SAND (petrol odor)		
20		60/54		15-20			15-17' Tan med to coarse SAND		
							17-18' Grey fine to med SILTY SAND		
							18-20' Tan fine to med SILTY SAND		
25									
30									
35									

GRANULAR SOILS		COHESIVE SOILS		REMARKS: VPH sample taken @ 13.5-15'
BLOWS/FT	DENSITY	BLOWS/FT	DENSITY	
0-4	V. LOOSE	0-2	V. SOFT	
4-10	LOOSE	2-4	SOFT	
10-30	M. DENSE	4-8	M. STIFF	
30-50	DENSE	8-15	STIFF	
> 50	V. DENSE	15-30	V. STIFF	
		> 30	HARD	

NOTES:

- 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
- 2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THIS BORING LOG. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS ARE MADE.

BORING No. <u>WS-13</u>

Weston & Sampson	<u>PROJECT</u>	REPORT OF BORING No. <u>WS-14</u>
	478-480 Union Street New Bedford, MA	SHEET <u>1</u> OF <u>1</u>
		Project No. <u>2100451</u>
		CHKD BY _____

BORING Co. <u>New England Geotech</u>	BORING LOCATION <u>See attached plan</u>
FOREMAN <u>Hayes</u>	GROUND SURFACE ELEV. _____ DATUM _____
WSE GEOLOGIST: <u>Joseph Spencer</u>	DATE START <u>5/11/12</u> DATE END <u>5/11/12</u>

SAMPLER: <u>Geoprobe Truck Rig</u> CASING: _____ CASING SIZE: <u>N/A</u> Method <u>Direct push</u>	GROUNDWATER READINGS				
	DATE	TIME	WATER AT	CASING AT	STABILIZATION TIME

DEPTH (feet)	CASING (lb/ft)	SAMPLE				PID (ppm)	SAMPLE DESCRIPTION Burmister Classification	NOTES	STRATUM DESCRIPTION
		No.	PEN/REC (in)	DEPTH (ft)	BLOWS/6"				
5		60/30		0-5		0.3	0-3' Tan med to coarse SAND with some GRAVEL		
						0.2	3-4' med SAND with black ASH		
						0.1	4-5' Tan med to coarse SILTY SAND with some GRAVEL		
10		60/36		5-10		1.1	5-7' Tan med to coarse SILTY SAND with some GRAVEL		
						335.1	7-10' med SAND with weathered concrete		
15		60/54		10-15		6.5	10-12' Grey/tan med SAND		
						6	12-14' Red/brown SILTY SAND		
						173.8	14-15' Grey coarse SAND with GRAVEL		
20		60/54		15-20		160	15-19' Grey fine to med SILTY SAND		
						19.1	19-20' Grey fine to med SAND (saturated)		
25									
30									
35									

GRANULAR SOILS		COHESIVE SOILS		REMARKS: VPH sample taken @ 13.5-15'
BLOWS/FT	DENSITY	BLOWS/FT	DENSITY	
0-4	V. LOOSE	0-2	V. SOFT	
4-10	LOOSE	2-4	SOFT	
10-30	M. DENSE	4-8	M. STIFF	
30-50	DENSE	8-15	STIFF	
> 50	V. DENSE	15-30	V. STIFF	
		> 30	HARD	

NOTES:

- 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
- 2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THIS BORING LOG. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS ARE MADE.

BORING No. <u>WS-14</u>

Weston & Sampson	<u>PROJECT</u>	REPORT OF BORING No. <u>WS-15</u>
	478-480 Union Street New Bedford, MA	SHEET <u>1</u> OF <u>1</u>
		Project No. <u>2100451</u>
		CHKD BY _____

BORING Co. <u>New England Geotech</u>	BORING LOCATION <u>See attached plan</u>
FOREMAN <u>Hayes</u>	GROUND SURFACE ELEV. _____ DATUM _____
WSE GEOLOGIST: <u>Joseph Spencer</u>	DATE START <u>5/11/12</u> DATE END <u>5/11/12</u>

SAMPLER: <u>Geoprobe Truck Rig</u> CASING: _____ CASING SIZE: <u>N/A</u> Method <u>Direct push</u>	GROUNDWATER READINGS				
	DATE	TIME	WATER AT	CASING AT	STABILIZATION TIME

DEPTH (feet)	CASING (lb/ft)	SAMPLE				PID (ppm)	SAMPLE DESCRIPTION Burmister Classification	NOTES	STRATUM DESCRIPTION
		No.	PEN/REC (in)	DEPTH (ft)	BLOWS/6"				
5		60/30		0-5		0	0-2' Tan med to coarse SAND		
						0.9	2-5' Tan med SAND with GRAVEL		
10		60/30		5-10		0.1	5-10' Tan med to coarse SAND		
15		60/60		10-15		0.8	10-12.5' Tan med to coarse SAND		
						847.1	12.5-13.5' Tan/Grey med to coarse SAND with GRAVEL		
						1566	13.5-15' Grey fine SILTY SAND		
20		60/60		15-20		1175	15-19' Grey fine to med SILTY SAND		
						37.1	19-20' Tan fine SILTY SAND		
25									
30									
35									

GRANULAR SOILS		COHESIVE SOILS		REMARKS: VPH sample taken @ 13.5-15'
BLOWS/FT	DENSITY	BLOWS/FT	DENSITY	
0-4	V. LOOSE	0-2	V. SOFT	
4-10	LOOSE	2-4	SOFT	
10-30	M. DENSE	4-8	M. STIFF	
30-50	DENSE	8-15	STIFF	
> 50	V. DENSE	15-30	V. STIFF	
		> 30	HARD	

NOTES:

- 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
- 2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THIS BORING LOG. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS ARE MADE.

BORING No. <u>WS-15</u>

<h1 style="margin: 0;">Weston & Sampson</h1>	<u>PROJECT</u>	REPORT OF BORING No. <u>WS-16</u>
	478-480 Union Street New Bedford, MA	SHEET <u>1</u> OF <u>1</u>
		Project No. <u>2100451</u>
		CHKD BY _____

BORING Co. <u>New England Geotech</u>	BORING LOCATION <u>See attached plan</u>
FOREMAN <u>Hayes</u>	GROUND SURFACE ELEV. _____ DATUM _____
WSE GEOLOGIST: <u>Joseph Spencer</u>	DATE START <u>5/11/12</u> DATE END <u>5/11/12</u>

SAMPLER: <u>Geoprobe Truck Rig</u> CASING: _____ CASING SIZE: <u>N/A</u> Method <u>Direct push</u>	GROUNDWATER READINGS				
	DATE	TIME	WATER AT	CASING AT	STABILIZATION TIME

DEPTH (feet)	CASING (lb/ft)	SAMPLE				PID (ppm)	SAMPLE DESCRIPTION Burmister Classification	NOTES	STRATUM DESCRIPTION
		No.	PEN/REC (in)	DEPTH (ft)	BLOWS/6"				
5		60/30		0-5		3.0	0-5' Brown med SAND and SOIL with some BRICK		
10		60/54		5-10		0.3	5-10' Tan med to coarse SAND with little GRAVEL		
15		60/60		10-15		1355	10-13' Grey fine to med SILTY SAND		
						1208	13-15' Grey fine to med SILTY SAND with fractured ROCK		
20		60/30		15-20		935.2	15-17' Grey coarse SAND		
						981.3	17-20' Grey med to coarse SILTY SAND		
25									
30									
35									

GRANULAR SOILS		COHESIVE SOILS		REMARKS: VPH sample taken @ 15-19' Pb sample taken @ 0-5' DUP-2 taken here
BLOWS/FT	DENSITY	BLOWS/FT	DENSITY	
0-4	V. LOOSE	0-2	V. SOFT	
4-10	LOOSE	2-4	SOFT	
10-30	M. DENSE	4-8	M. STIFF	
30-50	DENSE	8-15	STIFF	
> 50	V. DENSE	15-30	V. STIFF	
		> 30	HARD	

NOTES:

- 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
- 2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THIS BORING LOG. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS ARE MADE.

BORING No. WS-16

<h1>Weston & Sampson</h1>	<u>PROJECT</u>	REPORT OF BORING No. <u>WS-17</u>
	478-480 Union Street New Bedford, MA	SHEET <u>1</u> OF <u>1</u>
		Project No. <u>2100451</u>
		CHKD BY _____

BORING Co. <u>New England Geotech</u>	BORING LOCATION <u>See attached plan</u>
FOREMAN <u>Hayes</u>	GROUND SURFACE ELEV. _____ DATUM _____
WSE GEOLOGIST: <u>Joseph Spencer</u>	DATE START <u>5/11/12</u> DATE END <u>5/11/12</u>

SAMPLER: <u>Geoprobe Truck Rig</u> _____ CASING: _____ _____ CASING SIZE: <u>N/A</u> Method <u>Direct push</u>	GROUNDWATER READINGS				
	DATE	TIME	WATER AT	CASING AT	STABILIZATION TIME

DEPTH (feet)	CASING (lb/ft)	SAMPLE				PID (ppm)	SAMPLE DESCRIPTION Burmister Classification	NOTES	STRATUM DESCRIPTION
		No.	PEN/REC (in)	DEPTH (ft)	BLOWS/6"				
5		60/36		0-5		0.5	0-2' Fine to coarse SANDY SOIL with pockets little ASH		
						0	2-5' Brown med to coarse SAND with some GRAVEL		
10		60/42		5-10		0	5-10' Tan fine to med SAND with some some GRAVEL and const debris		
15		60/40		10-15		1.6	10-13' Tan fine to med SAND with some some GRAVEL and const debris		
						1652	13-15' Grey and black fine to med SAND		
20		60/12		15-20		971	15-19' Grey med to coarse SAND (saturated)		
						52.6	19-20' Tan med SILTY SAND		
25									
30									
35									

GRANULAR SOILS		COHESIVE SOILS		REMARKS: VPH sample taken @ 15-19' Pb sample taken @ 0-5'
BLOWS/FT	DENSITY	BLOWS/FT	DENSITY	
0-4	V. LOOSE	0-2	V. SOFT	
4-10	LOOSE	2-4	SOFT	
10-30	M. DENSE	4-8	M. STIFF	
30-50	DENSE	8-15	STIFF	
> 50	V. DENSE	15-30	V. STIFF	
		> 30	HARD	

NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
 2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THIS BORING LOG. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS ARE MADE.

BORING No. <u>WS-17</u>

Weston & Sampson	<u>PROJECT</u>	REPORT OF BORING No. <u>WS-18</u>
	478-480 Union Street New Bedford, MA	SHEET <u>1</u> OF <u>1</u>
		Project No. <u>2100451</u>
		CHKD BY _____

BORING Co. <u>New England Geotech</u>	BORING LOCATION <u>See attached plan</u>
FOREMAN <u>Hayes</u>	GROUND SURFACE ELEV. _____ DATUM _____
WSE GEOLOGIST: <u>Joseph Spencer</u>	DATE START <u>5/11/12</u> DATE END <u>5/11/12</u>

SAMPLER: <u>Geoprobe Truck Rig</u> CASING: _____ CASING SIZE: <u>N/A</u> Method <u>Direct push</u>	GROUNDWATER READINGS				
	DATE	TIME	WATER AT	CASING AT	STABILIZATION TIME

DEPTH (feet)	CASING (lb/ft)	SAMPLE				PID (ppm)	SAMPLE DESCRIPTION Burmister Classification	NOTES	STRATUM DESCRIPTION
		No.	PEN/REC (in)	DEPTH (ft)	BLOWS/6"				
5		60/30		0-5		0.1	0-5' med to coarse SAND and GRAVEL with some CONCRETE		
10		60/54		5-10		0.1	5-6' med to coarse SAND and GRAVEL		
						0.1	6-10' Tan med SAND with little GRAVEL		
15		60/48		10-15		0	10-13' Tan med SAND with little GRAVEL		
						18.7	13-15' Tan fine to med SILTY SAND		
20		60/48		15-20		28.7	15-17' Tan/brown fine to med SILTY SAND		
						27.2	17-18' Grey med to coarse SAND		
							18-20' Tan/brown fine to med SILTY SAND		
25									
30									
35									

GRANULAR SOILS		COHESIVE SOILS		REMARKS: VPH sample taken @ 15-19' Pb sample taken @ 0-5'
BLOWS/FT	DENSITY	BLOWS/FT	DENSITY	
0-4	V. LOOSE	0-2	V. SOFT	
4-10	LOOSE	2-4	SOFT	
10-30	M. DENSE	4-8	M. STIFF	
30-50	DENSE	8-15	STIFF	
> 50	V. DENSE	15-30	V. STIFF	
		> 30	HARD	

NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
 2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THIS BORING LOG. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS ARE MADE.

BORING No. <u>WS-18</u>

Weston & Sampson	<u>PROJECT</u>	REPORT OF BORING No. <u>WS-19</u>
	478-480 Union Street New Bedford, MA	SHEET <u>1</u> OF <u>1</u>
		Project No. <u>2100451</u>
		CHKD BY _____

BORING Co. <u>New England Geotech</u>	BORING LOCATION <u>See attached plan</u>
FOREMAN <u>Hayes</u>	GROUND SURFACE ELEV. _____ DATUM _____
WSE GEOLOGIST: <u>Joseph Spencer</u>	DATE START <u>5/11/12</u> DATE END <u>5/11/12</u>

SAMPLER: <u>Geoprobe Truck Rig</u> CASING: _____ CASING SIZE: <u>N/A</u> Method <u>Direct push</u>	GROUNDWATER READINGS				
	DATE	TIME	WATER AT	CASING AT	STABILIZATION TIME

DEPTH (feet)	CASING (lb/ft)	SAMPLE				PID (ppm)	SAMPLE DESCRIPTION Burmister Classification	NOTES	STRATUM DESCRIPTION
		No.	PEN/REC (in)	DEPTH (ft)	BLOWS/6"				
5		60/30		0-5		0.1	0-5' Brown med SAND with SOIL and ASH and little GRAVEL		
10		60/36		5-10		5.0	5-8' Tan med SAND with some weathered CONCRETE 8-10' Tan fine to med SILTY SAND		
15		60/48		10-15		47.6	10-15' Tan med SILTY SAND		
20		60/18		15-20		101.7	15-19' Tan med to coarse SAND (saturated)		
						130.0	19-20' med to coarse SILTY SAND and GRAVEL		
25									
30									
35									

GRANULAR SOILS	COHESIVE SOILS	REMARKS: VPH sample taken @ 15-19' Pb sample taken @ 0-5'		
BLOWS/FT	DENSITY			BLOWS/FT
0-4	V. LOOSE	0-2	V. SOFT	
4-10	LOOSE	2-4	SOFT	
10-30	M. DENSE	4-8	M. STIFF	
30-50	DENSE	8-15	STIFF	
> 50	V. DENSE	15-30	V. STIFF	
		> 30	HARD	

NOTES:

- 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
- 2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THIS BORING LOG. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS ARE MADE.

BORING No. WS-19

Weston & Sampson	<u>PROJECT</u>	REPORT OF BORING No. <u>WS-20</u>
	478-480 Union Street New Bedford, MA	SHEET <u>1</u> OF <u>1</u>
		Project No. <u>2100451</u>
		CHKD BY _____

BORING Co. <u>New England Geotech</u>	BORING LOCATION <u>See attached plan</u>
FOREMAN <u>Hayes</u>	GROUND SURFACE ELEV. _____ DATUM _____
WSE GEOLOGIST: <u>Joseph Spencer</u>	DATE START <u>5/11/12</u> DATE END <u>5/11/12</u>

SAMPLER: <u>Geoprobe Truck Rig</u> CASING: _____ CASING SIZE: <u>N/A</u> Method <u>Direct push</u>	GROUNDWATER READINGS				
	DATE	TIME	WATER AT	CASING AT	STABILIZATION TIME

DEPTH (feet)	CASING (lb/ft)	SAMPLE				PID (ppm)	SAMPLE DESCRIPTION Burmister Classification	NOTES	STRATUM DESCRIPTION
		No.	PEN/REC (in)	DEPTH (ft)	BLOWS/6"				
5			60/24	0-5		0.0	0-5' Med to coarse SAND and SOIL with little GRAVEL		
10			60/48	5-10		0.0	5-10' Tan fine to med SAND		
15			60/48	10-15		0.5	10-12' Tan med SAND		
						12.8	12-14' Grey med SAND		
						284	14-15' Grey med to coarse SAND		
20			60/48	15-20		121.8	15-19' Grey med to coarse SAND		
						9.6	19-20' Tan fine to med SILTY SAND		
25									
30									
35									

GRANULAR SOILS		COHESIVE SOILS		REMARKS: VPH sample taken @ 13-15' EPH sample taken @ 13-15'
BLOWS/FT	DENSITY	BLOWS/FT	DENSITY	
0-4	V. LOOSE	0-2	V. SOFT	
4-10	LOOSE	2-4	SOFT	
10-30	M. DENSE	4-8	M. STIFF	
30-50	DENSE	8-15	STIFF	
> 50	V. DENSE	15-30	V. STIFF	
		> 30	HARD	

NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
 2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THIS BORING LOG. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS ARE MADE.

BORING No. <u>WS-20</u>

Weston & Sampson	<u>PROJECT</u>	REPORT OF BORING No. <u>WS-21</u>
	478-480 Union Street New Bedford, MA	SHEET <u>1</u> OF <u>1</u>
		Project No. <u>2100451</u>
		CHKD BY _____

BORING Co. <u>New England Geotech</u>	BORING LOCATION <u>See attached plan</u>
FOREMAN <u>Hayes</u>	GROUND SURFACE ELEV. _____ DATUM _____
WSE GEOLOGIST: <u>Joseph Spencer</u>	DATE START <u>5/11/12</u> DATE END <u>5/11/12</u>

SAMPLER: <u>Geoprobe Truck Rig</u> _____ CASING: _____ _____ CASING SIZE: <u>N/A</u> Method <u>Direct push</u>	GROUNDWATER READINGS				
	DATE	TIME	WATER AT	CASING AT	STABILIZATION TIME

DEPTH (feet)	CASING (lb/ft)	SAMPLE				PID (ppm)	SAMPLE DESCRIPTION Burmister Classification	NOTES	STRATUM DESCRIPTION
		No.	PEN/REC (in)	DEPTH (ft)	BLOWS/6"				
5		60/30		0-5		0.0	0-5' Brown med to coarse SAND and SOIL with some GRAVEL and BRICK		
10		60/48		5-10		3.2	5-8' Tan med to coarse SAND with some GRAVEL 8-10" Grey fine to med SAND		
						268.4			
15		60/48		10-15		211.5	10-12' Grey fine to med SAND with GRAVEL 12-15' Grey med SAND and GRAVEL		
						385.9			
20		60/48		15-20		70.8	15-18' Grey med to coarse SAND 18-20' Tan/red fine to med SILTY SAND		
						5.4			
25									
30									
35									

GRANULAR SOILS		COHESIVE SOILS		REMARKS: VPH sample taken @ 13-15' EPH sample taken @ 13-15'
BLOWS/FT	DENSITY	BLOWS/FT	DENSITY	
0-4	V. LOOSE	0-2	V. SOFT	
4-10	LOOSE	2-4	SOFT	
10-30	M. DENSE	4-8	M. STIFF	
30-50	DENSE	8-15	STIFF	
> 50	V. DENSE	15-30	V. STIFF	
		> 30	HARD	

NOTES:

- THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
- WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THIS BORING LOG. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS ARE MADE.

BORING No. WS-21

<h1 style="margin: 0;">Weston & Sampson</h1>	<u>PROJECT</u>	REPORT OF BORING No. <u>WS-22</u>
	478-480 Union Street New Bedford, MA	SHEET <u>1</u> OF <u>1</u>
		Project No. <u>2100451</u>
		CHKD BY _____

BORING Co. <u>New England Geotech</u>	BORING LOCATION <u>See attached plan</u>
FOREMAN <u>Hayes</u>	GROUND SURFACE ELEV. _____ DATUM _____
WSE GEOLOGIST: <u>Joseph Spencer</u>	DATE START <u>5/11/12</u> DATE END <u>5/11/12</u>

SAMPLER: <u>Geoprobe Truck Rig</u> CASING: _____ CASING SIZE: <u>N/A</u> Method <u>Direct push</u>	GROUNDWATER READINGS				
	DATE	TIME	WATER AT	CASING AT	STABILIZATION TIME

DEPTH (feet)	CASING (lb/ft)	SAMPLE				PID (ppm)	SAMPLE DESCRIPTION Burmister Classification	NOTES	STRATUM DESCRIPTION
		No.	PEN/REC (in)	DEPTH (ft)	BLOWS/6"				
5		60/30		0-5		0.1	0-5' Brown med SANDY SOIL (organic)		
10		60/48		5-10		19.8	5-7' Brown med SANDY SOIL (organic)		
						1.7	7-10' Tan med to coarse SILTY SAND with some GRAVEL		
15		60/42		10-15		1.9	10-11' Tan med to coarse SILTY SAND with some GRAVEL		
						141.2	11-15' Grey med to coarse SAND		
20		60/42		15-20		30.3	15-20' TAN fine to med SILTY SAND		
25									
30									
35									

GRANULAR SOILS		COHESIVE SOILS		REMARKS: VPH sample taken @ 13-15' EPH sample taken @ 13-15'
BLOWS/FT	DENSITY	BLOWS/FT	DENSITY	
0-4	V. LOOSE	0-2	V. SOFT	
4-10	LOOSE	2-4	SOFT	
10-30	M. DENSE	4-8	M. STIFF	
30-50	DENSE	8-15	STIFF	
> 50	V. DENSE	15-30	V. STIFF	
				HARD

NOTES:

- 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
- 2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THIS BORING LOG. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS ARE MADE.

BORING No. WS-22

Weston & Sampson	<u>PROJECT</u>	REPORT OF BORING No. <u>WS-23</u>
	478-480 Union Street New Bedford, MA	SHEET <u>1</u> OF <u>1</u>
		Project No. <u>2100451</u>
		CHKD BY _____

BORING Co. <u>New England Geotech</u>	BORING LOCATION <u>See attached plan</u>
FOREMAN <u>Hayes</u>	GROUND SURFACE ELEV. _____ DATUM _____
WSE GEOLOGIST: <u>Joseph Spencer</u>	DATE START <u>5/11/12</u> DATE END <u>5/11/12</u>

SAMPLER: <u>Geoprobe Truck Rig</u> CASING: _____ CASING SIZE: <u>N/A</u> Method <u>Direct push</u>	GROUNDWATER READINGS				
	DATE	TIME	WATER AT	CASING AT	STABILIZATION TIME

DEPTH (feet)	CASING (lb/ft)	SAMPLE				PID (ppm)	SAMPLE DESCRIPTION Burmister Classification	NOTES	STRATUM DESCRIPTION
		No.	PEN/REC (in)	DEPTH (ft)	BLOWS/6"				
5		60/42		0-5		0.0	0-1' Top soil and pea stone		
						0.6	1-5' Tan fine SILTY SAND with some SOIL		
10		60/54		5-10		0.0	5-8' Tan fine SAND and SILT		
						0	8-10' Coarse SAND with some GRAVEL		
15		60/54		10-15		1	10-13' Coarse SAND and GRAVEL		
						206.9	13-15' Grey fine to med SILTY SAND		
20		60/48		15-20		123.5	15-17' Grey coarse SAND with GRAVEL		
						41.6	17-19' Grey fine SILTY SAND		
25						8.5	10-13' Tan fine SILTY SAND		
30									
35									

GRANULAR SOILS		COHESIVE SOILS		REMARKS: Monitoring Well WS-23 installed here. VPH sample taken @ 13-15' EPH sample taken @ 13-15' DUP-3 taken here
BLOWS/FT	DENSITY	BLOWS/FT	DENSITY	
0-4	V. LOOSE	0-2	V. SOFT	
4-10	LOOSE	2-4	SOFT	
10-30	M. DENSE	4-8	M. STIFF	
30-50	DENSE	8-15	STIFF	
> 50	V. DENSE	15-30	V. STIFF	
		> 30	HARD	

NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
 2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THIS BORING LOG.
 FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS ARE MADE.

BORING No. <u>WS-23</u>

Weston & Sampson	<u>PROJECT</u>	REPORT OF BORING No. <u>WS-24</u>
	478-480 Union Street New Bedford, MA	SHEET <u>1</u> OF <u>1</u>
		Project No. <u>2100451</u>
		CHKD BY _____

BORING Co. <u>New England Geotech</u>	BORING LOCATION <u>See attached plan</u>
FOREMAN <u>Hayes</u>	GROUND SURFACE ELEV. _____ DATUM _____
WSE GEOLOGIST: <u>Joseph Spencer</u>	DATE START <u>5/11/12</u> DATE END <u>5/11/12</u>

SAMPLER: <u>Geoprobe Truck Rig</u> CASING: _____ CASING SIZE: <u>N/A</u> Method <u>Direct push</u>	GROUNDWATER READINGS				
	DATE	TIME	WATER AT	CASING AT	STABILIZATION TIME

DEPTH (feet)	CASING (lb/ft)	SAMPLE				PID (ppm)	SAMPLE DESCRIPTION Burmister Classification	NOTES	STRATUM DESCRIPTION
		No.	PEN/REC (in)	DEPTH (ft)	BLOWS/6"				
5			60/42	0-5		0.0	0-1' Pea stone		
						0	1-5' Tan/brown fine to med SAND and SOIL		
10			60/60	5-10		0.1	5-10' Med to coarse SAND with some GRAVEL and little CLAY		
15			60/54	10-15		265.3	10-12' Med to coarse SAND with some GRAVEL and little CLAY		
						281.4	12-13' Grey fine SILTY SAND		
						300.4	13-15' Grey med SILTY SAND		
20			0/0	15-20					
25									
30									
35									

GRANULAR SOILS	COHESIVE SOILS	REMARKS: VPH sample taken @ 13-15' EPH sample taken @ 13-15' Driller did not want to drill past 15'. He said it felt as though he would lose the barrel (which happened at WS-16).
BLOWS/FT	DENSITY	
0-4	V. LOOSE	
4-10	LOOSE	
10-30	M. DENSE	
30-50	DENSE	
> 50	V. DENSE	
BLOWS/FT	DENSITY	
0-2	V. SOFT	
2-4	SOFT	
4-8	M. STIFF	
8-15	STIFF	
15-30	V. STIFF	
> 30	HARD	

NOTES:

- 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
- 2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THIS BORING LOG. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS ARE MADE.

BORING No. <u>WS-24</u>

GROUNDWATER MONITORING WELL INSTALLATION REPORT

PROJECT NAME/NO. <u>478 Union Street/2120144</u>	MONITORING WELL NO. WS-12
LOCATION <u>Bedford, MA</u>	ELEVATION _____ TOP OF PVC _____ DEPTH TO GROUNDWATER FROM TOP OF PVC <u>11 feet</u>
CLIENT <u>City of New Bedford</u>	
CONTRACTOR <u>N.E. Geotech</u> DRILLER <u>Hayes</u>	
OBSERVED BY <u>JRS</u> DATE <u>5/11/12</u>	
CHECKED BY _____ DATE _____	

GROUND ELEVATION		<----- FLUSH-MOUNTED ROADBOX			(GROUND SURFACE)
GENERAL SOIL CONDITIONS (NOT TO SCALE)			THICKNESS OF SURFACE SEAL(S)	<u>6 inch</u>	
		<-----	TYPE OF SURFACE SEAL(S)	<u>concrete</u>	
			TYPE OF SURFACE CASING	<u>cast aluminum</u>	
		<-----	ID OF SURFACE CASING	<u>4 inch</u>	
		<-----	DEPTH BOTTOM OF CASING	<u>10 inch</u>	
			ID OF RISER PIPE	<u>2 inch</u>	
		<-----	TYPE OF RISER PIPE	<u>Schedule 40 PVC</u>	
		<-----	TYPE OF BACKFILL AROUND RISER PIPE	<u>Native</u>	
			DEPTH TOP OF SEAL	<u>4.5 ft</u>	
		<-----	TYPE OF SEAL	<u>Bentonite</u>	
			DEPTH BOTTOM OF SEAL/TOP OF SAND COLUMN	<u>5.5 ft</u>	
		<-----	DEPTH TOP OF SCREEN	<u>6.15 ft</u>	
			TYPE OF SCREEN	<u>Schedule 40 PVC</u>	
		<-----	SIZE OPENINGS	<u>0.010 inch</u>	
			ID OF SCREEN	<u>2 inch</u>	
		<-----	TYPE OF BACKFILL AROUND SCREEN	<u>#1 Sand</u>	
		<-----	DEPTH BOTTOM OF SCREEN	<u>16.15 ft</u>	
		<-----	DEPTH BOTTOM OF SAND COLUMN	<u>17 ft</u>	
		<-----	TYPE OF BACKFILL BELOW SCREEN	<u>#1 Sand/Native</u>	
		<-----	DIAMETER OF BOREHOLE	<u>3.125</u>	
<-----	DEPTH BOTTOM OF BOREHOLE	<u>20 ft</u>			

NOTES:	MONITORING WELL NO. WS-12
	WESTON & SAMPSON ENGINEERS, INC.

GROUNDWATER MONITORING WELL INSTALLATION REPORT

PROJECT NAME/NO. <u>478 Union Street/2120144</u>	MONITORING WELL NO. WS-23
LOCATION <u>Bedford, MA</u>	ELEVATION _____
CLIENT <u>City of New Bedford</u>	TOP OF PVC _____
CONTRACTOR <u>N.E. Geotech</u> DRILLER <u>Hayes</u>	DEPTH TO GROUNDWATER FROM TOP OF PVC <u>12 ft</u>
OBSERVED BY <u>JRS</u> DATE <u>5/11/12</u>	
CHECKED BY _____ DATE _____	

GROUND ELEVATION _____		<----- FLUSH-MOUNTED ROADBOX			(GROUND SURFACE)
GENERAL SOIL CONDITIONS (NOT TO SCALE)		THICKNESS OF SURFACE SEAL(S)	_____	6 inch	
	<-----	TYPE OF SURFACE SEAL(S)	_____	concrete	
		TYPE OF SURFACE CASING	_____	cast aluminum	
	<-----	ID OF SURFACE CASING	_____	4 inch	
	<-----	DEPTH BOTTOM OF CASING	_____	10 inch	
		ID OF RISER PIPE	_____	2 inch	
	<-----	TYPE OF RISER PIPE	_____	Schedule 40 PVC	
	<-----	TYPE OF BACKFILL AROUND RISER PIPE	_____	#1 Sand	
		DEPTH TOP OF SEAL	_____	6 ft	
	<-----	TYPE OF SEAL	_____	Bentonite chips	
		DEPTH BOTTOM OF SEAL/TOP OF SAND COLUMN	_____	7 ft	
	<-----	DEPTH TOP OF SCREEN	_____	8 ft	
		TYPE OF SCREEN	_____	Schedule 40 PVC	
	<-----	SIZE OPENINGS	_____	0.010 inch	
		ID OF SCREEN	_____	2 inch	
	<-----	TYPE OF BACKFILL AROUND SCREEN	_____	#1 Sand	
	<-----	DEPTH BOTTOM OF SCREEN	_____	18 ft	
	<-----	DEPTH BOTTOM OF SAND COLUMN	_____	19 ft	
	<-----	TYPE OF BACKFILL BELOW SCREEN	_____	#1 Sand/Native	
	<-----	DIAMETER OF BOREHOLE	_____	3.125	
<-----	DEPTH BOTTOM OF BOREHOLE	_____	20 ft		

NOTES:	MONITORING WELL NO. WS-23 WESTON & SAMPSON ENGINEERS, INC.
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APPENDIX F

Laboratory Analytical Reports

April 29, 2011

Mr. Sean Healey
Weston & Sampson, Inc.
100 Foxborough Boulevard
Suite 250
Foxborough, MA 02035

LABORATORY REPORT

Project: **Union St, New Bedford**
Lab ID: **141277**
Received: **04-15-11**

Dear Sean:

Enclosed are the analytical results for the above referenced project. The project was processed for Standard turnaround.

This letter authorizes the release of the analytical results, and should be considered a part of this report. This report contains a sample receipt report detailing the samples received, a project narrative indicating project changes and non-conformances, a quality control report, and a statement of our state certifications.

The analytical results contained in this report meet all applicable NELAC standards, except as may be specifically noted, or described in the project narrative. The analytical results relate only to the samples received. This report may only be used or reproduced in its entirety.

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

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,



Karyn E. Raymond
Project Manager

KER/nfm
Enclosures

Sample Receipt Report

Project: **Union St, New Bedford**
 Client: **Weston & Sampson, Inc.**
 Lab ID: **141277**

Delivery: **Hand**
 Airbill: **n/a**
 Lab Receipt: **04-15-11**

Temperature: **n/a**
 Chain of Custody: **Present**
 Custody Seal(s): **n/a**

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141277-1	TP-4 (2-5')	Soil	4/14/11 15:00	EPA 8260B Volatile Organics				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C2001210	40 mL VOA Vial	Industrial	BX38723	Methanol	R-6380C	04-01-11	n/a	
C2000924	40 mL VOA Vial	Industrial	BX38703	n/a	R-6361B	04-01-11	n/a	
C2000923	40 mL VOA Vial	Industrial	BX38703	n/a	R-6361B	04-01-11	n/a	
C2000900	40 mL VOA Vial	Industrial	BX38703	n/a	R-6361B	04-01-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141277-2	TP-7 (9-11')	Soil	4/15/11 11:00	EPA 8260B Volatile Organics				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C2001189	40 mL VOA Vial	Industrial	BX38723	Methanol	R-6380C	04-01-11	n/a	
C2000744	40 mL VOA Vial	Industrial	BX38701	n/a	R-6361B	04-01-11	n/a	
C2000743	40 mL VOA Vial	Industrial	BX38701	n/a	R-6361B	04-01-11	n/a	
C2000742	40 mL VOA Vial	Industrial	BX38701	n/a	R-6361B	04-01-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141277-3	TP-9 (9-11')	Soil	4/15/11 7:30	EPA 8260B Volatile Organics				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C2004089	40 mL VOA Vial	Industrial	BX38715	Methanol	R-6380A	03-31-11	n/a	
C2000899	40 mL VOA Vial	Industrial	BX38703	n/a	R-6361B	04-01-11	n/a	
C2000876	40 mL VOA Vial	Industrial	BX38703	n/a	R-6361B	04-01-11	n/a	
C2000875	40 mL VOA Vial	Industrial	BX38703	n/a	R-6361B	04-01-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141277-4	TP-1 (10-12')	Soil	4/14/11 10:00	EPA 6010B Pb				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C2002882	250 mL Glass	Industrial	BX38690	None	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141277-5	TP-2 (6-9')	Soil	4/14/11 14:00	EPA 6010B/7471A 8 RCRA Metals				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C1325051	120 mL Amber Glass	Proline	BX38349	None	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141277-6	TP-2 (6-9') MS	Soil	4/14/11 14:00	EPA 6010B/7471A 8 RCRA Metals				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C2013083	250 mL Glass	Industrial	BX38755	None	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141277-7	TP-2 (6-9') MSD	Soil	4/14/11 14:00	EPA 6010B/7471A 8 RCRA Metals				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C2013084	250 mL Glass	Industrial	BX38755	None	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141277-8	TP-3 (9-12')	Soil	4/14/11 12:30	EPA 6010B Pb				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C1303904	120 mL Amber Glass	Proline	BX37943	None	n/a	n/a	n/a	
C2002878	250 mL Glass	Industrial	BX38690	None	n/a	n/a	n/a	

Sample Receipt Report (Continued)

Project: **Union St, New Bedford**
 Client: **Weston & Sampson, Inc.**
 Lab ID: **141277**

Delivery: **Hand**
 Airbill: **n/a**
 Lab Receipt: **04-15-11**

Temperature: **n/a**
 Chain of Custody: **Present**
 Custody Seal(s): **n/a**

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141277-9	TP-4 (2-5')	Soil	4/14/11 15:00	EPA 6010B/7471A 8 RCRA Metals EPA 8082 PCBs MA DEP EPH with PAHs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C2002879	250 mL Glass	Industrial	BX38690	None	n/a	n/a	n/a	
C1325056	120 mL Amber Glass	Proline	BX38349	None	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141277-10	TP-4 (11.5-12.5')	Soil	4/14/11 15:30	EPA 6010B Pb				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C1325061	120 mL Amber Glass	Proline	BX38349	None	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141277-11	TP-7 (9-11')	Soil	4/15/11 11:00	EPA 6010B/7471A 8 RCRA Metals EPA 8082 PCBs MA DEP EPH with PAHs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C2002874	250 mL Glass	Industrial	BX38690	None	n/a	n/a	n/a	
C1325063	120 mL Amber Glass	Proline	BX38349	None	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141277-12	TP-8 (7-9')	Soil	4/15/11 9:00	MA DEP EPH with PAHs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C2002877	250 mL Glass	Industrial	BX38690	None	n/a	n/a	n/a	
C1325057	120 mL Amber Glass	Proline	BX38349	None	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141277-13	TP-9 (9-11')	Soil	4/15/11 7:30	EPA 6010B/7471A 8 RCRA Metals EPA 8082 PCBs MA DEP EPH with PAHs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C1290416	120 mL Amber Glass	Scientific Specialist Services	BX37028	None	n/a	n/a	n/a	
C2002881	250 mL Glass	Industrial	BX38690	None	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141277-14	TP-1 (10-12')	Soil	4/14/11 10:00	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C2004087	40 mL VOA Vial	Industrial	BX38715	Methanol	R-6380A	03-31-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141277-15	TP-2 (6-9')	Soil	4/14/11 14:00	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C2004096	40 mL VOA Vial	Industrial	BX38715	Methanol	R-6380A	03-31-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141277-16	DUP-1	Soil	4/14/11 0:00	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C2001211	40 mL VOA Vial	Industrial	BX38723	Methanol	R-6380C	04-01-11	n/a	
C1325062	120 mL Amber Glass	Proline	BX38349	None	n/a	n/a	n/a	

Sample Receipt Report (Continued)

Project: **Union St, New Bedford**
 Client: **Weston & Sampson, Inc.**
 Lab ID: **141277**

Delivery: **Hand**
 Airbill: **n/a**
 Lab Receipt: **04-15-11**

Temperature: **n/a**
 Chain of Custody: **Present**
 Custody Seal(s): **n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
141277-17	TP-3 (9-12')		Soil	4/14/11 12:30	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C2001185	40 mL VOA Vial	Industrial	BX38723	Methanol	R-6380C	04-01-11	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
141277-18	TP-4 (2-5')		Soil	4/14/11 15:00	MA DEP VPH Carbon Ranges Only				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C2001165	40 mL VOA Vial	Industrial	BX38723	Methanol	R-6380C	04-01-11	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
141277-19	TP-4 (11.5-12.5')		Soil	4/14/11 15:30	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C2004094	40 mL VOA Vial	Industrial	BX38715	Methanol	R-6380A	03-31-11	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
141277-20	TP-5 (10-13')		Soil	4/14/11 16:30	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C1303911	120 mL Amber Glass	Proline	BX37943	None	n/a	n/a	n/a		
C2001188	40 mL VOA Vial	Industrial	BX38723	Methanol	R-6380C	04-01-11	n/a		
C2002880	250 mL Glass	Industrial	BX38690	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
141277-21	TP-6 (7-9')		Soil	4/15/11 12:30	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C1290410	120 mL Amber Glass	Scientific Specialist Service	BX37028	None	n/a	n/a	n/a		
C2001186	40 mL VOA Vial	Industrial	BX38723	Methanol	R-6380C	04-01-11	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
141277-22	TP-7 (9-11')		Soil	4/15/11 11:00	MA DEP VPH Carbon Ranges Only				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C2004080	40 mL VOA Vial	Industrial	BX38715	Methanol	R-6380A	03-31-11	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
141277-23	TP-8 (7-9')		Soil	4/15/11 9:00	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C2001190	40 mL VOA Vial	Industrial	BX38723	Methanol	R-6380C	04-01-11	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
141277-24	TP-9 (9-11')		Soil	4/15/11 7:30	MA DEP VPH Carbon Ranges Only				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C2001167	40 mL VOA Vial	Industrial	BX38723	Methanol	R-6380C	04-01-11	n/a		

Data Certification

Project: Union St, New Bedford
 Client: Weston & Sampson, Inc.

Lab ID: 141277
 Received: 04-15-11 18:00

Mass DEP Analytical Protocol Certification Form						
Project Location: n/a		MA DEP RTN: n/a				
This Form provides certifications for the following data set:						
EPA 8260B:	141277-1,-2,-3					
EPA 8082:	141277-9,-11,-13					
MA DEP VPH:	141277-14,-15,-16,-17,-18,-19,-20,-21,-22,-23,-24					
MA DEP EPH:	141277-9,-11,-12,-13					
EPA 6010B:	141277-4,-5,-6,-7,-8,-9,-10,-11,-13					
EPA 7470A/1A:	141277-5,-6,-7,-9,-11,-13					
Sample Matrices: Groundwater/Surface () Soil/Sediment (X) Drinking Water () Air () Other ()						
CAM Protocol (check all that apply below):						
8260 VOC CAM II A (X)	7470/7471 Hg CAM III B (X)	Mass DEP VPH CAM IV A (X)	8081 Pesticides CAM V B ()	7196 Hex Cr CAM VI B ()	Mass DEP APH CAM IX A ()	
8270 SVOC CAM II B ()	7010 Metals CAM III C ()	Mass DEP EPH CAM IV B (X)	8151 Herbicides CAM V C ()	8330 Explosives CAM VIII A ()	TO-15 VOC CAM IX B ()	
6010 Metals CAM III A (X)	6020 Metals CAM III D ()	8082 PCB CAM V A (X)	9012 Cyanide/PAC CAM VI A ()	6860 Perchlorate CAM VIII B ()		
An affirmative response to questions A through F are required for "Presumptive Certainty" status.						
A.	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?					Yes
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.	<u>VPH, EPH and APH methods only:</u> Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).					Yes
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
Responses to questions G, H and I below are required for "Presumptive Certainty" status.						
G.	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?					No
Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056(2)(k) and WSC-07-350.						
H.	Were all QC performance standards specified in the CAM protocol(s) achieved?					No
I.	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?					No
All negative responses must be addressed in an attached laboratory narrative.						
I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.						
Signature:	<i>Karyn E. Raymond</i>		Position:	Project Manager		
Printed Name:	Karyn E. Raymond		Date:	04-29-11		

**EPA Method 8260B
Volatile Organics by GC/MS**

Field ID: **TP-4 (2-5')**
 Project: **Union St, New Bedford**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141277-1**
 Sampled: **04-14-11 15:00**
 Received: **04-15-11 18:00**
 Analyzed: **04-26-11 11:22**
 Analyst: **LMG**

Matrix: **Soil**
 Container: **40 mL VOA Vial**
 Preservation: **Frozen**
 QC Batch ID: **VM1-3063-S**
 Instrument ID: **MS-1 HP 5890**
 Sample Weight: **5.5 g**
 % Solids: **86**
 Dilution Factor: **1** Page: 1 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	11
74-87-3	Chloromethane	BRL		ug/Kg	11
75-01-4	Vinyl Chloride	BRL		ug/Kg	11
74-83-9	Bromomethane	BRL		ug/Kg	11
75-00-3	Chloroethane	BRL		ug/Kg	11
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	11
60-29-7	Diethyl Ether	BRL		ug/Kg	11
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	5
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	53
67-64-1	Acetone	BRL		ug/Kg	210
75-15-0	Carbon Disulfide	BRL		ug/Kg	53
75-09-2	Methylene Chloride	BRL		ug/Kg	53
107-13-1	Acrylonitrile	BRL		ug/Kg	11
156-60-5	<i>trans</i> -1,2-Dichloroethene	BRL		ug/Kg	5
1634-04-4	Methyl <i>tert</i> -butyl Ether (MTBE)	BRL		ug/Kg	5
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	5
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	5
156-59-2	<i>cis</i> -1,2-Dichloroethene	BRL		ug/Kg	5
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	53
74-97-5	Bromochloromethane	BRL		ug/Kg	5
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	53
67-66-3	Chloroform	BRL		ug/Kg	5
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	5
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	5
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	5
71-43-2	Benzene	BRL		ug/Kg	5
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	5
79-01-6	Trichloroethene	BRL		ug/Kg	5
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	5
74-95-3	Dibromomethane	BRL		ug/Kg	5
75-27-4	Bromodichloromethane	BRL		ug/Kg	5
123-91-1	1,4-Dioxane	BRL		ug/Kg	5,300
10061-01-5	<i>cis</i> -1,3-Dichloropropene	BRL		ug/Kg	5
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	53
108-88-3	Toluene	BRL		ug/Kg	5
10061-02-6	<i>trans</i> -1,3-Dichloropropene	BRL		ug/Kg	11
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	5
127-18-4	Tetrachloroethene	BRL		ug/Kg	5
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	5
591-78-6	2-Hexanone	BRL		ug/Kg	53
124-48-1	Dibromochloromethane	BRL		ug/Kg	5
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	5
108-90-7	Chlorobenzene	BRL		ug/Kg	5
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	5
100-41-4	Ethylbenzene	BRL		ug/Kg	5
108-38-3/106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene	BRL		ug/Kg	5

**EPA Method 8260B (Continued)
Volatile Organics by GC/MS**

Field ID: **TP-4 (2-5')**
Project: **Union St, New Bedford**
Client: **Weston & Sampson, Inc.**

Laboratory ID: **141277-1**
Sampled: **04-14-11 15:00**
Received: **04-15-11 18:00**
Analyzed: **04-26-11 11:22**
Analyst: **LMG**

Matrix: **Soil**
Container: **40 mL VOA Vial**
Preservation: **Frozen**

QC Batch ID: **VM1-3063-S**
Instrument ID: **MS-1 HP 5890**
Sample Weight: **5.5 g**
% Solids: **86**
Dilution Factor: **1**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
95-47-6	<i>ortho</i> -Xylene	BRL		ug/Kg	5
100-42-5	Styrene	BRL		ug/Kg	11
75-25-2	Bromoform	BRL		ug/Kg	11
98-82-8	Isopropylbenzene	BRL		ug/Kg	5
108-86-1	Bromobenzene	BRL		ug/Kg	5
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	5
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	5
110-57-6	<i>trans</i> -1,4-Dichloro-2-butene	BRL		ug/Kg	53
103-65-1	<i>n</i> -Propylbenzene	BRL		ug/Kg	5
95-49-8	2-Chlorotoluene	BRL		ug/Kg	5
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	5
106-43-4	4-Chlorotoluene	BRL		ug/Kg	5
98-06-6	<i>tert</i> -Butylbenzene	BRL		ug/Kg	5
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	5
135-98-8	<i>sec</i> -Butylbenzene	BRL		ug/Kg	5
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	5
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	5
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	5
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	5
104-51-8	<i>n</i> -Butylbenzene	BRL		ug/Kg	5
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	5
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/Kg	5
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	5
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	5
91-20-3	Naphthalene	BRL		ug/Kg	5
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	5
75-65-0	<i>tert</i> -Butyl Alcohol (TBA)	BRL		ug/Kg	210
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	5
637-92-3	Ethyl <i>tert</i> -butyl Ether (ETBE)	BRL		ug/Kg	5
994-05-8	<i>tert</i> -Amyl Methyl Ether (TAME)	BRL		ug/Kg	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	50	38	76 %	70 - 130 %
1,2-Dichloroethane-d ₄	50	36	73 %	70 - 130 %
Toluene-d ₈	50	40	80 %	70 - 130 %
4-Bromofluorobenzene	50	44	88 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5030B. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

EPA Method 8260B Volatile Organics by GC/MS

Field ID: **TP-7 (9-11')**
 Project: **Union St, New Bedford**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141277-2**
 Sampled: **04-15-11 11:00**
 Received: **04-15-11 18:00**
 Analyzed: **04-26-11 12:41**
 Analyst: **LMG**

Matrix: **Soil**
 Container: **40 mL VOA Vial**
 Preservation: **Frozen**
 QC Batch ID: **VM1-3063-S**
 Instrument ID: **MS-1 HP 5890**
 Sample Weight: **4.8 g**
 % Solids: **88**
 Dilution Factor: **1**

Page: 1 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	12
74-87-3	Chloromethane	BRL		ug/Kg	12
75-01-4	Vinyl Chloride	BRL		ug/Kg	12
74-83-9	Bromomethane	BRL		ug/Kg	12
75-00-3	Chloroethane	BRL		ug/Kg	12
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	12
60-29-7	Diethyl Ether	BRL		ug/Kg	12
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	6
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	59
67-64-1	Acetone	BRL		ug/Kg	240
75-15-0	Carbon Disulfide	BRL		ug/Kg	59
75-09-2	Methylene Chloride	BRL		ug/Kg	90
107-13-1	Acrylonitrile	BRL		ug/Kg	12
156-60-5	<i>trans</i> -1,2-Dichloroethene	BRL		ug/Kg	6
1634-04-4	Methyl <i>tert</i> -butyl Ether (MTBE)	BRL		ug/Kg	6
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	6
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	6
156-59-2	<i>cis</i> -1,2-Dichloroethene	BRL		ug/Kg	6
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	59
74-97-5	Bromochloromethane	BRL		ug/Kg	6
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	59
67-66-3	Chloroform	BRL		ug/Kg	6
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	6
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	6
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	6
71-43-2	Benzene	BRL		ug/Kg	6
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	6
79-01-6	Trichloroethene	BRL		ug/Kg	6
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	6
74-95-3	Dibromomethane	BRL		ug/Kg	6
75-27-4	Bromodichloromethane	BRL		ug/Kg	6
123-91-1	1,4-Dioxane	BRL		ug/Kg	5,900
10061-01-5	<i>cis</i> -1,3-Dichloropropene	BRL		ug/Kg	6
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	59
108-88-3	Toluene	BRL		ug/Kg	6
10061-02-6	<i>trans</i> -1,3-Dichloropropene	BRL		ug/Kg	12
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	6
127-18-4	Tetrachloroethene	BRL		ug/Kg	6
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	6
591-78-6	2-Hexanone	BRL		ug/Kg	59
124-48-1	Dibromochloromethane	BRL		ug/Kg	6
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	6
108-90-7	Chlorobenzene	BRL		ug/Kg	6
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	6
100-41-4	Ethylbenzene	BRL		ug/Kg	6
108-38-3/106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene	BRL		ug/Kg	6

**EPA Method 8260B (Continued)
Volatile Organics by GC/MS**

Field ID: **TP-7 (9-11')**
 Project: **Union St, New Bedford**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141277-2**
 Sampled: **04-15-11 11:00**
 Received: **04-15-11 18:00**
 Analyzed: **04-26-11 12:41**
 Analyst: **LMG**

Matrix: **Soil**
 Container: **40 mL VOA Vial**
 Preservation: **Frozen**
 QC Batch ID: **VM1-3063-S**
 Instrument ID: **MS-1 HP 5890**
 Sample Weight: **4.8 g**
 % Solids: **88**
 Dilution Factor: **1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
95-47-6	<i>ortho</i> -Xylene	BRL		ug/Kg	6
100-42-5	Styrene	BRL		ug/Kg	12
75-25-2	Bromoform	BRL		ug/Kg	12
98-82-8	Isopropylbenzene	BRL		ug/Kg	6
108-86-1	Bromobenzene	BRL		ug/Kg	6
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	6
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	6
110-57-6	<i>trans</i> -1,4-Dichloro-2-butene	BRL		ug/Kg	59
103-65-1	<i>n</i> -Propylbenzene	BRL		ug/Kg	6
95-49-8	2-Chlorotoluene	BRL		ug/Kg	6
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	6
106-43-4	4-Chlorotoluene	BRL		ug/Kg	6
98-06-6	<i>tert</i> -Butylbenzene	BRL		ug/Kg	6
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	6
135-98-8	<i>sec</i> -Butylbenzene	BRL		ug/Kg	6
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	6
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	6
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	6
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	6
104-51-8	<i>n</i> -Butylbenzene	BRL		ug/Kg	6
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	6
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/Kg	6
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	6
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	6
91-20-3	Naphthalene	BRL		ug/Kg	6
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	6
75-65-0	<i>tert</i> -Butyl Alcohol (TBA)	BRL		ug/Kg	240
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	6
637-92-3	Ethyl <i>tert</i> -butyl Ether (ETBE)	BRL		ug/Kg	6
994-05-8	<i>tert</i> -Amyl Methyl Ether (TAME)	BRL		ug/Kg	6

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	50	51	103 %	70 - 130 %
1,2-Dichloroethane-d ₄	50	54	109 %	70 - 130 %
Toluene-d ₈	50	56	112 %	70 - 130 %
4-Bromofluorobenzene	50	59	118 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample preparation performed by EPA Method 5030B. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**EPA Method 8260B
Volatile Organics by GC/MS**

Field ID: **TP-9 (9-11')**
 Project: **Union St, New Bedford**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141277-3**
 Sampled: **04-15-11 07:30**
 Received: **04-15-11 18:00**
 Analyzed: **04-26-11 13:21**
 Analyst: **LMG**

Matrix: **Soil**
 Container: **40 mL VOA Vial**
 Preservation: **Frozen**
 QC Batch ID: **VM1-3063-S**
 Instrument ID: **MS-1 HP 5890**
 Sample Weight: **5.3 g**
 % Solids: **92**
 Dilution Factor: **1** Page: 1 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	10
74-87-3	Chloromethane	BRL		ug/Kg	10
75-01-4	Vinyl Chloride	BRL		ug/Kg	10
74-83-9	Bromomethane	BRL		ug/Kg	10
75-00-3	Chloroethane	BRL		ug/Kg	10
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	10
60-29-7	Diethyl Ether	BRL		ug/Kg	10
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	5
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	51
67-64-1	Acetone	BRL		ug/Kg	210
75-15-0	Carbon Disulfide	BRL		ug/Kg	51
75-09-2	Methylene Chloride	BRL		ug/Kg	51
107-13-1	Acrylonitrile	BRL		ug/Kg	10
156-60-5	<i>trans</i> -1,2-Dichloroethene	BRL		ug/Kg	5
1634-04-4	Methyl <i>tert</i> -butyl Ether (MTBE)	BRL		ug/Kg	5
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	5
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	5
156-59-2	<i>cis</i> -1,2-Dichloroethene	BRL		ug/Kg	5
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	51
74-97-5	Bromochloromethane	BRL		ug/Kg	5
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	51
67-66-3	Chloroform	BRL		ug/Kg	5
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	5
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	5
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	5
71-43-2	Benzene	BRL		ug/Kg	5
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	5
79-01-6	Trichloroethene	BRL		ug/Kg	5
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	5
74-95-3	Dibromomethane	BRL		ug/Kg	5
75-27-4	Bromodichloromethane	BRL		ug/Kg	5
123-91-1	1,4-Dioxane	BRL		ug/Kg	5,100
10061-01-5	<i>cis</i> -1,3-Dichloropropene	BRL		ug/Kg	5
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	51
108-88-3	Toluene	BRL		ug/Kg	5
10061-02-6	<i>trans</i> -1,3-Dichloropropene	BRL		ug/Kg	10
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	5
127-18-4	Tetrachloroethene	BRL		ug/Kg	5
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	5
591-78-6	2-Hexanone	BRL		ug/Kg	51
124-48-1	Dibromochloromethane	BRL		ug/Kg	5
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	5
108-90-7	Chlorobenzene	BRL		ug/Kg	5
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	5
100-41-4	Ethylbenzene	BRL		ug/Kg	5
108-38-3/106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene	BRL		ug/Kg	5

**EPA Method 8260B (Continued)
Volatile Organics by GC/MS**

Field ID: **TP-9 (9-11')**
Project: **Union St, New Bedford**
Client: **Weston & Sampson, Inc.**

Laboratory ID: **141277-3**
Sampled: **04-15-11 07:30**
Received: **04-15-11 18:00**
Analyzed: **04-26-11 13:21**
Analyst: **LMG**

Matrix: **Soil**
Container: **40 mL VOA Vial**
Preservation: **Frozen**

QC Batch ID: **VM1-3063-S**
Instrument ID: **MS-1 HP 5890**
Sample Weight: **5.3 g**
% Solids: **92**
Dilution Factor: **1**

Page: 2 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
95-47-6	<i>ortho</i> -Xylene	BRL		ug/Kg	5
100-42-5	Styrene	BRL		ug/Kg	10
75-25-2	Bromoform	BRL		ug/Kg	10
98-82-8	Isopropylbenzene	BRL		ug/Kg	5
108-86-1	Bromobenzene	BRL		ug/Kg	5
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	5
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	5
110-57-6	<i>trans</i> -1,4-Dichloro-2-butene	BRL		ug/Kg	51
103-65-1	<i>n</i> -Propylbenzene	BRL		ug/Kg	5
95-49-8	2-Chlorotoluene	BRL		ug/Kg	5
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	5
106-43-4	4-Chlorotoluene	BRL		ug/Kg	5
98-06-6	<i>tert</i> -Butylbenzene	BRL		ug/Kg	5
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	5
135-98-8	<i>sec</i> -Butylbenzene	BRL		ug/Kg	5
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	5
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	5
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	5
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	5
104-51-8	<i>n</i> -Butylbenzene	BRL		ug/Kg	5
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	5
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/Kg	5
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	5
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	5
91-20-3	Naphthalene	BRL		ug/Kg	5
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	5
75-65-0	<i>tert</i> -Butyl Alcohol (TBA)	BRL		ug/Kg	210
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	5
637-92-3	Ethyl <i>tert</i> -butyl Ether (ETBE)	BRL		ug/Kg	5
994-05-8	<i>tert</i> -Amyl Methyl Ether (TAME)	BRL		ug/Kg	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	50	52	104 %	70 - 130 %
1,2-Dichloroethane-d ₄	50	52	104 %	70 - 130 %
Toluene-d ₈	50	54	107 %	70 - 130 %
4-Bromofluorobenzene	50	46	92 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5030B. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

Massachusetts DEP EPH Method Extractable Petroleum Hydrocarbons by GC/FID

Field ID: TP-4 (2-5')
 Project: Union St, New Bedford
 Client: Weston & Sampson, Inc.
 Laboratory ID: 141277-9
 Sampled: 04-14-11 15:00
 Received: 04-15-11 18:00
 Extracted: 04-20-11 13:30
 Analyzed (AL): 04-23-11 09:19
 Analyzed (AR): 04-23-11 10:04
 Analyst: JJT

Matrix: Soil
 Container: 250 mL Glass
 Preservation: Cool
 QC Batch ID: EP-3222-M
 Instrument ID: GC-12 Agilent 6890
 Sample Weight: 16 g
 Final Volume: 1 mL
 % Solids: 86
 Aliphatic Dilution Factor: 1
 Aromatic Dilution Factor: 1

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	33
n-C19 to n-C36 Aliphatic Hydrocarbons [†]	83		mg/Kg	33
n-C11 to n-C22 Aromatic Hydrocarbons [†] ◊	86		mg/Kg	33
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons [†]	90		mg/Kg	33

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		mg/Kg	0.55
91-57-6	2-Methylnaphthalene	BRL		mg/Kg	0.55
85-01-8	Phenanthrene	BRL		mg/Kg	0.55
83-32-9	Acenaphthene	BRL		mg/Kg	0.55
208-96-8	Acenaphthylene	BRL		mg/Kg	0.55
86-73-7	Fluorene	BRL		mg/Kg	0.55
120-12-7	Anthracene	BRL		mg/Kg	0.55
206-44-0	Fluoranthene	0.56		mg/Kg	0.55
129-00-0	Pyrene	BRL		mg/Kg	0.55
56-55-3	Benzo[a]anthracene	BRL		mg/Kg	0.55
218-01-9	Chrysene	BRL		mg/Kg	0.55
205-99-2	Benzo[b]fluoranthene	BRL		mg/Kg	0.55
207-08-9	Benzo[k]fluoranthene	BRL		mg/Kg	0.55
50-32-8	Benzo[a]pyrene	BRL		mg/Kg	0.55
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		mg/Kg	0.55
53-70-3	Dibenzof[a,h]anthracene	BRL		mg/Kg	0.55
191-24-2	Benzo[g,h,i]perylene	BRL		mg/Kg	0.55

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	2.9	3.1	108 %	40 - 140 %
	2-Bromonaphthalene	2.9	2.9	98 %	40 - 140 %
Extraction:	Chloro-octadecane	2.9	2.4	81 %	40 - 140 %
	ortho-Terphenyl	2.9	2.7	94 %	40 - 140 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.1.1?	Yes
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
 Sample extraction performed by microwave accelerated solvent extraction technique. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
[†] Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
 ◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

**Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID**

Field ID: TP-7 (9-11')
 Project: Union St, New Bedford
 Client: Weston & Sampson, Inc.
 Laboratory ID: 141277-11
 Sampled: 04-15-11 11:00
 Received: 04-15-11 18:00
 Extracted: 04-20-11 13:30
 Analyzed (AL): 04-22-11 15:01
 Analyzed (AR): 04-22-11 15:47
 Analyst: JJT

Matrix: Soil
 Container: 250 mL Glass
 Preservation: Cool
 QC Batch ID: EP-3222-M
 Instrument ID: GC-12 Agilent 6890
 Sample Weight: 15 g
 Final Volume: 1 mL
 % Solids: 88
 Aliphatic Dilution Factor: 1
 Aromatic Dilution Factor: 1

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	34
n-C19 to n-C36 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	34
n-C11 to n-C22 Aromatic Hydrocarbons [†] ◊	BRL		mg/Kg	34
<u>Unadjusted</u> n-C11 to n-C22 Aromatic Hydrocarbons [†]	BRL		mg/Kg	34

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		mg/Kg	0.56
91-57-6	2-Methylnaphthalene	BRL		mg/Kg	0.56
85-01-8	Phenanthrene	BRL		mg/Kg	0.56
83-32-9	Acenaphthene	BRL		mg/Kg	0.56
208-96-8	Acenaphthylene	BRL		mg/Kg	0.56
86-73-7	Fluorene	BRL		mg/Kg	0.56
120-12-7	Anthracene	BRL		mg/Kg	0.56
206-44-0	Fluoranthene	BRL		mg/Kg	0.56
129-00-0	Pyrene	BRL		mg/Kg	0.56
56-55-3	Benzo[a]anthracene	BRL		mg/Kg	0.56
218-01-9	Chrysene	BRL		mg/Kg	0.56
205-99-2	Benzo[b]fluoranthene	BRL		mg/Kg	0.56
207-08-9	Benzo[k]fluoranthene	BRL		mg/Kg	0.56
50-32-8	Benzo[a]pyrene	BRL		mg/Kg	0.56
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		mg/Kg	0.56
53-70-3	Dibenzof[a,h]anthracene	BRL		mg/Kg	0.56
191-24-2	Benzo[g,h,i]perylene	BRL		mg/Kg	0.56

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	3.0	3.2	105 %	40 - 140 %
	2-Bromonaphthalene	3.0	3.2	107 %	40 - 140 %
Extraction:	Chloro-octadecane	3.0	2.5	85 %	40 - 140 %
	ortho-Terphenyl	3.0	2.8	93 %	40 - 140 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.1.1?	Yes
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
 Sample extraction performed by microwave accelerated solvent extraction technique. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
[†] Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
 ◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

**Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID**

Field ID: **TP-8 (7-9')**
 Project: **Union St, New Bedford**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141277-12**
 Sampled: **04-15-11 09:00**
 Received: **04-15-11 18:00**
 Extracted: **04-20-11 13:30**
 Analyzed (AL): **04-22-11 16:33**
 Analyzed (AR): **04-22-11 17:19**
 Analyst: **JJT**

Matrix: **Soil**
 Container: **250 mL Glass**
 Preservation: **Cool**
 QC Batch ID: **EP-3222-M**
 Instrument ID: **GC-12 Agilent 6890**
 Sample Weight: **16 g**
 Final Volume: **1 mL**
 % Solids: **87**
 Aliphatic Dilution Factor: **1**
 Aromatic Dilution Factor: **1**

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons [†]	1,800		mg/Kg	33
n-C19 to n-C36 Aliphatic Hydrocarbons [†]	320		mg/Kg	33
n-C11 to n-C22 Aromatic Hydrocarbons [†] ◊	1,400		mg/Kg	33
<u>Unadjusted</u> n-C11 to n-C22 Aromatic Hydrocarbons [†]	1,400		mg/Kg	33

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		mg/Kg	0.55
91-57-6	2-Methylnaphthalene	2.2		mg/Kg	0.55
85-01-8	Phenanthrene	2.4		mg/Kg	0.55
83-32-9	Acenaphthene	2.1		mg/Kg	0.55
208-96-8	Acenaphthylene	BRL		mg/Kg	0.55
86-73-7	Fluorene	2.0		mg/Kg	0.55
120-12-7	Anthracene	BRL		mg/Kg	0.55
206-44-0	Fluoranthene	BRL		mg/Kg	0.55
129-00-0	Pyrene	BRL		mg/Kg	0.55
56-55-3	Benzo[a]anthracene	BRL		mg/Kg	0.55
218-01-9	Chrysene	BRL		mg/Kg	0.55
205-99-2	Benzo[b]fluoranthene	BRL		mg/Kg	0.55
207-08-9	Benzo[k]fluoranthene	BRL		mg/Kg	0.55
50-32-8	Benzo[a]pyrene	BRL		mg/Kg	0.55
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		mg/Kg	0.55
53-70-3	Dibenzof[a,h]anthracene	BRL		mg/Kg	0.55
191-24-2	Benzo[g,h,i]perylene	BRL		mg/Kg	0.55

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	2.9	3.4	116 %	40 - 140 %
	2-Bromonaphthalene	2.9	3.3	114 %	40 - 140 %
Extraction:	Chloro-octadecane	2.9	1.9	65 %	40 - 140 %
	<i>ortho</i> -Terphenyl	2.9	3.6	123 %	40 - 140 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.1.1?	Yes
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
 Sample extraction performed by microwave accelerated solvent extraction technique. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
 † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
 ◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

**Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID**

Field ID: **TP-9 (9-11')**
 Project: **Union St, New Bedford**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141277-13**
 Sampled: **04-15-11 07:30**
 Received: **04-15-11 18:00**
 Extracted: **04-20-11 13:30**
 Analyzed (AL): **04-22-11 18:05**
 Analyzed (AR): **04-22-11 18:50**
 Analyst: **JJT**

Matrix: **Soil**
 Container: **250 mL Glass**
 Preservation: **Cool**
 QC Batch ID: **EP-3222-M**
 Instrument ID: **GC-12 Agilent 6890**
 Sample Weight: **15 g**
 Final Volume: **1 mL**
 % Solids: **92**
 Aliphatic Dilution Factor: **1**
 Aromatic Dilution Factor: **1**

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	32
n-C19 to n-C36 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	32
n-C11 to n-C22 Aromatic Hydrocarbons [†] ◊	BRL		mg/Kg	32
<u>Unadjusted</u> n-C11 to n-C22 Aromatic Hydrocarbons [†]	BRL		mg/Kg	32

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		mg/Kg	0.54
91-57-6	2-Methylnaphthalene	BRL		mg/Kg	0.54
85-01-8	Phenanthrene	BRL		mg/Kg	0.54
83-32-9	Acenaphthene	BRL		mg/Kg	0.54
208-96-8	Acenaphthylene	BRL		mg/Kg	0.54
86-73-7	Fluorene	BRL		mg/Kg	0.54
120-12-7	Anthracene	BRL		mg/Kg	0.54
206-44-0	Fluoranthene	BRL		mg/Kg	0.54
129-00-0	Pyrene	BRL		mg/Kg	0.54
56-55-3	Benzo[a]anthracene	BRL		mg/Kg	0.54
218-01-9	Chrysene	BRL		mg/Kg	0.54
205-99-2	Benzo[b]fluoranthene	BRL		mg/Kg	0.54
207-08-9	Benzo[k]fluoranthene	BRL		mg/Kg	0.54
50-32-8	Benzo[a]pyrene	BRL		mg/Kg	0.54
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		mg/Kg	0.54
53-70-3	Dibenzof[a,h]anthracene	BRL		mg/Kg	0.54
191-24-2	Benzo[g,h,i]perylene	BRL		mg/Kg	0.54

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	2.9	2.9	103 %	40 - 140 %
	2-Bromonaphthalene	2.9	3.0	104 %	40 - 140 %
Extraction:	Chloro-octadecane	2.9	2.4	85 %	40 - 140 %
	<i>ortho</i> -Terphenyl	2.9	2.6	91 %	40 - 140 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.1.1?	Yes
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
 Sample extraction performed by microwave accelerated solvent extraction technique. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
[†] Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
 ◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

Trace Metals

Field ID:	TP-1 (10-12')	Matrix:	Soil
Project:	Union St, New Bedford	Container:	250 mL Glass
Client:	Weston & Sampson, Inc.	Preservation:	Cool
Laboratory ID:	141277-4	Percent Solids:	71
Sampled:	04-14-11 10:00		
Received:	04-15-11 18:00		

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Weight</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 6010B ¹	MB-02015-S	EPA 3050B	04-25-11 00:00	0.495 g	ICP-1 PE 3000	LMS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	10		mg/Kg	7.1	1	04-25-11 21:30	EPA 6010B ¹

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
DF Dilution Factor.

Trace Metals

Field ID: **TP-2 (6-9')**
 Project: **Union St, New Bedford**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141277-5**
 Sampled: **04-14-11 14:00**
 Received: **04-15-11 18:00**

Matrix: **Soil**
 Container: **120 mL Glass**
 Preservation: **Cool**
 Percent Solids: **88**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B ¹	MB-02015-S	EPA 3050B	04-25-11 00:00	0.495 g	ICP-1 PE 3000	LMS
EPA 7471A ²	MP-2661-S	EPA 7471A	04-28-11 00:00	0.6 g	CVAA-1 PE FIMS	LS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Total	BRL		mg/Kg	3.5	1	04-25-11 21:44	EPA 6010B ¹
7440-39-3	Barium, Total	31		mg/Kg	5.8	1	04-25-11 21:44	EPA 6010B ¹
7440-43-9	Cadmium, Total	BRL		mg/Kg	0.58	1	04-25-11 21:44	EPA 6010B ¹
7440-47-3	Chromium, Total	8.1		mg/Kg	1.2	1	04-25-11 21:44	EPA 6010B ¹
7439-92-1	Lead, Total	22		mg/Kg	5.8	1	04-25-11 21:44	EPA 6010B ¹
7439-97-6	Mercury, Total	0.044		mg/Kg	0.019	1	04-28-11 13:46	EPA 7471A ²
7782-49-2	Selenium, Total	BRL		mg/Kg	5.8	1	04-25-11 21:44	EPA 6010B ¹
7440-22-4	Silver, Total	BRL		mg/Kg	1.2	1	04-25-11 21:44	EPA 6010B ¹

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
 DF Dilution Factor.

Matrix Spike and Matrix Spike Duplicate Trace Metals

Field ID:	TP-2 (6-9') MS	Parent Sample	Matrix Spike	Spike Duplicate
Project:	Union St, New Bedford	Laboratory ID: 141277-5	141277-6	141277-7
Client:	Weston & Sampson, Inc.	Sampled:	04-14-11 14:00	04-14-11 14:00
Matrix:	Soil	Received:	04-15-11 18:00	04-15-11 18:00
Container:	250 mL Glass	% Solids:	88	88
Preservation:	Cool			

<u>Sample Type</u>	<u>Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Weight</u>	<u>DF</u>	<u>Analyzed</u>	<u>Instrument ID</u>	<u>Analyst</u>
Matrix Spike	EPA 6010B	MB-02015-S	EPA 3050B	04-25-11 00:00	0.49 g	1	04-25-11 21:48	ICP-1 PE 3000	LMS
Matrix Spike	EPA 7471A	MP-2661-S	EPA 7471A	04-28-11 00:00	0.6 g	1	04-28-11 13:50	CVAA-1 PE FIMS	LS

CAS Number	Analyte	Unspiked Sample (mg/Kg)	MS Spiked (mg/Kg)	MS Measured (mg/Kg)	MS Recovery	MSD Spiked (mg/Kg)	MSD Measured (mg/Kg)	MSD Recovery	RPD	QC Limits		Method
										Spike	RPD	
7440-38-2	Arsenic	BRL	580	560	97 %	560	530	94 %	6 %	75-125%	20 %	EPA 6010B
7440-39-3	Barium	31	500	580	109 %	500	550	104 %	5 %	75-125%	20 %	EPA 6010B
7440-43-9	Cadmium	BRL	120	110	94 %	110	110	98 %	0 %	75-125%	20 %	EPA 6010B
7440-47-3	Chromium	8.1	120	120	95 %	110	110	96 %	9 %	75-125%	20 %	EPA 6010B
7439-92-1	Lead	22	580	590	97 %	560	550	94 %	7 %	75-125%	20 %	EPA 6010B
7439-97-6	Mercury	0.044	0.19	0.6	271 % q	0.19	0.5	257 % q	6 %	75-125%	20 %	EPA 7471A
7782-49-2	Selenium	BRL	580	530	91 %	560	500	89 %	6 %	75-125%	20 %	EPA 6010B
7440-22-4	Silver	BRL	120	110	94 %	110	110	99 %	0 %	75-125%	20 %	EPA 6010B

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
DF Dilution Factor.
q Recovery outside recommended limits.

Trace Metals

Field ID:	TP-3 (9-12')	Matrix:	Soil
Project:	Union St, New Bedford	Container:	250 mL Glass
Client:	Weston & Sampson, Inc.	Preservation:	Cool
Laboratory ID:	141277-8	Percent Solids:	91
Sampled:	04-14-11 12:30		
Received:	04-15-11 18:00		

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Weight</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 6010B ¹	MB-02015-S	EPA 3050B	04-25-11 00:00	0.515 g	ICP-1 PE 3000	LMS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total		BRL	mg/Kg	5.3	1	04-25-11 22:09	EPA 6010B ¹

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
DF Dilution Factor.

Trace Metals

Field ID: **TP-4 (2-5')**
 Project: **Union St, New Bedford**
 Client: **Weston & Sampson, Inc.**

Matrix: **Soil**
 Container: **250 mL Glass**
 Preservation: **Cool**

Laboratory ID: **141277-9**
 Sampled: **04-14-11 15:00**
 Received: **04-15-11 18:00**

Percent Solids: **86**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B ¹	MB-02015-S	EPA 3050B	04-25-11 00:00	0.5 g	ICP-1 PE 3000	LMS
EPA 7471A ²	MP-2661-S	EPA 7471A	04-28-11 00:00	0.6 g	CVAA-1 PE FIMS	LS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Total		BRL	mg/Kg	3.5	1	04-25-11 22:14	EPA 6010B ¹
7440-39-3	Barium, Total	120		mg/Kg	5.8	1	04-25-11 22:13	EPA 6010B ¹
7440-43-9	Cadmium, Total	0.59		mg/Kg	0.58	1	04-25-11 22:14	EPA 6010B ¹
7440-47-3	Chromium, Total	12		mg/Kg	1.2	1	04-25-11 22:13	EPA 6010B ¹
7439-92-1	Lead, Total	370		mg/Kg	5.8	1	04-25-11 22:13	EPA 6010B ¹
7439-97-6	Mercury, Total	0.34		mg/Kg	0.019	1	04-28-11 13:56	EPA 7471A ²
7782-49-2	Selenium, Total		BRL	mg/Kg	5.8	1	04-25-11 22:14	EPA 6010B ¹
7440-22-4	Silver, Total		BRL	mg/Kg	1.2	1	04-25-11 22:13	EPA 6010B ¹

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
 DF Dilution Factor.

Trace Metals

Field ID:	TP-4 (11.5-12.5')	Matrix:	Soil
Project:	Union St, New Bedford	Container:	120 mL Glass
Client:	Weston & Sampson, Inc.	Preservation:	Cool
Laboratory ID:	141277-10	Percent Solids:	91
Sampled:	04-14-11 15:30		
Received:	04-15-11 18:00		

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Weight</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 6010B ¹	MB-02015-S	EPA 3050B	04-25-11 00:00	0.52 g	ICP-1 PE 3000	LMS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total		BRL	mg/Kg	5.3	1	04-25-11 22:20	EPA 6010B ¹

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
DF Dilution Factor.

Trace Metals

Field ID: **TP-7 (9-11')**
 Project: **Union St, New Bedford**
 Client: **Weston & Sampson, Inc.**

Matrix: **Soil**
 Container: **250 mL Glass**
 Preservation: **Cool**

Laboratory ID: **141277-11**
 Sampled: **04-15-11 11:00**
 Received: **04-15-11 18:00**

Percent Solids: **88**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B ¹	MB-02015-S	EPA 3050B	04-25-11 00:00	0.51 g	ICP-1 PE 3000	LMS
EPA 7471A ²	MP-2661-S	EPA 7471A	04-28-11 00:00	0.6 g	CVAA-1 PE FIMS	LS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Total		BRL	mg/Kg	3.3	1	04-25-11 22:24	EPA 6010B ¹
7440-39-3	Barium, Total	40		mg/Kg	5.6	1	04-25-11 22:24	EPA 6010B ¹
7440-43-9	Cadmium, Total		BRL	mg/Kg	0.56	1	04-25-11 22:24	EPA 6010B ¹
7440-47-3	Chromium, Total	13		mg/Kg	1.1	1	04-25-11 22:24	EPA 6010B ¹
7439-92-1	Lead, Total		BRL	mg/Kg	5.6	1	04-25-11 22:24	EPA 6010B ¹
7439-97-6	Mercury, Total		BRL	mg/Kg	0.019	1	04-28-11 14:06	EPA 7471A ²
7782-49-2	Selenium, Total		BRL	mg/Kg	5.6	1	04-25-11 22:24	EPA 6010B ¹
7440-22-4	Silver, Total		BRL	mg/Kg	1.1	1	04-25-11 22:24	EPA 6010B ¹

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
 DF Dilution Factor.

Trace Metals

Field ID: **TP-9 (9-11')**
 Project: **Union St, New Bedford**
 Client: **Weston & Sampson, Inc.**

Matrix: **Soil**
 Container: **250 mL Glass**
 Preservation: **Cool**

Laboratory ID: **141277-13**
 Sampled: **04-15-11 07:30**
 Received: **04-15-11 18:00**

Percent Solids: **92**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B ¹	MB-02015-S	EPA 3050B	04-25-11 00:00	0.5 g	ICP-1 PE 3000	LMS
EPA 7471A ²	MP-2661-S	EPA 7471A	04-28-11 00:00	0.6 g	CVAA-1 PE FIMS	LS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Total	BRL		mg/Kg	3.3	1	04-25-11 22:28	EPA 6010B ¹
7440-39-3	Barium, Total	18		mg/Kg	5.5	1	04-25-11 22:28	EPA 6010B ¹
7440-43-9	Cadmium, Total	BRL		mg/Kg	0.55	1	04-25-11 22:28	EPA 6010B ¹
7440-47-3	Chromium, Total	9.6		mg/Kg	1.1	1	04-25-11 22:28	EPA 6010B ¹
7439-92-1	Lead, Total	BRL		mg/Kg	5.5	1	04-25-11 22:28	EPA 6010B ¹
7439-97-6	Mercury, Total	BRL		mg/Kg	0.018	1	04-28-11 13:33	EPA 7471A ²
7782-49-2	Selenium, Total	BRL		mg/Kg	5.5	1	04-25-11 22:28	EPA 6010B ¹
7440-22-4	Silver, Total	BRL		mg/Kg	1.1	1	04-25-11 22:28	EPA 6010B ¹

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
 DF Dilution Factor.

EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	TP-4 (2-5')	Matrix:	Soil
Project:	Union St, New Bedford	Container:	250 mL Glass
Client:	Weston & Sampson, Inc.	Preservation:	Cool
Laboratory ID:	141277-09	QC Batch ID:	PB-3731-P
Sampled:	04-14-11 15:00	Instrument ID:	GC-11 Agilent 6890
Received:	04-15-11 18:00	Sample Weight:	15 g
Extracted:	04-19-11 19:30	Final Volume:	1 mL
Cleaned Up:	04-20-11 19:00	Percent Solids:	86
Analyzed:	04-21-11 06:35	Dilution Factor:	1
Analyst:	CRL		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/Kg	93
11104-28-2	Aroclor 1221		BRL	ug/Kg	93
11141-16-5	Aroclor 1232		BRL	ug/Kg	93
53469-21-9	Aroclor 1242		BRL	ug/Kg	93
12672-29-6	Aroclor 1248		BRL	ug/Kg	93
11097-69-1	Aroclor 1254		BRL	ug/Kg	93
11096-82-5	Aroclor 1260		BRL	ug/Kg	93
37324-23-5	Aroclor 1262 †		BRL	ug/Kg	93
11100-14-4	Aroclor 1268 †		BRL	ug/Kg	93

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro- <i>m</i> -xylene	15	12	79 %	30 - 150 %
	Decachlorobiphenyl	15	14	90 %	30 - 150 %
Second Column	Tetrachloro- <i>m</i> -xylene	15	13	85 %	30 - 150 %
	Decachlorobiphenyl	15	14	88 %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

**EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD**

Field ID: **TP-7 (9-11')**
 Project: **Union St, New Bedford**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141277-11**
 Sampled: **04-15-11 11:00**
 Received: **04-15-11 18:00**
 Extracted: **04-19-11 19:30**
 Cleaned Up: **04-20-11 19:00**
 Analyzed: **04-21-11 07:23**
 Analyst: **CRL**

Matrix: **Soil**
 Container: **250 mL Glass**
 Preservation: **Cool**
 QC Batch ID: **PB-3731-P**
 Instrument ID: **GC-11 Agilent 6890**
 Sample Weight: **15 g**
 Final Volume: **1 mL**
 Percent Solids: **88**
 Dilution Factor: **1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/Kg	88
11104-28-2	Aroclor 1221		BRL	ug/Kg	88
11141-16-5	Aroclor 1232		BRL	ug/Kg	88
53469-21-9	Aroclor 1242		BRL	ug/Kg	88
12672-29-6	Aroclor 1248		BRL	ug/Kg	88
11097-69-1	Aroclor 1254		BRL	ug/Kg	88
11096-82-5	Aroclor 1260		BRL	ug/Kg	88
37324-23-5	Aroclor 1262 †		BRL	ug/Kg	88
11100-14-4	Aroclor 1268 †		BRL	ug/Kg	88

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro- <i>m</i> -xylene	15	9	62 %	30 - 150 %
	Decachlorobiphenyl	15	10	69 %	30 - 150 %
Second Column	Tetrachloro- <i>m</i> -xylene	15	10	68 %	30 - 150 %
	Decachlorobiphenyl	15	11	73 %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
 Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

**EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD**

Field ID: **TP-9 (9-11')**
 Project: **Union St, New Bedford**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141277-13**
 Sampled: **04-15-11 07:30**
 Received: **04-15-11 18:00**
 Extracted: **04-19-11 19:30**
 Cleaned Up: **04-20-11 19:00**
 Analyzed: **04-21-11 08:10**
 Analyst: **CRL**

Matrix: **Soil**
 Container: **250 mL Glass**
 Preservation: **Cool**
 QC Batch ID: **PB-3731-P**
 Instrument ID: **GC-11 Agilent 6890**
 Sample Weight: **16 g**
 Final Volume: **1 mL**
 Percent Solids: **92**
 Dilution Factor: **1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/Kg	82
11104-28-2	Aroclor 1221		BRL	ug/Kg	82
11141-16-5	Aroclor 1232		BRL	ug/Kg	82
53469-21-9	Aroclor 1242		BRL	ug/Kg	82
12672-29-6	Aroclor 1248		BRL	ug/Kg	82
11097-69-1	Aroclor 1254		BRL	ug/Kg	82
11096-82-5	Aroclor 1260		BRL	ug/Kg	82
37324-23-5	Aroclor 1262 †		BRL	ug/Kg	82
11100-14-4	Aroclor 1268 †		BRL	ug/Kg	82

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro- <i>m</i> -xylene	14	10	69 %	30 - 150 %
	Decachlorobiphenyl	14	9	68 %	30 - 150 %
Second Column	Tetrachloro- <i>m</i> -xylene	14	10	77 %	30 - 150 %
	Decachlorobiphenyl	14	10	72 %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
 Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

Massachusetts DEP VPH Method Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID: TP-1 (10-12')
 Project: Union St, New Bedford
 Client: Weston & Sampson, Inc.
 Laboratory ID: 141277-14
 Sampled: 04-14-11 10:00
 Received: 04-15-11 18:00
 Analyzed: 04-26-11 13:27
 Analyst: TRA

Matrix: Soil
 Container: 40 mL VOA Vial
 Preservation: Methanol/ Cool
 QC Batch ID: VP-1759-E
 Instrument ID: GC-1 HP 5890
 Sample Weight: 18 g
 Final Volume: 15 mL
 % Solids: 71
 Dilution Factor: 10

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	45		mg/Kg	16
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	430		mg/Kg	16
n-C9 to n-C10 Aromatic Hydrocarbons [†]	480		mg/Kg	16
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons [†]	46		mg/Kg	16
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons [†]	930		mg/Kg	16

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -butyl Ether [⌘]	BRL		mg/Kg	0.79
71-43-2	Benzene [⌘]	BRL		mg/Kg	1.6
108-88-3	Toluene [⌘]	BRL		mg/Kg	1.6
100-41-4	Ethylbenzene [‡]	10		mg/Kg	1.6
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	3.4		mg/Kg	1.6
95-47-6	<i>ortho</i> -Xylene [‡]	2.4		mg/Kg	1.6
91-20-3	Naphthalene	BRL		mg/Kg	4.0

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	4.0	n/a	d	70 - 130 %
2,5-Dibromotoluene (FID)	4.0	n/a	d	70 - 130 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	No
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
 Results are reported on a dry weight basis.

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◇ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ⌘ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.
- d Recovery not measurable due to required sample dilution.

**Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID**

Field ID: **TP-2 (6-9')**
 Project: **Union St, New Bedford**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141277-15**
 Sampled: **04-14-11 14:00**
 Received: **04-15-11 18:00**
 Analyzed: **04-22-11 15:22**
 Analyst: **TRA**

Matrix: **Soil**
 Container: **40 mL VOA Vial**
 Preservation: **Methanol/ Cool**
 QC Batch ID: **VP-1759-E**
 Instrument ID: **GC-1 HP 5890**
 Sample Weight: **16 g**
 Final Volume: **15 mL**
 % Solids: **88**
 Dilution Factor: **1**

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons ^{†◇}	2.6		mg/Kg	1.2
n-C9 to n-C12 Aliphatic Hydrocarbons ^{†⊗}	BRL		mg/Kg	1.2
n-C9 to n-C10 Aromatic Hydrocarbons [†]	BRL		mg/Kg	1.2
<u>Unadjusted</u> n-C5 to n-C8 Aliphatic Hydrocarbons [†]	3.1		mg/Kg	1.2
<u>Unadjusted</u> n-C9 to n-C12 Aliphatic Hydrocarbons [†]	2.3		mg/Kg	1.2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -butyl Ether [⌘]	BRL		mg/Kg	0.06
71-43-2	Benzene [⌘]	0.14		mg/Kg	0.12
108-88-3	Toluene [⌘]	0.39		mg/Kg	0.12
100-41-4	Ethylbenzene [‡]	BRL		mg/Kg	0.12
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	0.47		mg/Kg	0.12
95-47-6	<i>ortho</i> -Xylene [‡]	0.12		mg/Kg	0.12
91-20-3	Naphthalene	BRL		mg/Kg	0.30

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	3.0	2.8	95 %	70 - 130 %
2,5-Dibromotoluene (FID)	3.0	2.9	97 %	70 - 130 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
 Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◇ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

⌘ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

Massachusetts DEP VPH Method Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID: **DUP-1**
 Project: **Union St, New Bedford**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141277-16**
 Sampled: **04-14-11 00:00**
 Received: **04-15-11 18:00**
 Analyzed: **04-22-11 16:03**
 Analyst: **TRA**

Matrix: **Soil**
 Container: **40 mL VOA Vial**
 Preservation: **Methanol/ Cool**
 QC Batch ID: **VP-1759-E**
 Instrument ID: **GC-1 HP 5890**
 Sample Weight: **18 g**
 Final Volume: **15 mL**
 % Solids: **90**
 Dilution Factor: **1**

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	2.4		mg/Kg	1.0
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	BRL		mg/Kg	1.0
n-C9 to n-C10 Aromatic Hydrocarbons [†]	BRL		mg/Kg	1.0
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons [†]	3.0		mg/Kg	1.0
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons [†]	2.0		mg/Kg	1.0

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -butyl Ether [⌘]	BRL		mg/Kg	0.05
71-43-2	Benzene [⌘]	0.13		mg/Kg	0.10
108-88-3	Toluene [⌘]	0.38		mg/Kg	0.10
100-41-4	Ethylbenzene [‡]	BRL		mg/Kg	0.10
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	0.41		mg/Kg	0.10
95-47-6	<i>ortho</i> -Xylene [‡]	0.11		mg/Kg	0.10
91-20-3	Naphthalene	BRL		mg/Kg	0.26

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	2.6	2.3	91 %	70 - 130 %
2,5-Dibromotoluene (FID)	2.6	2.4	92 %	70 - 130 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
 Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◇ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

⌘ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

**Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID**

Field ID: TP-3 (9-12')
 Project: Union St, New Bedford
 Client: Weston & Sampson, Inc.
 Laboratory ID: 141277-17
 Sampled: 04-14-11 12:30
 Received: 04-15-11 18:00
 Analyzed: 04-22-11 16:44
 Analyst: TRA

Matrix: Soil
 Container: 40 mL VOA Vial
 Preservation: Methanol/ Cool
 QC Batch ID: VP-1759-E
 Instrument ID: GC-1 HP 5890
 Sample Weight: 16 g
 Final Volume: 15 mL
 % Solids: 91
 Dilution Factor: 2

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	6.2		mg/Kg	2.2
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	63		mg/Kg	2.2
n-C9 to n-C10 Aromatic Hydrocarbons [†]	53		mg/Kg	2.2
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons [†]	6.3		mg/Kg	2.2
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons [†]	120		mg/Kg	2.2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -butyl Ether [⌘]	BRL		mg/Kg	0.11
71-43-2	Benzene [⌘]	BRL		mg/Kg	0.22
108-88-3	Toluene [⌘]	BRL		mg/Kg	0.22
100-41-4	Ethylbenzene [‡]	0.88		mg/Kg	0.22
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	0.27		mg/Kg	0.22
95-47-6	<i>ortho</i> -Xylene [‡]	BRL		mg/Kg	0.22
91-20-3	Naphthalene	BRL		mg/Kg	0.55

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	2.8	2.6	95 %	70 - 130 %
2,5-Dibromotoluene (FID)	2.8	2.6	94 %	70 - 130 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
 Results are reported on a dry weight basis.

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◇ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ⌘ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

**Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID**

Field ID: **TP-4 (2-5')**
 Project: **Union St, New Bedford**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141277-18**
 Sampled: **04-14-11 15:00**
 Received: **04-15-11 18:00**
 Analyzed: **04-22-11 17:24**
 Analyst: **TRA**

Matrix: **Soil**
 Container: **40 mL VOA Vial**
 Preservation: **Methanol/ Cool**
 QC Batch ID: **VP-1759-E**
 Instrument ID: **GC-1 HP 5890**
 Sample Weight: **14 g**
 Final Volume: **15 mL**
 % Solids: **86**
 Dilution Factor: **1**

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	2.8		mg/Kg	1.4
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	BRL		mg/Kg	1.4
n-C9 to n-C10 Aromatic Hydrocarbons [†]	BRL		mg/Kg	1.4
<u>Unadjusted</u> n-C5 to n-C8 Aliphatic Hydrocarbons [†]	2.9		mg/Kg	1.4
<u>Unadjusted</u> n-C9 to n-C12 Aliphatic Hydrocarbons [†]	1.5		mg/Kg	1.4

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	3.6	3.2	91 %	70 - 130 %
2,5-Dibromotoluene (FID)	3.6	3.3	91 %	70 - 130 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
 Results are reported on a dry weight basis.

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◇ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ⊕ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

Massachusetts DEP VPH Method Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID: **TP-4 (11.5-12.5')**
 Project: **Union St, New Bedford**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141277-19**
 Sampled: **04-14-11 15:30**
 Received: **04-15-11 18:00**
 Analyzed: **04-26-11 14:08**
 Analyst: **TRA**

Matrix: **Soil**
 Container: **40 mL VOA Vial**
 Preservation: **Methanol/ Cool**
 QC Batch ID: **VP-1759-E**
 Instrument ID: **GC-1 HP 5890**
 Sample Weight: **17 g**
 Final Volume: **15 mL**
 % Solids: **91**
 Dilution Factor: **1**

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	1.7		mg/Kg	1.1
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	18		mg/Kg	1.1
n-C9 to n-C10 Aromatic Hydrocarbons [†]	16		mg/Kg	1.1
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons [†]	1.7		mg/Kg	1.1
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons [†]	34		mg/Kg	1.1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -butyl Ether [⌘]	BRL		mg/Kg	0.05
71-43-2	Benzene [⌘]	BRL		mg/Kg	0.11
108-88-3	Toluene [⌘]	BRL		mg/Kg	0.11
100-41-4	Ethylbenzene [‡]	0.23		mg/Kg	0.11
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	BRL		mg/Kg	0.11
95-47-6	<i>ortho</i> -Xylene [‡]	BRL		mg/Kg	0.11
91-20-3	Naphthalene	BRL		mg/Kg	0.27

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	2.7	2.5	92 %	70 - 130 %
2,5-Dibromotoluene (FID)	2.7	2.5	90 %	70 - 130 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
 Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◇ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

⌘ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

Massachusetts DEP VPH Method Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID: TP-5 (10-13')
 Project: Union St, New Bedford
 Client: Weston & Sampson, Inc.
 Laboratory ID: 141277-20
 Sampled: 04-14-11 16:30
 Received: 04-15-11 18:00
 Analyzed: 04-26-11 14:49
 Analyst: TRA

Matrix: Soil
 Container: 40 mL VOA Vial
 Preservation: Methanol/ Cool
 QC Batch ID: VP-1759-E
 Instrument ID: GC-1 HP 5890
 Sample Weight: 18 g
 Final Volume: 15 mL
 % Solids: 91
 Dilution Factor: 1

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	BRL		mg/Kg	1.0
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	BRL		mg/Kg	1.0
n-C9 to n-C10 Aromatic Hydrocarbons [†]	BRL		mg/Kg	1.0
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	1.0
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	1.0

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -butyl Ether [⌘]	BRL		mg/Kg	0.05
71-43-2	Benzene [⌘]	BRL		mg/Kg	0.10
108-88-3	Toluene [⌘]	BRL		mg/Kg	0.10
100-41-4	Ethylbenzene [‡]	BRL		mg/Kg	0.10
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	BRL		mg/Kg	0.10
95-47-6	<i>ortho</i> -Xylene [‡]	BRL		mg/Kg	0.10
91-20-3	Naphthalene	BRL		mg/Kg	0.26

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	2.6	2.4	94 %	70 - 130 %
2,5-Dibromotoluene (FID)	2.6	2.5	97 %	70 - 130 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
 Results are reported on a dry weight basis.

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◇ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ⌘ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

Massachusetts DEP VPH Method Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID: TP-6 (7-9')
 Project: Union St, New Bedford
 Client: Weston & Sampson, Inc.
 Laboratory ID: 141277-21
 Sampled: 04-15-11 12:30
 Received: 04-15-11 18:00
 Analyzed: 04-26-11 15:30
 Analyst: TRA

Matrix: Soil
 Container: 40 mL VOA Vial
 Preservation: Methanol/ Cool
 QC Batch ID: VP-1759-E
 Instrument ID: GC-1 HP 5890
 Sample Weight: 17 g
 Final Volume: 15 mL
 % Solids: 92
 Dilution Factor: 1

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	BRL		mg/Kg	1.1
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	BRL		mg/Kg	1.1
n-C9 to n-C10 Aromatic Hydrocarbons [†]	BRL		mg/Kg	1.1
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	1.1
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	1.1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -butyl Ether [⌘]	BRL		mg/Kg	0.05
71-43-2	Benzene [⌘]	BRL		mg/Kg	0.11
108-88-3	Toluene [⌘]	BRL		mg/Kg	0.11
100-41-4	Ethylbenzene [‡]	BRL		mg/Kg	0.11
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	BRL		mg/Kg	0.11
95-47-6	<i>ortho</i> -Xylene [‡]	BRL		mg/Kg	0.11
91-20-3	Naphthalene	BRL		mg/Kg	0.27

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	2.7	2.4	91 %	70 - 130 %
2,5-Dibromotoluene (FID)	2.7	2.4	91 %	70 - 130 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
 Results are reported on a dry weight basis.

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◇ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ⌘ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

**Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID**

Field ID: **TP-7 (9-11')**
 Project: **Union St, New Bedford**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141277-22**
 Sampled: **04-15-11 11:00**
 Received: **04-15-11 18:00**
 Analyzed: **04-26-11 16:51**
 Analyst: **TRA**

Matrix: **Soil**
 Container: **40 mL VOA Vial**
 Preservation: **Methanol/ Cool**
 QC Batch ID: **VP-1759-E**
 Instrument ID: **GC-1 HP 5890**
 Sample Weight: **19 g**
 Final Volume: **15 mL**
 % Solids: **88**
 Dilution Factor: **1**

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	BRL		mg/Kg	1.0
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	BRL		mg/Kg	1.0
n-C9 to n-C10 Aromatic Hydrocarbons [†]	BRL		mg/Kg	1.0
<u>Unadjusted</u> n-C5 to n-C8 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	1.0
<u>Unadjusted</u> n-C9 to n-C12 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	1.0

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	2.6	2.4	93 %	70 - 130 %
2,5-Dibromotoluene (FID)	2.6	2.4	93 %	70 - 130 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
 Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◇ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

⊕ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

**Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID**

Field ID: **TP-8 (7-9')**
 Project: **Union St, New Bedford**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141277-23**
 Sampled: **04-15-11 09:00**
 Received: **04-15-11 18:00**
 Analyzed: **04-26-11 17:32**
 Analyst: **TRA**

Matrix: **Soil**
 Container: **40 mL VOA Vial**
 Preservation: **Methanol/ Cool**
 QC Batch ID: **VP-1759-E**
 Instrument ID: **GC-1 HP 5890**
 Sample Weight: **14 g**
 Final Volume: **15 mL**
 % Solids: **87**
 Dilution Factor: **2**

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons ^{†◇}	7.4		mg/Kg	2.9
n-C9 to n-C12 Aliphatic Hydrocarbons ^{†⊗}	120		mg/Kg	2.9
n-C9 to n-C10 Aromatic Hydrocarbons [†]	180		mg/Kg	2.9
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons [†]	7.5		mg/Kg	2.9
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons [†]	300		mg/Kg	2.9

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -butyl Ether [⌘]	BRL		mg/Kg	0.14
71-43-2	Benzene [⌘]	BRL		mg/Kg	0.29
108-88-3	Toluene [⌘]	BRL		mg/Kg	0.29
100-41-4	Ethylbenzene [‡]	0.74		mg/Kg	0.29
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	0.41		mg/Kg	0.29
95-47-6	<i>ortho</i> -Xylene [‡]	0.55		mg/Kg	0.29
91-20-3	Naphthalene	11		mg/Kg	0.71

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	3.6	3.9	110 %	70 - 130 %
2,5-Dibromotoluene (FID)	3.6	3.4	94 %	70 - 130 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004). Results are reported on a dry weight basis.

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◇ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ⌘ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

**Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID**

Field ID: **TP-9 (9-11')**
 Project: **Union St, New Bedford**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141277-24**
 Sampled: **04-15-11 07:30**
 Received: **04-15-11 18:00**
 Analyzed: **04-26-11 18:13**
 Analyst: **TRA**

Matrix: **Soil**
 Container: **40 mL VOA Vial**
 Preservation: **Methanol/ Cool**
 QC Batch ID: **VP-1759-E**
 Instrument ID: **GC-1 HP 5890**
 Sample Weight: **15 g**
 Final Volume: **15 mL**
 % Solids: **92**
 Dilution Factor: **1**

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	BRL		mg/Kg	1.2
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	BRL		mg/Kg	1.2
n-C9 to n-C10 Aromatic Hydrocarbons [†]	BRL		mg/Kg	1.2
<u>Unadjusted</u> n-C5 to n-C8 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	1.2
<u>Unadjusted</u> n-C9 to n-C12 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	1.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	2.9	2.6	91 %	70 - 130 %
2,5-Dibromotoluene (FID)	2.9	2.7	94 %	70 - 130 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
 Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◇ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

⊕ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

Project Narrative

Project: **Union St, New Bedford**
Client: **Weston & Sampson, Inc.**

Lab ID: **141277**
Received: **04-15-11 18:00**

A. Documentation and Client Communication

The following documentation discrepancies, and client changes or amendments were noted for this project:

1. Sample 141277-5 identified as "TP-2 (6-9)" was analyzed for 8RCRA metals, per Sean Healey, 04-19-11.

B. Method Modifications, Non-Conformances and Observations

The sample(s) in this project were analyzed by the references analytical method(s), and no method modifications, non-conformances or analytical issues were noted, except as indicated below:

1. EPA 6010B Note: Samples 141277-4,-5,-6,-7,-8,-9,-10,-11 and -13. Samples were analyzed for selected target analytes, as requested by client.
2. EPA 8260B Non-conformance: Samples 141277-1, -2 and -3. Laboratory control sample duplicate (LCSD) analyte trans-1,4-dichloro-2-butene was above the recommended recovery limit for QC batch VM1-3063-S.
3. EPA 8260B Note: Samples 141277-1, -2 and -3. Recovery for analyte trans-1,4-dichloro-2-butene was outside the recommended 70 - 130% criteria in the ICV. Analyte Acetone did not meet the minimum average response factor in the CCV, response was within CAM criteria. The relative percent deviations for analytes trans-1,3-dichloropropene, Bromoform, trans-1,4-dichloro-2-butene, Chloroethane, Trichlorofluoromethane, 1,1,1-Trichloroethane, Carbon Tetrachloride, 1,2-Dichloroethane, Hexachlorobutadiene were above the recommended limits in the CCV. Quadratic equations were used in the calculations for analytes trans-1,3-dichloropropene, Styrene and Bromoform.
4. EPA 8260B Note: Samples 141277-1, -2 and -3. Acrylonitrile, trans-1,3-dichloropropene, Styrene and Bromoform did not meet the 70 - 130% recovery criteria for the low calibration standard. The recovery limit was raised to the next highest acceptable calibration standard.
5. MA DEP VPH Non-conformance: Samples 141277-14. Sample did not have measureable surrogate recoveries due to required sample dilution.
6. MA DEP VPH Note: Samples 141277-18, -22 and -24. Samples were analyzed for only carbon range analytes, as requested by client.
7. Sample 141277-16 was not received with sample collection time listed on the Chain of Custody. Sample was reported with a sampling collection time of 00:00 by the laboratory.
8. MA DEP VPH Note: Samples 141277-14, -17 and -23. Samples were diluted prior to analysis. Dilution was required to keep all analytes within calibration.

GROUNDWATER ANALYTICAL

228 Main Street, P.O. Box 1200
Buzards Bay, MA 02532
Telephone (508) 759-4441 | FAX (508) 759-4475
www.groundwateranalytical.com

CHAIN-OF-CUSTODY RECORD AND WORK ORDER

2 of 2

Project Name: UNION ST. N. Bedford
Project Number: WESTON & Sampson
Address: 100 FORBES BLVD.
 City / State / Zip: BEDFORD, MA
Sampler Name: Alan Kwan
Project Manager: Sam Healy
 Telephone: 781-710-4394
BILLING
 10 Business Days
 5 Business Days
 RUSH (RAN) (rush requires Rush Authorization Number)
 Please Email to: healy@groundwater.com
 Please FAX to:
 Purchase Order No.:
 Third Party Billing: CITY OF NEW BEDFORD
 GWA Quote:

INSTRUCTIONS: Use separate line for each container (except replicates).

Sampling	DATE	TIME	SAMPLE IDENTIFICATION	Matrix	Type	Container(s)	Preservation	Filtered	LABORATORY NUMBER (Lab Use Only)
	4/15	7:30	TR-9 (9-11)	X	Y7S	11	120mL Amber Glass		
			TRIP BLANK				120mL Sterile		

ANALYSIS REQUEST

Variables: TIC Search TIC Search TIC Search

Semivolatiles: Add Only BN Only TIC Search

Post/PrePCBs: 504.1 EOB/DOB 504.1 EOB/DOB 504.1 EOB/DOB

Metals: 13 Priority Lead and Copper Total Disolved

Proximate Hydrocarbon: MA DEP PPH with triglycs VPH Carbon ranges only MA DEP PPH with triglycs (6H) ME 6H

Trace Metals: MA DEP PPH with triglycs VPH Carbon ranges only MA DEP PPH with triglycs (6H) ME 6H

General Chemistry: MA DEP PPH with triglycs VPH Carbon ranges only MA DEP PPH with triglycs (6H) ME 6H

Other: MA DEP PPH with triglycs VPH Carbon ranges only MA DEP PPH with triglycs (6H) ME 6H

DATA QUALITY OBJECTIVES

Regulatory Program: Standard PWS Form MWPA NY STARS Drinking Water Wastewater Waste Disposal Dredge Material

Project Specific QC: Many regulatory programs and EPA methods require project specific QC. Project specific QC includes Sample Duplicates, Matrix Spikes, and/or Matrix Spike Duplicates. Laboratory QC is not project specific unless prearranged. Project specific QC samples are charged on a per sample basis. **Each MS, MSD and Sample Duplicate requires an additional sample aliquot.**

Project Specific QC Required: Selection of QC Sample Sample Duplicate Matrix Spike Matrix Spike Duplicate

CHAIN-OF-CUSTODY RECORD

NOTE: All samples submitted subject to Standard Terms and Conditions on reverse hereof.

Relinquished by: Alan Kwan
Date: 4/15/10
Received by: [Signature]
Date: 4/15/10
Container Count:
Shipping/Airbill Number:
Custody Seal Number:

GROUNDWATER ANALYTICAL
 Project Name: Wilson St NEW BEDDED
 Project Number: _____
 Sampler Name: Sean Healey
 Project Manager: Sean Healey
 INSTRUCTIONS: Use separate line for each container (except replicates).

228 Main Street, P.O. Box 1200
 Buzzards Bay, MA 02532
 Telephone (508) 759-4441 | FAX (508) 759-4475
 www.groundwateranalytical.com

CHAIN-OF-CUSTODY RECORD AND WORK ORDER

TURNAROUND
 10 Business Days
 5 Business Days
 RUSH (RAN- Rush requires Rush Authorization Number)
 Please Email to: healey@wsc-inc.com
 Please FAX to: _____

BILLING
 Purchase Order No.: _____
 Third Party Billing: City New Bedford
 GWA Quote: _____

ANALYSIS REQUEST

Options	Volatiles	Semi-volatiles	Metals	Microelement Hydrocarbon	Haz. Waste	General Chemistry	Other
<input type="checkbox"/> TIC Search <input type="checkbox"/> TIC Search <input type="checkbox"/> TIC Search	<input type="checkbox"/> 8252 <input type="checkbox"/> 8252 <input type="checkbox"/> 8252	<input type="checkbox"/> 8252 <input type="checkbox"/> 8252 <input type="checkbox"/> 8252	<input type="checkbox"/> 501 <input type="checkbox"/> 501 <input type="checkbox"/> 501	<input checked="" type="checkbox"/> EA DEP EPH will target <input type="checkbox"/> EA DEP EPH will target <input type="checkbox"/> EA DEP EPH will target	<input type="checkbox"/> TSP <input type="checkbox"/> TSP <input type="checkbox"/> TSP	<input type="checkbox"/> pH <input type="checkbox"/> pH <input type="checkbox"/> pH	<input type="checkbox"/> pH <input type="checkbox"/> pH <input type="checkbox"/> pH

LABORATORY NUMBER (Lab Use Only)	Matrix	Type	Container(s)	Preservation	Filtered
TP-1 (10-12)	X	GRAB	1	1	NO
TP-2 (6-9)	X	COMPOSITE	2	1	YES
DUP-1	X	OTHER SOLID	2	1	NO
TP-3 (9-12)	X	OTHER SOLID	3	1	YES
TP-4 (2-5)	X	OTHER SOLID	75	1	NO
TP-4 (11.5-12.5)	X	OTHER SOLID	2	1	NO
TP-5 (10-13)	X	OTHER SOLID	2	1	NO
TP-6 (7-9)	X	OTHER SOLID	2	1	NO
TP-7 (9-11)	X	OTHER SOLID	75	1	NO
TP-8 (7-9)	X	OTHER SOLID	2	1	NO
MATRIX SPIKE	X	OTHER SOLID	1	1	NO
MATRIX SPIKE DUF	X	OTHER SOLID	1	1	NO

CHAIN-OF-CUSTODY RECORD

NOTE: All samples submitted subject to Standard Terms and Conditions on reverse hereof.

Date	Time	Received by
4/15	18:00	[Signature]

Reinquisitioned by: _____
 Date: _____ Time: _____
 Received by: _____
 Date: _____ Time: _____

DATA QUALITY OBJECTIVES

Project Specific QC
 Many regulatory programs and EPA methods require project specific QC. Project specific QC includes Sample Duplicates, Matrix Spikes, and/or Matrix Spike Duplicates. Laboratory QC is not project specific unless prearranged. Project specific QC samples are charged on a per sample basis. Each MS, MSD and Sample Duplicate requires an additional sample aliquot.

Project Specific QC Required
 Sample Duplicate
 Matrix Spike
 Matrix Spike Duplicate

Selection of QC Sample
 Please use sample:
TP-2 (6-9)

REGULATORY PROGRAM

State: MA
 MCP GW-1
 MWRA
 NY STARS
 NH
 NY
 RI
 VT

Deliverables:
 PWS Form
 MWRA
 Drinking Water
 Wastewater
 Waste Disposal
 Dredge Material

REMARKS / SPECIAL INSTRUCTIONS

YES NO MCP Data Certification required.
 YES NO MCP Drinking Water Sample Included.
 (Volatile analyses require duplicate collection and Trip Blanks).
 Analyze Duplicates and Trips Blanks only if positive results.

YES NO CT RCP Data Certification required.
 Signature: _____

Shipping/Airbill Number: _____
Custody Seal Number: _____

Quality Assurance/Quality Control

A. Program Overview

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*, US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste*, US EPA, SW-846, Update III (1996).

Quality Control protocols include written Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. All samples, standards, blanks, laboratory control samples, matrix spikes and sample duplicates are spiked with internal standards and surrogate compounds. All instrument sequences begin with an initial calibration verification standard and a blank; and excepting GC/MS sequences, all sequences close with a continuing calibration standard. GC/MS systems are tuned to appropriate ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

B. Definitions

Batches are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples of the same matrix which are prepared together for the same analysis, using the same lots of reagents and the same techniques or manipulations, all within the same continuum of time, up to but not exceeding 24 hours.

Laboratory Control Samples are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target analytes representative of the method analytes. Accuracy is defined as the degree of agreement of the measured value with the true or expected value. Percent Recoveries for the Laboratory Control Samples are calculated to assess accuracy.

Method Blanks are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

Surrogate Compounds are used to assess the effectiveness of an analytical method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to the target analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.

**Quality Control Report
Laboratory Control Samples**

Category:	MA DEP EPH Method	LCS	Instrument ID:	GC-12 Agilent 6890	LCSD	Instrument ID:	GC-12 Agilent 6890
QC Batch ID:	EP-3222-M		Extracted:	04-20-11 13:30		Extracted:	04-20-11 13:30
Matrix:	Soil		Analyzed (AL):	04-21-11 21:43		Analyzed (AL):	04-21-11 23:14
Units:	mg/Kg		Analyzed (AR):	04-21-11 22:28		Analyzed (AR):	04-21-11 23:59
			Analyst:	JJT		Analyst:	JJT

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
111-84-2	<i>n</i> -Nonane (C ₉)	3.3	1.9	58 %	3.3	1.8	55 %	5 %	30 - 140 %	25 %
124-18-5	<i>n</i> -Decane (C ₁₀)	3.3	2.2	68 %	3.3	2.1	65 %	4 %	40 - 140 %	25 %
112-40-3	<i>n</i> -Dodecane (C ₁₂)	3.3	2.5	75 %	3.3	2.4	73 %	4 %	40 - 140 %	25 %
629-59-4	<i>n</i> -Tetradecane (C ₁₄)	3.3	2.5	77 %	3.3	2.5	75 %	2 %	40 - 140 %	25 %
544-76-3	<i>n</i> -Hexadecane (C ₁₆)	3.3	2.9	87 %	3.3	2.8	86 %	1 %	40 - 140 %	25 %
593-45-3	<i>n</i> -Octadecane (C ₁₈)	3.3	3.1	94 %	3.3	3.1	94 %	0 %	40 - 140 %	25 %
n/a	<i>n</i> -C9 to <i>n</i> -C18 Group	20	15	76 %	20	15	75 %	3 %	40 - 140 %	25 %
629-92-5	<i>n</i> -Nonadecane (C ₁₉)	3.3	3.2	97 %	3.3	3.2	98 %	2 %	40 - 140 %	25 %
112-95-8	<i>n</i> -Eicosane (C ₂₀)	3.3	3.1	93 %	3.3	3.0	92 %	1 %	40 - 140 %	25 %
629-97-0	<i>n</i> -Docosane (C ₂₂)	3.3	2.8	85 %	3.3	2.9	87 %	2 %	40 - 140 %	25 %
646-31-1	<i>n</i> -Tetracosane (C ₂₄)	3.3	2.9	88 %	3.3	3.0	90 %	2 %	40 - 140 %	25 %
630-01-3	<i>n</i> -Hexacosane (C ₂₆)	3.3	2.9	88 %	3.3	3.0	90 %	2 %	40 - 140 %	25 %
630-02-4	<i>n</i> -Octacosane (C ₂₈)	3.3	2.8	86 %	3.3	2.9	88 %	3 %	40 - 140 %	25 %
638-68-6	<i>n</i> -Triacontane (C ₃₀)	3.3	2.8	86 %	3.3	2.9	88 %	2 %	40 - 140 %	25 %
630-06-8	<i>n</i> -Hexatriacontane (C ₃₆)	3.3	2.5	76 %	3.3	2.6	79 %	4 %	40 - 140 %	25 %
n/a	<i>n</i> -C19 to <i>n</i> -C36 Group	26	23	87 %	26	24	89 %	2 %	40 - 140 %	25 %
91-20-3	Naphthalene	3.3	2.6	80 %	3.3	2.2	67 %	17 %	40 - 140 %	25 %
91-57-6	2-Methylnaphthalene	3.3	2.8	85 %	3.3	2.5	75 %	13 %	40 - 140 %	25 %
208-96-8	Acenaphthylene	3.3	2.9	89 %	3.3	2.6	80 %	10 %	40 - 140 %	25 %
83-32-9	Acenaphthene	3.3	2.8	84 %	3.3	2.6	80 %	6 %	40 - 140 %	25 %
86-73-7	Fluorene	3.3	3.0	92 %	3.3	2.8	85 %	8 %	40 - 140 %	25 %
85-01-8	Phenanthrene	3.3	3.6	108 %	3.3	3.4	103 %	4 %	40 - 140 %	25 %
120-12-7	Anthracene	3.3	3.2	96 %	3.3	3.0	92 %	4 %	40 - 140 %	25 %
206-44-0	Fluoranthene	3.3	3.6	108 %	3.3	3.5	107 %	1 %	40 - 140 %	25 %
129-00-0	Pyrene	3.3	3.6	109 %	3.3	3.6	109 %	0 %	40 - 140 %	25 %
56-55-3	Benzo[a]anthracene	3.3	3.1	94 %	3.3	3.1	95 %	1 %	40 - 140 %	25 %
218-01-9	Chrysene	3.3	3.4	104 %	3.3	3.5	105 %	1 %	40 - 140 %	25 %
205-99-2	Benzo[b]fluoranthene	3.3	3.3	100 %	3.3	3.3	101 %	2 %	40 - 140 %	25 %
207-08-9	Benzo[k]fluoranthene	3.3	3.1	95 %	3.3	3.2	97 %	1 %	40 - 140 %	25 %
50-32-8	Benzo[a]pyrene	3.3	3.4	102 %	3.3	3.4	104 %	1 %	40 - 140 %	25 %
193-39-5	Indeno[1,2,3-c,d]pyrene	3.3	3.1	93 %	3.3	3.1	94 %	1 %	40 - 140 %	25 %
53-70-3	Dibenzo[a,h]anthracene	3.3	3.0	90 %	3.3	3.0	92 %	1 %	40 - 140 %	25 %
191-24-2	Benzo[g,h,i]perylene	3.3	2.9	89 %	3.3	3.0	89 %	1 %	40 - 140 %	25 %
n/a	PAH Group	56	53	95 %	56	52	93 %	3 %	40 - 140 %	25 %

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	2.7	2.7	100 %	2.7	2.4	89 %	40 - 140 %
	2-Bromonaphthalene	2.7	2.8	104 %	2.7	2.6	96 %	40 - 140 %
Extraction:	Chloro-octadecane	2.7	2.4	89 %	2.7	2.3	85 %	40 - 140 %
	<i>ortho</i> -Terphenyl	2.7	2.7	100 %	2.7	2.6	96 %	40 - 140 %

Fractionation Breakthrough Evaluation						QC Limits
91-20-3	Naphthalene	LCS	0 %	LCSD	0 %	5 %
91-57-6	2-Methylnaphthalene	LCS	1 %	LCSD	1 %	5 %

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004). Method modified by use of microwave accelerated solvent extraction technique.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units. The LCS and LCSD are prepared from separate source standards than those used for calibration.

**Quality Control Report
Method Blank**

Category: **MA DEP EPH**
 QC Batch ID: **EP-3222-M**
 Matrix: **Soil**

Instrument ID: **GC-12 Agilent 6890**
 Extracted: **04-20-11 13:30**
 Analyzed (AL): **04-22-11 00:45**
 Analyzed (AR): **04-22-11 01:30**
 Analyst: **JJT**

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	30
n-C19 to n-C36 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	30
n-C11 to n-C22 Aromatic Hydrocarbons [†] [◊]	BRL		mg/Kg	30

Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons [†]	BRL		mg/Kg	30
--	-----	--	-------	----

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		mg/Kg	0.50
91-57-6	2-Methylnaphthalene	BRL		mg/Kg	0.50
85-01-8	Phenanthrene	BRL		mg/Kg	0.50
83-32-9	Acenaphthene	BRL		mg/Kg	0.50
208-96-8	Acenaphthylene	BRL		mg/Kg	0.50
86-73-7	Fluorene	BRL		mg/Kg	0.50
120-12-7	Anthracene	BRL		mg/Kg	0.50
206-44-0	Fluoranthene	BRL		mg/Kg	0.50
129-00-0	Pyrene	BRL		mg/Kg	0.50
56-55-3	Benzo[a]anthracene	BRL		mg/Kg	0.50
218-01-9	Chrysene	BRL		mg/Kg	0.50
205-99-2	Benzo[b]fluoranthene	BRL		mg/Kg	0.50
207-08-9	Benzo[k]fluoranthene	BRL		mg/Kg	0.50
50-32-8	Benzo[a]pyrene	BRL		mg/Kg	0.50
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		mg/Kg	0.50
53-70-3	Dibenzo[a,h]anthracene	BRL		mg/Kg	0.50
191-24-2	Benzo[g,h,i]perylene	BRL		mg/Kg	0.50

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	2.7	2.6	96 %	40 - 140 %
	2-Bromonaphthalene	2.7	2.7	99 %	
Extraction:	Chloro-octadecane	2.7	2.3	87 %	40 - 140 %
	<i>ortho</i> -Terphenyl	2.7	2.5	95 %	

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
 Sample extraction performed by microwave accelerated solvent extraction technique.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

**Quality Control Report
Laboratory Control Samples**

Category:	MA DEP VPH	LCS	Instrument ID: GC-1 HP 5890	LCSD	Instrument ID: GC-1 HP 5890
QC Batch ID:	VP-1759-E	Analyzed:	04-21-11 13:26	Analyzed:	04-21-11 14:07
Matrix:	Soil	Analyst:	TRA	Analyst:	TRA
Units:	mg/Kg				

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
109-66-0	<i>n</i> -Pentane	2.5	2.9	116 %	2.5	2.9	116 %	0 %	70 - 130 %	25%
107-83-5	2-Methylpentane	2.5	2.8	110 %	2.5	2.7	108 %	2 %	70 - 130 %	25%
540-84-1	2,2,4-Trimethylpentane	2.5	2.9	115 %	2.5	2.8	111 %	3 %	70 - 130 %	25%
n/a	Aliphatic Group 1	7.5	8.5	114 %	7.5	8.4	112 %	2 %	70 - 130 %	25%
111-84-2	<i>n</i> -Nonane	2.5	2.8	111 %	2.5	2.6	102 %	8 %	70 - 130 %	25%
124-18-5	<i>n</i> -Decane	2.5	3.1	125 %	2.5	2.4	97 %	25 %	70 - 130 %	25%
1678-93-9	<i>n</i> -Butylcyclohexane	2.5	2.9	117 %	2.5	2.7	107 %	9 %	70 - 130 %	25%
n/a	Aliphatic Group 2	7.5	8.8	118 %	7.5	7.6	102 %	14 %	70 - 130 %	25%
1634-04-4	Methyl <i>tert</i> -butyl Ether	2.5	2.7	108 %	2.5	2.7	107 %	2 %	70 - 130 %	25%
71-43-2	Benzene	2.5	2.8	111 %	2.5	2.7	107 %	3 %	70 - 130 %	25%
108-88-3	Toluene	2.5	2.8	114 %	2.5	2.7	110 %	4 %	70 - 130 %	25%
100-41-4	Ethylbenzene	2.5	2.9	115 %	2.5	2.8	111 %	3 %	70 - 130 %	25%
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene	5.0	5.7	115 %	5.0	5.5	111 %	4 %	70 - 130 %	25%
95-47-6	<i>ortho</i> -Xylene	2.5	2.7	108 %	2.5	2.6	105 %	3 %	70 - 130 %	25%
95-63-6	1,2,4-Trimethylbenzene	2.5	2.9	117 %	2.5	2.8	112 %	4 %	70 - 130 %	25%
91-20-3	Naphthalene	2.5	3.0	119 %	2.5	2.8	111 %	7 %	70 - 130 %	25%
n/a	Aromatic Group	23	26	116 %	23	25	111 %	4 %	70 - 130 %	25%
QC Surrogate Compound		Spiked	Measured	Recovery	Spiked	Measured	Recovery		QC Limits	
2,5-Dibromotoluene (PID)		2.5	3.1	125 %	2.5	2.8	111 %		70 - 130 %	
2,5-Dibromotoluene (FID)		2.5	3.1	126 %	2.5	2.8	112 %		70 - 130 %	

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Method Blank**

Category: **MA DEP VPH**
QC Batch ID: **VP-1759-E**
Matrix: **Soil**

Instrument ID: **GC-1 HP 5890**
Analyzed: **04-21-11 14:48**
Analyst: **TRA**

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] ◇	BRL		mg/Kg	1.0
n-C9 to n-C12 Aliphatic Hydrocarbons [†] ⊗	BRL		mg/Kg	1.0
n-C9 to n-C10 Aromatic Hydrocarbons [†]	BRL		mg/Kg	1.0
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	1.0
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	1.0

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -butyl Ether [⌘]	BRL		mg/Kg	0.05
71-43-2	Benzene [⌘]	BRL		mg/Kg	0.10
108-88-3	Toluene [⌘]	BRL		mg/Kg	0.10
100-41-4	Ethylbenzene [‡]	BRL		mg/Kg	0.10
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	BRL		mg/Kg	0.10
95-47-6	<i>ortho</i> -Xylene [‡]	BRL		mg/Kg	0.10
91-20-3	Naphthalene	BRL		mg/Kg	0.50

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	2.5	2.8	112 %	70 - 130 %
2,5-Dibromotoluene (FID)	2.5	2.9	116 %	70 - 130 %

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◇ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

⌘ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

**Quality Control Report
Laboratory Control Samples**

Category:	EPA 8082	LCS	Instrument ID:	GC-11 Agilent 6890	LCS D	Instrument ID:	GC-11 Agilent 6890
QC Batch ID:	PB-3731-P		Extracted:	04-19-11 19:30		Extracted:	04-19-11 19:30
Matrix:	Soil		Cleaned Up:	04-20-11 19:00		Cleaned Up:	04-20-11 19:00
Units:	ug/Kg		Analyzed:	04-20-11 22:16		Analyzed:	04-20-11 22:40
			Analyst:	CRL		Analyst:	CRL

CAS Number	Analyte	LCS					LCS Duplicate							QC Limits	
		Spiked	Measured		Recovery		Spiked	Measured		Recovery		RPD		Spike	RPD
			1st Col	2nd Col	1st Col	2nd Col		1st Col	2nd Col	1st Col	2nd Col	1st Col	2nd Col		
12674-11-2	Aroclor 1016	330	260	270	78%	82%	330	240	260	73%	78%	7 %	5 %	40 - 140%	30 %
11096-82-5	Aroclor 1260	330	270	280	80%	83%	330	260	280	79%	83%	1 %	0 %	40 - 140%	30 %

QC Surrogate Compound	Surrogate Recovery											QC Limits	
Tetrachloro- <i>m</i> -xylene	13	9.7	10	73%	78%	13	9.1	9.5	68%	71%			30 - 150 %
Decachlorobiphenyl	13	11	10	80%	78%	13	10	10	78%	79%			30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Method Blank**

Category: **EPA Method 8082**
 QC Batch ID: **PB-3731-P**
 Matrix: **Soil**

Instrument ID: **GC-11 Agilent 6890**
 Extracted: **04-19-11 19:30**
 Cleaned Up: **04-20-11 19:00**
 Analyzed: **04-20-11 21:53**
 Analyst: **CRL**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	80
11104-28-2	Aroclor 1221	BRL		ug/Kg	80
11141-16-5	Aroclor 1232	BRL		ug/Kg	80
53469-21-9	Aroclor 1242	BRL		ug/Kg	80
12672-29-6	Aroclor 1248	BRL		ug/Kg	80
11097-69-1	Aroclor 1254	BRL		ug/Kg	80
11096-82-5	Aroclor 1260	BRL		ug/Kg	80
37324-23-5	Aroclor 1262 [†]	BRL		ug/Kg	80
11100-14-4	Aroclor 1268 [†]	BRL		ug/Kg	80

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First	Tetrachloro- <i>m</i> -xylene	13	9.5	71 %	30 - 150 %
Column	Decachlorobiphenyl	13	10	76 %	30 - 150 %
Second	Tetrachloro- <i>m</i> -xylene	13	10	78 %	30 - 150 %
Column	Decachlorobiphenyl	13	9.6	72 %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
[†] Non-target analyte. Result is based on a single mid-range calibration standard.

Quality Control Report Laboratory Control Samples

Category: **Metals**
 Matrix: **Soil**
 Units: **mg/Kg**

Sample Type	Method	QC Batch ID	Prep Method	Prepared	Analyzed	Instrument ID	Analyst
LCS	EPA 6010B	MB-2015-SL	EPA 3050B	04-25-11 00:00	04-25-11 21:22	ICP-1 PE 3000	PD
LCS	EPA 7471A	MP-2661-SL	EPA 7471A	04-28-11 00:00	04-28-11 13:27	CVAA-1 PE FIMS	LS
LCSD	EPA 6010B	MB-2015-SL	EPA 3050B	04-25-11 00:00	04-25-11 21:26	ICP-1 PE 3000	PD
LCSD	EPA 7471A	MP-2661-SL	EPA 7471A	04-28-11 00:00	04-28-11 13:30	CVAA-1 PE FIMS	LS

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits		Method
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	LCS	RPD	
7440-38-2	Arsenic	93	91	99%	93	88	96%	2 %	83-117 %	30 %	EPA 6010B
7440-39-3	Barium	170	180	105%	170	170	99%	3 %	83-117 %	30 %	EPA 6010B
7440-43-9	Cadmium	62	63	101%	62	60	97%	2 %	80-120 %	30 %	EPA 6010B
7440-47-3	Chromium	71	75	105%	71	71	100%	2 %	82-118 %	30 %	EPA 6010B
7439-92-1	Lead	92	91	99%	92	91	99%	0 %	83-117 %	30 %	EPA 6010B
7439-97-6	Mercury	3.7	3.7	98%	3.7	3.5	93%	3 %	72-128 %	30 %	EPA 7471A
7782-49-2	Selenium	90	87	97%	90	88	98%	1 %	79-121 %	30 %	EPA 6010B
7440-22-4	Silver	34	32	94%	34	31	90%	2 %	66-134 %	30 %	EPA 6010B

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Method Blank**

Category: **Metals**
Matrix: **Soil**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Volume</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 6010B	MB-2015-SB	EPA 3050B	04-25-11 00:00	0.5 g	ICP-1 PE 3000	PD
EPA 7471A	MP-2661-SB	EPA 7471A	04-28-11 00:00	0.6 g	CVAA-1 PE FIMS	LS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic		BRL	mg/Kg	3.0	1	04-25-11 21:18	EPA 6010B
7440-39-3	Barium		BRL	mg/Kg	5.0	1	04-25-11 21:18	EPA 6010B
7440-43-9	Cadmium		BRL	mg/Kg	0.5	1	04-25-11 21:18	EPA 6010B
7440-47-3	Chromium		BRL	mg/Kg	1.0	1	04-25-11 21:18	EPA 6010B
7439-92-1	Lead		BRL	mg/Kg	5.0	1	04-25-11 21:18	EPA 6010B
7439-97-6	Mercury		BRL	mg/Kg	0.017	1	04-28-11 13:27	EPA 7471A
7782-49-2	Selenium		BRL	mg/Kg	5.0	1	04-25-11 21:18	EPA 6010B
7440-22-4	Silver		BRL	mg/Kg	1.0	1	04-25-11 21:18	EPA 6010B

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
DF Dilution Factor.

Quality Control Report Laboratory Control Samples

Category: **EPA Method 8260B**
 QC Batch ID: **VM1-3063-S**
 Matrix: **Soil**
 Units: **ug/kg**

LCS
 Instrument ID: **MS-1 HP 5890**
 Analyzed: **04-26-11 08:00**
 Analyst: **LMG**

LCSD
 Instrument ID: **MS-1 HP 5890**
 Analyzed: **04-26-11 08:37**
 Analyst: **LMG**

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CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
75-71-8	Dichlorodifluoromethane	50	40	81 %	50	41	83 %	2 %	70 - 130 %	20%
74-87-3	Chloromethane	50	55	110 %	50	54	107 %	3 %	70 - 130 %	20%
75-01-4	Vinyl Chloride	50	59	119 %	50	55	110 %	8 %	70 - 130 %	20%
74-83-9	Bromomethane	50	54	108 %	50	51	102 %	5 %	70 - 130 %	20%
75-00-3	Chloroethane	50	61	123 %	50	60	120 %	2 %	70 - 130 %	20%
75-69-4	Trichlorofluoromethane	50	40	79 %	50	39	79 %	1 %	70 - 130 %	20%
60-29-7	Diethyl Ether	100	98	98 %	100	100	102 %	4 %	70 - 130 %	20%
75-35-4	1,1-Dichloroethene	50	48	97 %	50	47	94 %	2 %	70 - 130 %	20%
76-13-1	1,1,2-Trichlorotrifluoroethane	100	94	94 %	100	92	92 %	2 %	70 - 130 %	20%
67-64-1	Acetone	100	88	88 %	100	96	96 %	9 %	70 - 130 %	20%
75-15-0	Carbon Disulfide	100	90	90 %	100	88	88 %	2 %	70 - 130 %	20%
75-09-2	Methylene Chloride	50	46	93 %	50	45	91 %	2 %	70 - 130 %	20%
107-13-1	Acrylonitrile	50	50	99 %	50	56	112 %	12 %	70 - 130 %	20%
156-60-5	trans-1,2-Dichloroethene	50	49	98 %	50	48	95 %	2 %	70 - 130 %	20%
1634-04-4	Methyl tert-butyl Ether (MTBE)	50	44	88 %	50	48	96 %	9 %	70 - 130 %	20%
75-34-3	1,1-Dichloroethane	50	47	94 %	50	48	97 %	3 %	70 - 130 %	20%
594-20-7	2,2-Dichloropropane	50	41	82 %	50	42	85 %	3 %	70 - 130 %	20%
156-59-2	cis-1,2-Dichloroethene	50	51	103 %	50	52	105 %	2 %	70 - 130 %	20%
78-93-3	2-Butanone (MEK)	100	100	100 %	100	96	96 %	4 %	70 - 130 %	20%
74-97-5	Bromochloromethane	50	45	90 %	50	47	93 %	3 %	70 - 130 %	20%
109-99-9	Tetrahydrofuran (THF)	100	100	104 %	100	120	120 %	15 %	70 - 130 %	20%
67-66-3	Chloroform	50	44	88 %	50	45	89 %	2 %	70 - 130 %	20%
71-55-6	1,1,1-Trichloroethane	50	40	79 %	50	40	80 %	1 %	70 - 130 %	20%
56-23-5	Carbon Tetrachloride	50	38	77 %	50	38	77 %	0 %	70 - 130 %	20%
563-58-6	1,1-Dichloropropene	50	49	98 %	50	49	97 %	1 %	70 - 130 %	20%
71-43-2	Benzene	50	50	101 %	50	51	102 %	1 %	70 - 130 %	20%
107-06-2	1,2-Dichloroethane	50	40	79 %	50	41	82 %	3 %	70 - 130 %	20%
79-01-6	Trichloroethene	50	44	89 %	50	46	92 %	4 %	70 - 130 %	20%
78-87-5	1,2-Dichloropropane	50	53	106 %	50	51	101 %	4 %	70 - 130 %	20%
74-95-3	Dibromomethane	50	45	91 %	50	47	95 %	4 %	70 - 130 %	20%
75-27-4	Bromodichloromethane	50	42	85 %	50	44	88 %	3 %	70 - 130 %	20%
123-91-1	1,4-Dioxane	1,000	1,100	114 %	1,000	1,200	123 %	7 %	70 - 130 %	20%
10061-01-5	cis-1,3-Dichloropropene	50	49	97 %	50	50	99 %	2 %	70 - 130 %	20%
108-10-1	4-Methyl-2-Pentanone (MIBK)	100	98	98 %	100	100	104 %	6 %	70 - 130 %	20%
108-88-3	Toluene	50	48	95 %	50	50	100 %	5 %	70 - 130 %	20%
10061-02-6	trans-1,3-Dichloropropene	50	35	71 %	50	36	73 %	3 %	70 - 130 %	20%
79-00-5	1,1,2-Trichloroethane	50	44	88 %	50	52	104 %	16 %	70 - 130 %	20%
127-18-4	Tetrachloroethene	50	44	87 %	50	45	91 %	4 %	70 - 130 %	20%
142-28-9	1,3-Dichloropropane	50	48	96 %	50	51	101 %	5 %	70 - 130 %	20%
591-78-6	2-Hexanone	100	90	90 %	100	100	104 %	14 %	70 - 130 %	20%
124-48-1	Dibromochloromethane	50	41	81 %	50	43	86 %	6 %	70 - 130 %	20%
106-93-4	1,2-Dibromoethane (EDB)	50	45	89 %	50	48	97 %	8 %	70 - 130 %	20%
108-90-7	Chlorobenzene	50	47	93 %	50	49	98 %	6 %	70 - 130 %	20%
630-20-6	1,1,1,2-Tetrachloroethane	50	43	86 %	50	46	91 %	5 %	70 - 130 %	20%
100-41-4	Ethylbenzene	50	47	94 %	50	48	96 %	2 %	70 - 130 %	20%
108-38-3/106-42-3	meta- Xylene and para- Xylene	100	97	97 %	100	100	101 %	4 %	70 - 130 %	20%
95-47-6	ortho- Xylene	50	47	93 %	50	50	100 %	7 %	70 - 130 %	20%
100-42-5	Styrene	50	41	83 %	50	43	86 %	3 %	70 - 130 %	20%
75-25-2	Bromoform	50	39	78 %	50	35	70 %	11 %	70 - 130 %	20%

**Quality Control Report
Laboratory Control Samples**

Category: **EPA Method 8260B**
 QC Batch ID: **VM1-3063-S**
 Matrix: **Soil**
 Units: **ug/kg**

LCS
 Instrument ID: **MS-1 HP 5890**
 Analyzed: **04-26-11 08:00**
 Analyst: **LMG**

LCSD
 Instrument ID: **MS-1 HP 5890**
 Analyzed: **04-26-11 08:37**
 Analyst: **LMG**

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CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
98-82-8	Isopropylbenzene	50	41	81 %	50	39	78 %	4 %	70 - 130 %	20%
108-86-1	Bromobenzene	50	45	91 %	50	44	87 %	4 %	70 - 130 %	20%
79-34-5	1,1,2,2-Tetrachloroethane	50	49	98 %	50	51	103 %	5 %	70 - 130 %	20%
96-18-4	1,2,3-Trichloropropane	50	45	90 %	50	46	91 %	1 %	70 - 130 %	20%
110-57-6	trans-1,4-Dichloro-2-butene	200	260	129 %	200	270	135 %	q	70 - 130 %	20%
103-65-1	n-Propylbenzene	50	51	102 %	50	48	96 %	5 %	70 - 130 %	20%
95-49-8	2-Chlorotoluene	50	49	98 %	50	46	93 %	6 %	70 - 130 %	20%
108-67-8	1,3,5-Trimethylbenzene	50	49	98 %	50	47	95 %	3 %	70 - 130 %	20%
106-43-4	4-Chlorotoluene	50	48	96 %	50	45	89 %	7 %	70 - 130 %	20%
98-06-6	tert-Butylbenzene	50	47	94 %	50	44	89 %	6 %	70 - 130 %	20%
95-63-6	1,2,4-Trimethylbenzene	50	46	92 %	50	45	90 %	2 %	70 - 130 %	20%
135-98-8	sec-Butylbenzene	50	54	108 %	50	45	90 %	18 %	70 - 130 %	20%
541-73-1	1,3-Dichlorobenzene	50	48	96 %	50	45	90 %	6 %	70 - 130 %	20%
99-87-6	4-Isopropyltoluene	50	46	92 %	50	45	91 %	1 %	70 - 130 %	20%
106-46-7	1,4-Dichlorobenzene	50	45	90 %	50	44	89 %	1 %	70 - 130 %	20%
95-50-1	1,2-Dichlorobenzene	50	45	91 %	50	44	89 %	3 %	70 - 130 %	20%
104-51-8	n-Butylbenzene	50	51	103 %	50	49	98 %	5 %	70 - 130 %	20%
96-12-8	1,2-Dibromo-3-chloropropane	50	41	82 %	50	44	89 %	8 %	70 - 130 %	20%
108-70-3	1,3,5-Trichlorobenzene	50	43	87 %	50	42	83 %	4 %	70 - 130 %	20%
120-82-1	1,2,4-Trichlorobenzene	50	48	96 %	50	43	87 %	11 %	70 - 130 %	20%
87-68-3	Hexachlorobutadiene	50	37	74 %	50	35	71 %	5 %	70 - 130 %	20%
91-20-3	Naphthalene	50	53	106 %	50	53	107 %	0 %	70 - 130 %	20%
87-61-6	1,2,3-Trichlorobenzene	50	45	90 %	50	43	85 %	6 %	70 - 130 %	20%
75-65-0	tert-Butyl Alcohol (TBA)	1,000	870	87 %	1,000	880	88 %	0 %	70 - 130 %	20%
108-20-3	Di-isopropyl Ether (DIPE)	50	48	97 %	50	48	96 %	1 %	70 - 130 %	20%
637-92-3	Ethyl tert-butyl Ether (ETBE)	50	43	87 %	50	43	87 %	0 %	70 - 130 %	20%
994-05-8	tert-Amyl Methyl Ether (TAME)	50	45	90 %	50	48	96 %	6 %	70 - 130 %	20%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	50	42	84 %	50	37	74 %	70 - 130 %
1,2-Dichloroethane-d ₄	50	46	92 %	50	43	86 %	70 - 130 %
Toluene-d ₈	50	50	100 %	50	44	88 %	70 - 130 %
4-Bromofluorobenzene	50	45	90 %	50	47	95 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample preparation performed by EPA Method 5035A.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology,
 or alternatively based upon the historical average recovery plus or minus three standard deviation units.

q Recovery outside recommended limits.

**Quality Control Report
Method Blank**

Category: **EPA Method 8260B**
 QC Batch ID: **VM1-3063-S**
 Matrix: **Soil**

Instrument ID: **MS-1 HP 5890**
 Analyzed: **04-26-11 09:16**
 Analyst: **LMG**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	10
74-87-3	Chloromethane	BRL		ug/Kg	10
75-01-4	Vinyl Chloride	BRL		ug/Kg	10
74-83-9	Bromomethane	BRL		ug/Kg	10
75-00-3	Chloroethane	BRL		ug/Kg	10
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	10
60-29-7	Diethyl Ether	BRL		ug/Kg	10
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	5
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	50
67-64-1	Acetone	BRL		ug/Kg	200
75-15-0	Carbon Disulfide	BRL		ug/Kg	50
75-09-2	Methylene Chloride	BRL		ug/Kg	50
107-13-1	Acrylonitrile	BRL		ug/Kg	10
156-60-5	<i>trans</i> - 1,2-Dichloroethene	BRL		ug/Kg	5
1634-04-4	Methyl <i>tert</i> - butyl Ether (MTBE)	BRL		ug/Kg	5
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	5
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	5
156-59-2	<i>cis</i> - 1,2-Dichloroethene	BRL		ug/Kg	5
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	50
74-97-5	Bromochloromethane	BRL		ug/Kg	5
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	50
67-66-3	Chloroform	BRL		ug/Kg	5
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	5
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	5
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	5
71-43-2	Benzene	BRL		ug/Kg	5
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	5
79-01-6	Trichloroethene	BRL		ug/Kg	5
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	5
74-95-3	Dibromomethane	BRL		ug/Kg	5
75-27-4	Bromodichloromethane	BRL		ug/Kg	5
123-91-1	1,4-Dioxane	BRL		ug/Kg	5,000
10061-01-5	<i>cis</i> - 1,3-Dichloropropene	BRL		ug/Kg	5
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	50
108-88-3	Toluene	BRL		ug/Kg	5
10061-02-6	<i>trans</i> - 1,3-Dichloropropene	BRL		ug/Kg	10
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	5
127-18-4	Tetrachloroethene	BRL		ug/Kg	5
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	5
591-78-6	2-Hexanone	BRL		ug/Kg	50
124-48-1	Dibromochloromethane	BRL		ug/Kg	5
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	5
108-90-7	Chlorobenzene	BRL		ug/Kg	5
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	5
100-41-4	Ethylbenzene	BRL		ug/Kg	5
108-38-3/106-42-3	<i>meta</i> - Xylene and <i>para</i> - Xylene	BRL		ug/Kg	5
95-47-6	<i>ortho</i> - Xylene	BRL		ug/Kg	5
100-42-5	Styrene	BRL		ug/Kg	10
75-25-2	Bromoform	BRL		ug/Kg	10

Quality Control Report Method Blank

Category: **EPA Method 8260B**
 QC Batch ID: **VM1-3063-S**
 Matrix: **Soil**

Instrument ID: **MS-1 HP 5890**
 Analyzed: **04-26-11 09:16**
 Analyst: **LMG**

Page: 2 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
98-82-8	Isopropylbenzene	BRL		ug/Kg	5
108-86-1	Bromobenzene	BRL		ug/Kg	5
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	5
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	5
110-57-6	<i>trans</i> -1,4-Dichloro-2-butene	BRL		ug/Kg	50
103-65-1	<i>n</i> -Propylbenzene	BRL		ug/Kg	5
95-49-8	2-Chlorotoluene	BRL		ug/Kg	5
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	5
106-43-4	4-Chlorotoluene	BRL		ug/Kg	5
98-06-6	<i>tert</i> -Butylbenzene	BRL		ug/Kg	5
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	5
135-98-8	<i>sec</i> -Butylbenzene	BRL		ug/Kg	5
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	5
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	5
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	5
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	5
104-51-8	<i>n</i> -Butylbenzene	BRL		ug/Kg	5
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	5
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/Kg	5
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	5
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	5
91-20-3	Naphthalene	BRL		ug/Kg	5
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	5
75-65-0	<i>tert</i> -Butyl Alcohol (TBA)	BRL		ug/Kg	200
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	5
637-92-3	Ethyl <i>tert</i> -butyl Ether (ETBE)	BRL		ug/Kg	5
994-05-8	<i>tert</i> -Amyl Methyl Ether (TAME)	BRL		ug/Kg	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	50	36	73 %	70 - 130 %
1,2-Dichloroethane-d ₄	50	37	73 %	70 - 130 %
Toluene-d ₈	50	37	74 %	70 - 130 %
4-Bromofluorobenzene	50	43	86 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample preparation performed by EPA Method 5035A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

Certifications and Approvals

Groundwater Analytical maintains environmental laboratory certification in a variety of states. Copies of our current certificates may be obtained from our website:

<http://www.groundwateranalytical.com/qualifications.htm>

CONNECTICUT

Department of Health Services, PH-0586 Potable Water, Wastewater, Solid Waste and Soil
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/Out_State.pdf

MASSACHUSETTS

Department of Environmental Protection, M-MA-103 Potable Water and Non-Potable Water
<http://public.dep.state.ma.us/labcert/labcert.aspx>

Department of Labor, Asbestos Analytical Services, Class A
Division of Occupational Safety, AA000195
http://www.mass.gov/dos/forms/la-rpt_list_aa.pdf

NEW HAMPSHIRE

Department of Environmental Services, 202708 Potable Water, Non-Potable Water, Solid and Chemical Materials
<http://www4.egov.nh.gov/DES/NHELAP>

NEW YORK

Department of Health, 11754 Potable Water, Non-Potable Water, Solid and Hazardous Waste
<http://www.wadsworth.org/labcert/elap/comm.html>

RHODE ISLAND

Department of Health, Potable and Non-Potable Water Microbiology, Organic and Inorganic Chemistry
Division of Laboratories, LAO00054
<http://www.health.ri.gov/labs/outofstatelabs.pdf>

U.S. DEPARTMENT OF AGRICULTURE

USDA, Soil Permit, S-53921 Foreign soil import permit

VERMONT

Department of Health, VT-87643 Potable Water
http://healthvermont.gov/enviro/ph_lab/water_test.aspx#cert

Certifications and Approvals

MASSACHUSETTS

Department of Environmental Protection, M-MA-103

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Potable Water (Drinking Water)		Non-Potable Water (Wastewater)	
Analyte	Method	Analyte	Method
1,2-Dibromo-3-Chloropropane	EPA 504.1	Aluminum	EPA 200.8
1,2-Dibromoethane	EPA 504.1	Ammonia-N	Lachat 10-107-06-1-B
Alkalinity, Total	SM 2320-B	Antimony	EPA 200.7
Antimony	EPA 200.8	Antimony	EPA 200.8
Arsenic	EPA 200.8	Arsenic	EPA 200.7
Barium	EPA 200.7	Arsenic	EPA 200.8
Barium	EPA 200.8	Beryllium	EPA 200.7
Beryllium	EPA 200.7	Beryllium	EPA 200.8
Beryllium	EPA 200.8	Beta-BHC	EPA 608
Cadmium	EPA 200.7	Biochemical Oxygen Demand	SM 5210-B
Cadmium	EPA 200.8	Cadmium	EPA 200.7
Calcium	EPA 200.7	Cadmium	EPA 200.8
Chlorine, Residual Free	SM 4500-CL-G	Calcium	EPA 200.7
Chromium	EPA 200.7	Chemical Oxygen Demand	SM 5220-D
Copper	EPA 200.7	Chlordane	EPA 608
Copper	EPA 200.8	Chloride	EPA 300.0
Cyanide, Total	Lachat 10-204-00-1-A	Chlorine, Total Residual	SM 4500-CL-G
E. Coli (Treatment and Distribution)	Enz. Sub. SM 9223	Chromium	EPA 200.7
E. Coli (Treatment and Distribution)	NA-MUG SM 9222-G	Chromium	EPA 200.8
Fecal Coliform (Source Water)	MF SM 9222-D	Cobalt	EPA 200.7
Fluoride	EPA 300.0	Cobalt	EPA 200.8
Fluoride	SM 4500-F-C	Copper	EPA 200.7
Haloacetic Acids	EPA 552.2	Copper	EPA 200.8
Heterotrophic Plate Count	SM 9215-B	Cyanide, Total	Lachat 10-204-00-1-A
Lead	EPA 200.8	DDD	EPA 608
Mercury	EPA 245.1	DDE	EPA 608
Nickel	EPA 200.7	DDT	EPA 608
Nickel	EPA 200.8	Delta-BHC	EPA 608
Nitrate-N	EPA 300.0	Dieldrin	EPA 608
Nitrate-N	Lachat 10-107-04-1-C	Endosulfan I	EPA 608
Nitrite-N	EPA 300.0	Endosulfan II	EPA 608
Nitrite-N	Lachat 10-107-04-1-C	Endosulfan Sulfate	EPA 608
pH	SM 4500-H-B	Endrin	EPA 608
Selenium	EPA 200.8	Endrin Aldehyde	EPA 608
Silver	EPA 200.7	Gamma-BHC	EPA 608
Silver	EPA 200.8	Hardness (CaCO3), Total	EPA 200.7
Sodium	EPA 200.7	Hardness (CaCO3), Total	SM 2340-B
Sulfate	EPA 300.0	Heptachlor	EPA 608
Thallium	EPA 200.8	Heptachlor Epoxide	EPA 608
Total Coliform (Treatment and Distribution)	Enz. Sub. SM 9223	Iron	EPA 200.7
Total Coliform (Treatment and Distribution)	MF SM 9222-B	Kjeldahl-N	Lachat 10-107-06-02-D
Total Dissolved Solids	SM 2540-C	Lead	EPA 200.7
Trihalomethanes	EPA 524.2	Magnesium	EPA 200.7
Turbidity	SM 2130-B	Manganese	EPA 200.7
Volatile Organic Compounds	EPA 524.2	Manganese	EPA 200.8
		Mercury	EPA 245.1
		Molybdenum	EPA 200.7
		Molybdenum	EPA 200.8
		Nickel	EPA 200.7
		Nickel	EPA 200.8
		Nitrate-N	EPA 300.0
		Nitrate-N	Lachat 10-107-04-1-C
		Non-Filterable Residue	SM 2540-D
		Oil and Grease	EPA 1664
Non-Potable Water (Wastewater)			
Analyte	Method		
Aldrin	EPA 608		
Alkalinity, Total	SM 2320-B		
Alpha-BHC	EPA 608		
Aluminum	EPA 200.7		

Certifications and Approvals**MASSACHUSETTS****Department of Environmental Protection, M-MA-103**

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Non-Potable Water (Wastewater)

Analyte	Method
Orthophosphate	Lachat 10-115-01-1-A
pH	SM 4500-H-B
Phenolics, Total	EPA 420.4
Phenolics, Total	Lachat 10-210-00-1-B
Phosphorus, Total	Lachat 10-115-01-1-C
Phosphorus, Total	SM 4500-P-B,E
Polychlorinated Biphenyls (Oil)	EPA 600/4-81-045
Polychlorinated Biphenyls (Water)	EPA 608
Potassium	EPA 200.7
Selenium	EPA 200.7
Selenium	EPA 200.8
Silver	EPA 200.7
Sodium	EPA 200.7
Specific Conductivity	SM 2510-B
Strontium	EPA 200.7
Sulfate	EPA 300.0
SVOC-Acid Extractables	EPA 625
SVOC-Base/Neutral Extractables	EPA 625
Thallium	EPA 200.7
Thallium	EPA 200.8
Titanium	EPA 200.7
Total Dissolved Solids	SM 2540-C
Total Organic Carbon	SM 5310-B
Toxaphene	EPA 608
Vanadium	EPA 200.7
Vanadium	EPA 200.8
Volatile Aromatics	EPA 602
Volatile Aromatics	EPA 624
Volatile Halocarbons	EPA 624
Zinc	EPA 200.7
Zinc	EPA 200.8

May 6, 2011

Mr. Sean Healey
Weston & Sampson, Inc.
5 Centennial Drive
Peabody, MA 01960

LABORATORY REPORT

Project: **Union St, New Bedford**
Lab ID: **141429**
Received: **04-21-11**

Dear Sean:

Enclosed are the analytical results for the above referenced project. The project was processed for Standard turnaround.

This letter authorizes the release of the analytical results, and should be considered a part of this report. This report contains a sample receipt report detailing the samples received, a project narrative indicating project changes and non-conformances, a quality control report, and a statement of our state certifications.

The analytical results contained in this report meet all applicable NELAC standards, except as may be specifically noted, or described in the project narrative. The analytical results relate only to the samples received. This report may only be used or reproduced in its entirety.

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

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,



Karyn E. Raymond
Project Manager

KER/nfm
Enclosures

Sample Receipt Report

Project: **Union St, New Bedford**
 Client: **Weston & Sampson, Inc.**
 Lab ID: **141429**

Delivery: **Hand**
 Airbill: **n/a**
 Lab Receipt: **04-21-11**

Temperature: **n/a**
 Chain of Custody: **Present**
 Custody Seal(s): **n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
141429-1	WS-2 (15-19')		Soil	4/21/11 11:00	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C2014443	120 mL Amber Glass	Scientific Specialist Services	BX38840	None	n/a	n/a	n/a		
C2011052	40 mL VOA Vial	Industrial	BX38875	Methanol	R-6386K	04-13-11	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
141429-2	WS-6 (8-10')		Soil	4/21/11 15:00	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C2011080	40 mL VOA Vial	Industrial	BX38875	Methanol	R-6386K	04-13-11	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
141429-3	WS-6 (8-10')		Soil	4/21/11 15:00	MA DEP EPH with PAHs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C2014450	120 mL Amber Glass	Scientific Specialist Services	BX38840	None	n/a	n/a	n/a		

Data Certification

Project: Union St, New Bedford
 Client: Weston & Sampson, Inc.

Lab ID: 141429
 Received: 04-21-11 17:30

Mass DEP Analytical Protocol Certification Form					
Project Location: n/a		MA DEP RTN: n/a			
This Form provides certifications for the following data set:					
MA DEP VPH: 141429-1,-2					
MA DEP EPH: 141429-3					
Sample Matrices: Groundwater/Surface () Soil/Sediment (X) Drinking Water () Air () Other ()					
CAM Protocol (check all that apply below):					
8260 VOC CAM II A ()	7470/7471 Hg CAM III B ()	Mass DEP VPH CAM IV A (X)	8081 Pesticides CAM V B ()	7196 Hex Cr CAM VI B ()	Mass DEP APH CAM IX A ()
8270 SVOC CAM II B ()	7010 Metals CAM III C ()	Mass DEP EPH CAM IV B (X)	8151 Herbicides CAM V C ()	8330 Explosives CAM VIII A ()	TO-15 VOC CAM IX B ()
6010 Metals CAM III A ()	6020 Metals CAM III D ()	8082 PCB CAM V A ()	9012 Cyanide/PAC CAM VI A ()	6860 Perchlorate CAM VIII B ()	
An affirmative response to questions A through F are required for "Presumptive Certainty" status.					
A.	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?				Yes
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.	<u>VPH, EPH and APH methods only:</u> Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).				Yes
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
Responses to questions G, H and I below are required for "Presumptive Certainty" status.					
G.	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?				No
Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056(2)(k) and WSC-07-350.					
H.	Were all QC performance standards specified in the CAM protocol(s) achieved?				No
I.	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?				Yes
All negative responses must be addressed in an attached laboratory narrative.					
I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.					
Signature:	<i>Karyn E. Raymond</i>		Position:	Project Manager	
Printed Name:	Karyn E. Raymond		Date:	05-06-11	

Massachusetts DEP VPH Method Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID: **WS-2 (15-19')**
 Project: **Union St, New Bedford**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141429-01**
 Sampled: **04-21-11 11:00**
 Received: **04-21-11 17:30**
 Analyzed: **04-29-11 23:38**
 Analyst: **TRA**

Matrix: **Soil**
 Container: **40 mL VOA Vial**
 Preservation: **Methanol/ Cool**
 QC Batch ID: **VP-1762-E**
 Instrument ID: **GC-1 HP 5890**
 Sample Weight: **18 g**
 Final Volume: **15 mL**
 % Solids: **91**
 Dilution Factor: **5**

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	240		mg/Kg	5.0
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	230		mg/Kg	5.0
n-C9 to n-C10 Aromatic Hydrocarbons [†]	220		mg/Kg	5.0
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons [†]	240		mg/Kg	5.0
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons [†]	460		mg/Kg	5.0

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -butyl Ether [⌘]	BRL		mg/Kg	0.25
71-43-2	Benzene [⌘]	0.54		mg/Kg	0.50
108-88-3	Toluene [⌘]	1.8		mg/Kg	0.50
100-41-4	Ethylbenzene [‡]	9.5		mg/Kg	0.50
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	2.2		mg/Kg	0.50
95-47-6	<i>ortho</i> -Xylene [‡]	1.9		mg/Kg	0.50
91-20-3	Naphthalene	BRL		mg/Kg	1.3

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	2.5	2.6	103 %	70 - 130 %
2,5-Dibromotoluene (FID)	2.5	2.2	88 %	70 - 130 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
 Results are reported on a dry weight basis.

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◇ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ⌘ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

Massachusetts DEP VPH Method Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID: **WS-6 (8-10')**
 Project: **Union St, New Bedford**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141429-02**
 Sampled: **04-21-11 15:00**
 Received: **04-21-11 17:30**
 Analyzed: **04-30-11 00:19**
 Analyst: **TRA**

Matrix: **Soil**
 Container: **40 mL VOA Vial**
 Preservation: **Methanol/ Cool**
 QC Batch ID: **VP-1762-E**
 Instrument ID: **GC-1 HP 5890**
 Sample Weight: **18 g**
 Final Volume: **15 mL**
 % Solids: **80**
 Dilution Factor: **5**

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	61		mg/Kg	6.6
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	340		mg/Kg	6.6
n-C9 to n-C10 Aromatic Hydrocarbons [†]	510		mg/Kg	6.6
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons [†]	62		mg/Kg	6.6
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons [†]	860		mg/Kg	6.6

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -butyl Ether [⌘]	BRL		mg/Kg	0.33
71-43-2	Benzene [⌘]	BRL		mg/Kg	0.66
108-88-3	Toluene [⌘]	BRL		mg/Kg	0.66
100-41-4	Ethylbenzene [‡]	3.4		mg/Kg	0.66
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	2.9		mg/Kg	0.66
95-47-6	<i>ortho</i> -Xylene [‡]	2.5		mg/Kg	0.66
91-20-3	Naphthalene	32		mg/Kg	1.6

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	3.3	3.2	98 %	70 - 130 %
2,5-Dibromotoluene (FID)	3.3	3.8	117 %	70 - 130 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
 Results are reported on a dry weight basis.

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◇ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ⌘ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

**Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID**

Field ID: **WS-6 (8-10')**
 Project: **Union St, New Bedford**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141429-3**
 Sampled: **04-21-11 15:00**
 Received: **04-21-11 17:30**
 Extracted: **04-29-11 23:30**
 Analyzed (AL): **05-04-11 16:10**
 Analyzed (AR): **05-04-11 16:56**
 Analyst: **JJT**

Matrix: **Soil**
 Container: **120 mL Amber Glass**
 Preservation: **Cool**
 QC Batch ID: **EP-3224-M**
 Instrument ID: **GC-12 Agilent 6890**
 Sample Weight: **15 g**
 Final Volume: **1 mL**
 % Solids: **80**
 Aliphatic Dilution Factor: **5**
 Aromatic Dilution Factor: **5**

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons [†]	4,300		mg/Kg	36
n-C19 to n-C36 Aliphatic Hydrocarbons [†]	700		mg/Kg	36
n-C11 to n-C22 Aromatic Hydrocarbons [†] ◊	3,900		mg/Kg	36

<u>Unadjusted</u> n-C11 to n-C22 Aromatic Hydrocarbons [†]	4,000		mg/Kg	36
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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	9.6		mg/Kg	3.0
91-57-6	2-Methylnaphthalene	69		mg/Kg	3.0
85-01-8	Phenanthrene	10		mg/Kg	3.0
83-32-9	Acenaphthene	9.4		mg/Kg	3.0
208-96-8	Acenaphthylene	BRL		mg/Kg	3.0
86-73-7	Fluorene	8.6		mg/Kg	3.0
120-12-7	Anthracene	BRL		mg/Kg	3.0
206-44-0	Fluoranthene	BRL		mg/Kg	3.0
129-00-0	Pyrene	BRL		mg/Kg	3.0
56-55-3	Benzo[a]anthracene	BRL		mg/Kg	3.0
218-01-9	Chrysene	BRL		mg/Kg	3.0
205-99-2	Benzo[b]fluoranthene	BRL		mg/Kg	3.0
207-08-9	Benzo[k]fluoranthene	BRL		mg/Kg	3.0
50-32-8	Benzo[a]pyrene	BRL		mg/Kg	3.0
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		mg/Kg	3.0
53-70-3	Dibenzof[a,h]anthracene	BRL		mg/Kg	3.0
191-24-2	Benzo[g,h,i]perylene	BRL		mg/Kg	3.0

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	3.2	n/a	d	40 - 140 %
	2-Bromonaphthalene	3.2	n/a	d	40 - 140 %
Extraction:	Chloro-octadecane	3.2	n/a	d	40 - 140 %
	<i>ortho</i> -Terphenyl	3.2	n/a	d	40 - 140 %

QA/QC Certification

- | | |
|---|-----|
| 1. Were all QA/QC procedures required by the method followed? | Yes |
| 2. Were all performance/acceptance standards for the required QA/QC procedures achieved? | No |
| 3. Were any significant modifications made to the method, as specified in Section 11.3.1.1? | Yes |

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
 Sample extraction performed by microwave accelerated solvent extraction technique. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

d Recovery not measurable due to required sample dilution.

Project Narrative

Project: **Union St, New Bedford**
Client: **Weston & Sampson, Inc.**

Lab ID: **141429**
Received: **04-21-11 17:30**

A. Documentation and Client Communication

The following documentation discrepancies, and client changes or amendments were noted for this project:

- 1 . No documentation discrepancies, changes, or amendments were noted.

B. Method Modifications, Non-Conformances and Observations

The sample(s) in this project were analyzed by the references analytical method(s), and no method modifications, non-conformances or analytical issues were noted, except as indicated below:

- 1 . MA DEP EPH Non-conformance: Sample 141429-3. Sample did not have measureable surrogate recoveries due to required sample dilution. Elevated reporting limits are above the recommended CAM reporting limits for the target analytes.
- 2 . MA DEP EPH Note: Sample 141429-3. Samples was diluted prior to analysis. Dilution was required to keep all target analytes within calibration. Elevated reporting limits are above the recommended CAM reporting limits for the target analytes.
- 3 . MA DEP VPH Note: Samples 141429-1 and -2. Samples were diluted prior to analysis. Dilution was required to keep all target analytes within calibration. Elevated reporting limits are above the recommended CAM reporting limits for the target analytes.

CHAIN-OF-CUSTODY RECORD AND WORK ORDER

GROUNDWATER ANALYTICAL
 228 Main Street, P.O. Box 1200
 Buzzards Bay, MA 02532
 Telephone (508) 759-4441 | FAX (508) 759-4475
 www.groundwateranalytical.com

Project Name: UNION ST
 Project Number: NEW BEDFORD
 Sampler Name: Paula Kavanagh
 Project Manager: Sean Healy

Firm: Weston & Sampson
 Address: 100 Foxboro Blvd
 City / State / Zip: Foxborough, MA
 Telephone: 781-710-4394

TURNAROUND
 10 Business Days
 5 Business Days
 RUSH (RAIN- Rush requires Rush-Authorization Number)
 Please Email to:
 Please FAX to:

BILLING
 Purchase Order No.:
 Third Party Billing:
 GWA Quote:

ANALYSIS REQUEST

DATE	TIME	SAMPLE IDENTIFICATION	Matrix		Type		Container(s)		Preservation		LABORATORY NUMBER (Lab Use Only)									
			DRINKING WATER	WASTEWATER	OTHER SOLID	ORGANIC LIQUID	COMPOSITE	BRAB	NUMBER	120mL or Amber Glass		250mL/8 oz Glass	500mL/16 oz Glass	1L/2 oz Plastic	120mLamber	HCl	HNO ₃	H ₂ SO ₄	NO ₂ H	Methanol
04/21/10	10:30	WS-1 (18-20)	X				1	1												
04/21/10	11:15	WS-2 (19-20)					1	1												
04/21/10	12:00	WS-2 (15-19)					1	1												
4/21/200		NS-6 (6-10)					1	1												

CHAIN-OF-CUSTODY RECORD

NOTE: All samples submitted subject to Standard Terms and Conditions on reverse hereof.

Relinquished by: Paula Kavanagh Date: 4/21/10 Time: 15:30
 Relinquished by: _____ Date: _____ Time: _____
 Relinquished by: _____ Date: _____ Time: _____

Received by: _____ Date: _____ Time: _____
 Received by: _____ Date: _____ Time: _____

Receipt Temperature: _____
 Yes Relinquished 24°C Recommended

Shipping/Airbill Number: _____
 Custody Seal Number: _____

Method of Shipment: GWA Courier Express Mail Federal Express
 UPS Hand

DATA QUALITY OBJECTIVES

Regulatory Program
 State: CT ME MA NH NY RI VT _____
 Deliverables: PWS Form MWRA NY STARS Drinking Water Wastewater Waste Disposal Dredge Material _____

Project Specific QC
 Many regulatory programs and EPA methods require project specific QC. Project specific QC includes Sample Duplicates, Matrix Spikes, and/or Matrix Spike Duplicates. Laboratory QC is not project specific unless prearranged. Project specific QC samples are charged on a per sample basis. **Each MS, MSD and Sample Duplicate requires an additional sample aliquot.**
 Selection of QC Sample
 Sample Duplicate Please use sample:
 Matrix Spike Matrix Spike Duplicate

REMARKS / SPECIAL INSTRUCTIONS
 YES NO MCP Data Certification required.
 YES NO MCP Drinking Water Sample Included.
 (Volatile analyses require duplicate collection and Trip Blanks).
 Analyze Duplicates and Trips Blanks only if positive results.
 YES NO CT RCP Data Certification required.
 Signature: Paula Kavanagh WS-1 (18-20) WS-2 (19-20)
NO PLEASE HOLD

Quality Assurance/Quality Control

A. Program Overview

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*, US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste*, US EPA, SW-846, Update III (1996).

Quality Control protocols include written Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. All samples, standards, blanks, laboratory control samples, matrix spikes and sample duplicates are spiked with internal standards and surrogate compounds. All instrument sequences begin with an initial calibration verification standard and a blank; and excepting GC/MS sequences, all sequences close with a continuing calibration standard. GC/MS systems are tuned to appropriate ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

B. Definitions

Batches are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples of the same matrix which are prepared together for the same analysis, using the same lots of reagents and the same techniques or manipulations, all within the same continuum of time, up to but not exceeding 24 hours.

Laboratory Control Samples are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target analytes representative of the method analytes. Accuracy is defined as the degree of agreement of the measured value with the true or expected value. Percent Recoveries for the Laboratory Control Samples are calculated to assess accuracy.

Method Blanks are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

Surrogate Compounds are used to assess the effectiveness of an analytical method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to the target analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.

**Quality Control Report
Laboratory Control Samples**

Category: MA DEP EPH Method	LCS Instrument ID: GC-12 Agilent 6890	LCSD Instrument ID: GC-12 Agilent 6890
QC Batch ID: EP-3224-M	Extracted: 04-29-11 23:30	Extracted: 04-29-11 23:30
Matrix: Soil	Analyzed (AL): 05-02-11 16:50	Analyzed (AL): 05-02-11 18:21
Units: mg/Kg	Analyzed (AR): 05-02-11 17:36	Analyzed (AR): 05-02-11 19:07
	Analyst: JJT	Analyst: JJT

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
111-84-2	<i>n</i> -Nonane (C ₉)	3.3	1.8	55 %	3.3	1.9	58 %	6 %	30 - 140 %	25 %
124-18-5	<i>n</i> -Decane (C ₁₀)	3.3	2.1	64 %	3.3	2.2	67 %	6 %	40 - 140 %	25 %
112-40-3	<i>n</i> -Dodecane (C ₁₂)	3.3	2.3	70 %	3.3	2.4	74 %	6 %	40 - 140 %	25 %
629-59-4	<i>n</i> -Tetradecane (C ₁₄)	3.3	2.5	74 %	3.3	2.5	77 %	4 %	40 - 140 %	25 %
544-76-3	<i>n</i> -Hexadecane (C ₁₆)	3.3	2.9	86 %	3.3	3.0	90 %	4 %	40 - 140 %	25 %
593-45-3	<i>n</i> -Octadecane (C ₁₈)	3.3	3.1	94 %	3.3	3.2	98 %	4 %	40 - 140 %	25 %
n/a	<i>n</i> -C9 to <i>n</i> -C18 Group	20	15	74 %	20	15	77 %	5 %	40 - 140 %	25 %
629-92-5	<i>n</i> -Nonadecane (C ₁₉)	3.3	3.2	96 %	3.3	3.3	101 %	5 %	40 - 140 %	25 %
112-95-8	<i>n</i> -Eicosane (C ₂₀)	3.3	2.9	89 %	3.3	3.1	93 %	4 %	40 - 140 %	25 %
629-97-0	<i>n</i> -Docosane (C ₂₂)	3.3	2.7	82 %	3.3	2.8	85 %	3 %	40 - 140 %	25 %
646-31-1	<i>n</i> -Tetracosane (C ₂₄)	3.3	2.8	86 %	3.3	2.9	89 %	4 %	40 - 140 %	25 %
630-01-3	<i>n</i> -Hexacosane (C ₂₆)	3.3	2.8	84 %	3.3	2.8	86 %	2 %	40 - 140 %	25 %
630-02-4	<i>n</i> -Octacosane (C ₂₈)	3.3	2.7	82 %	3.3	2.8	85 %	3 %	40 - 140 %	25 %
638-68-6	<i>n</i> -Triacontane (C ₃₀)	3.3	2.7	81 %	3.3	2.8	84 %	4 %	40 - 140 %	25 %
630-06-8	<i>n</i> -Hexatriacontane (C ₃₆)	3.3	2.5	75 %	3.3	2.6	77 %	4 %	40 - 140 %	25 %
n/a	<i>n</i> -C19 to <i>n</i> -C36 Group	26	22	84 %	26	23	88 %	4 %	40 - 140 %	25 %
91-20-3	Naphthalene	3.3	2.6	79 %	3.3	2.6	78 %	1 %	40 - 140 %	25 %
91-57-6	2-Methylnaphthalene	3.3	2.9	87 %	3.3	2.9	87 %	1 %	40 - 140 %	25 %
208-96-8	Acenaphthylene	3.3	2.9	88 %	3.3	2.9	89 %	1 %	40 - 140 %	25 %
83-32-9	Acenaphthene	3.3	2.9	87 %	3.3	2.9	88 %	1 %	40 - 140 %	25 %
86-73-7	Fluorene	3.3	3.0	90 %	3.3	3.0	92 %	2 %	40 - 140 %	25 %
85-01-8	Phenanthrene	3.3	3.5	105 %	3.3	3.6	108 %	3 %	40 - 140 %	25 %
120-12-7	Anthracene	3.3	3.1	94 %	3.3	3.2	96 %	3 %	40 - 140 %	25 %
206-44-0	Fluoranthene	3.3	3.5	107 %	3.3	3.6	109 %	2 %	40 - 140 %	25 %
129-00-0	Pyrene	3.3	3.6	108 %	3.3	3.7	111 %	3 %	40 - 140 %	25 %
56-55-3	Benzo[a]anthracene	3.3	3.0	92 %	3.3	3.1	94 %	3 %	40 - 140 %	25 %
218-01-9	Chrysene	3.3	3.3	99 %	3.3	3.4	102 %	4 %	40 - 140 %	25 %
205-99-2	Benzo[b]fluoranthene	3.3	3.1	94 %	3.3	3.2	97 %	3 %	40 - 140 %	25 %
207-08-9	Benzo[k]fluoranthene	3.3	3.0	92 %	3.3	3.1	94 %	2 %	40 - 140 %	25 %
50-32-8	Benzo[a]pyrene	3.3	3.2	98 %	3.3	3.3	101 %	3 %	40 - 140 %	25 %
193-39-5	Indeno[1,2,3-c,d]pyrene	3.3	3.1	94 %	3.3	3.2	97 %	3 %	40 - 140 %	25 %
53-70-3	Dibenzo[a,h]anthracene	3.3	3.1	93 %	3.3	3.1	95 %	3 %	40 - 140 %	25 %
191-24-2	Benzo[g,h,i]perylene	3.3	3.1	94 %	3.3	3.2	96 %	3 %	40 - 140 %	25 %
n/a	PAH Group	56	53	94 %	56	54	96 %	2 %	40 - 140 %	25 %

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	2.7	2.8	104 %	2.7	2.7	40 - 140 %
	2-Bromonaphthalene	2.7	2.8	104 %	2.7	2.8	40 - 140 %
Extraction:	Chloro-octadecane	2.7	2.5	93 %	2.7	2.6	40 - 140 %
	<i>ortho</i> -Terphenyl	2.7	2.6	96 %	2.7	2.7	40 - 140 %

Fractionation Breakthrough Evaluation						QC Limits
91-20-3	Naphthalene	LCS	0 %	LCSD	0 %	5 %
91-57-6	2-Methylnaphthalene	LCS	1 %	LCSD	1 %	5 %

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004). Method modified by use of microwave accelerated solvent extraction technique.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units. The LCS and LCSD are prepared from separate source standards than those used for calibration.

**Quality Control Report
Method Blank**

Category: **MA DEP EPH**
QC Batch ID: **EP-3224-M**
Matrix: **Soil**

Instrument ID: **GC-12 Agilent 6890**
Extracted: **04-29-11 23:30**
Analyzed (AL): **05-02-11 19:52**
Analyzed (AR): **05-02-11 20:37**
Analyst: **JJT**

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	30
n-C19 to n-C36 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	30
n-C11 to n-C22 Aromatic Hydrocarbons [†] [◊]	BRL		mg/Kg	30

Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons [†]	BRL		mg/Kg	30
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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		mg/Kg	0.50
91-57-6	2-Methylnaphthalene	BRL		mg/Kg	0.50
85-01-8	Phenanthrene	BRL		mg/Kg	0.50
83-32-9	Acenaphthene	BRL		mg/Kg	0.50
208-96-8	Acenaphthylene	BRL		mg/Kg	0.50
86-73-7	Fluorene	BRL		mg/Kg	0.50
120-12-7	Anthracene	BRL		mg/Kg	0.50
206-44-0	Fluoranthene	BRL		mg/Kg	0.50
129-00-0	Pyrene	BRL		mg/Kg	0.50
56-55-3	Benzo[a]anthracene	BRL		mg/Kg	0.50
218-01-9	Chrysene	BRL		mg/Kg	0.50
205-99-2	Benzo[b]fluoranthene	BRL		mg/Kg	0.50
207-08-9	Benzo[k]fluoranthene	BRL		mg/Kg	0.50
50-32-8	Benzo[a]pyrene	BRL		mg/Kg	0.50
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		mg/Kg	0.50
53-70-3	Dibenzo[a,h]anthracene	BRL		mg/Kg	0.50
191-24-2	Benzo[g,h,i]perylene	BRL		mg/Kg	0.50

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	2.7	2.4	88 %	40 - 140 %
	2-Bromonaphthalene	2.7	2.4	90 %	
Extraction:	Chloro-octadecane	2.7	2.4	90 %	40 - 140 %
	<i>ortho</i> -Terphenyl	2.7	2.4	91 %	

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
Sample extraction performed by microwave accelerated solvent extraction technique.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

Quality Control Report Laboratory Control Samples

Category:	MA DEP VPH	LCS	Instrument ID: GC-1 HP 5890	LCSD	Instrument ID: GC-1 HP 5890
QC Batch ID:	VP-1762-E	Analyzed:	04-28-11 13:36	Analyzed:	04-28-11 14:17
Matrix:	Soil	Analyst:	TRA	Analyst:	TRA
Units:	mg/Kg				

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
109-66-0	<i>n</i> -Pentane	2.5	2.7	108 %	2.5	2.6	104 %	4 %	70 - 130 %	25%
107-83-5	2-Methylpentane	2.5	2.6	102 %	2.5	2.5	99 %	4 %	70 - 130 %	25%
540-84-1	2,2,4-Trimethylpentane	2.5	2.7	108 %	2.5	2.6	104 %	4 %	70 - 130 %	25%
n/a	Aliphatic Group 1	7.5	8.0	106 %	7.5	7.7	102 %	4 %	70 - 130 %	25%
111-84-2	<i>n</i> -Nonane	2.5	2.5	100 %	2.5	2.5	99 %	2 %	70 - 130 %	25%
124-18-5	<i>n</i> -Decane	2.5	2.7	108 %	2.5	2.8	112 %	3 %	70 - 130 %	25%
1678-93-9	<i>n</i> -Butylcyclohexane	2.5	2.6	106 %	2.5	2.7	109 %	3 %	70 - 130 %	25%
n/a	Aliphatic Group 2	7.5	7.9	105 %	7.5	8.0	107 %	2 %	70 - 130 %	25%
1634-04-4	Methyl <i>tert</i> -butyl Ether	2.5	2.6	104 %	2.5	2.6	105 %	1 %	70 - 130 %	25%
71-43-2	Benzene	2.5	2.6	103 %	2.5	2.5	100 %	2 %	70 - 130 %	25%
108-88-3	Toluene	2.5	2.6	105 %	2.5	2.5	101 %	4 %	70 - 130 %	25%
100-41-4	Ethylbenzene	2.5	2.6	105 %	2.5	2.5	101 %	4 %	70 - 130 %	25%
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene	5.0	5.3	106 %	5.0	5.1	102 %	3 %	70 - 130 %	25%
95-47-6	<i>ortho</i> -Xylene	2.5	2.5	99 %	2.5	2.4	95 %	5 %	70 - 130 %	25%
95-63-6	1,2,4-Trimethylbenzene	2.5	2.7	107 %	2.5	2.6	104 %	3 %	70 - 130 %	25%
91-20-3	Naphthalene	2.5	2.6	102 %	2.5	2.5	100 %	3 %	70 - 130 %	25%
n/a	Aromatic Group	23	23	102 %	23	23	102 %	0 %	70 - 130 %	25%
QC Surrogate Compound		Spiked	Measured	Recovery	Spiked	Measured	Recovery		QC Limits	
2,5-Dibromotoluene (PID)		2.5	2.6	105 %	2.5	2.6	103 %		70 - 130 %	
2,5-Dibromotoluene (FID)		2.5	2.7	107 %	2.5	2.6	104 %		70 - 130 %	

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

Quality Control Report Method Blank

Category: MA DEP VPH
QC Batch ID: VP-1762-E
Matrix: Soil

Instrument ID: GC-1 HP 5890
Analyzed: 04-28-11 14:59
Analyst: TRA

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	BRL		mg/Kg	1.0
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	BRL		mg/Kg	1.0
n-C9 to n-C10 Aromatic Hydrocarbons [†]	BRL		mg/Kg	1.0

Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	1.0
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	1.0

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -butyl Ether [⌘]	BRL		mg/Kg	0.05
71-43-2	Benzene [⌘]	BRL		mg/Kg	0.10
108-88-3	Toluene [⌘]	BRL		mg/Kg	0.10
100-41-4	Ethylbenzene [‡]	BRL		mg/Kg	0.10
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	BRL		mg/Kg	0.10
95-47-6	<i>ortho</i> -Xylene [‡]	BRL		mg/Kg	0.10
91-20-3	Naphthalene	BRL		mg/Kg	0.50

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	2.5	2.5	100 %	70 - 130 %
2,5-Dibromotoluene (FID)	2.5	2.5	100 %	70 - 130 %

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◇ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ⌘ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

Certifications and Approvals

Groundwater Analytical maintains environmental laboratory certification in a variety of states. Copies of our current certificates may be obtained from our website:

<http://www.groundwateranalytical.com/qualifications.htm>

CONNECTICUT

Department of Health Services, PH-0586 Potable Water, Wastewater, Solid Waste and Soil
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/Out_State.pdf

MASSACHUSETTS

Department of Environmental Protection, M-MA-103 Potable Water and Non-Potable Water
<http://public.dep.state.ma.us/labcert/labcert.aspx>

Department of Labor, Asbestos Analytical Services, Class A
Division of Occupational Safety, AA000195
http://www.mass.gov/dos/forms/la-rpt_list_aa.pdf

NEW HAMPSHIRE

Department of Environmental Services, 202708 Potable Water, Non-Potable Water, Solid and Chemical Materials
<http://www4.egov.nh.gov/DES/NHELAP>

NEW YORK

Department of Health, 11754 Potable Water, Non-Potable Water, Solid and Hazardous Waste
<http://www.wadsworth.org/labcert/elap/comm.html>

RHODE ISLAND

Department of Health, Potable and Non-Potable Water Microbiology, Organic and Inorganic Chemistry
Division of Laboratories, LAO00054
<http://www.health.ri.gov/labs/outofstatelabs.pdf>

U.S. DEPARTMENT OF AGRICULTURE

USDA, Soil Permit, S-53921 Foreign soil import permit

VERMONT

Department of Health, VT-87643 Potable Water
http://healthvermont.gov/enviro/ph_lab/water_test.aspx#cert

Certifications and Approvals

MASSACHUSETTS

Department of Environmental Protection, M-MA-103

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Potable Water (Drinking Water)

Analyte	Method
1,2-Dibromo-3-Chloropropane	EPA 504.1
1,2-Dibromoethane	EPA 504.1
Alkalinity, Total	SM 2320-B
Antimony	EPA 200.8
Arsenic	EPA 200.8
Barium	EPA 200.7
Barium	EPA 200.8
Beryllium	EPA 200.7
Beryllium	EPA 200.8
Cadmium	EPA 200.7
Cadmium	EPA 200.8
Calcium	EPA 200.7
Chlorine, Residual Free	SM 4500-CL-G
Chromium	EPA 200.7
Copper	EPA 200.7
Copper	EPA 200.8
Cyanide, Total	Lachat 10-204-00-1-A
E. Coli (Treatment and Distribution)	Enz. Sub. SM 9223
E. Coli (Treatment and Distribution)	NA-MUG SM 9222-G
Fecal Coliform (Source Water)	MF SM 9222-D
Fluoride	EPA 300.0
Fluoride	SM 4500-F-C
Haloacetic Acids	EPA 552.2
Heterotrophic Plate Count	SM 9215-B
Lead	EPA 200.8
Mercury	EPA 245.1
Nickel	EPA 200.7
Nickel	EPA 200.8
Nitrate-N	EPA 300.0
Nitrate-N	Lachat 10-107-04-1-C
Nitrite-N	EPA 300.0
Nitrite-N	Lachat 10-107-04-1-C
pH	SM 4500-H-B
Selenium	EPA 200.8
Silver	EPA 200.7
Silver	EPA 200.8
Sodium	EPA 200.7
Sulfate	EPA 300.0
Thallium	EPA 200.8
Total Coliform (Treatment and Distribution)	Enz. Sub. SM 9223
Total Coliform (Treatment and Distribution)	MF SM 9222-B
Total Dissolved Solids	SM 2540-C
Trihalomethanes	EPA 524.2
Turbidity	SM 2130-B
Volatile Organic Compounds	EPA 524.2

Non-Potable Water (Wastewater)

Analyte	Method
Aldrin	EPA 608
Alkalinity, Total	SM 2320-B
Alpha-BHC	EPA 608
Aluminum	EPA 200.7

Non-Potable Water (Wastewater)

Analyte	Method
Aluminum	EPA 200.8
Ammonia-N	Lachat 10-107-06-1-B
Antimony	EPA 200.7
Antimony	EPA 200.8
Arsenic	EPA 200.7
Arsenic	EPA 200.8
Beryllium	EPA 200.7
Beryllium	EPA 200.8
Beta-BHC	EPA 608
Biochemical Oxygen Demand	SM 5210-B
Cadmium	EPA 200.7
Cadmium	EPA 200.8
Calcium	EPA 200.7
Chemical Oxygen Demand	SM 5220-D
Chlordane	EPA 608
Chloride	EPA 300.0
Chlorine, Total Residual	SM 4500-CL-G
Chromium	EPA 200.7
Chromium	EPA 200.8
Cobalt	EPA 200.7
Cobalt	EPA 200.8
Copper	EPA 200.7
Copper	EPA 200.8
Cyanide, Total	Lachat 10-204-00-1-A
DDD	EPA 608
DDE	EPA 608
DDT	EPA 608
Delta-BHC	EPA 608
Dieldrin	EPA 608
Endosulfan I	EPA 608
Endosulfan II	EPA 608
Endosulfan Sulfate	EPA 608
Endrin	EPA 608
Endrin Aldehyde	EPA 608
Gamma-BHC	EPA 608
Hardness (CaCO3), Total	EPA 200.7
Hardness (CaCO3), Total	SM 2340-B
Heptachlor	EPA 608
Heptachlor Epoxide	EPA 608
Iron	EPA 200.7
Kjeldahl-N	Lachat 10-107-06-02-D
Lead	EPA 200.7
Magnesium	EPA 200.7
Manganese	EPA 200.7
Manganese	EPA 200.8
Mercury	EPA 245.1
Molybdenum	EPA 200.7
Molybdenum	EPA 200.8
Nickel	EPA 200.7
Nickel	EPA 200.8
Nitrate-N	EPA 300.0
Nitrate-N	Lachat 10-107-04-1-C
Non-Filterable Residue	SM 2540-D
Oil and Grease	EPA 1664

Certifications and Approvals

MASSACHUSETTS**Department of Environmental Protection, M-MA-103**

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Non-Potable Water (Wastewater)

Analyte	Method
Orthophosphate	Lachat 10-115-01-1-A
pH	SM 4500-H-B
Phenolics, Total	EPA 420.4
Phenolics, Total	Lachat 10-210-00-1-B
Phosphorus, Total	Lachat 10-115-01-1-C
Phosphorus, Total	SM 4500-P-B,E
Polychlorinated Biphenyls (Oil)	EPA 600/4-81-045
Polychlorinated Biphenyls (Water)	EPA 608
Potassium	EPA 200.7
Selenium	EPA 200.7
Selenium	EPA 200.8
Silver	EPA 200.7
Sodium	EPA 200.7
Specific Conductivity	SM 2510-B
Strontium	EPA 200.7
Sulfate	EPA 300.0
SVOC-Acid Extractables	EPA 625
SVOC-Base/Neutral Extractables	EPA 625
Thallium	EPA 200.7
Thallium	EPA 200.8
Titanium	EPA 200.7
Total Dissolved Solids	SM 2540-C
Total Organic Carbon	SM 5310-B
Toxaphene	EPA 608
Vanadium	EPA 200.7
Vanadium	EPA 200.8
Volatile Aromatics	EPA 602
Volatile Aromatics	EPA 624
Volatile Halocarbons	EPA 624
Zinc	EPA 200.7
Zinc	EPA 200.8

May 9, 2011

Mr. Sean Healey
Weston & Sampson, Inc.
5 Centennial Drive
Peabody, MA 01960

LABORATORY REPORT

Project: **Union St. New Bedford/2100451.A**
Lab ID: **141455**
Received: **04-22-11**

Dear Sean:

Enclosed are the analytical results for the above referenced project. The project was processed for Standard turnaround.

This letter authorizes the release of the analytical results, and should be considered a part of this report. This report contains a sample receipt report detailing the samples received, a project narrative indicating project changes and non-conformances, a quality control report, and a statement of our state certifications.

The analytical results contained in this report meet all applicable NELAC standards, except as may be specifically noted, or described in the project narrative. The analytical results relate only to the samples received. This report may only be used or reproduced in its entirety.

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

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,



Karyn E. Raymond
Project Manager

KER/nfm
Enclosures

Sample Receipt Report

Project: **Union St. New Bedford/2100451.A**
 Client: **Weston & Sampson, Inc.**
 Lab ID: **141455**

Delivery: **GWA Courier**
 Airbill: **n/a**
 Lab Receipt: **04-22-11**

Temperature: **n/a**
 Chain of Custody: **Present**
 Custody Seal(s): **n/a**

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141455-1	WS-10 (10-15')	Soil	4/22/11 9:00	EPA 8260B Volatile Organics				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2016256	40 mL VOA Vial	Industrial	BX38947	Methanol	R-6380D	04-18-11	n/a	
C2010424	40 mL VOA Vial	Industrial	BX38858	n/a	R-6361C	04-11-11	n/a	
C2010416	40 mL VOA Vial	Industrial	BX38858	n/a	R-6361C	04-11-11	n/a	
C2010402	40 mL VOA Vial	Industrial	BX38858	n/a	R-6361C	04-11-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141455-2	WS-9 (6-10')	Soil	4/22/11 10:00	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2016490	40 mL VOA Vial	Industrial	BX38934	n/a	R-6405D	04-19-11	n/a	
C2016467	40 mL VOA Vial	Industrial	BX38934	n/a	R-6405D	04-19-11	n/a	
C2016466	40 mL VOA Vial	Industrial	BX38934	n/a	R-6405D	04-19-11	n/a	
C2011069	40 mL VOA Vial	Industrial	BX38875	Methanol	R-6386K	04-13-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141455-3	WS-8 (9')	Soil	4/22/11 11:00	EPA 8260B Volatile Organics				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2016257	40 mL VOA Vial	Industrial	BX38947	Methanol	R-6380D	04-18-11	n/a	
C2016223	40 mL VOA Vial	Industrial	BX38947	n/a	R-6405D	04-19-11	n/a	
C2016222	40 mL VOA Vial	Industrial	BX38947	n/a	R-6405D	04-19-11	n/a	
C2016221	40 mL VOA Vial	Industrial	BX38947	n/a	R-6405D	04-19-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141455-4	WS-11 (0.5-2')	Soil	4/22/11 12:00	EPA 8260B Volatile Organics				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2016259	40 mL VOA Vial	Industrial	BX38947	Methanol	R-6380D	04-18-11	n/a	
C2010392	40 mL VOA Vial	Industrial	BX38858	n/a	R-6361C	04-11-11	n/a	
C2010378	40 mL VOA Vial	Industrial	BX38858	n/a	R-6361C	04-11-11	n/a	
C2010377	40 mL VOA Vial	Industrial	BX38858	n/a	R-6361C	04-11-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141455-5	DUP-1	Soil	4/22/11 0:00	EPA 8260B Volatile Organics				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2016268	40 mL VOA Vial	Industrial	BX38947	Methanol	R-6380D	04-18-11	n/a	
C2010426	40 mL VOA Vial	Industrial	BX38858	n/a	R-6361C	04-11-11	n/a	
C2010425	40 mL VOA Vial	Industrial	BX38858	n/a	R-6361C	04-11-11	n/a	
C2010415	40 mL VOA Vial	Industrial	BX38858	n/a	R-6361C	04-11-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141455-6	Trip Blank	Soil	4/22/11 0:00	EPA 8260B Volatile Organics				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2011068	40 mL VOA Vial	Industrial	BX38875	Methanol	R-6386K	04-13-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141455-7	WS-10 (10-15')	Soil	4/22/11 9:00	EPA 6010B/7471A 8 RCRA Metals EPA 8082 PCBs MA DEP EPH with PAHs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2010315	250 mL Glass	Industrial	BX38857	None	n/a	n/a	n/a	
C2014470	120 mL Amber Glass	Scientific Specialist Service	BX38841	None	n/a	n/a	n/a	

Sample Receipt Report (Continued)

Project: **Union St. New Bedford/2100451.A**
 Client: **Weston & Sampson, Inc.**
 Lab ID: **141455**

Delivery: **GWA Courier**
 Airbill: **n/a**
 Lab Receipt: **04-22-11**

Temperature: **n/a**
 Chain of Custody: **Present**
 Custody Seal(s): **n/a**

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141455-8	WS-9 (6-10')	Soil	4/22/11 10:00	MA DEP EPH with PAHs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C2013062	250 mL Glass	Industrial	BX38754	None	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141455-9	WS-8 (9')	Soil	4/22/11 11:00	EPA 6010B/7471A 8 RCRA Metals EPA 8082 PCBs MA DEP EPH with PAHs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C2010317	250 mL Glass	Industrial	BX38857	None	n/a	n/a	n/a	
C2014486	120 mL Amber Glass	Scientific Specialist Service	BX38841	None	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141455-10	WS-11 (0.5-2')	Soil	4/22/11 12:00	EPA 6010B/7471A 8 RCRA Metals EPA 8082 PCBs MA DEP EPH with PAHs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C2010319	250 mL Glass	Industrial	BX38857	None	n/a	n/a	n/a	
C2014489	120 mL Amber Glass	Scientific Specialist Service	BX38841	None	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141455-11	DUP-1	Soil	4/22/11 0:00	EPA 6010B/7471A 8 RCRA Metals EPA 8082 PCBs MA DEP EPH with PAHs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C2010316	250 mL Glass	Industrial	BX38857	None	n/a	n/a	n/a	
C2014490	120 mL Amber Glass	Scientific Specialist Service	BX38841	None	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141455-12	(WS-10 10-15') MS	Soil	4/22/11 0:00	EPA 6010B/7471A 8 RCRA Metals				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C2010313	250 mL Glass	Industrial	BX38857	None	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141455-13	(WS-10 10-15') MSD	Soil	4/22/11 0:00	EPA 6010B/7471A 8 RCRA Metals				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C2010318	250 mL Glass	Industrial	BX38857	None	n/a	n/a	n/a	

Data Certification

Project: Union St. New Bedford/2100451.A
 Client: Weston & Sampson, Inc.

Lab ID: 141455
 Received: 04-22-11 15:14

Mass DEP Analytical Protocol Certification Form						
Project Location: n/a		MA DEP RTN: n/a				
This Form provides certifications for the following data set:						
EPA 8260B:	141455-1,-3,-4,-5,-6					
EPA 8082:	141455-7,-9,-10,-11					
MA DEP VPH:	141455-2					
MA DEP EPH:	141455-7,-8,-9,-10,-11					
EPA 6010B:	141455-7,-9,-10,-11,-12,-13					
EPA 7470A/1A:	141455-7,-9,-10,-11,-12,-13					
Sample Matrices: Groundwater/Surface () Soil/Sediment (X) Drinking Water () Air () Other ()						
CAM Protocol (check all that apply below):						
8260 VOC CAM II A (X)	7470/7471 Hg CAM III B (X)	Mass DEP VPH CAM IV A (X)	8081 Pesticides CAM V B ()	7196 Hex Cr CAM VI B ()	Mass DEP APH CAM IX A ()	
8270 SVOC CAM II B ()	7010 Metals CAM III C ()	Mass DEP EPH CAM IV B (X)	8151 Herbicides CAM V C ()	8330 Explosives CAM VIII A ()	TO-15 VOC CAM IX B ()	
6010 Metals CAM III A (X)	6020 Metals CAM III D ()	8082 PCB CAM V A (X)	9012 Cyanide/PAC CAM VI A ()	6860 Perchlorate CAM VIII B ()		
An affirmative response to questions A through F are required for "Presumptive Certainty" status.						
A.	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?					Yes
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.	<u>VPH, EPH and APH methods only:</u> Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).					Yes
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
Responses to questions G, H and I below are required for "Presumptive Certainty" status.						
G.	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?					Yes
Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056(2)(k) and WSC-07-350.						
H.	Were all QC performance standards specified in the CAM protocol(s) achieved?					No
I.	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?					No
All negative responses must be addressed in an attached laboratory narrative.						
I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.						
Signature:	<i>Karyn E. Raymond</i>			Position:	Project Manager	
Printed Name:	Karyn E. Raymond			Date:	05-09-11	

Massachusetts DEP VPH Method Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID: **WS-9 (6-10')**
 Project: **Union St. New Bedford/2100451.A**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141455-02**
 Sampled: **04-22-11 10:00**
 Received: **04-22-11 15:14**
 Analyzed: **05-05-11 16:31**
 Analyst: **TRA**

Matrix: **Soil**
 Container: **40 mL VOA Vial**
 Preservation: **Methanol/Cool**
 QC Batch ID: **VP-1764-E**
 Instrument ID: **GC-1 HP 5890**
 Sample Weight: **17 g**
 Final Volume: **15 mL**
 % Solids: **87**
 Dilution Factor: **1**

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	BRL		mg/Kg	1.1
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	BRL		mg/Kg	1.1
n-C9 to n-C10 Aromatic Hydrocarbons [†]	BRL		mg/Kg	1.1
<u>Unadjusted</u> n-C5 to n-C8 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	1.1
<u>Unadjusted</u> n-C9 to n-C12 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	1.1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -butyl Ether [⌘]	BRL		mg/Kg	0.06
71-43-2	Benzene [⌘]	BRL		mg/Kg	0.11
108-88-3	Toluene [⌘]	BRL		mg/Kg	0.11
100-41-4	Ethylbenzene [‡]	BRL		mg/Kg	0.11
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	BRL		mg/Kg	0.22
95-47-6	<i>ortho</i> -Xylene [‡]	BRL		mg/Kg	0.11
91-20-3	Naphthalene	BRL		mg/Kg	0.28

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	2.8	2.8	99 %	70 - 130 %
2,5-Dibromotoluene (FID)	2.8	2.9	100 %	70 - 130 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
 Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◇ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

⌘ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

EPA Method 8260B Volatile Organics by GC/MS

Field ID: **WS-10 (10-15')**
 Project: **Union St. New Bedford/2100451.A**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141455-1**
 Sampled: **04-22-11 09:00**
 Received: **04-22-11 15:14**
 Frozen: **04-22-11 15:14**
 Analyzed: **05-06-11 10:56**
 Analyst: **LMG**

Matrix: **Soil**
 Container: **40 mL VOA Vial**
 Preservation: **Frozen**
 QC Batch ID: **VM8-1429-S**
 Instrument ID: **MS-8 HP 6890**
 Sample Weight: **7.3 g**
 % Solids: **88**
 Dilution Factor: **1**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	10
74-87-3	Chloromethane	BRL		ug/Kg	10
75-01-4	Vinyl Chloride	BRL		ug/Kg	10
74-83-9	Bromomethane	BRL		ug/Kg	10
75-00-3	Chloroethane	BRL		ug/Kg	10
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	10
60-29-7	Diethyl Ether	BRL		ug/Kg	10
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	5.0
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	50
67-64-1	Acetone	BRL		ug/Kg	200
75-15-0	Carbon Disulfide	BRL		ug/Kg	50
75-09-2	Methylene Chloride	BRL		ug/Kg	50
107-13-1	Acrylonitrile	BRL		ug/Kg	5.0
156-60-5	<i>trans</i> -1,2-Dichloroethene	BRL		ug/Kg	5.0
1634-04-4	Methyl <i>tert</i> -butyl Ether (MTBE)	BRL		ug/Kg	5.0
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	5.0
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	5.0
156-59-2	<i>cis</i> -1,2-Dichloroethene	BRL		ug/Kg	5.0
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	50
74-97-5	Bromochloromethane	BRL		ug/Kg	5.0
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	50
67-66-3	Chloroform	BRL		ug/Kg	5.0
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	5.0
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	5.0
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	5.0
71-43-2	Benzene	BRL		ug/Kg	5.0
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	5.0
79-01-6	Trichloroethene	BRL		ug/Kg	5.0
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	5.0
74-95-3	Dibromomethane	BRL		ug/Kg	5.0
75-27-4	Bromodichloromethane	BRL		ug/Kg	5.0
123-91-1	1,4-Dioxane	BRL		ug/Kg	5,000
10061-01-5	<i>cis</i> -1,3-Dichloropropene	BRL		ug/Kg	10
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	50
108-88-3	Toluene	BRL		ug/Kg	5.0
10061-02-6	<i>trans</i> -1,3-Dichloropropene	BRL		ug/Kg	5.0
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	5.0
127-18-4	Tetrachloroethene	BRL		ug/Kg	5.0
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	5.0
591-78-6	2-Hexanone	BRL		ug/Kg	50
124-48-1	Dibromochloromethane	BRL		ug/Kg	10
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	5.0
108-90-7	Chlorobenzene	BRL		ug/Kg	5.0
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	5.0
100-41-4	Ethylbenzene	BRL		ug/Kg	5.0

EPA Method 8260B (Continued) Volatile Organics by GC/MS

Field ID: **WS-10 (10-15')**
 Project: **Union St. New Bedford/2100451.A**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141455-1**
 Sampled: **04-22-11 09:00**
 Received: **04-22-11 15:14**
 Frozen: **04-22-11 15:14**
 Analyzed: **05-06-11 10:56**
 Analyst: **LMG**

Matrix: **Soil**
 Container: **40 mL VOA Vial**
 Preservation: **Frozen**
 QC Batch ID: **VM8-1429-S**
 Instrument ID: **MS-8 HP 6890**
 Sample Weight: **7.3 g**
 % Solids: **88**
 Dilution Factor: **1**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
108-38-3/106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene	BRL		ug/Kg	5.0
95-47-6	<i>ortho</i> -Xylene	BRL		ug/Kg	5.0
100-42-5	Styrene	BRL		ug/Kg	5.0
75-25-2	Bromoform	BRL		ug/Kg	10
98-82-8	Isopropylbenzene	BRL		ug/Kg	5.0
108-86-1	Bromobenzene	BRL		ug/Kg	5.0
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	5.0
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	5.0
110-57-6	<i>trans</i> -1,4-Dichloro-2-butene	BRL		ug/Kg	100
103-65-1	<i>n</i> -Propylbenzene	BRL		ug/Kg	5.0
95-49-8	2-Chlorotoluene	BRL		ug/Kg	5.0
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	5.0
106-43-4	4-Chlorotoluene	BRL		ug/Kg	5.0
98-06-6	<i>tert</i> -Butylbenzene	BRL		ug/Kg	5.0
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	5.0
135-98-8	<i>sec</i> -Butylbenzene	BRL		ug/Kg	5.0
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	5.0
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	5.0
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	5.0
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	5.0
104-51-8	<i>n</i> -Butylbenzene	BRL		ug/Kg	5.0
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	10
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/Kg	5.0
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	5.0
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	5.0
91-20-3	Naphthalene	BRL		ug/Kg	5.0
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	5.0
75-65-0	<i>tert</i> -Butyl Alcohol (TBA)	BRL		ug/Kg	200
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	5.0
637-92-3	Ethyl <i>tert</i> -butyl Ether (ETBE)	BRL		ug/Kg	5.0
994-05-8	<i>tert</i> -Amyl Methyl Ether (TAME)	BRL		ug/Kg	5.0

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	50	45	91 %	70 - 130 %
1,2-Dichloroethane-d ₄	50	40	80 %	70 - 130 %
Toluene-d ₈	50	45	90 %	70 - 130 %
4-Bromofluorobenzene	50	52	104 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample preparation performed by EPA Method 5035A. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**EPA Method 8260B
Volatile Organics by GC/MS**

Field ID: **WS-8 (9')**
 Project: **Union St. New Bedford/2100451.A**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141455-3**
 Sampled: **04-22-11 11:00**
 Received: **04-22-11 15:14**
 Frozen: **04-22-11 15:14**
 Analyzed: **05-06-11 11:29**
 Analyst: **LMG**

Matrix: **Soil**
 Container: **40 mL VOA Vial**
 Preservation: **Frozen**
 QC Batch ID: **VM8-1429-S**
 Instrument ID: **MS-8 HP 6890**
 Sample Weight: **6.0 g**
 % Solids: **84**
 Dilution Factor: **1**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	10
74-87-3	Chloromethane	BRL		ug/Kg	10
75-01-4	Vinyl Chloride	BRL		ug/Kg	10
74-83-9	Bromomethane	BRL		ug/Kg	10
75-00-3	Chloroethane	BRL		ug/Kg	10
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	10
60-29-7	Diethyl Ether	BRL		ug/Kg	10
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	5.0
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	50
67-64-1	Acetone	BRL		ug/Kg	200
75-15-0	Carbon Disulfide	BRL		ug/Kg	50
75-09-2	Methylene Chloride	BRL		ug/Kg	50
107-13-1	Acrylonitrile	BRL		ug/Kg	5.0
156-60-5	<i>trans</i> -1,2-Dichloroethene	BRL		ug/Kg	5.0
1634-04-4	Methyl <i>tert</i> -butyl Ether (MTBE)	BRL		ug/Kg	5.0
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	5.0
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	5.0
156-59-2	<i>cis</i> -1,2-Dichloroethene	BRL		ug/Kg	5.0
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	50
74-97-5	Bromochloromethane	BRL		ug/Kg	5.0
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	50
67-66-3	Chloroform	BRL		ug/Kg	5.0
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	5.0
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	5.0
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	5.0
71-43-2	Benzene	BRL		ug/Kg	5.0
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	5.0
79-01-6	Trichloroethene	BRL		ug/Kg	5.0
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	5.0
74-95-3	Dibromomethane	BRL		ug/Kg	5.0
75-27-4	Bromodichloromethane	BRL		ug/Kg	5.0
123-91-1	1,4-Dioxane	BRL		ug/Kg	5,000
10061-01-5	<i>cis</i> -1,3-Dichloropropene	BRL		ug/Kg	10
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	50
108-88-3	Toluene	BRL		ug/Kg	5.0
10061-02-6	<i>trans</i> -1,3-Dichloropropene	BRL		ug/Kg	5.0
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	5.0
127-18-4	Tetrachloroethene	BRL		ug/Kg	5.0
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	5.0
591-78-6	2-Hexanone	BRL		ug/Kg	50
124-48-1	Dibromochloromethane	BRL		ug/Kg	10
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	5.0
108-90-7	Chlorobenzene	BRL		ug/Kg	5.0
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	5.0
100-41-4	Ethylbenzene	BRL		ug/Kg	5.0

**EPA Method 8260B (Continued)
Volatile Organics by GC/MS**

Field ID: **WS-8 (9')**
 Project: **Union St. New Bedford/2100451.A**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141455-3**
 Sampled: **04-22-11 11:00**
 Received: **04-22-11 15:14**
 Frozen: **04-22-11 15:14**
 Analyzed: **05-06-11 11:29**
 Analyst: **LMG**

Matrix: **Soil**
 Container: **40 mL VOA Vial**
 Preservation: **Frozen**
 QC Batch ID: **VM8-1429-S**
 Instrument ID: **MS-8 HP 6890**
 Sample Weight: **6.0 g**
 % Solids: **84**
 Dilution Factor: **1**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
108-38-3/106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene	BRL		ug/Kg	5.0
95-47-6	<i>ortho</i> -Xylene	BRL		ug/Kg	5.0
100-42-5	Styrene	BRL		ug/Kg	5.0
75-25-2	Bromoform	BRL		ug/Kg	10
98-82-8	Isopropylbenzene	BRL		ug/Kg	5.0
108-86-1	Bromobenzene	BRL		ug/Kg	5.0
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	5.0
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	5.0
110-57-6	<i>trans</i> -1,4-Dichloro-2-butene	BRL		ug/Kg	100
103-65-1	<i>n</i> -Propylbenzene	BRL		ug/Kg	5.0
95-49-8	2-Chlorotoluene	BRL		ug/Kg	5.0
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	5.0
106-43-4	4-Chlorotoluene	BRL		ug/Kg	5.0
98-06-6	<i>tert</i> -Butylbenzene	BRL		ug/Kg	5.0
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	5.0
135-98-8	<i>sec</i> -Butylbenzene	BRL		ug/Kg	5.0
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	5.0
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	5.0
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	5.0
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	5.0
104-51-8	<i>n</i> -Butylbenzene	BRL		ug/Kg	5.0
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	10
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/Kg	5.0
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	5.0
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	5.0
91-20-3	Naphthalene	BRL		ug/Kg	5.0
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	5.0
75-65-0	<i>tert</i> -Butyl Alcohol (TBA)	BRL		ug/Kg	200
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	5.0
637-92-3	Ethyl <i>tert</i> -butyl Ether (ETBE)	BRL		ug/Kg	5.0
994-05-8	<i>tert</i> -Amyl Methyl Ether (TAME)	BRL		ug/Kg	5.0

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	50	45	91 %	70 - 130 %
1,2-Dichloroethane-d ₄	50	39	78 %	70 - 130 %
Toluene-d ₈	50	44	88 %	70 - 130 %
4-Bromofluorobenzene	50	52	104 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample preparation performed by EPA Method 5035A. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

EPA Method 8260B Volatile Organics by GC/MS

Field ID: **WS-11 (0.5-2')**
 Project: **Union St. New Bedford/2100451.A**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141455-4**
 Sampled: **04-22-11 12:00**
 Received: **04-22-11 15:14**
 Frozen: **04-22-11 15:14**
 Analyzed: **05-06-11 12:03**
 Analyst: **LMG**

Matrix: **Soil**
 Container: **40 mL VOA Vial**
 Preservation: **Frozen**
 QC Batch ID: **VM8-1429-S**
 Instrument ID: **MS-8 HP 6890**
 Sample Weight: **6.5 g**
 % Solids: **91**
 Dilution Factor: **1**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	10
74-87-3	Chloromethane	BRL		ug/Kg	10
75-01-4	Vinyl Chloride	BRL		ug/Kg	10
74-83-9	Bromomethane	BRL		ug/Kg	10
75-00-3	Chloroethane	BRL		ug/Kg	10
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	10
60-29-7	Diethyl Ether	BRL		ug/Kg	10
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	5.0
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	50
67-64-1	Acetone	BRL		ug/Kg	200
75-15-0	Carbon Disulfide	BRL		ug/Kg	50
75-09-2	Methylene Chloride	BRL		ug/Kg	50
107-13-1	Acrylonitrile	BRL		ug/Kg	5.0
156-60-5	<i>trans</i> -1,2-Dichloroethene	BRL		ug/Kg	5.0
1634-04-4	Methyl <i>tert</i> -butyl Ether (MTBE)	BRL		ug/Kg	5.0
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	5.0
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	5.0
156-59-2	<i>cis</i> -1,2-Dichloroethene	BRL		ug/Kg	5.0
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	50
74-97-5	Bromochloromethane	BRL		ug/Kg	5.0
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	50
67-66-3	Chloroform	BRL		ug/Kg	5.0
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	5.0
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	5.0
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	5.0
71-43-2	Benzene	BRL		ug/Kg	5.0
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	5.0
79-01-6	Trichloroethene	BRL		ug/Kg	5.0
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	5.0
74-95-3	Dibromomethane	BRL		ug/Kg	5.0
75-27-4	Bromodichloromethane	BRL		ug/Kg	5.0
123-91-1	1,4-Dioxane	BRL		ug/Kg	5,000
10061-01-5	<i>cis</i> -1,3-Dichloropropene	BRL		ug/Kg	10
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	50
108-88-3	Toluene	BRL		ug/Kg	5.0
10061-02-6	<i>trans</i> -1,3-Dichloropropene	BRL		ug/Kg	5.0
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	5.0
127-18-4	Tetrachloroethene	BRL		ug/Kg	5.0
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	5.0
591-78-6	2-Hexanone	BRL		ug/Kg	50
124-48-1	Dibromochloromethane	BRL		ug/Kg	10
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	5.0
108-90-7	Chlorobenzene	BRL		ug/Kg	5.0
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	5.0
100-41-4	Ethylbenzene	BRL		ug/Kg	5.0

EPA Method 8260B (Continued) Volatile Organics by GC/MS

Field ID: **WS-11 (0.5-2')**
 Project: **Union St. New Bedford/2100451.A**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141455-4**
 Sampled: **04-22-11 12:00**
 Received: **04-22-11 15:14**
 Frozen: **04-22-11 15:14**
 Analyzed: **05-06-11 12:03**
 Analyst: **LMG**

Matrix: **Soil**
 Container: **40 mL VOA Vial**
 Preservation: **Frozen**
 QC Batch ID: **VM8-1429-S**
 Instrument ID: **MS-8 HP 6890**
 Sample Weight: **6.5 g**
 % Solids: **91**
 Dilution Factor: **1**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
108-38-3/106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene	BRL		ug/Kg	5.0
95-47-6	<i>ortho</i> -Xylene	BRL		ug/Kg	5.0
100-42-5	Styrene	BRL		ug/Kg	5.0
75-25-2	Bromoform	BRL		ug/Kg	10
98-82-8	Isopropylbenzene	BRL		ug/Kg	5.0
108-86-1	Bromobenzene	BRL		ug/Kg	5.0
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	5.0
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	5.0
110-57-6	<i>trans</i> -1,4-Dichloro-2-butene	BRL		ug/Kg	100
103-65-1	<i>n</i> -Propylbenzene	BRL		ug/Kg	5.0
95-49-8	2-Chlorotoluene	BRL		ug/Kg	5.0
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	5.0
106-43-4	4-Chlorotoluene	BRL		ug/Kg	5.0
98-06-6	<i>tert</i> -Butylbenzene	BRL		ug/Kg	5.0
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	5.0
135-98-8	<i>sec</i> -Butylbenzene	BRL		ug/Kg	5.0
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	5.0
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	5.0
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	5.0
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	5.0
104-51-8	<i>n</i> -Butylbenzene	BRL		ug/Kg	5.0
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	10
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/Kg	5.0
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	5.0
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	5.0
91-20-3	Naphthalene	BRL		ug/Kg	5.0
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	5.0
75-65-0	<i>tert</i> -Butyl Alcohol (TBA)	BRL		ug/Kg	200
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	5.0
637-92-3	Ethyl <i>tert</i> -butyl Ether (ETBE)	BRL		ug/Kg	5.0
994-05-8	<i>tert</i> -Amyl Methyl Ether (TAME)	BRL		ug/Kg	5.0

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	50	46	93 %	70 - 130 %
1,2-Dichloroethane-d ₄	50	40	80 %	70 - 130 %
Toluene-d ₈	50	45	90 %	70 - 130 %
4-Bromofluorobenzene	50	51	103 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample preparation performed by EPA Method 5035A. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

EPA Method 8260B Volatile Organics by GC/MS

Field ID: **DUP-1**
 Project: **Union St. New Bedford/2100451.A**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141455-5**
 Sampled: **04-22-11 00:00**
 Received: **04-22-11 15:14**
 Frozen: **04-22-11 15:14**
 Analyzed: **05-06-11 12:36**
 Analyst: **LMG**

Matrix: **Soil**
 Container: **40 mL VOA Vial**
 Preservation: **Frozen**
 QC Batch ID: **VM8-1429-S**
 Instrument ID: **MS-8 HP 6890**
 Sample Weight: **7.9 g**
 % Solids: **88**
 Dilution Factor: **1**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	10
74-87-3	Chloromethane	BRL		ug/Kg	10
75-01-4	Vinyl Chloride	BRL		ug/Kg	10
74-83-9	Bromomethane	BRL		ug/Kg	10
75-00-3	Chloroethane	BRL		ug/Kg	10
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	10
60-29-7	Diethyl Ether	BRL		ug/Kg	10
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	5.0
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	50
67-64-1	Acetone	BRL		ug/Kg	200
75-15-0	Carbon Disulfide	BRL		ug/Kg	50
75-09-2	Methylene Chloride	BRL		ug/Kg	50
107-13-1	Acrylonitrile	BRL		ug/Kg	5.0
156-60-5	<i>trans</i> -1,2-Dichloroethene	BRL		ug/Kg	5.0
1634-04-4	Methyl <i>tert</i> -butyl Ether (MTBE)	BRL		ug/Kg	5.0
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	5.0
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	5.0
156-59-2	<i>cis</i> -1,2-Dichloroethene	BRL		ug/Kg	5.0
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	50
74-97-5	Bromochloromethane	BRL		ug/Kg	5.0
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	50
67-66-3	Chloroform	BRL		ug/Kg	5.0
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	5.0
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	5.0
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	5.0
71-43-2	Benzene	BRL		ug/Kg	5.0
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	5.0
79-01-6	Trichloroethene	BRL		ug/Kg	5.0
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	5.0
74-95-3	Dibromomethane	BRL		ug/Kg	5.0
75-27-4	Bromodichloromethane	BRL		ug/Kg	5.0
123-91-1	1,4-Dioxane	BRL		ug/Kg	5,000
10061-01-5	<i>cis</i> -1,3-Dichloropropene	BRL		ug/Kg	10
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	50
108-88-3	Toluene	BRL		ug/Kg	5.0
10061-02-6	<i>trans</i> -1,3-Dichloropropene	BRL		ug/Kg	5.0
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	5.0
127-18-4	Tetrachloroethene	BRL		ug/Kg	5.0
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	5.0
591-78-6	2-Hexanone	BRL		ug/Kg	50
124-48-1	Dibromochloromethane	BRL		ug/Kg	10
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	5.0
108-90-7	Chlorobenzene	BRL		ug/Kg	5.0
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	5.0
100-41-4	Ethylbenzene	BRL		ug/Kg	5.0

EPA Method 8260B (Continued) Volatile Organics by GC/MS

Field ID: **DUP-1**
 Project: **Union St. New Bedford/2100451.A**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141455-5**
 Sampled: **04-22-11 00:00**
 Received: **04-22-11 15:14**
 Frozen: **04-22-11 15:14**
 Analyzed: **05-06-11 12:36**
 Analyst: **LMG**

Matrix: **Soil**
 Container: **40 mL VOA Vial**
 Preservation: **Frozen**
 QC Batch ID: **VM8-1429-S**
 Instrument ID: **MS-8 HP 6890**
 Sample Weight: **7.9 g**
 % Solids: **88**
 Dilution Factor: **1**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
108-38-3/106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene	BRL		ug/Kg	5.0
95-47-6	<i>ortho</i> -Xylene	BRL		ug/Kg	5.0
100-42-5	Styrene	BRL		ug/Kg	5.0
75-25-2	Bromoform	BRL		ug/Kg	10
98-82-8	Isopropylbenzene	BRL		ug/Kg	5.0
108-86-1	Bromobenzene	BRL		ug/Kg	5.0
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	5.0
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	5.0
110-57-6	<i>trans</i> -1,4-Dichloro-2-butene	BRL		ug/Kg	100
103-65-1	<i>n</i> -Propylbenzene	BRL		ug/Kg	5.0
95-49-8	2-Chlorotoluene	BRL		ug/Kg	5.0
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	5.0
106-43-4	4-Chlorotoluene	BRL		ug/Kg	5.0
98-06-6	<i>tert</i> -Butylbenzene	BRL		ug/Kg	5.0
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	5.0
135-98-8	<i>sec</i> -Butylbenzene	BRL		ug/Kg	5.0
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	5.0
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	5.0
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	5.0
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	5.0
104-51-8	<i>n</i> -Butylbenzene	BRL		ug/Kg	5.0
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	10
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/Kg	5.0
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	5.0
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	5.0
91-20-3	Naphthalene	BRL		ug/Kg	5.0
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	5.0
75-65-0	<i>tert</i> -Butyl Alcohol (TBA)	BRL		ug/Kg	200
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	5.0
637-92-3	Ethyl <i>tert</i> -butyl Ether (ETBE)	BRL		ug/Kg	5.0
994-05-8	<i>tert</i> -Amyl Methyl Ether (TAME)	BRL		ug/Kg	5.0

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	50	45	90 %	70 - 130 %
1,2-Dichloroethane-d ₄	50	40	80 %	70 - 130 %
Toluene-d ₈	50	46	91 %	70 - 130 %
4-Bromofluorobenzene	50	50	101 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample preparation performed by EPA Method 5035A. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

EPA Method 8260B Volatile Organics by GC/MS

Field ID: **Trip Blank**
 Project: **Union St. New Bedford/2100451.A**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141455-6**
 Sampled: **04-22-11 00:00**
 Received: **04-22-11 15:14**
 Analyzed: **05-05-11 17:19**
 Analyst: **LMG**

Matrix: **Soil**
 Container: **40 mL VOA Vial**
 Preservation: **Methanol/ Cool**
 QC Batch ID: **VM8-1428-E**
 Instrument ID: **MS-8 HP 6890**
 Sample Weight: **15 g**
 Final Volume: **15 mL**
 % Solids: **100**
 Dilution Factor: **1**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	500
74-87-3	Chloromethane	BRL		ug/Kg	500
75-01-4	Vinyl Chloride	BRL		ug/Kg	500
74-83-9	Bromomethane	BRL		ug/Kg	500
75-00-3	Chloroethane	BRL		ug/Kg	500
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	500
60-29-7	Diethyl Ether	BRL		ug/Kg	500
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	250
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	2,500
67-64-1	Acetone	BRL		ug/Kg	2,500
75-15-0	Carbon Disulfide	BRL		ug/Kg	2,500
75-09-2	Methylene Chloride	BRL		ug/Kg	1,000
107-13-1	Acrylonitrile	BRL		ug/Kg	250
156-60-5	<i>trans</i> - 1,2-Dichloroethene	BRL		ug/Kg	250
1634-04-4	Methyl <i>tert</i> - butyl Ether (MTBE)	BRL		ug/Kg	250
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	250
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	250
156-59-2	<i>cis</i> - 1,2-Dichloroethene	BRL		ug/Kg	250
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	2,500
74-97-5	Bromochloromethane	BRL		ug/Kg	250
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	2,500
67-66-3	Chloroform	BRL		ug/Kg	250
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	250
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	250
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	250
71-43-2	Benzene	BRL		ug/Kg	250
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	250
79-01-6	Trichloroethene	BRL		ug/Kg	250
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	250
74-95-3	Dibromomethane	BRL		ug/Kg	250
75-27-4	Bromodichloromethane	BRL		ug/Kg	250
123-91-1	1,4-Dioxane	BRL		ug/Kg	250,000
10061-01-5	<i>cis</i> - 1,3-Dichloropropene	BRL		ug/Kg	500
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	2,500
108-88-3	Toluene	BRL		ug/Kg	250
10061-02-6	<i>trans</i> - 1,3-Dichloropropene	BRL		ug/Kg	250
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	250
127-18-4	Tetrachloroethene	BRL		ug/Kg	250
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	250
591-78-6	2-Hexanone	BRL		ug/Kg	2,500
124-48-1	Dibromochloromethane	BRL		ug/Kg	500
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	250
108-90-7	Chlorobenzene	BRL		ug/Kg	250
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	250
100-41-4	Ethylbenzene	BRL		ug/Kg	250
108-38-3/106-42-3	<i>meta</i> - Xylene and <i>para</i> - Xylene	BRL		ug/Kg	250

EPA Method 8260B Volatile Organics by GC/MS

Field ID: **Trip Blank**
 Project: **Union St. New Bedford/2100451.A**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141455-6**
 Sampled: **04-22-11 00:00**
 Received: **04-22-11 15:14**
 Analyzed: **05-05-11 17:19**
 Analyst: **LMG**

Matrix: **Soil**
 Container: **40 mL VOA Vial**
 Preservation: **Methanol/ Cool**
 QC Batch ID: **VM8-1428-E**
 Instrument ID: **MS-8 HP 6890**
 Sample Weight: **15 g**
 Final Volume: **15 mL**
 % Solids: **100**
 Dilution Factor: **1**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
95-47-6	<i>ortho</i> -Xylene	BRL		ug/Kg	250
100-42-5	Styrene	BRL		ug/Kg	250
75-25-2	Bromoform	BRL		ug/Kg	500
98-82-8	Isopropylbenzene	BRL		ug/Kg	250
108-86-1	Bromobenzene	BRL		ug/Kg	250
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	250
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	250
110-57-6	<i>trans</i> -1,4-Dichloro-2-butene	BRL		ug/Kg	5,000
103-65-1	<i>n</i> -Propylbenzene	BRL		ug/Kg	250
95-49-8	2-Chlorotoluene	BRL		ug/Kg	250
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	250
106-43-4	4-Chlorotoluene	BRL		ug/Kg	250
98-06-6	<i>tert</i> -Butylbenzene	BRL		ug/Kg	250
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	250
135-98-8	<i>sec</i> -Butylbenzene	BRL		ug/Kg	250
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	250
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	250
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	250
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	250
104-51-8	<i>n</i> -Butylbenzene	BRL		ug/Kg	250
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	500
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/Kg	250
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	250
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	250
91-20-3	Naphthalene	BRL		ug/Kg	250
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	250
75-65-0	<i>tert</i> -Butyl Alcohol (TBA)	BRL		ug/Kg	10,000
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	250
637-92-3	Ethyl <i>tert</i> -butyl Ether (ETBE)	BRL		ug/Kg	250
994-05-8	<i>tert</i> -Amyl Methyl Ether (TAME)	BRL		ug/Kg	250

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,100	84 %	70 - 130 %
1,2-Dichloroethane-d ₄	2,500	2,000	81 %	70 - 130 %
Toluene-d ₈	2,500	2,300	91 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,500	101 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on an as received basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID**

Field ID:	WS-10 (10-15')	Matrix:	Soil
Project:	Union St. New Bedford/2100451.A	Container:	120 mL Amber Glass
Client:	Weston & Sampson, Inc.	Preservation:	Cool
Laboratory ID:	141455-7	QC Batch ID:	EP-3225-M
Sampled:	04-22-11 09:00	Instrument ID:	GC-12 Agilent 6890
Received:	04-22-11 15:14	Sample Weight:	16 g
Extracted:	05-03-11 15:00	Final Volume:	1 mL
Analyzed (AL):	05-05-11 21:08	% Solids:	88
Analyzed (AR):	05-05-11 21:54	Aliphatic Dilution Factor:	1
Analyst:	JJT	Aromatic Dilution Factor:	1

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	32
n-C19 to n-C36 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	32
n-C11 to n-C22 Aromatic Hydrocarbons [†] ◊	BRL		mg/Kg	32
<u>Unadjusted</u> n-C11 to n-C22 Aromatic Hydrocarbons [†]	BRL		mg/Kg	32

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		mg/Kg	0.53
91-57-6	2-Methylnaphthalene	BRL		mg/Kg	0.53
85-01-8	Phenanthrene	BRL		mg/Kg	0.53
83-32-9	Acenaphthene	BRL		mg/Kg	0.53
208-96-8	Acenaphthylene	BRL		mg/Kg	0.53
86-73-7	Fluorene	BRL		mg/Kg	0.53
120-12-7	Anthracene	BRL		mg/Kg	0.53
206-44-0	Fluoranthene	BRL		mg/Kg	0.53
129-00-0	Pyrene	BRL		mg/Kg	0.53
56-55-3	Benzo[a]anthracene	BRL		mg/Kg	0.53
218-01-9	Chrysene	BRL		mg/Kg	0.53
205-99-2	Benzo[b]fluoranthene	BRL		mg/Kg	0.53
207-08-9	Benzo[k]fluoranthene	BRL		mg/Kg	0.53
50-32-8	Benzo[a]pyrene	BRL		mg/Kg	0.53
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		mg/Kg	0.53
53-70-3	Dibenzof[a,h]anthracene	BRL		mg/Kg	0.53
191-24-2	Benzo[g,h,i]perylene	BRL		mg/Kg	0.53

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	2.8	3.1	110 %	40 - 140 %
	2-Bromonaphthalene	2.8	3.2	113 %	40 - 140 %
Extraction:	Chloro-octadecane	2.8	2.8	97 %	40 - 140 %
	<i>ortho</i> -Terphenyl	2.8	3.0	105 %	40 - 140 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.1.1?	Yes
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
Sample extraction performed by microwave accelerated solvent extraction technique. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
[†] Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

**Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID**

Field ID: **WS-9 (6-10')**
 Project: **Union St. New Bedford/2100451.A**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141455-8**
 Sampled: **04-22-11 10:00**
 Received: **04-22-11 15:14**
 Extracted: **05-03-11 15:00**
 Analyzed (AL): **05-05-11 22:40**
 Analyzed (AR): **05-05-11 23:26**
 Analyst: **JJT**

Matrix: **Soil**
 Container: **250 mL Glass**
 Preservation: **Cool**
 QC Batch ID: **EP-3225-M**
 Instrument ID: **GC-12 Agilent 6890**
 Sample Weight: **15 g**
 Final Volume: **1 mL**
 % Solids: **87**
 Aliphatic Dilution Factor: **1**
 Aromatic Dilution Factor: **1**

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	34
n-C19 to n-C36 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	34
n-C11 to n-C22 Aromatic Hydrocarbons [†] ◊	BRL		mg/Kg	34
<u>Unadjusted</u> n-C11 to n-C22 Aromatic Hydrocarbons [†]	BRL		mg/Kg	34

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		mg/Kg	0.57
91-57-6	2-Methylnaphthalene	BRL		mg/Kg	0.57
85-01-8	Phenanthrene	BRL		mg/Kg	0.57
83-32-9	Acenaphthene	BRL		mg/Kg	0.57
208-96-8	Acenaphthylene	BRL		mg/Kg	0.57
86-73-7	Fluorene	BRL		mg/Kg	0.57
120-12-7	Anthracene	BRL		mg/Kg	0.57
206-44-0	Fluoranthene	BRL		mg/Kg	0.57
129-00-0	Pyrene	BRL		mg/Kg	0.57
56-55-3	Benzo[a]anthracene	BRL		mg/Kg	0.57
218-01-9	Chrysene	BRL		mg/Kg	0.57
205-99-2	Benzo[b]fluoranthene	BRL		mg/Kg	0.57
207-08-9	Benzo[k]fluoranthene	BRL		mg/Kg	0.57
50-32-8	Benzo[a]pyrene	BRL		mg/Kg	0.57
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		mg/Kg	0.57
53-70-3	Dibenzof[a,h]anthracene	BRL		mg/Kg	0.57
191-24-2	Benzo[g,h,i]perylene	BRL		mg/Kg	0.57

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	3.0	3.3	110 %	40 - 140 %
	2-Bromonaphthalene	3.0	3.4	111 %	40 - 140 %
Extraction:	Chloro-octadecane	3.0	2.9	94 %	40 - 140 %
	<i>ortho</i> -Terphenyl	3.0	3.3	108 %	40 - 140 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.1.1?	Yes
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
 Sample extraction performed by microwave accelerated solvent extraction technique. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
[†] Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
 ◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

**Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID**

Field ID:	WS-8 (9')	Matrix:	Soil
Project:	Union St. New Bedford/2100451.A	Container:	120 mL Amber Glass
Client:	Weston & Sampson, Inc.	Preservation:	Cool
Laboratory ID:	141455-9	QC Batch ID:	EP-3225-M
Sampled:	04-22-11 11:00	Instrument ID:	GC-12 Agilent 6890
Received:	04-22-11 15:14	Sample Weight:	16 g
Extracted:	05-03-11 15:00	Final Volume:	1 mL
Analyzed (AL):	05-06-11 00:12	% Solids:	84
Analyzed (AR):	05-06-11 00:58	Aliphatic Dilution Factor:	1
Analyst:	JJT	Aromatic Dilution Factor:	1

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	34
n-C19 to n-C36 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	34
n-C11 to n-C22 Aromatic Hydrocarbons [†] ◊	BRL		mg/Kg	34
<u>Unadjusted</u> n-C11 to n-C22 Aromatic Hydrocarbons [†]	BRL		mg/Kg	34

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		mg/Kg	0.57
91-57-6	2-Methylnaphthalene	BRL		mg/Kg	0.57
85-01-8	Phenanthrene	BRL		mg/Kg	0.57
83-32-9	Acenaphthene	BRL		mg/Kg	0.57
208-96-8	Acenaphthylene	BRL		mg/Kg	0.57
86-73-7	Fluorene	BRL		mg/Kg	0.57
120-12-7	Anthracene	BRL		mg/Kg	0.57
206-44-0	Fluoranthene	BRL		mg/Kg	0.57
129-00-0	Pyrene	BRL		mg/Kg	0.57
56-55-3	Benzo[a]anthracene	BRL		mg/Kg	0.57
218-01-9	Chrysene	BRL		mg/Kg	0.57
205-99-2	Benzo[b]fluoranthene	BRL		mg/Kg	0.57
207-08-9	Benzo[k]fluoranthene	BRL		mg/Kg	0.57
50-32-8	Benzo[a]pyrene	BRL		mg/Kg	0.57
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		mg/Kg	0.57
53-70-3	Dibenzof[a,h]anthracene	BRL		mg/Kg	0.57
191-24-2	Benzo[g,h,i]perylene	BRL		mg/Kg	0.57

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	3.0	3.0	100 %	40 - 140 %
	2-Bromonaphthalene	3.0	3.2	106 %	40 - 140 %
Extraction:	Chloro-octadecane	3.0	2.5	83 %	40 - 140 %
	<i>ortho</i> -Terphenyl	3.0	2.8	92 %	40 - 140 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.1.1?	Yes
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
Sample extraction performed by microwave accelerated solvent extraction technique. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
[†] Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

**Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID**

Field ID:	WS-11 (0.5-2')	Matrix:	Soil
Project:	Union St. New Bedford/2100451.A	Container:	120 mL Amber Glass
Client:	Weston & Sampson, Inc.	Preservation:	Cool
Laboratory ID:	141455-10	QC Batch ID:	EP-3225-M
Sampled:	04-22-11 12:00	Instrument ID:	GC-12 Agilent 6890
Received:	04-22-11 15:14	Sample Weight:	16 g
Extracted:	05-03-11 15:00	Final Volume:	1 mL
Analyzed (AL):	05-06-11 01:45	% Solids:	91
Analyzed (AR):	05-06-11 02:31	Aliphatic Dilution Factor:	1
Analyst:	JJT	Aromatic Dilution Factor:	1

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	31
n-C19 to n-C36 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	31
n-C11 to n-C22 Aromatic Hydrocarbons [†] ◊	33		mg/Kg	31
<u>Unadjusted</u> n-C11 to n-C22 Aromatic Hydrocarbons [†]	37		mg/Kg	31

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		mg/Kg	0.52
91-57-6	2-Methylnaphthalene	BRL		mg/Kg	0.52
85-01-8	Phenanthrene	BRL		mg/Kg	0.52
83-32-9	Acenaphthene	BRL		mg/Kg	0.52
208-96-8	Acenaphthylene	BRL		mg/Kg	0.52
86-73-7	Fluorene	BRL		mg/Kg	0.52
120-12-7	Anthracene	BRL		mg/Kg	0.52
206-44-0	Fluoranthene	0.81		mg/Kg	0.52
129-00-0	Pyrene	0.98		mg/Kg	0.52
56-55-3	Benzo[a]anthracene	BRL		mg/Kg	0.52
218-01-9	Chrysene	0.57		mg/Kg	0.52
205-99-2	Benzo[b]fluoranthene	BRL		mg/Kg	0.52
207-08-9	Benzo[k]fluoranthene	BRL		mg/Kg	0.52
50-32-8	Benzo[a]pyrene	BRL		mg/Kg	0.52
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		mg/Kg	0.52
53-70-3	Dibenzof[a,h]anthracene	BRL		mg/Kg	0.52
191-24-2	Benzo[g,h,i]perylene	BRL		mg/Kg	0.52

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	2.8	3.1	113 %	40 - 140 %
	2-Bromonaphthalene	2.8	3.3	118 %	40 - 140 %
Extraction:	Chloro-octadecane	2.8	2.5	89 %	40 - 140 %
	<i>ortho</i> -Terphenyl	2.8	3.0	109 %	40 - 140 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.1.1?	Yes
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
Sample extraction performed by microwave accelerated solvent extraction technique. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
[†] Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

**Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID**

Field ID:	DUP-1	Matrix:	Soil
Project:	Union St. New Bedford/2100451.A	Container:	120 mL Amber Glass
Client:	Weston & Sampson, Inc.	Preservation:	Cool
Laboratory ID:	141455-11	QC Batch ID:	EP-3225-M
Sampled:	04-22-11 00:00	Instrument ID:	GC-12 Agilent 6890
Received:	04-22-11 15:14	Sample Weight:	16 g
Extracted:	05-03-11 15:00	Final Volume:	1 mL
Analyzed (AL):	05-06-11 03:17	% Solids:	88
Analyzed (AR):	05-06-11 04:04	Aliphatic Dilution Factor:	1
Analyst:	JJT	Aromatic Dilution Factor:	1

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	33
n-C19 to n-C36 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	33
n-C11 to n-C22 Aromatic Hydrocarbons [†] ◊	BRL		mg/Kg	33
<u>Unadjusted</u> n-C11 to n-C22 Aromatic Hydrocarbons [†]	BRL		mg/Kg	33

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		mg/Kg	0.54
91-57-6	2-Methylnaphthalene	BRL		mg/Kg	0.54
85-01-8	Phenanthrene	BRL		mg/Kg	0.54
83-32-9	Acenaphthene	BRL		mg/Kg	0.54
208-96-8	Acenaphthylene	BRL		mg/Kg	0.54
86-73-7	Fluorene	BRL		mg/Kg	0.54
120-12-7	Anthracene	BRL		mg/Kg	0.54
206-44-0	Fluoranthene	BRL		mg/Kg	0.54
129-00-0	Pyrene	BRL		mg/Kg	0.54
56-55-3	Benzo[a]anthracene	BRL		mg/Kg	0.54
218-01-9	Chrysene	BRL		mg/Kg	0.54
205-99-2	Benzo[b]fluoranthene	BRL		mg/Kg	0.54
207-08-9	Benzo[k]fluoranthene	BRL		mg/Kg	0.54
50-32-8	Benzo[a]pyrene	BRL		mg/Kg	0.54
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		mg/Kg	0.54
53-70-3	Dibenzof[a,h]anthracene	BRL		mg/Kg	0.54
191-24-2	Benzo[g,h,i]perylene	BRL		mg/Kg	0.54

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	2.9	3.0	102 %	40 - 140 %
	2-Bromonaphthalene	2.9	3.0	103 %	40 - 140 %
Extraction:	Chloro-octadecane	2.9	2.7	93 %	40 - 140 %
	ortho-Terphenyl	2.9	2.8	96 %	40 - 140 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.1.1?	Yes
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
Sample extraction performed by microwave accelerated solvent extraction technique. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
[†] Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

**EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD**

Field ID:	WS-10 (10-15')	Matrix:	Soil
Project:	Union St. New Bedford/2100451.A	Container:	120 mL Amber Glass
Client:	Weston & Sampson, Inc.	Preservation:	Cool
Laboratory ID:	141455-07	QC Batch ID:	PB-3737-P
Sampled:	04-22-11 09:00	Instrument ID:	GC-11 Agilent 6890
Received:	04-22-11 15:14	Sample Weight:	15 g
Extracted:	05-02-11 21:30	Final Volume:	1 mL
Cleaned Up:	05-03-11 17:00	Percent Solids:	88
Analyzed:	05-04-11 07:41	Dilution Factor:	1
Analyst:	CRL		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/Kg	89
11104-28-2	Aroclor 1221		BRL	ug/Kg	89
11141-16-5	Aroclor 1232		BRL	ug/Kg	89
53469-21-9	Aroclor 1242		BRL	ug/Kg	89
12672-29-6	Aroclor 1248		BRL	ug/Kg	89
11097-69-1	Aroclor 1254		BRL	ug/Kg	89
11096-82-5	Aroclor 1260		BRL	ug/Kg	89
37324-23-5	Aroclor 1262 †		BRL	ug/Kg	89
11100-14-4	Aroclor 1268 †		BRL	ug/Kg	89

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro- <i>m</i> -xylene	15	12	80 %	30 - 150 %
	Decachlorobiphenyl	15	13	87 %	30 - 150 %
Second Column	Tetrachloro- <i>m</i> -xylene	15	12	80 %	30 - 150 %
	Decachlorobiphenyl	15	14	91 %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	WS-8 (9')	Matrix:	Soil
Project:	Union St. New Bedford/2100451.A	Container:	120 mL Amber Glass
Client:	Weston & Sampson, Inc.	Preservation:	Cool
Laboratory ID:	141455-09	QC Batch ID:	PB-3737-P
Sampled:	04-22-11 11:00	Instrument ID:	GC-11 Agilent 6890
Received:	04-22-11 15:14	Sample Weight:	16 g
Extracted:	05-02-11 21:30	Final Volume:	1 mL
Cleaned Up:	05-03-11 17:00	Percent Solids:	84
Analyzed:	05-04-11 08:05	Dilution Factor:	1
Analyst:	CRL		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/Kg	92
11104-28-2	Aroclor 1221		BRL	ug/Kg	92
11141-16-5	Aroclor 1232		BRL	ug/Kg	92
53469-21-9	Aroclor 1242		BRL	ug/Kg	92
12672-29-6	Aroclor 1248		BRL	ug/Kg	92
11097-69-1	Aroclor 1254		BRL	ug/Kg	92
11096-82-5	Aroclor 1260		BRL	ug/Kg	92
37324-23-5	Aroclor 1262 †		BRL	ug/Kg	92
11100-14-4	Aroclor 1268 †		BRL	ug/Kg	92

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro- <i>m</i> -xylene	15	6	39 %	30 - 150 %
	Decachlorobiphenyl	15	13	85 %	30 - 150 %
Second Column	Tetrachloro- <i>m</i> -xylene	15	6	42 %	30 - 150 %
	Decachlorobiphenyl	15	14	89 %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	WS-11 (0.5-2')	Matrix:	Soil
Project:	Union St. New Bedford/2100451.A	Container:	120 mL Amber Glass
Client:	Weston & Sampson, Inc.	Preservation:	Cool
Laboratory ID:	141455-10	QC Batch ID:	PB-3737-P
Sampled:	04-22-11 12:00	Instrument ID:	GC-11 Agilent 6890
Received:	04-22-11 15:14	Sample Weight:	15 g
Extracted:	05-02-11 21:30	Final Volume:	1 mL
Cleaned Up:	05-03-11 17:00	Percent Solids:	91
Analyzed:	05-04-11 08:29	Dilution Factor:	1
Analyst:	CRL		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/Kg	87
11104-28-2	Aroclor 1221		BRL	ug/Kg	87
11141-16-5	Aroclor 1232		BRL	ug/Kg	87
53469-21-9	Aroclor 1242		BRL	ug/Kg	87
12672-29-6	Aroclor 1248		BRL	ug/Kg	87
11097-69-1	Aroclor 1254		BRL	ug/Kg	87
11096-82-5	Aroclor 1260		BRL	ug/Kg	87
37324-23-5	Aroclor 1262 †		BRL	ug/Kg	87
11100-14-4	Aroclor 1268 †		BRL	ug/Kg	87

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro- <i>m</i> -xylene	15	10	71 %	30 - 150 %
	Decachlorobiphenyl	15	14	94 %	30 - 150 %
Second Column	Tetrachloro- <i>m</i> -xylene	15	11	73 %	30 - 150 %
	Decachlorobiphenyl	15	14	97 %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	DUP-1	Matrix:	Soil
Project:	Union St. New Bedford/2100451.A	Container:	120 mL Amber Glass
Client:	Weston & Sampson, Inc.	Preservation:	Cool
Laboratory ID:	141455-11	QC Batch ID:	PB-3737-P
Sampled:	04-22-11 00:00	Instrument ID:	GC-11 Agilent 6890
Received:	04-22-11 15:14	Sample Weight:	16 g
Extracted:	05-02-11 21:30	Final Volume:	1 mL
Cleaned Up:	05-03-11 17:00	Percent Solids:	88
Analyzed:	05-04-11 08:52	Dilution Factor:	1
Analyst:	CRL		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/Kg	86
11104-28-2	Aroclor 1221		BRL	ug/Kg	86
11141-16-5	Aroclor 1232		BRL	ug/Kg	86
53469-21-9	Aroclor 1242		BRL	ug/Kg	86
12672-29-6	Aroclor 1248		BRL	ug/Kg	86
11097-69-1	Aroclor 1254		BRL	ug/Kg	86
11096-82-5	Aroclor 1260		BRL	ug/Kg	86
37324-23-5	Aroclor 1262 †		BRL	ug/Kg	86
11100-14-4	Aroclor 1268 †		BRL	ug/Kg	86

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro- <i>m</i> -xylene	14	10	69 %	30 - 150 %
	Decachlorobiphenyl	14	12	82 %	30 - 150 %
Second Column	Tetrachloro- <i>m</i> -xylene	14	10	72 %	30 - 150 %
	Decachlorobiphenyl	14	12	87 %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

Trace Metals

Field ID: **WS-10 (10-15')**
 Project: **Union St. New Bedford/2100451.A**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141455-7**
 Sampled: **04-22-11 09:00**
 Received: **04-22-11 15:14**

Matrix: **Soil**
 Container: **120 mL Glass**
 Preservation: **Cool**
 Percent Solids: **90**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B ¹	MB-02019-S	EPA 3050B	04-29-11 00:00	0.5 g	ICP-1 PE 3000	LS
EPA 7471A ²	MP-2664-S	EPA 7471A	05-03-11 00:00	0.6 g	CVAA-1 PE FIMS	LS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Total		BRL	mg/Kg	3.3	1	05-02-11 15:27	EPA 6010B ¹
7440-39-3	Barium, Total	15		mg/Kg	5.5	1	05-02-11 15:26	EPA 6010B ¹
7440-43-9	Cadmium, Total		BRL	mg/Kg	0.55	1	05-02-11 15:27	EPA 6010B ¹
7440-47-3	Chromium, Total	14		mg/Kg	1.1	1	05-02-11 15:26	EPA 6010B ¹
7439-92-1	Lead, Total		BRL	mg/Kg	5.5	1	05-02-11 15:27	EPA 6010B ¹
7439-97-6	Mercury, Total		BRL	mg/Kg	0.019	1	05-03-11 15:40	EPA 7471A ²
7782-49-2	Selenium, Total		BRL	mg/Kg	5.5	1	05-02-11 15:27	EPA 6010B ¹
7440-22-4	Silver, Total		BRL	mg/Kg	1.1	1	05-02-11 15:26	EPA 6010B ¹

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
 DF Dilution Factor.

Trace Metals

Field ID: **WS-8 (9')**
 Project: **Union St. New Bedford/2100451.A**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141455-9**
 Sampled: **04-22-11 11:00**
 Received: **04-22-11 15:14**

Matrix: **Soil**
 Container: **120 mL Glass**
 Preservation: **Cool**
 Percent Solids: **84**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B ¹	MB-02018-S	EPA 3050B	04-28-11 00:00	0.49 g	ICP-1 PE 3000	LS
EPA 7471A ²	MP-2664-S	EPA 7471A	05-03-11 00:00	0.6 g	CVAA-1 PE FIMS	LS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Total	BRL		mg/Kg	3.6	1	04-28-11 22:45	EPA 6010B ¹
7440-39-3	Barium, Total	10		mg/Kg	6.1	1	04-28-11 22:45	EPA 6010B ¹
7440-43-9	Cadmium, Total	BRL		mg/Kg	0.61	1	04-28-11 22:45	EPA 6010B ¹
7440-47-3	Chromium, Total	9.4		mg/Kg	1.2	1	04-28-11 22:45	EPA 6010B ¹
7439-92-1	Lead, Total	BRL		mg/Kg	6.1	1	04-28-11 22:45	EPA 6010B ¹
7439-97-6	Mercury, Total	BRL		mg/Kg	0.02	1	05-03-11 15:53	EPA 7471A ²
7782-49-2	Selenium, Total	BRL		mg/Kg	6.1	1	04-28-11 22:45	EPA 6010B ¹
7440-22-4	Silver, Total	BRL		mg/Kg	1.2	1	04-28-11 22:45	EPA 6010B ¹

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
 DF Dilution Factor.

Trace Metals

Field ID: **WS-11 (0.5-2')**
 Project: **Union St. New Bedford/2100451.A**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141455-10**
 Sampled: **04-22-11 12:00**
 Received: **04-22-11 15:14**

Matrix: **Soil**
 Container: **120 mL Glass**
 Preservation: **Cool**
 Percent Solids: **91**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B ¹	MB-02018-S	EPA 3050B	04-28-11 00:00	0.505 g	ICP-1 PE 3000	LS
EPA 7471A ²	MP-2664-S	EPA 7471A	05-03-11 00:00	0.6 g	CVAA-1 PE FIMS	LS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Total		BRL	mg/Kg	3.3	1	04-28-11 22:49	EPA 6010B ¹
7440-39-3	Barium, Total	50		mg/Kg	5.4	1	04-28-11 22:49	EPA 6010B ¹
7440-43-9	Cadmium, Total		BRL	mg/Kg	0.54	1	04-28-11 22:49	EPA 6010B ¹
7440-47-3	Chromium, Total	11		mg/Kg	1.1	1	04-28-11 22:49	EPA 6010B ¹
7439-92-1	Lead, Total		BRL	mg/Kg	5.4	1	04-28-11 22:49	EPA 6010B ¹
7439-97-6	Mercury, Total		BRL	mg/Kg	0.018	1	05-03-11 15:56	EPA 7471A ²
7782-49-2	Selenium, Total		BRL	mg/Kg	5.4	1	04-28-11 22:49	EPA 6010B ¹
7440-22-4	Silver, Total		BRL	mg/Kg	1.1	1	04-28-11 22:49	EPA 6010B ¹

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
 DF Dilution Factor.

Trace Metals

Field ID: **DUP-1**
 Project: **Union St. New Bedford/2100451.A**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141455-11**
 Sampled: **04-22-11 00:00**
 Received: **04-22-11 15:14**

Matrix: **Soil**
 Container: **120 mL Glass**
 Preservation: **Cool**
 Percent Solids: **88**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B ¹	MB-02018-S	EPA 3050B	04-28-11 00:00	0.5 g	ICP-1 PE 3000	LS
EPA 7471A ²	MP-2664-S	EPA 7471A	05-03-11 00:00	0.6 g	CVAA-1 PE FIMS	LS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Total	BRL		mg/Kg	3.4	1	04-28-11 22:53	EPA 6010B ¹
7440-39-3	Barium, Total	18		mg/Kg	5.7	1	04-28-11 22:53	EPA 6010B ¹
7440-43-9	Cadmium, Total	BRL		mg/Kg	0.57	1	04-28-11 22:53	EPA 6010B ¹
7440-47-3	Chromium, Total	8.3		mg/Kg	1.1	1	04-28-11 22:53	EPA 6010B ¹
7439-92-1	Lead, Total	BRL		mg/Kg	5.7	1	04-28-11 22:53	EPA 6010B ¹
7439-97-6	Mercury, Total	BRL		mg/Kg	0.019	1	05-03-11 15:59	EPA 7471A ²
7782-49-2	Selenium, Total	BRL		mg/Kg	5.7	1	04-28-11 22:53	EPA 6010B ¹
7440-22-4	Silver, Total	BRL		mg/Kg	1.1	1	04-28-11 22:53	EPA 6010B ¹

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
 DF Dilution Factor.

Matrix Spike and Matrix Spike Duplicate Trace Metals

Field ID:	MS (WS-10 10-15')	Parent Sample	Matrix Spike	Spike Duplicate
Project:	Union St. New Bedford/2100451.A	Laboratory ID: 141455-7	141455-12	141455-13
Client:	Weston & Sampson, Inc.	Sampled: 04-22-11 09:00	04-22-11 00:00	04-22-11 00:00
Matrix:	Soil	Received: 04-22-11 15:14	04-22-11 15:14	04-22-11 15:14
Container:	250 mL Glass	% Solids: 90	90	90
Preservation:	Cool			

<u>Sample Type</u>	<u>Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Weight</u>	<u>DF</u>	<u>Analyzed</u>	<u>Instrument ID</u>	<u>Analyst</u>
Matrix Spike	EPA 6010B	MB-02019-S	EPA 3050B	04-29-11 00:00	0.51 g	1	05-02-11 15:30	ICP-1 PE 3000	LS
Matrix Spike	EPA 7471A	MP-2664-S	EPA 7471A	05-03-11 00:00	0.6 g	1	05-03-11 16:02	CVAA-1 PE FIMS	LS

CAS Number	Analyte	Unspiked Sample (mg/Kg)	MS Spiked (mg/Kg)	MS Measured (mg/Kg)	MS Recovery	MSD Spiked (mg/Kg)	MSD Measured (mg/Kg)	MSD Recovery	RPD	QC Limits		Method
										Spike	RPD	
7440-38-2	Arsenic	BRL	550	560	102 %	540	560	104 %	0 %	75-125%	20 %	EPA 6010B
7440-39-3	Barium	15	500	560	109 %	500	560	109 %	0 %	75-125%	20 %	EPA 6010B
7440-43-9	Cadmium	BRL	110	110	103 %	110	110	103 %	0 %	75-125%	20 %	EPA 6010B
7440-47-3	Chromium	14	110	120	95 %	110	120	101 %	0 %	75-125%	20 %	EPA 6010B
7439-92-1	Lead	BRL	550	560	101 %	540	550	102 %	2 %	75-125%	20 %	EPA 6010B
7439-97-6	Mercury	BRL	0.18	0.24	135 % q	0.19	0.25	132 % q	4 %	75-125%	20 %	EPA 7471A
7782-49-2	Selenium	BRL	550	540	97 %	540	530	99 %	2 %	75-125%	20 %	EPA 6010B
7440-22-4	Silver	BRL	110	110	103 %	110	110	102 %	0 %	75-125%	20 %	EPA 6010B

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
DF Dilution Factor.
q Recovery outside recommended limits.

Project Narrative

Project: **Union St. New Bedford/2100451.A**
Client: **Weston & Sampson, Inc.**

Lab ID: **141455**
Received: **04-22-11 15:14**

A. Documentation and Client Communication

The following documentation discrepancies, and client changes or amendments were noted for this project:

1. No documentation discrepancies, changes, or amendments were noted.

B. Method Modifications, Non-Conformances and Observations

The sample(s) in this project were analyzed by the references analytical method(s), and no method modifications, non-conformances or analytical issues were noted, except as indicated below:

1. EPA 6010B Note: Samples 141455-7,-9,-10,-11,-12 and -13. Samples were analyzed for selected target analytes, as requested by client.
2. EPA 8082 Non-conformance: Samples 141455-07, -09, -10 and -11. Analytes AR1016, AR1260 had RPDs recoveries outside the recommended limits for QC batch PB-3737-P.
3. EPA 8260B Non-conformance: Sample 141455-6. Laboratory control sample duplicate (LCSD) analyte Methylene Chloride was below the recommended recovery limit for QC batch VM8-1428-E.
4. EPA 8260B Non-conformance: Samples 141455-01,-03,-04, and -05. Laboratory control sample (LCS) analyte trans-1,4-Dichloro-2-Butene was above the recommended recovery limit. Analyte Vinyl Chloride had a RPD recovery outside recommended limit for QC batch VM8-1429-S.
5. EPA 8260B Note: Sample 141455-6. Recoveries for analytes Methylene Chloride and Vinyl Chloride were outside the recommended 70 - 130% criteria in the ICV. Analyte 2-Butanone did not meet the minimum average response factor in the ICAL and CCV. The relative percent deviation for analyte Methylene Chloride was above the recommended limit in the CCV. A quadratic equation was used in the calculation for analyte Vinyl Chloride.
6. EPA 8260B Note: Samples 141455-01,-03,-04, and -05. cis-1,3-Dichloropropene and 1,2-dibromo-3-chloropropane did not meet the 70 - 130% recovery criteria for the low calibration standard. The reporting limit was raised to the next highest acceptable calibration standard.
7. EPA 8260B Note: Samples 141455-01,-03,-04,-05. Recoveries for analytes Vinyl Chloride and Methylene Chloride were outside the recommended 70 - 130% criteria in the ICV. Analytes Acetone and 2-Butanone did not meet the minimum average response factors in the CCV. The relative percent deviations for analytes Methylene Chloride, Acetone and trans-1,4-Dichloro-2-Butene were above the recommended limits in the CCV. A quadratic equation was used in the calculation for analyte Vinyl Chloride.
8. Samples 141455-5,-6,-11,-12 and -13 were not received with sample collection times listed on the Chain of Custody. Samples were reported with a sampling collection time of 00:00 by the laboratory.
9. EPA 8260B Note: Samples 141455-1 through -6. Analyte Acetone did not meet the CAM required minimum response factor of 0.05 in the ICAL or CCV.
10. EPA 7471A Non-conformance: Matrix Spike and Matrix Spike Duplicate recovery was above recommended limits.
11. EPA 8260B Note: Samples 141455-6. Cis-1,3-dichloropropene, Dibromochloromethane, Bromoform, trans-1,4-dichloro-2-butene and 1,2-dibromo-3-chloropropane did not meet the 70 - 130% recovery criteria for the low calibration standard. The reporting limit was raised to the next highest acceptable calibration standard.

GROUNDWATER ANALYTICAL

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 Buzzards Bay, MA 02532
 Telephone (508) 759-4441 FAX (508) 759-4475
 www.groundwateranalytical.com

CHAIN-OF-CUSTODY RECORD AND WORK ORDER

() Please keep sample WS-7 (91) on hold until further notice (call Sean Healy 781-710-4394)*

Project Name: UNION ST. - NEW BEDFORD
 Firm: WESTON & SAMPLSON
 Project Number: 2100451.A
 Address: 5 Centennial Dr.
 City/State/Zip: Peabody, MA 01960
 Sampler Name: Sam Quastreni
 Telephone: 978-532-1900
 Project Manager: Sean Healy

TURNAROUND
 10 Business Days
 5 Business Days
 RUSH (RAN - Rush requires Flush Authorization Number)
 Please Email to: healy@w&sinc.com
 Please FAX to: _____
BILLING
 Purchase Order No.: _____
 Third Party Billing: City of New Bedford
 GWA Quote: _____

ANALYSIS REQUEST

Options	Volatiles	Semimetals	Pesticides PCBs	Metals	Problems/Parameters		Haz. Waste	General Chemistry	Other
					Ext. TPH	Vol. TPH			
SWWA	<input type="checkbox"/> TIC Search	<input type="checkbox"/> 524.2	<input type="checkbox"/> 524	<input type="checkbox"/> Lead and Copper	<input type="checkbox"/> EPA DEP VPH will tag	<input type="checkbox"/> EPA DEP VPH will tag	<input type="checkbox"/> TCLP	<input type="checkbox"/> 900	<input type="checkbox"/> MA DEP Asbestos in Soil
NPDES	<input type="checkbox"/> 62608	<input type="checkbox"/> 625.2	<input type="checkbox"/> 608 PCBs	<input type="checkbox"/> 13 Priority	<input type="checkbox"/> MA DEP VPH will tag	<input type="checkbox"/> EPA DEP VPH will tag	<input type="checkbox"/> EPA DEP VPH will tag	<input type="checkbox"/> 800	<input type="checkbox"/> Total Coliform
RCMAZIE	<input type="checkbox"/> 62608	<input type="checkbox"/> 625.2	<input type="checkbox"/> 608 PCBs	<input type="checkbox"/> 13 Priority	<input type="checkbox"/> MA DEP VPH will tag	<input type="checkbox"/> EPA DEP VPH will tag	<input type="checkbox"/> EPA DEP VPH will tag	<input type="checkbox"/> 800	<input type="checkbox"/> Total Coliform

LABORATORY NUMBER (Lab Use Only)

DATE	TIME	SAMPLE IDENTIFICATION	Type	Container(s)		Matrix		Preservation	Filtered
				Matrix	Type	Container(s)	Matrix		
4/22/11	9:00	WS-10 (10-15')	GRAB	COMPOSITE	1/20L or Glass	500mL/16 oz Glass	1/20L or Glass	1/20L or Glass	NO
4/22/11	10:00	WS-9 (6-10')	GRAB	COMPOSITE	1/20L or Glass	500mL/16 oz Glass	1/20L or Glass	1/20L or Glass	YES
4/22/11	11:00	WS-8 (9')	GRAB	COMPOSITE	1/20L or Glass	500mL/16 oz Glass	1/20L or Glass	1/20L or Glass	ICE
4/22/11	12:00	WS-11 (0.5-2')	GRAB	COMPOSITE	1/20L or Glass	500mL/16 oz Glass	1/20L or Glass	1/20L or Glass	Sodium Bicarbonate
4/22/11	1:00	WS-7 (91) ³⁰⁰	GRAB	COMPOSITE	1/20L or Glass	500mL/16 oz Glass	1/20L or Glass	1/20L or Glass	Mechanism
4/22/11		DUP-1	GRAB	COMPOSITE	1/20L or Glass	500mL/16 oz Glass	1/20L or Glass	1/20L or Glass	H2O2
4/22/11		TEP-BANK	GRAB	COMPOSITE	1/20L or Glass	500mL/16 oz Glass	1/20L or Glass	1/20L or Glass	H3PO4
4/22/11		715 (WS-10 10-15')	GRAB	COMPOSITE	1/20L or Glass	500mL/16 oz Glass	1/20L or Glass	1/20L or Glass	HNO3
4/22/11		715D " "	GRAB	COMPOSITE	1/20L or Glass	500mL/16 oz Glass	1/20L or Glass	1/20L or Glass	HCl

CHAIN-OF-CUSTODY RECORD

NOTE: All samples submitted subject to Standard Terms and Conditions on reverse hereof.

Relinquished by Sampler: Sam Quastreni Date: 4/21/11 Time: 1:30
 Relinquished by: Healy Date: 4/22/11 Time: 1:54
 Received by: J.P. Date: 4/22/11 Time: 1:54
 Receipt Temperature: 72/11
 Container Count: 38
 Shipping/Airbill Number: _____
 Custody Seal Number: _____

REMARKS / SPECIAL INSTRUCTIONS
 YES NO MCP Data Certification required.
 YES NO MCP Drinking Water Sample included.
 (Volatile analyses require duplicate collection and Trip Blanks).
 Analyze Duplicates and Trips Blanks only if positive results.

DATA QUALITY OBJECTIVES
Regulatory Program
 State: MA NY VT
 Standard: MCP GW-1/S-1 PWS Form NY STARS Drinking Water
 MCP GW-2/S-2 MWRA Wastewater RI Waste Disposal
 Dredge Material VT Dredge Material VT Dredge Material

Project Specific QC
 Many regulatory programs and EPA methods require project specific QC. Project specific QC includes Sample Duplicates, Matrix Spikes, and/or Matrix Spike Duplicates. Laboratory QC is not project specific unless prearranged. Project specific QC samples are charged on a per sample basis. **Each MS, MSD and Sample Duplicate requires an additional sample aliquot.**

Project Specific QC Required
 Sample Duplicate
 Matrix Spike
 Matrix Spike Duplicate
 Selection of QC Sample: _____
 Please use sample: _____

Method of Shipment: GWA Courier Express Mail Federal Express
 UPS Hand

Signature: _____
 Date: _____

Quality Assurance/Quality Control

A. Program Overview

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*, US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste*, US EPA, SW-846, Update III (1996).

Quality Control protocols include written Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. All samples, standards, blanks, laboratory control samples, matrix spikes and sample duplicates are spiked with internal standards and surrogate compounds. All instrument sequences begin with an initial calibration verification standard and a blank; and excepting GC/MS sequences, all sequences close with a continuing calibration standard. GC/MS systems are tuned to appropriate ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

B. Definitions

Batches are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples of the same matrix which are prepared together for the same analysis, using the same lots of reagents and the same techniques or manipulations, all within the same continuum of time, up to but not exceeding 24 hours.

Laboratory Control Samples are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target analytes representative of the method analytes. Accuracy is defined as the degree of agreement of the measured value with the true or expected value. Percent Recoveries for the Laboratory Control Samples are calculated to assess accuracy.

Method Blanks are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

Surrogate Compounds are used to assess the effectiveness of an analytical method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to the target analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.

**Quality Control Report
Laboratory Control Samples**

Category: MA DEP EPH Method	LCS Instrument ID: GC-12 Agilent 6890	LCSD Instrument ID: GC-12 Agilent 6890
QC Batch ID: EP-3225-M	Extracted: 05-03-11 15:00	Extracted: 05-03-11 15:00
Matrix: Soil	Analyzed (AL): 05-04-11 11:35	Analyzed (AL): 05-04-11 13:07
Units: mg/Kg	Analyzed (AR): 05-04-11 12:21	Analyzed (AR): 05-04-11 13:53
	Analyst: JJT	Analyst: JJT

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
111-84-2	<i>n</i> -Nonane (C ₉)	3.3	1.7	51 %	3.3	1.9	57 %	10 %	30 - 140 %	25 %
124-18-5	<i>n</i> -Decane (C ₁₀)	3.3	2.0	61 %	3.3	2.2	67 %	9 %	40 - 140 %	25 %
112-40-3	<i>n</i> -Dodecane (C ₁₂)	3.3	2.3	68 %	3.3	2.5	74 %	8 %	40 - 140 %	25 %
629-59-4	<i>n</i> -Tetradecane (C ₁₄)	3.3	2.4	72 %	3.3	2.6	78 %	7 %	40 - 140 %	25 %
544-76-3	<i>n</i> -Hexadecane (C ₁₆)	3.3	2.8	84 %	3.3	2.9	88 %	5 %	40 - 140 %	25 %
593-45-3	<i>n</i> -Octadecane (C ₁₈)	3.3	2.9	89 %	3.3	3.0	92 %	4 %	40 - 140 %	25 %
n/a	<i>n</i> -C9 to <i>n</i> -C18 Group	20	14	71 %	20	15	76 %	7 %	40 - 140 %	25 %
629-92-5	<i>n</i> -Nonadecane (C ₁₉)	3.3	3.0	91 %	3.3	3.1	93 %	3 %	40 - 140 %	25 %
112-95-8	<i>n</i> -Eicosane (C ₂₀)	3.3	2.9	88 %	3.3	3.0	90 %	3 %	40 - 140 %	25 %
629-97-0	<i>n</i> -Docosane (C ₂₂)	3.3	2.7	82 %	3.3	2.8	84 %	2 %	40 - 140 %	25 %
646-31-1	<i>n</i> -Tetracosane (C ₂₄)	3.3	2.8	85 %	3.3	2.9	88 %	3 %	40 - 140 %	25 %
630-01-3	<i>n</i> -Hexacosane (C ₂₆)	3.3	2.7	81 %	3.3	2.7	83 %	3 %	40 - 140 %	25 %
630-02-4	<i>n</i> -Octacosane (C ₂₈)	3.3	2.6	80 %	3.3	2.7	82 %	3 %	40 - 140 %	25 %
638-68-6	<i>n</i> -Triacosane (C ₃₀)	3.3	2.6	78 %	3.3	2.7	81 %	4 %	40 - 140 %	25 %
630-06-8	<i>n</i> -Hexatriacontane (C ₃₆)	3.3	2.3	68 %	3.3	2.4	74 %	8 %	40 - 140 %	25 %
n/a	<i>n</i> -C19 to <i>n</i> -C36 Group	26	22	82 %	26	22	84 %	3 %	40 - 140 %	25 %
91-20-3	Naphthalene	3.3	2.6	80 %	3.3	2.7	82 %	2 %	40 - 140 %	25 %
91-57-6	2-Methylnaphthalene	3.3	3.0	90 %	3.3	3.0	90 %	0 %	40 - 140 %	25 %
208-96-8	Acenaphthylene	3.3	2.9	87 %	3.3	3.0	91 %	4 %	40 - 140 %	25 %
83-32-9	Acenaphthene	3.3	2.8	84 %	3.3	2.9	88 %	5 %	40 - 140 %	25 %
86-73-7	Fluorene	3.3	3.0	92 %	3.3	3.1	94 %	3 %	40 - 140 %	25 %
85-01-8	Phenanthrene	3.3	3.6	109 %	3.3	3.6	110 %	1 %	40 - 140 %	25 %
120-12-7	Anthracene	3.3	3.2	96 %	3.3	3.2	97 %	1 %	40 - 140 %	25 %
206-44-0	Fluoranthene	3.3	3.6	108 %	3.3	3.6	109 %	1 %	40 - 140 %	25 %
129-00-0	Pyrene	3.3	3.6	110 %	3.3	3.6	110 %	0 %	40 - 140 %	25 %
56-55-3	Benzo[a]anthracene	3.3	3.1	95 %	3.3	3.2	96 %	1 %	40 - 140 %	25 %
218-01-9	Chrysene	3.3	3.5	107 %	3.3	3.6	109 %	2 %	40 - 140 %	25 %
205-99-2	Benzo[b]fluoranthene	3.3	3.3	100 %	3.3	3.3	101 %	1 %	40 - 140 %	25 %
207-08-9	Benzo[k]fluoranthene	3.3	3.2	96 %	3.3	3.2	98 %	2 %	40 - 140 %	25 %
50-32-8	Benzo[a]pyrene	3.3	3.4	103 %	3.3	3.4	104 %	2 %	40 - 140 %	25 %
193-39-5	Indeno[1,2,3-c,d]pyrene	3.3	3.1	95 %	3.3	3.2	97 %	2 %	40 - 140 %	25 %
53-70-3	Dibenzo[a,h]anthracene	3.3	3.1	93 %	3.3	3.2	95 %	3 %	40 - 140 %	25 %
191-24-2	Benzo[g,h,i]perylene	3.3	3.1	93 %	3.3	3.1	95 %	2 %	40 - 140 %	25 %
n/a	PAH Group	56	54	96 %	56	55	98 %	2 %	40 - 140 %	25 %

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	2.7	2.9	107 %	2.7	2.8	104 %	40 - 140 %
	2-Bromonaphthalene	2.7	2.9	107 %	2.7	2.7	100 %	40 - 140 %
Extraction:	Chloro-octadecane	2.7	2.3	85 %	2.7	2.3	85 %	40 - 140 %
	<i>ortho</i> -Terphenyl	2.7	2.6	96 %	2.7	2.7	100 %	40 - 140 %

Fractionation Breakthrough Evaluation						QC Limits
91-20-3	Naphthalene	LCS	0 %	LCSD	0 %	5 %
91-57-6	2-Methylnaphthalene	LCS	1 %	LCSD	1 %	5 %

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004). Method modified by use of microwave accelerated solvent extraction technique.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units. The LCS and LCSD are prepared from separate source standards than those used for calibration.

**Quality Control Report
Method Blank**

Category: **MA DEP EPH**
QC Batch ID: **EP-3225-M**
Matrix: **Soil**

Instrument ID: **GC-12 Agilent 6890**
Extracted: **05-03-11 15:00**
Analyzed (AL): **05-04-11 14:39**
Analyzed (AR): **05-04-11 15:24**
Analyst: **JJT**

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	30
n-C19 to n-C36 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	30
n-C11 to n-C22 Aromatic Hydrocarbons [†] [◊]	BRL		mg/Kg	30

Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons [†]	BRL		mg/Kg	30
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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		mg/Kg	0.50
91-57-6	2-Methylnaphthalene	BRL		mg/Kg	0.50
85-01-8	Phenanthrene	BRL		mg/Kg	0.50
83-32-9	Acenaphthene	BRL		mg/Kg	0.50
208-96-8	Acenaphthylene	BRL		mg/Kg	0.50
86-73-7	Fluorene	BRL		mg/Kg	0.50
120-12-7	Anthracene	BRL		mg/Kg	0.50
206-44-0	Fluoranthene	BRL		mg/Kg	0.50
129-00-0	Pyrene	BRL		mg/Kg	0.50
56-55-3	Benzo[a]anthracene	BRL		mg/Kg	0.50
218-01-9	Chrysene	BRL		mg/Kg	0.50
205-99-2	Benzo[b]fluoranthene	BRL		mg/Kg	0.50
207-08-9	Benzo[k]fluoranthene	BRL		mg/Kg	0.50
50-32-8	Benzo[a]pyrene	BRL		mg/Kg	0.50
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		mg/Kg	0.50
53-70-3	Dibenzo[a,h]anthracene	BRL		mg/Kg	0.50
191-24-2	Benzo[g,h,i]perylene	BRL		mg/Kg	0.50

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	2.7	2.6	97 %	40 - 140 %
	2-Bromonaphthalene	2.7	2.6	99 %	
Extraction:	Chloro-octadecane	2.7	2.4	89 %	40 - 140 %
	<i>ortho</i> -Terphenyl	2.7	2.7	101 %	

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
Sample extraction performed by microwave accelerated solvent extraction technique.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

**Quality Control Report
Laboratory Control Samples**

Category:	MA DEP VPH	LCS	Instrument ID: GC-1 HP 5890	LCSD	Instrument ID: GC-1 HP 5890
QC Batch ID:	VP-1764-E	Analyzed:	05-03-11 15:00	Analyzed:	05-03-11 15:41
Matrix:	Soil	Analyst:	TRA	Analyst:	TRA
Units:	mg/Kg				

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
109-66-0	<i>n</i> -Pentane	2.5	2.8	112 %	2.5	2.6	103 %	9 %	70 - 130 %	25%
107-83-5	2-Methylpentane	2.5	2.7	108 %	2.5	2.5	100 %	8 %	70 - 130 %	25%
540-84-1	2,2,4-Trimethylpentane	2.5	2.9	115 %	2.5	2.6	105 %	9 %	70 - 130 %	25%
n/a	Aliphatic Group 1	7.5	8.4	112 %	7.5	7.7	103 %	9 %	70 - 130 %	25%
111-84-2	<i>n</i> -Nonane	2.5	2.7	108 %	2.5	2.5	102 %	6 %	70 - 130 %	25%
124-18-5	<i>n</i> -Decane	2.5	2.9	116 %	2.5	2.8	112 %	4 %	70 - 130 %	25%
1678-93-9	<i>n</i> -Butylcyclohexane	2.5	2.8	113 %	2.5	2.7	106 %	6 %	70 - 130 %	25%
n/a	Aliphatic Group 2	7.5	8.4	112 %	7.5	8.0	107 %	5 %	70 - 130 %	25%
1634-04-4	Methyl <i>tert</i> -butyl Ether	2.5	2.7	109 %	2.5	2.5	99 %	10 %	70 - 130 %	25%
71-43-2	Benzene	2.5	2.7	109 %	2.5	2.5	101 %	8 %	70 - 130 %	25%
108-88-3	Toluene	2.5	2.8	111 %	2.5	2.6	103 %	8 %	70 - 130 %	25%
100-41-4	Ethylbenzene	2.5	2.8	112 %	2.5	2.6	103 %	9 %	70 - 130 %	25%
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene	5.0	5.6	112 %	5.0	5.2	103 %	8 %	70 - 130 %	25%
95-47-6	<i>ortho</i> -Xylene	2.5	2.6	105 %	2.5	2.4	96 %	9 %	70 - 130 %	25%
95-63-6	1,2,4-Trimethylbenzene	2.5	2.8	113 %	2.5	2.6	104 %	8 %	70 - 130 %	25%
91-20-3	Naphthalene	2.5	2.8	114 %	2.5	2.7	107 %	6 %	70 - 130 %	25%
n/a	Aromatic Group	23	25	111 %	23	23	102 %	8 %	70 - 130 %	25%
QC Surrogate Compound		Spiked	Measured	Recovery	Spiked	Measured	Recovery		QC Limits	
2,5-Dibromotoluene (PID)		2.5	2.8	111 %	2.5	2.7	107 %		70 - 130 %	
2,5-Dibromotoluene (FID)		2.5	2.8	114 %	2.5	2.7	108 %		70 - 130 %	

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Method Blank**

Category: **MA DEP VPH**
 QC Batch ID: **VP-1764-E**
 Matrix: **Soil**

Instrument ID: **GC-1 HP 5890**
 Analyzed: **05-03-11 16:21**
 Analyst: **TRA**

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	BRL		mg/Kg	1.0
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	BRL		mg/Kg	1.0
n-C9 to n-C10 Aromatic Hydrocarbons [†]	BRL		mg/Kg	1.0

Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	1.0
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	1.0

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -butyl Ether [⌘]	BRL		mg/Kg	0.05
71-43-2	Benzene [⌘]	BRL		mg/Kg	0.10
108-88-3	Toluene [⌘]	BRL		mg/Kg	0.10
100-41-4	Ethylbenzene [‡]	BRL		mg/Kg	0.10
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	BRL		mg/Kg	0.10
95-47-6	<i>ortho</i> -Xylene [‡]	BRL		mg/Kg	0.10
91-20-3	Naphthalene	BRL		mg/Kg	0.50

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	2.5	2.6	104 %	70 - 130 %
2,5-Dibromotoluene (FID)	2.5	2.7	108 %	70 - 130 %

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◇ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ⌘ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

Quality Control Report Laboratory Control Samples

Category:	EPA 8082	LCS	Instrument ID:	GC-11 Agilent 6890	LCS D	Instrument ID:	GC-11 Agilent 6890
QC Batch ID:	PB-3737-P		Extracted:	05-02-11 21:30		Extracted:	05-02-11 21:30
Matrix:	Soil		Cleaned Up:	05-03-11 17:00		Cleaned Up:	05-03-11 17:00
Units:	ug/Kg		Analyzed:	05-04-11 06:07		Analyzed:	05-04-11 06:30
			Analyst:	CRL		Analyst:	CRL

CAS Number	Analyte	LCS					LCS Duplicate								QC Limits	
		Spiked	Measured		Recovery		Spiked	Measured		Recovery		RPD		Spike	RPD	
			1st Col	2nd Col	1st Col	2nd Col		1st Col	2nd Col	1st Col	2nd Col	1st Col	2nd Col			
12674-11-2	Aroclor 1016	330	300	310	90%	93%	330	220	230	66%	70%	31 % q	28 %	40 - 140%	30 %	
11096-82-5	Aroclor 1260	330	310	330	92%	100%	330	220	250	66%	74%	33 % q	29 %	40 - 140%	30 %	

QC Surrogate Compound	Surrogate Recovery											QC Limits	
Tetrachloro- <i>m</i> -xylene	13	11	11	82%	80%	13	7.9	7.9	59%	59%			30 - 150 %
Decachlorobiphenyl	13	12	14	90%	103%	13	8.6	10	65%	76%			30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

q Recovery outside recommended limits.

**Quality Control Report
Method Blank**

Category: **EPA Method 8082**
 QC Batch ID: **PB-3737-P**
 Matrix: **Soil**

Instrument ID: **GC-11 Agilent 6890**
 Extracted: **05-02-11 21:30**
 Cleaned Up: **05-03-11 17:00**
 Analyzed: **05-04-11 05:43**
 Analyst: **CRL**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	80
11104-28-2	Aroclor 1221	BRL		ug/Kg	80
11141-16-5	Aroclor 1232	BRL		ug/Kg	80
53469-21-9	Aroclor 1242	BRL		ug/Kg	80
12672-29-6	Aroclor 1248	BRL		ug/Kg	80
11097-69-1	Aroclor 1254	BRL		ug/Kg	80
11096-82-5	Aroclor 1260	BRL		ug/Kg	80
37324-23-5	Aroclor 1262 [†]	BRL		ug/Kg	80
11100-14-4	Aroclor 1268 [†]	BRL		ug/Kg	80

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
First Column	Tetrachloro- <i>m</i> -xylene	13	9	68 %	30 - 150 %
Second Column	Decachlorobiphenyl	13	9.9	75 %	30 - 150 %
First Column	Tetrachloro- <i>m</i> -xylene	13	8.9	67 %	30 - 150 %
Second Column	Decachlorobiphenyl	13	11	85 %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
 † Non-target analyte. Result is based on a single mid-range calibration standard.

Quality Control Report Laboratory Control Samples

Category: **Metals**
 Matrix: **Soil**
 Units: **mg/Kg**

Sample Type	Method	QC Batch ID	Prep Method	Prepared	Analyzed	Instrument ID	Analyst
LCS	EPA 6010B	MB-2019-SL	EPA 3050B	04-29-11 00:00	04-29-11 21:17	ICP-1 PE 3000	PD
LCS	EPA 7471A	MP-2664-SL	EPA 7471A	05-03-11 00:00	05-03-11 15:33	CVAA-1 PE FIMS	LS
LCSD	EPA 6010B	MB-2019-SL	EPA 3050B	04-29-11 00:00	04-29-11 21:20	ICP-1 PE 3000	PD
LCSD	EPA 7471A	MP-2664-SL	EPA 7471A	05-03-11 00:00	05-03-11 15:37	CVAA-1 PE FIMS	LS

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits		Method
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	LCS	RPD	
7440-38-2	Arsenic	93	96	104%	93	94	101%	1 %	83-117 %	30 %	EPA 6010B
7440-39-3	Barium	170	190	112%	170	180	105%	3 %	83-117 %	30 %	EPA 6010B
7440-43-9	Cadmium	62	65	105%	62	62	100%	2 %	80-120 %	30 %	EPA 6010B
7440-47-3	Chromium	71	78	109%	71	74	104%	2 %	82-118 %	30 %	EPA 6010B
7439-92-1	Lead	92	94	102%	92	91	99%	1 %	83-117 %	30 %	EPA 6010B
7439-97-6	Mercury	3.7	2.7	72%	3.7	3.0	80%	5 %	72-128 %	30 %	EPA 7471A
7782-49-2	Selenium	90	95	107%	90	91	102%	2 %	79-121 %	30 %	EPA 6010B
7440-22-4	Silver	34	34	99%	34	33	95%	2 %	66-134 %	30 %	EPA 6010B

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Method Blank**

Category: **Metals**
Matrix: **Soil**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Volume</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 6010B	MB-2019-SB	EPA 3050B	04-29-11 00:00	0.5 g	ICP-1 PE 3000	PD
EPA 7471A	MP-2664-SB	EPA 7471A	05-03-11 00:00	0.6 g	CVAA-1 PE FIMS	LS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic		BRL	mg/Kg	3.0	1	04-29-11 21:13	EPA 6010B
7440-39-3	Barium		BRL	mg/Kg	5.0	1	04-29-11 21:13	EPA 6010B
7440-43-9	Cadmium		BRL	mg/Kg	0.5	1	04-29-11 21:13	EPA 6010B
7440-47-3	Chromium		BRL	mg/Kg	1.0	1	04-29-11 21:13	EPA 6010B
7439-92-1	Lead		BRL	mg/Kg	5.0	1	04-29-11 21:13	EPA 6010B
7439-97-6	Mercury		BRL	mg/Kg	0.017	1	05-03-11 15:33	EPA 7471A
7782-49-2	Selenium		BRL	mg/Kg	5.0	1	04-29-11 21:13	EPA 6010B
7440-22-4	Silver		BRL	mg/Kg	1.0	1	04-29-11 21:13	EPA 6010B

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
DF Dilution Factor.

Quality Control Report Laboratory Control Samples

Category:	EPA Method 8260B	LCS	Instrument ID:	MS-8 HP 6890	LCSD	Instrument ID:	MS-8 HP 6890
QC Batch ID:	VM8-1428-E		Analyzed:	05-05-11 07:18		Analyzed:	05-05-11 07:51
Matrix:	Soil		Analyst:	LMG		Analyst:	LMG
Units:	ug/kg						

Page: 1 of 2

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
75-71-8	Dichlorodifluoromethane	2,500	2,300	93 %	2,500	2,200	87 %	6 %	70 - 130 %	20%
74-87-3	Chloromethane	2,500	2,600	104 %	2,500	2,400	96 %	8 %	70 - 130 %	20%
75-01-4	Vinyl Chloride	2,500	2,900	116 %	2,500	2,600	106 %	9 %	70 - 130 %	20%
74-83-9	Bromomethane	2,500	2,700	107 %	2,500	2,500	100 %	7 %	70 - 130 %	20%
75-00-3	Chloroethane	2,500	2,600	105 %	2,500	2,500	99 %	7 %	70 - 130 %	20%
75-69-4	Trichlorofluoromethane	2,500	2,300	91 %	2,500	2,200	87 %	5 %	70 - 130 %	20%
60-29-7	Diethyl Ether	5,000	4,800	96 %	5,000	4,400	87 %	10 %	70 - 130 %	20%
75-35-4	1,1-Dichloroethene	2,500	2,400	98 %	2,500	2,300	92 %	6 %	70 - 130 %	20%
76-13-1	1,1,2-Trichlorotrifluoroethane	5,000	5,400	108 %	5,000	5,100	102 %	5 %	70 - 130 %	20%
67-64-1	Acetone	5,000	5,200	104 %	5,000	4,900	98 %	6 %	70 - 130 %	20%
75-15-0	Carbon Disulfide	5,000	4,700	95 %	5,000	4,500	90 %	5 %	70 - 130 %	20%
75-09-2	Methylene Chloride	2,500	1,800	73 %	2,500	1,600	64 %	13 %	70 - 130 %	20%
107-13-1	Acrylonitrile	2,500	2,600	104 %	2,500	2,200	86 %	18 %	70 - 130 %	20%
156-60-5	trans-1,2-Dichloroethene	2,500	2,400	96 %	2,500	2,400	95 %	1 %	70 - 130 %	20%
1634-04-4	Methyl tert-butyl Ether (MTBE)	2,500	2,400	95 %	2,500	2,200	87 %	8 %	70 - 130 %	20%
75-34-3	1,1-Dichloroethane	2,500	2,500	98 %	2,500	2,300	92 %	6 %	70 - 130 %	20%
594-20-7	2,2-Dichloropropane	2,500	2,300	91 %	2,500	2,100	86 %	5 %	70 - 130 %	20%
156-59-2	cis-1,2-Dichloroethene	2,500	2,500	100 %	2,500	2,300	94 %	6 %	70 - 130 %	20%
78-93-3	2-Butanone (MEK)	5,000	4,500	90 %	5,000	3,900	78 %	14 %	70 - 130 %	20%
74-97-5	Bromochloromethane	2,500	2,500	98 %	2,500	2,200	90 %	9 %	70 - 130 %	20%
109-99-9	Tetrahydrofuran (THF)	5,000	4,700	95 %	5,000	4,200	83 %	13 %	70 - 130 %	20%
67-66-3	Chloroform	2,500	2,400	95 %	2,500	2,200	89 %	6 %	70 - 130 %	20%
71-55-6	1,1,1-Trichloroethane	2,500	2,300	91 %	2,500	2,200	87 %	5 %	70 - 130 %	20%
56-23-5	Carbon Tetrachloride	2,500	2,400	97 %	2,500	2,300	92 %	5 %	70 - 130 %	20%
563-58-6	1,1-Dichloropropene	2,500	2,400	97 %	2,500	2,300	91 %	6 %	70 - 130 %	20%
71-43-2	Benzene	2,500	2,400	95 %	2,500	2,200	88 %	8 %	70 - 130 %	20%
107-06-2	1,2-Dichloroethane	2,500	2,400	97 %	2,500	2,200	88 %	9 %	70 - 130 %	20%
79-01-6	Trichloroethene	2,500	2,400	96 %	2,500	2,200	89 %	7 %	70 - 130 %	20%
78-87-5	1,2-Dichloropropane	2,500	2,400	98 %	2,500	2,300	91 %	7 %	70 - 130 %	20%
74-95-3	Dibromomethane	2,500	2,300	94 %	2,500	2,200	88 %	6 %	70 - 130 %	20%
75-27-4	Bromodichloromethane	2,500	2,500	99 %	2,500	2,300	91 %	8 %	70 - 130 %	20%
123-91-1	1,4-Dioxane	50,000	45,000	89 %	50,000	46,000	92 %	3 %	70 - 130 %	20%
10061-01-5	cis-1,3-Dichloropropene	2,500	2,300	90 %	2,500	2,100	85 %	5 %	70 - 130 %	20%
108-10-1	4-Methyl-2-Pentanone (MIBK)	5,000	5,200	104 %	5,000	4,700	95 %	9 %	70 - 130 %	20%
108-88-3	Toluene	2,500	2,400	95 %	2,500	2,200	88 %	7 %	70 - 130 %	20%
10061-02-6	trans-1,3-Dichloropropene	2,500	2,200	88 %	2,500	2,100	83 %	6 %	70 - 130 %	20%
79-00-5	1,1,2-Trichloroethane	2,500	2,500	101 %	2,500	2,300	94 %	8 %	70 - 130 %	20%
127-18-4	Tetrachloroethene	2,500	2,500	98 %	2,500	2,400	95 %	4 %	70 - 130 %	20%
142-28-9	1,3-Dichloropropane	2,500	2,500	101 %	2,500	2,400	95 %	6 %	70 - 130 %	20%
591-78-6	2-Hexanone	5,000	5,500	110 %	5,000	5,000	101 %	9 %	70 - 130 %	20%
124-48-1	Dibromochloromethane	2,500	2,300	93 %	2,500	2,200	88 %	5 %	70 - 130 %	20%
106-93-4	1,2-Dibromoethane (EDB)	2,500	2,500	102 %	2,500	2,400	95 %	7 %	70 - 130 %	20%
108-90-7	Chlorobenzene	2,500	2,500	98 %	2,500	2,300	93 %	6 %	70 - 130 %	20%
630-20-6	1,1,1,2-Tetrachloroethane	2,500	2,700	107 %	2,500	2,400	97 %	9 %	70 - 130 %	20%
100-41-4	Ethylbenzene	2,500	2,600	103 %	2,500	2,500	98 %	5 %	70 - 130 %	20%
108-38-3/106-42-3	meta- Xylene and para- Xylene	5,000	5,100	102 %	5,000	4,800	97 %	5 %	70 - 130 %	20%
95-47-6	ortho- Xylene	2,500	2,500	100 %	2,500	2,400	96 %	5 %	70 - 130 %	20%
100-42-5	Styrene	2,500	2,700	107 %	2,500	2,500	100 %	7 %	70 - 130 %	20%
75-25-2	Bromoform	2,500	2,300	91 %	2,500	2,100	86 %	6 %	70 - 130 %	20%

**Quality Control Report
Laboratory Control Samples**

Category: EPA Method 8260B	LCS Instrument ID: MS-8 HP 6890	LCSD Instrument ID: MS-8 HP 6890
QC Batch ID: VM8-1428-E	Analyzed: 05-05-11 07:18	Analyzed: 05-05-11 07:51
Matrix: Soil	Analyst: LMG	Analyst: LMG
Units: ug/kg		

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CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
98-82-8	Isopropylbenzene	2,500	2,100	86 %	2,500	2,100	84 %	2 %	70 - 130 %	20%
108-86-1	Bromobenzene	2,500	2,600	102 %	2,500	2,500	99 %	3 %	70 - 130 %	20%
79-34-5	1,1,2,2-Tetrachloroethane	2,500	2,500	98 %	2,500	2,400	95 %	3 %	70 - 130 %	20%
96-18-4	1,2,3-Trichloropropane	2,500	2,500	98 %	2,500	2,300	91 %	7 %	70 - 130 %	20%
110-57-6	trans-1,4-Dichloro-2-butene	10,000	12,000	119 %	10,000	12,000	118 %	0 %	70 - 130 %	20%
103-65-1	n-Propylbenzene	2,500	2,600	106 %	2,500	2,600	103 %	3 %	70 - 130 %	20%
95-49-8	2-Chlorotoluene	2,500	2,500	101 %	2,500	2,500	99 %	2 %	70 - 130 %	20%
108-67-8	1,3,5-Trimethylbenzene	2,500	2,700	108 %	2,500	2,600	105 %	3 %	70 - 130 %	20%
106-43-4	4-Chlorotoluene	2,500	2,500	101 %	2,500	2,400	96 %	5 %	70 - 130 %	20%
98-06-6	tert-Butylbenzene	2,500	2,500	102 %	2,500	2,500	99 %	3 %	70 - 130 %	20%
95-63-6	1,2,4-Trimethylbenzene	2,500	2,700	107 %	2,500	2,600	104 %	3 %	70 - 130 %	20%
135-98-8	sec-Butylbenzene	2,500	2,500	101 %	2,500	2,400	98 %	4 %	70 - 130 %	20%
541-73-1	1,3-Dichlorobenzene	2,500	2,600	103 %	2,500	2,500	100 %	3 %	70 - 130 %	20%
99-87-6	4-Isopropyltoluene	2,500	2,600	102 %	2,500	2,500	101 %	1 %	70 - 130 %	20%
106-46-7	1,4-Dichlorobenzene	2,500	2,600	104 %	2,500	2,500	101 %	3 %	70 - 130 %	20%
95-50-1	1,2-Dichlorobenzene	2,500	2,600	106 %	2,500	2,500	102 %	4 %	70 - 130 %	20%
104-51-8	n-Butylbenzene	2,500	2,700	109 %	2,500	2,700	107 %	2 %	70 - 130 %	20%
96-12-8	1,2-Dibromo-3-chloropropane	2,500	2,400	96 %	2,500	2,100	85 %	13 %	70 - 130 %	20%
108-70-3	1,3,5-Trichlorobenzene	2,500	2,700	108 %	2,500	2,600	103 %	5 %	70 - 130 %	20%
120-82-1	1,2,4-Trichlorobenzene	2,500	2,700	109 %	2,500	2,500	99 %	10 %	70 - 130 %	20%
87-68-3	Hexachlorobutadiene	2,500	2,600	104 %	2,500	2,500	98 %	5 %	70 - 130 %	20%
91-20-3	Naphthalene	2,500	2,400	96 %	2,500	2,200	89 %	7 %	70 - 130 %	20%
87-61-6	1,2,3-Trichlorobenzene	2,500	2,800	112 %	2,500	2,600	104 %	7 %	70 - 130 %	20%
75-65-0	tert-Butyl Alcohol (TBA)	50,000	46,000	93 %	50,000	42,000	84 %	10 %	70 - 130 %	20%
108-20-3	Di-isopropyl Ether (DIPE)	2,500	2,300	93 %	2,500	2,100	85 %	9 %	70 - 130 %	20%
637-92-3	Ethyl tert-butyl Ether (ETBE)	2,500	2,200	89 %	2,500	2,100	82 %	8 %	70 - 130 %	20%
994-05-8	tert-Amyl Methyl Ether (TAME)	2,500	2,100	82 %	2,500	1,900	78 %	6 %	70 - 130 %	20%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,200	88 %	2,500	2,200	89 %	70 - 130 %
1,2-Dichloroethane-d ₄	2,500	2,000	82 %	2,500	2,000	82 %	70 - 130 %
Toluene-d ₈	2,500	2,400	94 %	2,500	2,300	92 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,500	100 %	2,500	2,600	103 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5035A.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

q Recovery outside recommended limits.

**Quality Control Report
Method Blank**

Category: **EPA Method 8260B**
 QC Batch ID: **VM8-1428-E**
 Matrix: **Soil**

Instrument ID: **MS-8 HP 6890**
 Analyzed: **05-05-11 08:24**
 Analyst: **LMG**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	500
74-87-3	Chloromethane	BRL		ug/Kg	500
75-01-4	Vinyl Chloride	BRL		ug/Kg	500
74-83-9	Bromomethane	BRL		ug/Kg	500
75-00-3	Chloroethane	BRL		ug/Kg	500
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	500
60-29-7	Diethyl Ether	BRL		ug/Kg	500
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	250
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	2,500
67-64-1	Acetone	BRL		ug/Kg	2,500
75-15-0	Carbon Disulfide	BRL		ug/Kg	2,500
75-09-2	Methylene Chloride	BRL		ug/Kg	1,000
107-13-1	Acrylonitrile	BRL		ug/Kg	250
156-60-5	<i>trans</i> - 1,2-Dichloroethene	BRL		ug/Kg	250
1634-04-4	Methyl <i>tert</i> - butyl Ether (MTBE)	BRL		ug/Kg	250
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	250
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	250
156-59-2	<i>cis</i> - 1,2-Dichloroethene	BRL		ug/Kg	250
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	2,500
74-97-5	Bromochloromethane	BRL		ug/Kg	250
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	2,500
67-66-3	Chloroform	BRL		ug/Kg	250
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	250
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	250
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	250
71-43-2	Benzene	BRL		ug/Kg	250
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	250
79-01-6	Trichloroethene	BRL		ug/Kg	250
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	250
74-95-3	Dibromomethane	BRL		ug/Kg	250
75-27-4	Bromodichloromethane	BRL		ug/Kg	250
123-91-1	1,4-Dioxane	BRL		ug/Kg	250,000
10061-01-5	<i>cis</i> - 1,3-Dichloropropene	BRL		ug/Kg	500
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	2,500
108-88-3	Toluene	BRL		ug/Kg	250
10061-02-6	<i>trans</i> - 1,3-Dichloropropene	BRL		ug/Kg	250
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	250
127-18-4	Tetrachloroethene	BRL		ug/Kg	250
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	250
591-78-6	2-Hexanone	BRL		ug/Kg	2,500
124-48-1	Dibromochloromethane	BRL		ug/Kg	500
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	250
108-90-7	Chlorobenzene	BRL		ug/Kg	250
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	250
100-41-4	Ethylbenzene	BRL		ug/Kg	250
108-38-3/106-42-3	<i>meta</i> - Xylene and <i>para</i> - Xylene	BRL		ug/Kg	250
95-47-6	<i>ortho</i> - Xylene	BRL		ug/Kg	250
100-42-5	Styrene	BRL		ug/Kg	250
75-25-2	Bromoform	BRL		ug/Kg	500

Quality Control Report Method Blank

Category: **EPA Method 8260B**
 QC Batch ID: **VM8-1428-E**
 Matrix: **Soil**

Instrument ID: **MS-8 HP 6890**
 Analyzed: **05-05-11 08:24**
 Analyst: **LMG**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
98-82-8	Isopropylbenzene	BRL		ug/Kg	250
108-86-1	Bromobenzene	BRL		ug/Kg	250
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	250
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	250
110-57-6	<i>trans</i> -1,4-Dichloro-2-butene	BRL		ug/Kg	5,000
103-65-1	<i>n</i> -Propylbenzene	BRL		ug/Kg	250
95-49-8	2-Chlorotoluene	BRL		ug/Kg	250
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	250
106-43-4	4-Chlorotoluene	BRL		ug/Kg	250
98-06-6	<i>tert</i> -Butylbenzene	BRL		ug/Kg	250
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	250
135-98-8	<i>sec</i> -Butylbenzene	BRL		ug/Kg	250
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	250
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	250
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	250
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	250
104-51-8	<i>n</i> -Butylbenzene	BRL		ug/Kg	250
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	500
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/Kg	250
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	250
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	250
91-20-3	Naphthalene	BRL		ug/Kg	250
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	250
75-65-0	<i>tert</i> -Butyl Alcohol (TBA)	BRL		ug/Kg	10,000
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	250
637-92-3	Ethyl <i>tert</i> -butyl Ether (ETBE)	BRL		ug/Kg	250
994-05-8	<i>tert</i> -Amyl Methyl Ether (TAME)	BRL		ug/Kg	250

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,200	90 %	70 - 130 %
1,2-Dichloroethane-d ₄	2,500	2,000	80 %	70 - 130 %
Toluene-d ₈	2,500	2,200	87 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,500	100 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample preparation performed by EPA Method 5035A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

Quality Control Report Laboratory Control Samples

Category: **EPA Method 8260B**
 QC Batch ID: **VM8-1429-S**
 Matrix: **Soil**
 Units: **ug/kg**

LCS
 Instrument ID: **MS-8 HP 6890**
 Analyzed: **05-06-11 09:14**
 Analyst: **LMG**

LCSD
 Instrument ID: **MS-8 HP 6890**
 Analyzed: **05-06-11 09:48**
 Analyst: **LMG**

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CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
75-71-8	Dichlorodifluoromethane	50	44	87 %	50	46	92 %	5 %	70 - 130 %	20%
74-87-3	Chloromethane	50	48	96 %	50	54	107 %	11 %	70 - 130 %	20%
75-01-4	Vinyl Chloride	50	48	96 %	50	61	122 %	24 % q	70 - 130 %	20%
74-83-9	Bromomethane	50	51	102 %	50	54	109 %	7 %	70 - 130 %	20%
75-00-3	Chloroethane	50	49	99 %	50	54	109 %	10 %	70 - 130 %	20%
75-69-4	Trichlorofluoromethane	50	47	94 %	50	52	103 %	9 %	70 - 130 %	20%
60-29-7	Diethyl Ether	100	97	97 %	100	100	103 %	6 %	70 - 130 %	20%
75-35-4	1,1-Dichloroethene	50	49	98 %	50	55	109 %	10 %	70 - 130 %	20%
76-13-1	1,1,2-Trichlorotrifluoroethane	100	110	105 %	100	120	117 %	11 %	70 - 130 %	20%
67-64-1	Acetone	100	120	121 %	100	120	117 %	3 %	70 - 130 %	20%
75-15-0	Carbon Disulfide	100	95	95 %	100	110	105 %	10 %	70 - 130 %	20%
75-09-2	Methylene Chloride	50	36	71 %	50	36	71 %	0 %	70 - 130 %	20%
107-13-1	Acrylonitrile	50	57	113 %	50	54	109 %	4 %	70 - 130 %	20%
156-60-5	trans-1,2-Dichloroethene	50	48	97 %	50	53	105 %	8 %	70 - 130 %	20%
1634-04-4	Methyl tert-butyl Ether (MTBE)	50	49	98 %	50	51	102 %	4 %	70 - 130 %	20%
75-34-3	1,1-Dichloroethane	50	48	96 %	50	51	102 %	6 %	70 - 130 %	20%
594-20-7	2,2-Dichloropropane	50	48	96 %	50	52	105 %	9 %	70 - 130 %	20%
156-59-2	cis-1,2-Dichloroethene	50	49	97 %	50	52	104 %	7 %	70 - 130 %	20%
78-93-3	2-Butanone (MEK)	100	100	100 %	100	98	98 %	2 %	70 - 130 %	20%
74-97-5	Bromochloromethane	50	49	98 %	50	51	101 %	3 %	70 - 130 %	20%
109-99-9	Tetrahydrofuran (THF)	100	110	109 %	100	100	103 %	6 %	70 - 130 %	20%
67-66-3	Chloroform	50	48	96 %	50	52	103 %	8 %	70 - 130 %	20%
71-55-6	1,1,1-Trichloroethane	50	45	89 %	50	52	104 %	15 %	70 - 130 %	20%
56-23-5	Carbon Tetrachloride	50	48	95 %	50	53	106 %	11 %	70 - 130 %	20%
563-58-6	1,1-Dichloropropene	50	48	97 %	50	53	107 %	10 %	70 - 130 %	20%
71-43-2	Benzene	50	46	92 %	50	51	101 %	9 %	70 - 130 %	20%
107-06-2	1,2-Dichloroethane	50	49	97 %	50	53	105 %	8 %	70 - 130 %	20%
79-01-6	Trichloroethene	50	47	94 %	50	51	101 %	8 %	70 - 130 %	20%
78-87-5	1,2-Dichloropropane	50	47	93 %	50	51	102 %	9 %	70 - 130 %	20%
74-95-3	Dibromomethane	50	48	95 %	50	52	103 %	8 %	70 - 130 %	20%
75-27-4	Bromodichloromethane	50	48	97 %	50	52	104 %	8 %	70 - 130 %	20%
123-91-1	1,4-Dioxane	1,000	1,100	113 %	1,000	1,200	116 %	3 %	70 - 130 %	20%
10061-01-5	cis-1,3-Dichloropropene	50	45	89 %	50	49	98 %	9 %	70 - 130 %	20%
108-10-1	4-Methyl-2-Pentanone (MIBK)	100	120	118 %	100	120	119 %	1 %	70 - 130 %	20%
108-88-3	Toluene	50	46	92 %	50	50	100 %	9 %	70 - 130 %	20%
10061-02-6	trans-1,3-Dichloropropene	50	45	90 %	50	49	97 %	8 %	70 - 130 %	20%
79-00-5	1,1,2-Trichloroethane	50	49	98 %	50	55	110 %	11 %	70 - 130 %	20%
127-18-4	Tetrachloroethene	50	48	95 %	50	53	105 %	10 %	70 - 130 %	20%
142-28-9	1,3-Dichloropropane	50	51	103 %	50	53	107 %	4 %	70 - 130 %	20%
591-78-6	2-Hexanone	100	120	119 %	100	120	124 %	5 %	70 - 130 %	20%
124-48-1	Dibromochloromethane	50	44	89 %	50	49	98 %	10 %	70 - 130 %	20%
106-93-4	1,2-Dibromoethane (EDB)	50	50	100 %	50	56	111 %	10 %	70 - 130 %	20%
108-90-7	Chlorobenzene	50	47	94 %	50	53	106 %	12 %	70 - 130 %	20%
630-20-6	1,1,1,2-Tetrachloroethane	50	48	95 %	50	54	109 %	14 %	70 - 130 %	20%
100-41-4	Ethylbenzene	50	49	98 %	50	55	111 %	13 %	70 - 130 %	20%
108-38-3/106-42-3	meta- Xylene and para- Xylene	100	97	97 %	100	110	108 %	11 %	70 - 130 %	20%
95-47-6	ortho- Xylene	50	47	94 %	50	52	105 %	11 %	70 - 130 %	20%
100-42-5	Styrene	50	50	100 %	50	57	113 %	13 %	70 - 130 %	20%
75-25-2	Bromoform	50	46	91 %	50	48	96 %	4 %	70 - 130 %	20%

**Quality Control Report
Laboratory Control Samples**

Category: **EPA Method 8260B**
 QC Batch ID: **VM8-1429-S**
 Matrix: **Soil**
 Units: **ug/kg**

LCS
 Instrument ID: **MS-8 HP 6890**
 Analyzed: **05-06-11 09:14**
 Analyst: **LMG**

LCSD
 Instrument ID: **MS-8 HP 6890**
 Analyzed: **05-06-11 09:48**
 Analyst: **LMG**

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
98-82-8	Isopropylbenzene	50	44	87 %	50	48	97 %	10 %	70 - 130 %	20%
108-86-1	Bromobenzene	50	51	102 %	50	55	110 %	8 %	70 - 130 %	20%
79-34-5	1,1,2,2-Tetrachloroethane	50	54	108 %	50	57	114 %	5 %	70 - 130 %	20%
96-18-4	1,2,3-Trichloropropane	50	53	106 %	50	54	108 %	2 %	70 - 130 %	20%
110-57-6	trans-1,4-Dichloro-2-butene	200	270	136 % q	200	280	142 % q	4 %	70 - 130 %	20%
103-65-1	n-Propylbenzene	50	53	106 %	50	59	119 %	12 %	70 - 130 %	20%
95-49-8	2-Chlorotoluene	50	51	102 %	50	56	111 %	9 %	70 - 130 %	20%
108-67-8	1,3,5-Trimethylbenzene	50	54	107 %	50	60	120 %	11 %	70 - 130 %	20%
106-43-4	4-Chlorotoluene	50	51	101 %	50	55	110 %	8 %	70 - 130 %	20%
98-06-6	tert-Butylbenzene	50	50	101 %	50	56	113 %	11 %	70 - 130 %	20%
95-63-6	1,2,4-Trimethylbenzene	50	53	107 %	50	58	115 %	8 %	70 - 130 %	20%
135-98-8	sec-Butylbenzene	50	50	100 %	50	57	114 %	13 %	70 - 130 %	20%
541-73-1	1,3-Dichlorobenzene	50	51	101 %	50	55	110 %	8 %	70 - 130 %	20%
99-87-6	4-Isopropyltoluene	50	51	102 %	50	56	113 %	10 %	70 - 130 %	20%
106-46-7	1,4-Dichlorobenzene	50	51	102 %	50	56	111 %	9 %	70 - 130 %	20%
95-50-1	1,2-Dichlorobenzene	50	51	101 %	50	57	115 %	12 %	70 - 130 %	20%
104-51-8	n-Butylbenzene	50	56	111 %	50	61	123 %	10 %	70 - 130 %	20%
96-12-8	1,2-Dibromo-3-chloropropane	50	55	110 %	50	54	108 %	2 %	70 - 130 %	20%
108-70-3	1,3,5-Trichlorobenzene	50	53	106 %	50	58	115 %	9 %	70 - 130 %	20%
120-82-1	1,2,4-Trichlorobenzene	50	52	103 %	50	55	109 %	6 %	70 - 130 %	20%
87-68-3	Hexachlorobutadiene	50	50	100 %	50	58	115 %	14 %	70 - 130 %	20%
91-20-3	Naphthalene	50	50	99 %	50	53	107 %	7 %	70 - 130 %	20%
87-61-6	1,2,3-Trichlorobenzene	50	55	110 %	50	61	122 %	10 %	70 - 130 %	20%
75-65-0	tert-Butyl Alcohol (TBA)	1,000	1,200	116 %	1,000	1,100	108 %	7 %	70 - 130 %	20%
108-20-3	Di-isopropyl Ether (DIPE)	50	43	87 %	50	46	91 %	5 %	70 - 130 %	20%
637-92-3	Ethyl tert-butyl Ether (ETBE)	50	43	86 %	50	46	92 %	7 %	70 - 130 %	20%
994-05-8	tert-Amyl Methyl Ether (TAME)	50	42	84 %	50	45	91 %	7 %	70 - 130 %	20%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	50	47	93 %	50	45	90 %	70 - 130 %
1,2-Dichloroethane-d ₄	50	42	84 %	50	40	81 %	70 - 130 %
Toluene-d ₈	50	47	94 %	50	46	93 %	70 - 130 %
4-Bromofluorobenzene	50	52	105 %	50	52	104 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample preparation performed by EPA Method 5035A.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

q Recovery outside recommended limits.

**Quality Control Report
Method Blank**

Category: **EPA Method 8260B**
 QC Batch ID: **VM8-1429-S**
 Matrix: **Soil**

Instrument ID: **MS-8 HP 6890**
 Analyzed: **05-06-11 10:21**
 Analyst: **LMG**

Page: 1 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	10
74-87-3	Chloromethane	BRL		ug/Kg	10
75-01-4	Vinyl Chloride	BRL		ug/Kg	10
74-83-9	Bromomethane	BRL		ug/Kg	10
75-00-3	Chloroethane	BRL		ug/Kg	10
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	10
60-29-7	Diethyl Ether	BRL		ug/Kg	10
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	5.0
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	50
67-64-1	Acetone	BRL		ug/Kg	200
75-15-0	Carbon Disulfide	BRL		ug/Kg	50
75-09-2	Methylene Chloride	BRL		ug/Kg	50
107-13-1	Acrylonitrile	BRL		ug/Kg	5.0
156-60-5	<i>trans</i> - 1,2-Dichloroethene	BRL		ug/Kg	5.0
1634-04-4	Methyl <i>tert</i> - butyl Ether (MTBE)	BRL		ug/Kg	5.0
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	5.0
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	5.0
156-59-2	<i>cis</i> - 1,2-Dichloroethene	BRL		ug/Kg	5.0
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	50
74-97-5	Bromochloromethane	BRL		ug/Kg	5.0
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	50
67-66-3	Chloroform	BRL		ug/Kg	5.0
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	5.0
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	5.0
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	5.0
71-43-2	Benzene	BRL		ug/Kg	5.0
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	5.0
79-01-6	Trichloroethene	BRL		ug/Kg	5.0
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	5.0
74-95-3	Dibromomethane	BRL		ug/Kg	5.0
75-27-4	Bromodichloromethane	BRL		ug/Kg	5.0
123-91-1	1,4-Dioxane	BRL		ug/Kg	5,000
10061-01-5	<i>cis</i> - 1,3-Dichloropropene	BRL		ug/Kg	10
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	50
108-88-3	Toluene	BRL		ug/Kg	5.0
10061-02-6	<i>trans</i> - 1,3-Dichloropropene	BRL		ug/Kg	5.0
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	5.0
127-18-4	Tetrachloroethene	BRL		ug/Kg	5.0
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	5.0
591-78-6	2-Hexanone	BRL		ug/Kg	50
124-48-1	Dibromochloromethane	BRL		ug/Kg	10
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	5.0
108-90-7	Chlorobenzene	BRL		ug/Kg	5.0
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	5.0
100-41-4	Ethylbenzene	BRL		ug/Kg	5.0
108-38-3/106-42-3	<i>meta</i> - Xylene and <i>para</i> - Xylene	BRL		ug/Kg	5.0
95-47-6	<i>ortho</i> - Xylene	BRL		ug/Kg	5.0
100-42-5	Styrene	BRL		ug/Kg	5.0
75-25-2	Bromoform	BRL		ug/Kg	10

Quality Control Report Method Blank

Category: **EPA Method 8260B**
 QC Batch ID: **VM8-1429-S**
 Matrix: **Soil**

Instrument ID: **MS-8 HP 6890**
 Analyzed: **05-06-11 10:21**
 Analyst: **LMG**

Page: 2 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
98-82-8	Isopropylbenzene	BRL		ug/Kg	5.0
108-86-1	Bromobenzene	BRL		ug/Kg	5.0
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	5.0
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	5.0
110-57-6	<i>trans</i> -1,4-Dichloro-2-butene	BRL		ug/Kg	100
103-65-1	<i>n</i> -Propylbenzene	BRL		ug/Kg	5.0
95-49-8	2-Chlorotoluene	BRL		ug/Kg	5.0
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	5.0
106-43-4	4-Chlorotoluene	BRL		ug/Kg	5.0
98-06-6	<i>tert</i> -Butylbenzene	BRL		ug/Kg	5.0
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	5.0
135-98-8	<i>sec</i> -Butylbenzene	BRL		ug/Kg	5.0
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	5.0
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	5.0
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	5.0
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	5.0
104-51-8	<i>n</i> -Butylbenzene	BRL		ug/Kg	5.0
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	10
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/Kg	5.0
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	5.0
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	5.0
91-20-3	Naphthalene	BRL		ug/Kg	5.0
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	5.0
75-65-0	<i>tert</i> -Butyl Alcohol (TBA)	BRL		ug/Kg	200
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	5.0
637-92-3	Ethyl <i>tert</i> -butyl Ether (ETBE)	BRL		ug/Kg	5.0
994-05-8	<i>tert</i> -Amyl Methyl Ether (TAME)	BRL		ug/Kg	5.0

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	50	46	91 %	70 - 130 %
1,2-Dichloroethane-d ₄	50	40	79 %	70 - 130 %
Toluene-d ₈	50	43	86 %	70 - 130 %
4-Bromofluorobenzene	50	51	102 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample preparation performed by EPA Method 5035A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

Certifications and Approvals

Groundwater Analytical maintains environmental laboratory certification in a variety of states. Copies of our current certificates may be obtained from our website:

<http://www.groundwateranalytical.com/qualifications.htm>

CONNECTICUT

Department of Health Services, PH-0586 Potable Water, Wastewater, Solid Waste and Soil
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/Out_State.pdf

MASSACHUSETTS

Department of Environmental Protection, M-MA-103 Potable Water and Non-Potable Water
<http://public.dep.state.ma.us/labcert/labcert.aspx>

Department of Labor, Asbestos Analytical Services, Class A
Division of Occupational Safety, AA000195
http://www.mass.gov/dos/forms/la-rpt_list_aa.pdf

NEW HAMPSHIRE

Department of Environmental Services, 202708 Potable Water, Non-Potable Water, Solid and Chemical Materials
<http://www4.egov.nh.gov/DES/NHELAP>

NEW YORK

Department of Health, 11754 Potable Water, Non-Potable Water, Solid and Hazardous Waste
<http://www.wadsworth.org/labcert/elap/comm.html>

RHODE ISLAND

Department of Health, Potable and Non-Potable Water Microbiology, Organic and Inorganic Chemistry
Division of Laboratories, LAO00054
<http://www.health.ri.gov/labs/outofstatelabs.pdf>

U.S. DEPARTMENT OF AGRICULTURE

USDA, Soil Permit, S-53921 Foreign soil import permit

VERMONT

Department of Health, VT-87643 Potable Water
http://healthvermont.gov/enviro/ph_lab/water_test.aspx#cert

Certifications and Approvals

MASSACHUSETTS

Department of Environmental Protection, M-MA-103

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Potable Water (Drinking Water)

Analyte	Method
1,2-Dibromo-3-Chloropropane	EPA 504.1
1,2-Dibromoethane	EPA 504.1
Alkalinity, Total	SM 2320-B
Antimony	EPA 200.8
Arsenic	EPA 200.8
Barium	EPA 200.7
Barium	EPA 200.8
Beryllium	EPA 200.7
Beryllium	EPA 200.8
Cadmium	EPA 200.7
Cadmium	EPA 200.8
Calcium	EPA 200.7
Chlorine, Residual Free	SM 4500-CL-G
Chromium	EPA 200.7
Copper	EPA 200.7
Copper	EPA 200.8
Cyanide, Total	Lachat 10-204-00-1-A
E. Coli (Treatment and Distribution)	Enz. Sub. SM 9223
E. Coli (Treatment and Distribution)	NA-MUG SM 9222-G
Fecal Coliform (Source Water)	MF SM 9222-D
Fluoride	EPA 300.0
Fluoride	SM 4500-F-C
Haloacetic Acids	EPA 552.2
Heterotrophic Plate Count	SM 9215-B
Lead	EPA 200.8
Mercury	EPA 245.1
Nickel	EPA 200.7
Nickel	EPA 200.8
Nitrate-N	EPA 300.0
Nitrate-N	Lachat 10-107-04-1-C
Nitrite-N	EPA 300.0
Nitrite-N	Lachat 10-107-04-1-C
pH	SM 4500-H-B
Selenium	EPA 200.8
Silver	EPA 200.7
Silver	EPA 200.8
Sodium	EPA 200.7
Sulfate	EPA 300.0
Thallium	EPA 200.8
Total Coliform (Treatment and Distribution)	Enz. Sub. SM 9223
Total Coliform (Treatment and Distribution)	MF SM 9222-B
Total Dissolved Solids	SM 2540-C
Trihalomethanes	EPA 524.2
Turbidity	SM 2130-B
Volatile Organic Compounds	EPA 524.2

Non-Potable Water (Wastewater)

Analyte	Method
Aldrin	EPA 608
Alkalinity, Total	SM 2320-B
Alpha-BHC	EPA 608
Aluminum	EPA 200.7

Non-Potable Water (Wastewater)

Analyte	Method
Aluminum	EPA 200.8
Ammonia-N	Lachat 10-107-06-1-B
Antimony	EPA 200.7
Antimony	EPA 200.8
Arsenic	EPA 200.7
Arsenic	EPA 200.8
Beryllium	EPA 200.7
Beryllium	EPA 200.8
Beta-BHC	EPA 608
Biochemical Oxygen Demand	SM 5210-B
Cadmium	EPA 200.7
Cadmium	EPA 200.8
Calcium	EPA 200.7
Chemical Oxygen Demand	SM 5220-D
Chlordane	EPA 608
Chloride	EPA 300.0
Chlorine, Total Residual	SM 4500-CL-G
Chromium	EPA 200.7
Chromium	EPA 200.8
Cobalt	EPA 200.7
Cobalt	EPA 200.8
Copper	EPA 200.7
Copper	EPA 200.8
Cyanide, Total	Lachat 10-204-00-1-A
DDD	EPA 608
DDE	EPA 608
DDT	EPA 608
Delta-BHC	EPA 608
Dieldrin	EPA 608
Endosulfan I	EPA 608
Endosulfan II	EPA 608
Endosulfan Sulfate	EPA 608
Endrin	EPA 608
Endrin Aldehyde	EPA 608
Gamma-BHC	EPA 608
Hardness (CaCO3), Total	EPA 200.7
Hardness (CaCO3), Total	SM 2340-B
Heptachlor	EPA 608
Heptachlor Epoxide	EPA 608
Iron	EPA 200.7
Kjeldahl-N	Lachat 10-107-06-02-D
Lead	EPA 200.7
Magnesium	EPA 200.7
Manganese	EPA 200.7
Manganese	EPA 200.8
Mercury	EPA 245.1
Molybdenum	EPA 200.7
Molybdenum	EPA 200.8
Nickel	EPA 200.7
Nickel	EPA 200.8
Nitrate-N	EPA 300.0
Nitrate-N	Lachat 10-107-04-1-C
Non-Filterable Residue	SM 2540-D
Oil and Grease	EPA 1664

Certifications and Approvals

MASSACHUSETTS**Department of Environmental Protection, M-MA-103**

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Non-Potable Water (Wastewater)

Analyte	Method
Orthophosphate	Lachat 10-115-01-1-A
pH	SM 4500-H-B
Phenolics, Total	EPA 420.4
Phenolics, Total	Lachat 10-210-00-1-B
Phosphorus, Total	Lachat 10-115-01-1-C
Phosphorus, Total	SM 4500-P-B,E
Polychlorinated Biphenyls (Oil)	EPA 600/4-81-045
Polychlorinated Biphenyls (Water)	EPA 608
Potassium	EPA 200.7
Selenium	EPA 200.7
Selenium	EPA 200.8
Silver	EPA 200.7
Sodium	EPA 200.7
Specific Conductivity	SM 2510-B
Strontium	EPA 200.7
Sulfate	EPA 300.0
SVOC-Acid Extractables	EPA 625
SVOC-Base/Neutral Extractables	EPA 625
Thallium	EPA 200.7
Thallium	EPA 200.8
Titanium	EPA 200.7
Total Dissolved Solids	SM 2540-C
Total Organic Carbon	SM 5310-B
Toxaphene	EPA 608
Vanadium	EPA 200.7
Vanadium	EPA 200.8
Volatile Aromatics	EPA 602
Volatile Aromatics	EPA 624
Volatile Halocarbons	EPA 624
Zinc	EPA 200.7
Zinc	EPA 200.8

May 17, 2011

Mr. Sean Healey
Weston & Sampson, Inc.
100 Foxborough Boulevard
Suite 250
Foxborough, MA 02035

LABORATORY REPORT

Project: **Union Street New Bedford**
Lab ID: **141601**
Received: **04-29-11**

Dear Sean:

Enclosed are the analytical results for the above referenced project. The project was processed for Standard turnaround.

This letter authorizes the release of the analytical results, and should be considered a part of this report. This report contains a sample receipt report detailing the samples received, a project narrative indicating project changes and non-conformances, a quality control report, and a statement of our state certifications.

The analytical results contained in this report meet all applicable NELAC standards, except as may be specifically noted, or described in the project narrative. The analytical results relate only to the samples received. This report may only be used or reproduced in its entirety.

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

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,



Karyn E. Raymond
Project Manager

KER/nfm
Enclosures

Sample Receipt Report

Project: **Union Street New Bedford**
 Client: **Weston & Sampson, Inc.**
 Lab ID: **141601**

Delivery: **Hand**
 Airbill: **n/a**
 Lab Receipt: **04-29-11**

Temperature: **3.8°C**
 Chain of Custody: **Present**
 Custody Seal(s): **n/a**

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141601-1	MWS-4	Aqueous	4/28/11 10:30	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2004236	40 mL VOA Vial	Industrial	BX38722	HCL	R-6179A	03-31-11	n/a	
C2004205	40 mL VOA Vial	Industrial	BX38722	HCL	R-6179A	03-31-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141601-2	MWS-5	Aqueous	4/28/11 11:00	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2004238	40 mL VOA Vial	Industrial	BX38722	HCL	R-6179A	03-31-11	n/a	
C2004237	40 mL VOA Vial	Industrial	BX38722	HCL	R-6179A	03-31-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141601-3	MWS-7	Aqueous	4/28/11 13:00	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2004239	40 mL VOA Vial	Industrial	BX38722	HCL	R-6179A	03-31-11	n/a	
C2004212	40 mL VOA Vial	Industrial	BX38722	HCL	R-6179A	03-31-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141601-4	MWS-8	Aqueous	4/28/11 14:30	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2004234	40 mL VOA Vial	Industrial	BX38722	HCL	R-6179A	03-31-11	n/a	
C2004232	40 mL VOA Vial	Industrial	BX38722	HCL	R-6179A	03-31-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141601-5	DUP-1	Aqueous	4/28/11 13:00	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2004240	40 mL VOA Vial	Industrial	BX38722	HCL	R-6179A	03-31-11	n/a	
C2004227	40 mL VOA Vial	Industrial	BX38722	HCL	R-6179A	03-31-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141601-6	Trip Blank	Aqueous	4/28/11 0:00	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2015785	40 mL VOA Vial	Industrial	BX38871	HCL	R-6179A	04-18-11	n/a	
C2015777	40 mL VOA Vial	Industrial	BX38871	HCL	R-6179A	04-18-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141601-7	MWS-1	Aqueous	4/29/11 14:45	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2004191	40 mL VOA Vial	Industrial	BX38722	HCL	R-6179A	03-31-11	n/a	
C2004190	40 mL VOA Vial	Industrial	BX38722	HCL	R-6179A	03-31-11	n/a	
C2004182	40 mL VOA Vial	Industrial	BX38722	HCL	R-6179A	03-31-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141601-8	MWS-2	Aqueous	4/29/11 16:30	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2004126	40 mL VOA Vial	Proline	BX38638	HCL	R-6179A	03-31-11	n/a	
C2004125	40 mL VOA Vial	Proline	BX38638	HCL	R-6179A	03-31-11	n/a	
C2004102	40 mL VOA Vial	Proline	BX38638	HCL	R-6179A	03-31-11	n/a	

Sample Receipt Report (Continued)

Project: **Union Street New Bedford**
 Client: **Weston & Sampson, Inc.**
 Lab ID: **141601**

Delivery: **Hand**
 Airbill: **n/a**
 Lab Receipt: **04-29-11**

Temperature: **3.8°C**
 Chain of Custody: **Present**
 Custody Seal(s): **n/a**

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141601-9	MWS-3	Aqueous	4/28/11 16:30	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2004187	40 mL VOA Vial	Industrial	BX38722	HCL	R-6179A	03-31-11	n/a	
C2004183	40 mL VOA Vial	Industrial	BX38722	HCL	R-6179A	03-31-11	n/a	
C2004181	40 mL VOA Vial	Industrial	BX38722	HCL	R-6179A	03-31-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141601-10	MWS-4	Aqueous	4/28/11 10:30	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2004241	40 mL VOA Vial	Industrial	BX38722	HCL	R-6179A	03-31-11	n/a	
C2004204	40 mL VOA Vial	Industrial	BX38722	HCL	R-6179A	03-31-11	n/a	
C2004203	40 mL VOA Vial	Industrial	BX38722	HCL	R-6179A	03-31-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141601-11	MW-2	Aqueous	4/29/11 13:30	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2004225	40 mL VOA Vial	Industrial	BX38722	HCL	R-6179A	03-31-11	n/a	
C2004217	40 mL VOA Vial	Industrial	BX38722	HCL	R-6179A	03-31-11	n/a	
C2004206	40 mL VOA Vial	Industrial	BX38722	HCL	R-6179A	03-31-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141601-12	MWS-5	Aqueous	4/28/11 11:00	MA DEP VPH Carbon Ranges Only				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2004229	40 mL VOA Vial	Industrial	BX38722	HCL	R-6179A	03-31-11	n/a	
C2004228	40 mL VOA Vial	Industrial	BX38722	HCL	R-6179A	03-31-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141601-13	MWS-6	Aqueous	4/29/11 10:30	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2004226	40 mL VOA Vial	Industrial	BX38722	HCL	R-6179A	03-31-11	n/a	
C2004216	40 mL VOA Vial	Industrial	BX38722	HCL	R-6179A	03-31-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141601-14	MW-1	Aqueous	4/29/11 12:00	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2004233	40 mL VOA Vial	Industrial	BX38722	HCL	R-6179A	03-31-11	n/a	
C2004211	40 mL VOA Vial	Industrial	BX38722	HCL	R-6179A	03-31-11	n/a	
C2004210	40 mL VOA Vial	Industrial	BX38722	HCL	R-6179A	03-31-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141601-15	MWS-7	Aqueous	4/28/11 13:00	MA DEP VPH Carbon Ranges Only				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2004214	40 mL VOA Vial	Industrial	BX38722	HCL	R-6179A	03-31-11	n/a	
C2004213	40 mL VOA Vial	Industrial	BX38722	HCL	R-6179A	03-31-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141601-16	MWS-8	Aqueous	4/28/11 14:30	MA DEP VPH Carbon Ranges Only				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2004103	40 mL VOA Vial	Proline	BX38638	HCL	R-6179A	03-31-11	n/a	
C2004235	40 mL VOA Vial	Industrial	BX38722	HCL	R-6179A	03-31-11	n/a	

Sample Receipt Report (Continued)

Project: **Union Street New Bedford**
 Client: **Weston & Sampson, Inc.**
 Lab ID: **141601**

Delivery: **Hand**
 Airbill: **n/a**
 Lab Receipt: **04-29-11**

Temperature: **3.8°C**
 Chain of Custody: **Present**
 Custody Seal(s): **n/a**

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141601-17	DUP-1	Aqueous	4/28/11 13:00	MA DEP VPH Carbon Ranges Only				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2004230	40 mL VOA Vial	Industrial	BX38722	HCL	R-6179A	03-31-11	n/a	
C2004215	40 mL VOA Vial	Industrial	BX38722	HCL	R-6179A	03-31-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141601-18	MWS-5	Aqueous	4/28/11 11:00	EPA 6010B/7470A 8 RCRA Metals Dissolved				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2003840	250 mL Plastic	Industrial	BX38736	HNO3	R-6348C	03-30-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141601-19	MWS-7	Aqueous	4/28/11 13:00	EPA 6010B/7470A 8 RCRA Metals Dissolved				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2003838	250 mL Plastic	Industrial	BX38736	HNO3	R-6348C	03-30-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141601-20	MWS-8	Aqueous	4/28/11 14:30	EPA 6010B/7470A 8 RCRA Metals Dissolved				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2003841	250 mL Plastic	Industrial	BX38736	HNO3	R-6348C	03-30-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141601-21	DUP-1	Aqueous	4/28/11 14:30	EPA 6010B/7470A 8 RCRA Metals Dissolved				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2003837	250 mL Plastic	Industrial	BX38736	HNO3	R-6348C	03-30-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141601-22	MWS-5	Aqueous	4/28/11 11:00	MA DEP EPH with PAHs by 8270C-Mod SIM				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2002579	1 L Amber Glass	Industrial	BX38680	H2SO4	R-6314A	03-25-11	n/a	
C2002578	1 L Amber Glass	Industrial	BX38680	H2SO4	R-6314A	03-25-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141601-23	MWS-7	Aqueous	4/28/11 13:00	MA DEP EPH with PAHs by 8270C-Mod SIM				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2002575	1 L Amber Glass	Industrial	BX38680	H2SO4	R-6314A	03-25-11	n/a	
C2002573	1 L Amber Glass	Industrial	BX38680	H2SO4	R-6314A	03-25-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141601-24	MWS-6	Aqueous	4/29/11 10:30	MA DEP EPH with PAHs by 8270C-Mod SIM				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2002583	1 L Amber Glass	Industrial	BX38680	H2SO4	R-6314A	03-25-11	n/a	
C2002582	1 L Amber Glass	Industrial	BX38680	H2SO4	R-6314A	03-25-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
141601-25	MW-1	Aqueous	4/29/11 12:00	MA DEP EPH with PAHs by 8270C-Mod SIM				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2002580	1 L Amber Glass	Industrial	BX38680	H2SO4	R-6314A	03-25-11	n/a	
C2002576	1 L Amber Glass	Industrial	BX38680	H2SO4	R-6314A	03-25-11	n/a	

Sample Receipt Report (Continued)

Project: **Union Street New Bedford**
 Client: **Weston & Sampson, Inc.**
 Lab ID: **141601**

Delivery: **Hand**
 Airbill: **n/a**
 Lab Receipt: **04-29-11**

Temperature: **3.8°C**
 Chain of Custody: **Present**
 Custody Seal(s): **n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
141601-26	MWS-8		Aqueous	4/28/11 14:30	MA DEP EPH with PAHs by 8270C-Mod SIM				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C2002581	1 L Amber Glass	Industrial	BX38680	H2SO4	R-6314A	03-25-11	n/a		
C2002577	1 L Amber Glass	Industrial	BX38680	H2SO4	R-6314A	03-25-11	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
141601-27	DUP-1		Aqueous	4/28/11 13:00	MA DEP EPH with PAHs by 8270C-Mod SIM				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C2002574	1 L Amber Glass	Industrial	BX38680	H2SO4	R-6314A	03-25-11	n/a		
C2002572	1 L Amber Glass	Industrial	BX38680	H2SO4	R-6314A	03-25-11	n/a		

Data Certification

Project: **Union Street New Bedford**
 Client: **Weston & Sampson, Inc.**

Lab ID: **141601**
 Received: **04-29-11 18:00**

Mass DEP Analytical Protocol Certification Form					
Project Location: n/a		MA DEP RTN: n/a			
This Form provides certifications for the following data set:					
EPA 8260B:	141601-1,-2,-3,-4,-5,-6				
MA DEP VPH:	141601-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17				
MA DEP EPH:	141601-22,-23,-24,-25,-26,-27				
EPA 6010B:	141601-18,-19,-20,-21				
EPA 7470A/1A:	141601-18,-19,-20,-21				
Sample Matrices: Groundwater/Surface <input checked="" type="checkbox"/> Soil/Sediment <input type="checkbox"/> Drinking Water <input type="checkbox"/> Air <input type="checkbox"/> Other <input type="checkbox"/>					
CAM Protocol (check all that apply below):					
8260 VOC CAM II A <input checked="" type="checkbox"/>	7470/7471 Hg CAM III B <input checked="" type="checkbox"/>	Mass DEP VPH CAM IV A <input checked="" type="checkbox"/>	8081 Pesticides CAM V B <input type="checkbox"/>	7196 Hex Cr CAM VI B <input type="checkbox"/>	Mass DEP APH CAM IX A <input type="checkbox"/>
8270 SVOC CAM II B <input type="checkbox"/>	7010 Metals CAM III C <input type="checkbox"/>	Mass DEP EPH CAM IV B <input checked="" type="checkbox"/>	8151 Herbicides CAM V C <input type="checkbox"/>	8330 Explosives CAM VIII A <input type="checkbox"/>	TO-15 VOC CAM IX B <input type="checkbox"/>
6010 Metals CAM III A <input checked="" type="checkbox"/>	6020 Metals CAM III D <input type="checkbox"/>	8082 PCB CAM V A <input type="checkbox"/>	9012 Cyanide/PAC CAM VI A <input type="checkbox"/>	6860 Perchlorate CAM VIII B <input type="checkbox"/>	
An affirmative response to questions A through F are required for "Presumptive Certainty" status.					
A.	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?				Yes
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.	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
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
Responses to questions G, H and I below are required for "Presumptive Certainty" status.					
G.	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?				No
Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056(2)(k) and WSC-07-350.					
H.	Were all QC performance standards specified in the CAM protocol(s) achieved?				No
I.	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?				No
All negative responses must be addressed in an attached laboratory narrative.					
I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.					
Signature:	<i>Karyn E. Raymond</i>		Position:	Project Manager	
Printed Name:	Karyn E. Raymond		Date:	05-17-11	

**EPA Method 8260B
Volatile Organics by GC/MS**

Field ID: **MWS-4**
Project: **Union Street New Bedford**
Client: **Weston & Sampson, Inc.**

Laboratory ID: **141601-1**
Sampled: **04-28-11 10:30**
Received: **04-29-11 18:00**
Analyzed: **05-04-11 12:39**
Analyst: **LMG**

Matrix: **Aqueous**
Container: **40 mL VOA Vial**
Preservation: **HCl/ Cool**

QC Batch ID: **VM10-1303-W**
Instrument ID: **MS-10 HP 6890**
Sample Volume: **5 mL**
Dilution Factor: **1**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/L	0.50
74-87-3	Chloromethane	BRL		ug/L	0.50
75-01-4	Vinyl Chloride	BRL		ug/L	0.50
74-83-9	Bromomethane	BRL		ug/L	2.5
75-00-3	Chloroethane	BRL		ug/L	0.50
75-69-4	Trichlorofluoromethane	BRL		ug/L	0.50
60-29-7	Diethyl Ether	BRL		ug/L	2.0
75-35-4	1,1-Dichloroethene	BRL		ug/L	0.50
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/L	5.0
67-64-1	Acetone	BRL		ug/L	10
75-15-0	Carbon Disulfide	BRL		ug/L	5.0
75-09-2	Methylene Chloride	BRL		ug/L	2.5
107-13-1	Acrylonitrile	BRL		ug/L	2.5
156-60-5	<i>trans</i> -1,2-Dichloroethene	BRL		ug/L	0.50
1634-04-4	Methyl <i>tert</i> -butyl Ether (MTBE)	BRL		ug/L	0.50
75-34-3	1,1-Dichloroethane	BRL		ug/L	0.50
594-20-7	2,2-Dichloropropane	BRL		ug/L	0.50
156-59-2	<i>cis</i> -1,2-Dichloroethene	BRL		ug/L	0.50
78-93-3	2-Butanone (MEK)	BRL		ug/L	5.0
74-97-5	Bromochloromethane	BRL		ug/L	0.50
109-99-9	Tetrahydrofuran (THF)	BRL		ug/L	5.0
67-66-3	Chloroform	BRL		ug/L	0.50
71-55-6	1,1,1-Trichloroethane	BRL		ug/L	0.50
56-23-5	Carbon Tetrachloride	BRL		ug/L	0.50
563-58-6	1,1-Dichloropropene	BRL		ug/L	0.50
71-43-2	Benzene	BRL		ug/L	0.50
107-06-2	1,2-Dichloroethane	BRL		ug/L	0.50
79-01-6	Trichloroethene	BRL		ug/L	0.50
78-87-5	1,2-Dichloropropane	BRL		ug/L	0.50
74-95-3	Dibromomethane	BRL		ug/L	0.50
75-27-4	Bromodichloromethane	BRL		ug/L	0.50
123-91-1	1,4-Dioxane	BRL		ug/L	500
10061-01-5	<i>cis</i> -1,3-Dichloropropene	BRL		ug/L	0.40
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/L	5.0
108-88-3	Toluene	BRL		ug/L	0.50
10061-02-6	<i>trans</i> -1,3-Dichloropropene	BRL		ug/L	0.40
79-00-5	1,1,2-Trichloroethane	BRL		ug/L	0.50
127-18-4	Tetrachloroethene	BRL		ug/L	0.50
142-28-9	1,3-Dichloropropane	BRL		ug/L	0.50
591-78-6	2-Hexanone	BRL		ug/L	5.0
124-48-1	Dibromochloromethane	BRL		ug/L	0.50
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/L	0.50
108-90-7	Chlorobenzene	BRL		ug/L	0.50
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/L	0.50
100-41-4	Ethylbenzene	BRL		ug/L	0.50
108-38-3/106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene	BRL		ug/L	0.50

EPA Method 8260B (Continued) Volatile Organics by GC/MS

Field ID: **MWS-4**
Project: **Union Street New Bedford**
Client: **Weston & Sampson, Inc.**

Matrix: **Aqueous**
Container: **40 mL VOA Vial**
Preservation: **HCl/ Cool**

Laboratory ID: **141601-1**
Sampled: **04-28-11 10:30**
Received: **04-29-11 18:00**
Analyzed: **05-04-11 12:39**
Analyst: **LMG**

QC Batch ID: **VM10-1303-W**
Instrument ID: **MS-10 HP 6890**
Sample Volume: **5 mL**
Dilution Factor: **1**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
95-47-6	<i>ortho</i> -Xylene	BRL		ug/L	0.50
100-42-5	Styrene	BRL		ug/L	0.50
75-25-2	Bromoform	BRL		ug/L	2.5
98-82-8	Isopropylbenzene	BRL		ug/L	0.50
108-86-1	Bromobenzene	BRL		ug/L	0.50
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/L	0.50
96-18-4	1,2,3-Trichloropropane	BRL		ug/L	0.50
110-57-6	<i>trans</i> -1,4-Dichloro-2-butene	BRL		ug/L	50
103-65-1	<i>n</i> -Propylbenzene	BRL		ug/L	0.50
95-49-8	2-Chlorotoluene	BRL		ug/L	0.50
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/L	0.50
106-43-4	4-Chlorotoluene	BRL		ug/L	0.50
98-06-6	<i>tert</i> -Butylbenzene	BRL		ug/L	0.50
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/L	0.50
135-98-8	<i>sec</i> -Butylbenzene	BRL		ug/L	0.50
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	0.50
99-87-6	4-Isopropyltoluene	BRL		ug/L	0.50
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	0.50
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	0.50
104-51-8	<i>n</i> -Butylbenzene	BRL		ug/L	0.50
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/L	0.50
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/L	0.50
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	0.50
87-68-3	Hexachlorobutadiene	BRL		ug/L	0.50
91-20-3	Naphthalene	BRL		ug/L	0.50
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/L	0.50
75-65-0	<i>tert</i> -Butyl Alcohol (TBA)	BRL		ug/L	20
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/L	0.50
637-92-3	Ethyl <i>tert</i> -butyl Ether (ETBE)	BRL		ug/L	0.50
994-05-8	<i>tert</i> -Amyl Methyl Ether (TAME)	BRL		ug/L	0.50

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	10	12	122 %	70 - 130 %
1,2-Dichloroethane-d ₄	10	13	127 %	70 - 130 %
Toluene-d ₈	10	11	110 %	70 - 130 %
4-Bromofluorobenzene	10	10	101 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5030B.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

EPA Method 8260B Volatile Organics by GC/MS

Field ID: MWS-5
Project: Union Street New Bedford
Client: Weston & Sampson, Inc.

Matrix: Aqueous
Container: 40 mL VOA Vial
Preservation: HCl/ Cool

Laboratory ID: 141601-2
Sampled: 04-28-11 11:00
Received: 04-29-11 18:00
Analyzed: 05-04-11 13:03
Analyst: LMG

QC Batch ID: VM10-1303-W
Instrument ID: MS-10 HP 6890
Sample Volume: 5 mL
Dilution Factor: 1

Page: 1 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/L	0.50
74-87-3	Chloromethane	BRL		ug/L	0.50
75-01-4	Vinyl Chloride	BRL		ug/L	0.50
74-83-9	Bromomethane	BRL		ug/L	2.5
75-00-3	Chloroethane	BRL		ug/L	0.50
75-69-4	Trichlorofluoromethane	BRL		ug/L	0.50
60-29-7	Diethyl Ether	BRL		ug/L	2.0
75-35-4	1,1-Dichloroethene	BRL		ug/L	0.50
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/L	5.0
67-64-1	Acetone	BRL		ug/L	10
75-15-0	Carbon Disulfide	BRL		ug/L	5.0
75-09-2	Methylene Chloride	BRL		ug/L	2.5
107-13-1	Acrylonitrile	BRL		ug/L	2.5
156-60-5	<i>trans</i> - 1,2-Dichloroethene	BRL		ug/L	0.50
1634-04-4	Methyl <i>tert</i> - butyl Ether (MTBE)	BRL		ug/L	0.50
75-34-3	1,1-Dichloroethane	BRL		ug/L	0.50
594-20-7	2,2-Dichloropropane	BRL		ug/L	0.50
156-59-2	<i>cis</i> - 1,2-Dichloroethene	BRL		ug/L	0.50
78-93-3	2-Butanone (MEK)	BRL		ug/L	5.0
74-97-5	Bromochloromethane	BRL		ug/L	0.50
109-99-9	Tetrahydrofuran (THF)	BRL		ug/L	5.0
67-66-3	Chloroform	BRL		ug/L	0.50
71-55-6	1,1,1-Trichloroethane	BRL		ug/L	0.50
56-23-5	Carbon Tetrachloride	BRL		ug/L	0.50
563-58-6	1,1-Dichloropropene	BRL		ug/L	0.50
71-43-2	Benzene	BRL		ug/L	0.50
107-06-2	1,2-Dichloroethane	BRL		ug/L	0.50
79-01-6	Trichloroethene	BRL		ug/L	0.50
78-87-5	1,2-Dichloropropane	BRL		ug/L	0.50
74-95-3	Dibromomethane	BRL		ug/L	0.50
75-27-4	Bromodichloromethane	BRL		ug/L	0.50
123-91-1	1,4-Dioxane	BRL		ug/L	500
10061-01-5	<i>cis</i> - 1,3-Dichloropropene	BRL		ug/L	0.40
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/L	5.0
108-88-3	Toluene	BRL		ug/L	0.50
10061-02-6	<i>trans</i> - 1,3-Dichloropropene	BRL		ug/L	0.40
79-00-5	1,1,2-Trichloroethane	BRL		ug/L	0.50
127-18-4	Tetrachloroethene	BRL		ug/L	0.50
142-28-9	1,3-Dichloropropane	BRL		ug/L	0.50
591-78-6	2-Hexanone	BRL		ug/L	5.0
124-48-1	Dibromochloromethane	BRL		ug/L	0.50
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/L	0.50
108-90-7	Chlorobenzene	BRL		ug/L	0.50
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/L	0.50
100-41-4	Ethylbenzene	BRL		ug/L	0.50
108-38-3/106-42-3	<i>meta</i> - Xylene and <i>para</i> - Xylene	BRL		ug/L	0.50

**EPA Method 8260B (Continued)
Volatile Organics by GC/MS**

Field ID: MWS-5
Project: Union Street New Bedford
Client: Weston & Sampson, Inc.

Laboratory ID: 141601-2
Sampled: 04-28-11 11:00
Received: 04-29-11 18:00
Analyzed: 05-04-11 13:03
Analyst: LMG

Matrix: Aqueous
Container: 40 mL VOA Vial
Preservation: HCl/ Cool

QC Batch ID: VM10-1303-W
Instrument ID: MS-10 HP 6890
Sample Volume: 5 mL
Dilution Factor: 1

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
95-47-6	<i>ortho</i> -Xylene	BRL		ug/L	0.50
100-42-5	Styrene	BRL		ug/L	0.50
75-25-2	Bromoform	BRL		ug/L	2.5
98-82-8	Isopropylbenzene	BRL		ug/L	0.50
108-86-1	Bromobenzene	BRL		ug/L	0.50
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/L	0.50
96-18-4	1,2,3-Trichloropropane	BRL		ug/L	0.50
110-57-6	<i>trans</i> -1,4-Dichloro-2-butene	BRL		ug/L	50
103-65-1	<i>n</i> -Propylbenzene	BRL		ug/L	0.50
95-49-8	2-Chlorotoluene	BRL		ug/L	0.50
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/L	0.50
106-43-4	4-Chlorotoluene	BRL		ug/L	0.50
98-06-6	<i>tert</i> -Butylbenzene	BRL		ug/L	0.50
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/L	0.50
135-98-8	<i>sec</i> -Butylbenzene	BRL		ug/L	0.50
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	0.50
99-87-6	4-Isopropyltoluene	BRL		ug/L	0.50
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	0.50
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	0.50
104-51-8	<i>n</i> -Butylbenzene	BRL		ug/L	0.50
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/L	0.50
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/L	0.50
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	0.50
87-68-3	Hexachlorobutadiene	BRL		ug/L	0.50
91-20-3	Naphthalene	BRL		ug/L	0.50
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/L	0.50
75-65-0	<i>tert</i> -Butyl Alcohol (TBA)	BRL		ug/L	20
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/L	0.50
637-92-3	Ethyl <i>tert</i> -butyl Ether (ETBE)	BRL		ug/L	0.50
994-05-8	<i>tert</i> -Amyl Methyl Ether (TAME)	BRL		ug/L	0.50

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	10	13	125 %	70 - 130 %
1,2-Dichloroethane-d ₄	10	13	129 %	70 - 130 %
Toluene-d ₈	10	11	111 %	70 - 130 %
4-Bromofluorobenzene	10	9.2	92 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5030B.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**EPA Method 8260B
Volatile Organics by GC/MS**

Field ID: **MWS-7**
Project: **Union Street New Bedford**
Client: **Weston & Sampson, Inc.**

Laboratory ID: **141601-3**
Sampled: **04-28-11 13:00**
Received: **04-29-11 18:00**
Analyzed: **05-04-11 13:26**
Analyst: **LMG**

Matrix: **Aqueous**
Container: **40 mL VOA Vial**
Preservation: **HCl/ Cool**

QC Batch ID: **VM10-1303-W**
Instrument ID: **MS-10 HP 6890**
Sample Volume: **5 mL**
Dilution Factor: **1**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/L	0.50
74-87-3	Chloromethane	BRL		ug/L	0.50
75-01-4	Vinyl Chloride	BRL		ug/L	0.50
74-83-9	Bromomethane	BRL		ug/L	2.5
75-00-3	Chloroethane	BRL		ug/L	0.50
75-69-4	Trichlorofluoromethane	BRL		ug/L	0.50
60-29-7	Diethyl Ether	BRL		ug/L	2.0
75-35-4	1,1-Dichloroethene	BRL		ug/L	0.50
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/L	5.0
67-64-1	Acetone	BRL		ug/L	10
75-15-0	Carbon Disulfide	BRL		ug/L	5.0
75-09-2	Methylene Chloride	BRL		ug/L	2.5
107-13-1	Acrylonitrile	BRL		ug/L	2.5
156-60-5	<i>trans</i> -1,2-Dichloroethene	BRL		ug/L	0.50
1634-04-4	Methyl <i>tert</i> -butyl Ether (MTBE)	BRL		ug/L	0.50
75-34-3	1,1-Dichloroethane	BRL		ug/L	0.50
594-20-7	2,2-Dichloropropane	BRL		ug/L	0.50
156-59-2	<i>cis</i> -1,2-Dichloroethene	BRL		ug/L	0.50
78-93-3	2-Butanone (MEK)	BRL		ug/L	5.0
74-97-5	Bromochloromethane	BRL		ug/L	0.50
109-99-9	Tetrahydrofuran (THF)	BRL		ug/L	5.0
67-66-3	Chloroform	BRL		ug/L	0.50
71-55-6	1,1,1-Trichloroethane	BRL		ug/L	0.50
56-23-5	Carbon Tetrachloride	BRL		ug/L	0.50
563-58-6	1,1-Dichloropropene	BRL		ug/L	0.50
71-43-2	Benzene	BRL		ug/L	0.50
107-06-2	1,2-Dichloroethane	BRL		ug/L	0.50
79-01-6	Trichloroethene	BRL		ug/L	0.50
78-87-5	1,2-Dichloropropane	BRL		ug/L	0.50
74-95-3	Dibromomethane	BRL		ug/L	0.50
75-27-4	Bromodichloromethane	BRL		ug/L	0.50
123-91-1	1,4-Dioxane	BRL		ug/L	500
10061-01-5	<i>cis</i> -1,3-Dichloropropene	BRL		ug/L	0.40
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/L	5.0
108-88-3	Toluene	BRL		ug/L	0.50
10061-02-6	<i>trans</i> -1,3-Dichloropropene	BRL		ug/L	0.40
79-00-5	1,1,2-Trichloroethane	BRL		ug/L	0.50
127-18-4	Tetrachloroethene	BRL		ug/L	0.50
142-28-9	1,3-Dichloropropane	BRL		ug/L	0.50
591-78-6	2-Hexanone	BRL		ug/L	5.0
124-48-1	Dibromochloromethane	BRL		ug/L	0.50
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/L	0.50
108-90-7	Chlorobenzene	BRL		ug/L	0.50
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/L	0.50
100-41-4	Ethylbenzene	BRL		ug/L	0.50
108-38-3/106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene	BRL		ug/L	0.50

**EPA Method 8260B (Continued)
Volatile Organics by GC/MS**

Field ID: MWS-7
Project: Union Street New Bedford
Client: Weston & Sampson, Inc.

Laboratory ID: 141601-3
Sampled: 04-28-11 13:00
Received: 04-29-11 18:00
Analyzed: 05-04-11 13:26
Analyst: LMG

Matrix: Aqueous
Container: 40 mL VOA Vial
Preservation: HCl/ Cool

QC Batch ID: VM10-1303-W
Instrument ID: MS-10 HP 6890
Sample Volume: 5 mL
Dilution Factor: 1

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
95-47-6	<i>ortho</i> -Xylene	BRL		ug/L	0.50
100-42-5	Styrene	BRL		ug/L	0.50
75-25-2	Bromoform	BRL		ug/L	2.5
98-82-8	Isopropylbenzene	BRL		ug/L	0.50
108-86-1	Bromobenzene	BRL		ug/L	0.50
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/L	0.50
96-18-4	1,2,3-Trichloropropane	BRL		ug/L	0.50
110-57-6	<i>trans</i> -1,4-Dichloro-2-butene	BRL		ug/L	50
103-65-1	<i>n</i> -Propylbenzene	BRL		ug/L	0.50
95-49-8	2-Chlorotoluene	BRL		ug/L	0.50
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/L	0.50
106-43-4	4-Chlorotoluene	BRL		ug/L	0.50
98-06-6	<i>tert</i> -Butylbenzene	BRL		ug/L	0.50
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/L	0.50
135-98-8	<i>sec</i> -Butylbenzene	BRL		ug/L	0.50
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	0.50
99-87-6	4-Isopropyltoluene	BRL		ug/L	0.50
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	0.50
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	0.50
104-51-8	<i>n</i> -Butylbenzene	BRL		ug/L	0.50
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/L	0.50
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/L	0.50
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	0.50
87-68-3	Hexachlorobutadiene	BRL		ug/L	0.50
91-20-3	Naphthalene	BRL		ug/L	0.50
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/L	0.50
75-65-0	<i>tert</i> -Butyl Alcohol (TBA)	BRL		ug/L	20
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/L	0.50
637-92-3	Ethyl <i>tert</i> -butyl Ether (ETBE)	BRL		ug/L	0.50
994-05-8	<i>tert</i> -Amyl Methyl Ether (TAME)	BRL		ug/L	0.50

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	10	13	127 %	70 - 130 %
1,2-Dichloroethane-d ₄	10	13	128 %	70 - 130 %
Toluene-d ₈	10	11	110 %	70 - 130 %
4-Bromofluorobenzene	10	10	100 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5030B.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

EPA Method 8260B Volatile Organics by GC/MS

Field ID: **MWS-8**
Project: **Union Street New Bedford**
Client: **Weston & Sampson, Inc.**

Matrix: **Aqueous**
Container: **40 mL VOA Vial**
Preservation: **HCl/ Cool**

Laboratory ID: **141601-4**
Sampled: **04-28-11 14:30**
Received: **04-29-11 18:00**
Analyzed: **05-04-11 13:49**
Analyst: **LMG**

QC Batch ID: **VM10-1303-W**
Instrument ID: **MS-10 HP 6890**
Sample Volume: **5 mL**
Dilution Factor: **1**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/L	0.50
74-87-3	Chloromethane	BRL		ug/L	0.50
75-01-4	Vinyl Chloride	BRL		ug/L	0.50
74-83-9	Bromomethane	BRL		ug/L	2.5
75-00-3	Chloroethane	BRL		ug/L	0.50
75-69-4	Trichlorofluoromethane	BRL		ug/L	0.50
60-29-7	Diethyl Ether	BRL		ug/L	2.0
75-35-4	1,1-Dichloroethene	BRL		ug/L	0.50
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/L	5.0
67-64-1	Acetone	BRL		ug/L	10
75-15-0	Carbon Disulfide	BRL		ug/L	5.0
75-09-2	Methylene Chloride	BRL		ug/L	2.5
107-13-1	Acrylonitrile	BRL		ug/L	2.5
156-60-5	<i>trans</i> -1,2-Dichloroethene	BRL		ug/L	0.50
1634-04-4	Methyl <i>tert</i> -butyl Ether (MTBE)	BRL		ug/L	0.50
75-34-3	1,1-Dichloroethane	BRL		ug/L	0.50
594-20-7	2,2-Dichloropropane	BRL		ug/L	0.50
156-59-2	<i>cis</i> -1,2-Dichloroethene	BRL		ug/L	0.50
78-93-3	2-Butanone (MEK)	BRL		ug/L	5.0
74-97-5	Bromochloromethane	BRL		ug/L	0.50
109-99-9	Tetrahydrofuran (THF)	BRL		ug/L	5.0
67-66-3	Chloroform	BRL		ug/L	0.50
71-55-6	1,1,1-Trichloroethane	BRL		ug/L	0.50
56-23-5	Carbon Tetrachloride	BRL		ug/L	0.50
563-58-6	1,1-Dichloropropene	BRL		ug/L	0.50
71-43-2	Benzene	BRL		ug/L	0.50
107-06-2	1,2-Dichloroethane	BRL		ug/L	0.50
79-01-6	Trichloroethene	BRL		ug/L	0.50
78-87-5	1,2-Dichloropropane	BRL		ug/L	0.50
74-95-3	Dibromomethane	BRL		ug/L	0.50
75-27-4	Bromodichloromethane	BRL		ug/L	0.50
123-91-1	1,4-Dioxane	BRL		ug/L	500
10061-01-5	<i>cis</i> -1,3-Dichloropropene	BRL		ug/L	0.40
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/L	5.0
108-88-3	Toluene	BRL		ug/L	0.50
10061-02-6	<i>trans</i> -1,3-Dichloropropene	BRL		ug/L	0.40
79-00-5	1,1,2-Trichloroethane	BRL		ug/L	0.50
127-18-4	Tetrachloroethene	BRL		ug/L	0.50
142-28-9	1,3-Dichloropropane	BRL		ug/L	0.50
591-78-6	2-Hexanone	BRL		ug/L	5.0
124-48-1	Dibromochloromethane	BRL		ug/L	0.50
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/L	0.50
108-90-7	Chlorobenzene	BRL		ug/L	0.50
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/L	0.50
100-41-4	Ethylbenzene	BRL		ug/L	0.50
108-38-3/106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene	BRL		ug/L	0.50

**EPA Method 8260B (Continued)
Volatile Organics by GC/MS**

Field ID: **MWS-8**
Project: **Union Street New Bedford**
Client: **Weston & Sampson, Inc.**

Laboratory ID: **141601-4**
Sampled: **04-28-11 14:30**
Received: **04-29-11 18:00**
Analyzed: **05-04-11 13:49**
Analyst: **LMG**

Matrix: **Aqueous**
Container: **40 mL VOA Vial**
Preservation: **HCl/ Cool**

QC Batch ID: **VM10-1303-W**
Instrument ID: **MS-10 HP 6890**
Sample Volume: **5 mL**
Dilution Factor: **1**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
95-47-6	<i>ortho</i> -Xylene	BRL		ug/L	0.50
100-42-5	Styrene	BRL		ug/L	0.50
75-25-2	Bromoform	BRL		ug/L	2.5
98-82-8	Isopropylbenzene	BRL		ug/L	0.50
108-86-1	Bromobenzene	BRL		ug/L	0.50
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/L	0.50
96-18-4	1,2,3-Trichloropropane	BRL		ug/L	0.50
110-57-6	<i>trans</i> -1,4-Dichloro-2-butene	BRL		ug/L	50
103-65-1	<i>n</i> -Propylbenzene	BRL		ug/L	0.50
95-49-8	2-Chlorotoluene	BRL		ug/L	0.50
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/L	0.50
106-43-4	4-Chlorotoluene	BRL		ug/L	0.50
98-06-6	<i>tert</i> -Butylbenzene	BRL		ug/L	0.50
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/L	0.50
135-98-8	<i>sec</i> -Butylbenzene	BRL		ug/L	0.50
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	0.50
99-87-6	4-Isopropyltoluene	BRL		ug/L	0.50
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	0.50
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	0.50
104-51-8	<i>n</i> -Butylbenzene	BRL		ug/L	0.50
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/L	0.50
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/L	0.50
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	0.50
87-68-3	Hexachlorobutadiene	BRL		ug/L	0.50
91-20-3	Naphthalene	BRL		ug/L	0.50
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/L	0.50
75-65-0	<i>tert</i> -Butyl Alcohol (TBA)	BRL		ug/L	20
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/L	0.50
637-92-3	Ethyl <i>tert</i> -butyl Ether (ETBE)	BRL		ug/L	0.50
994-05-8	<i>tert</i> -Amyl Methyl Ether (TAME)	BRL		ug/L	0.50

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	10	12	120 %	70 - 130 %
1,2-Dichloroethane-d ₄	10	12	123 %	70 - 130 %
Toluene-d ₈	10	11	111 %	70 - 130 %
4-Bromofluorobenzene	10	10	100 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5030B.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**EPA Method 8260B
Volatile Organics by GC/MS**

Field ID: **DUP-1**
Project: **Union Street New Bedford**
Client: **Weston & Sampson, Inc.**

Laboratory ID: **141601-5**
Sampled: **04-28-11 13:00**
Received: **04-29-11 18:00**
Analyzed: **05-04-11 14:13**
Analyst: **LMG**

Matrix: **Aqueous**
Container: **40 mL VOA Vial**
Preservation: **HCl/ Cool**

QC Batch ID: **VM10-1303-W**
Instrument ID: **MS-10 HP 6890**
Sample Volume: **5 mL**
Dilution Factor: **1**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/L	0.50
74-87-3	Chloromethane	BRL		ug/L	0.50
75-01-4	Vinyl Chloride	BRL		ug/L	0.50
74-83-9	Bromomethane	BRL		ug/L	2.5
75-00-3	Chloroethane	BRL		ug/L	0.50
75-69-4	Trichlorofluoromethane	BRL		ug/L	0.50
60-29-7	Diethyl Ether	BRL		ug/L	2.0
75-35-4	1,1-Dichloroethene	BRL		ug/L	0.50
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/L	5.0
67-64-1	Acetone	BRL		ug/L	10
75-15-0	Carbon Disulfide	BRL		ug/L	5.0
75-09-2	Methylene Chloride	BRL		ug/L	2.5
107-13-1	Acrylonitrile	BRL		ug/L	2.5
156-60-5	<i>trans</i> -1,2-Dichloroethene	BRL		ug/L	0.50
1634-04-4	Methyl <i>tert</i> -butyl Ether (MTBE)	BRL		ug/L	0.50
75-34-3	1,1-Dichloroethane	BRL		ug/L	0.50
594-20-7	2,2-Dichloropropane	BRL		ug/L	0.50
156-59-2	<i>cis</i> -1,2-Dichloroethene	BRL		ug/L	0.50
78-93-3	2-Butanone (MEK)	BRL		ug/L	5.0
74-97-5	Bromochloromethane	BRL		ug/L	0.50
109-99-9	Tetrahydrofuran (THF)	BRL		ug/L	5.0
67-66-3	Chloroform	BRL		ug/L	0.50
71-55-6	1,1,1-Trichloroethane	BRL		ug/L	0.50
56-23-5	Carbon Tetrachloride	BRL		ug/L	0.50
563-58-6	1,1-Dichloropropene	BRL		ug/L	0.50
71-43-2	Benzene	BRL		ug/L	0.50
107-06-2	1,2-Dichloroethane	BRL		ug/L	0.50
79-01-6	Trichloroethene	BRL		ug/L	0.50
78-87-5	1,2-Dichloropropane	BRL		ug/L	0.50
74-95-3	Dibromomethane	BRL		ug/L	0.50
75-27-4	Bromodichloromethane	BRL		ug/L	0.50
123-91-1	1,4-Dioxane	BRL		ug/L	500
10061-01-5	<i>cis</i> -1,3-Dichloropropene	BRL		ug/L	0.40
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/L	5.0
108-88-3	Toluene	BRL		ug/L	0.50
10061-02-6	<i>trans</i> -1,3-Dichloropropene	BRL		ug/L	0.40
79-00-5	1,1,2-Trichloroethane	BRL		ug/L	0.50
127-18-4	Tetrachloroethene	BRL		ug/L	0.50
142-28-9	1,3-Dichloropropane	BRL		ug/L	0.50
591-78-6	2-Hexanone	BRL		ug/L	5.0
124-48-1	Dibromochloromethane	BRL		ug/L	0.50
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/L	0.50
108-90-7	Chlorobenzene	BRL		ug/L	0.50
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/L	0.50
100-41-4	Ethylbenzene	BRL		ug/L	0.50
108-38-3/106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene	BRL		ug/L	0.50

**EPA Method 8260B (Continued)
Volatile Organics by GC/MS**

Field ID: **DUP-1**
Project: **Union Street New Bedford**
Client: **Weston & Sampson, Inc.**

Laboratory ID: **141601-5**
Sampled: **04-28-11 13:00**
Received: **04-29-11 18:00**
Analyzed: **05-04-11 14:13**
Analyst: **LMG**

Matrix: **Aqueous**
Container: **40 mL VOA Vial**
Preservation: **HCl/ Cool**

QC Batch ID: **VM10-1303-W**
Instrument ID: **MS-10 HP 6890**
Sample Volume: **5 mL**
Dilution Factor: **1**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
95-47-6	<i>ortho</i> -Xylene	BRL		ug/L	0.50
100-42-5	Styrene	BRL		ug/L	0.50
75-25-2	Bromoform	BRL		ug/L	2.5
98-82-8	Isopropylbenzene	BRL		ug/L	0.50
108-86-1	Bromobenzene	BRL		ug/L	0.50
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/L	0.50
96-18-4	1,2,3-Trichloropropane	BRL		ug/L	0.50
110-57-6	<i>trans</i> -1,4-Dichloro-2-butene	BRL		ug/L	50
103-65-1	<i>n</i> -Propylbenzene	BRL		ug/L	0.50
95-49-8	2-Chlorotoluene	BRL		ug/L	0.50
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/L	0.50
106-43-4	4-Chlorotoluene	BRL		ug/L	0.50
98-06-6	<i>tert</i> -Butylbenzene	BRL		ug/L	0.50
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/L	0.50
135-98-8	<i>sec</i> -Butylbenzene	BRL		ug/L	0.50
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	0.50
99-87-6	4-Isopropyltoluene	BRL		ug/L	0.50
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	0.50
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	0.50
104-51-8	<i>n</i> -Butylbenzene	BRL		ug/L	0.50
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/L	0.50
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/L	0.50
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	0.50
87-68-3	Hexachlorobutadiene	BRL		ug/L	0.50
91-20-3	Naphthalene	BRL		ug/L	0.50
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/L	0.50
75-65-0	<i>tert</i> -Butyl Alcohol (TBA)	BRL		ug/L	20
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/L	0.50
637-92-3	Ethyl <i>tert</i> -butyl Ether (ETBE)	BRL		ug/L	0.50
994-05-8	<i>tert</i> -Amyl Methyl Ether (TAME)	BRL		ug/L	0.50

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	10	13	127 %	70 - 130 %
1,2-Dichloroethane-d ₄	10	12	124 %	70 - 130 %
Toluene-d ₈	10	11	109 %	70 - 130 %
4-Bromofluorobenzene	10	9.7	97 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5030B.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**EPA Method 8260B
Volatile Organics by GC/MS**

Field ID: **Trip Blank**
 Project: **Union Street New Bedford**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141601-6**
 Sampled: **04-28-11 00:00**
 Received: **04-29-11 18:00**
 Analyzed: **05-04-11 14:36**
 Analyst: **LMG**

Matrix: **Aqueous**
 Container: **40 mL VOA Vial**
 Preservation: **HCl/ Cool**
 QC Batch ID: **VM10-1303-W**
 Instrument ID: **MS-10 HP 6890**
 Sample Volume: **5 mL**
 Dilution Factor: **1**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/L	0.50
74-87-3	Chloromethane	BRL		ug/L	0.50
75-01-4	Vinyl Chloride	BRL		ug/L	0.50
74-83-9	Bromomethane	BRL		ug/L	2.5
75-00-3	Chloroethane	BRL		ug/L	0.50
75-69-4	Trichlorofluoromethane	BRL		ug/L	0.50
60-29-7	Diethyl Ether	BRL		ug/L	2.0
75-35-4	1,1-Dichloroethene	BRL		ug/L	0.50
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/L	5.0
67-64-1	Acetone	BRL		ug/L	10
75-15-0	Carbon Disulfide	BRL		ug/L	5.0
75-09-2	Methylene Chloride	BRL		ug/L	2.5
107-13-1	Acrylonitrile	BRL		ug/L	2.5
156-60-5	<i>trans</i> -1,2-Dichloroethene	BRL		ug/L	0.50
1634-04-4	Methyl <i>tert</i> -butyl Ether (MTBE)	BRL		ug/L	0.50
75-34-3	1,1-Dichloroethane	BRL		ug/L	0.50
594-20-7	2,2-Dichloropropane	BRL		ug/L	0.50
156-59-2	<i>cis</i> -1,2-Dichloroethene	BRL		ug/L	0.50
78-93-3	2-Butanone (MEK)	BRL		ug/L	5.0
74-97-5	Bromochloromethane	BRL		ug/L	0.50
109-99-9	Tetrahydrofuran (THF)	BRL		ug/L	5.0
67-66-3	Chloroform	BRL		ug/L	0.50
71-55-6	1,1,1-Trichloroethane	BRL		ug/L	0.50
56-23-5	Carbon Tetrachloride	BRL		ug/L	0.50
563-58-6	1,1-Dichloropropene	BRL		ug/L	0.50
71-43-2	Benzene	BRL		ug/L	0.50
107-06-2	1,2-Dichloroethane	BRL		ug/L	0.50
79-01-6	Trichloroethene	BRL		ug/L	0.50
78-87-5	1,2-Dichloropropane	BRL		ug/L	0.50
74-95-3	Dibromomethane	BRL		ug/L	0.50
75-27-4	Bromodichloromethane	BRL		ug/L	0.50
123-91-1	1,4-Dioxane	BRL		ug/L	500
10061-01-5	<i>cis</i> -1,3-Dichloropropene	BRL		ug/L	0.40
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/L	5.0
108-88-3	Toluene	BRL		ug/L	0.50
10061-02-6	<i>trans</i> -1,3-Dichloropropene	BRL		ug/L	0.40
79-00-5	1,1,2-Trichloroethane	BRL		ug/L	0.50
127-18-4	Tetrachloroethene	BRL		ug/L	0.50
142-28-9	1,3-Dichloropropane	BRL		ug/L	0.50
591-78-6	2-Hexanone	BRL		ug/L	5.0
124-48-1	Dibromochloromethane	BRL		ug/L	0.50
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/L	0.50
108-90-7	Chlorobenzene	BRL		ug/L	0.50
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/L	0.50
100-41-4	Ethylbenzene	BRL		ug/L	0.50
108-38-3/106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene	BRL		ug/L	0.50

**EPA Method 8260B (Continued)
Volatile Organics by GC/MS**

Field ID: **Trip Blank**
 Project: **Union Street New Bedford**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141601-6**
 Sampled: **04-28-11 00:00**
 Received: **04-29-11 18:00**
 Analyzed: **05-04-11 14:36**
 Analyst: **LMG**

Matrix: **Aqueous**
 Container: **40 mL VOA Vial**
 Preservation: **HCl/ Cool**
 QC Batch ID: **VM10-1303-W**
 Instrument ID: **MS-10 HP 6890**
 Sample Volume: **5 mL**
 Dilution Factor: **1**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
95-47-6	<i>ortho</i> -Xylene	BRL		ug/L	0.50
100-42-5	Styrene	BRL		ug/L	0.50
75-25-2	Bromoform	BRL		ug/L	2.5
98-82-8	Isopropylbenzene	BRL		ug/L	0.50
108-86-1	Bromobenzene	BRL		ug/L	0.50
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/L	0.50
96-18-4	1,2,3-Trichloropropane	BRL		ug/L	0.50
110-57-6	<i>trans</i> -1,4-Dichloro-2-butene	BRL		ug/L	50
103-65-1	<i>n</i> -Propylbenzene	BRL		ug/L	0.50
95-49-8	2-Chlorotoluene	BRL		ug/L	0.50
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/L	0.50
106-43-4	4-Chlorotoluene	BRL		ug/L	0.50
98-06-6	<i>tert</i> -Butylbenzene	BRL		ug/L	0.50
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/L	0.50
135-98-8	<i>sec</i> -Butylbenzene	BRL		ug/L	0.50
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	0.50
99-87-6	4-Isopropyltoluene	BRL		ug/L	0.50
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	0.50
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	0.50
104-51-8	<i>n</i> -Butylbenzene	BRL		ug/L	0.50
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/L	0.50
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/L	0.50
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	0.50
87-68-3	Hexachlorobutadiene	BRL		ug/L	0.50
91-20-3	Naphthalene	BRL		ug/L	0.50
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/L	0.50
75-65-0	<i>tert</i> -Butyl Alcohol (TBA)	BRL		ug/L	20
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/L	0.50
637-92-3	Ethyl <i>tert</i> -butyl Ether (ETBE)	BRL		ug/L	0.50
994-05-8	<i>tert</i> -Amyl Methyl Ether (TAME)	BRL		ug/L	0.50

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	10	13	125 %	70 - 130 %
1,2-Dichloroethane-d ₄	10	13	129 %	70 - 130 %
Toluene-d ₈	10	10	101 %	70 - 130 %
4-Bromofluorobenzene	10	10	100 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample preparation performed by EPA Method 5030B.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID**

Field ID: **MWS-1**
 Project: **Union Street New Bedford**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141601-07**
 Sampled: **04-29-11 14:45**
 Received: **04-29-11 18:00**
 Analyzed: **05-10-11 21:17**
 Analyst: **JFR**

Matrix: **Aqueous**
 Container: **40 mL VOA Vial**
 Preservation: **HCl/ Cool**
 QC Batch ID: **VGA-4763-W**
 Instrument ID: **GC-10 Agilent 6890**
 Sample Volume: **5 mL**
 Dilution Factor: **1**

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	1,400		ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	440		ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons [†]	930		ug/L	20
<u>Unadjusted</u> n-C5 to n-C8 Aliphatic Hydrocarbons [†]	1,400		ug/L	20
<u>Unadjusted</u> n-C9 to n-C12 Aliphatic Hydrocarbons [†]	1,400		ug/L	20

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -butyl Ether [⌘]	BRL		ug/L	5
71-43-2	Benzene [⌘]	BRL		ug/L	1
108-88-3	Toluene [⌘]	BRL		ug/L	5
100-41-4	Ethylbenzene [‡]	7		ug/L	5
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	BRL		ug/L	5
95-47-6	<i>ortho</i> -Xylene [‡]	BRL		ug/L	5
91-20-3	Naphthalene	BRL		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	47	95 %	70 - 130 %
2,5-Dibromotoluene (FID)	50	40	81 %	70 - 130 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◇ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

⌘ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

Massachusetts DEP VPH Method Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID: MWS-2
Project: Union Street New Bedford
Client: Weston & Sampson, Inc.

Matrix: Aqueous
Container: 40 mL VOA Vial
Preservation: HCl/ Cool

Laboratory ID: 141601-08
Sampled: 04-29-11 16:30
Received: 04-29-11 18:00
Analyzed: 05-10-11 22:37
Analyst: JFR

QC Batch ID: VGA-4763-W
Instrument ID: GC-10 Agilent 6890
Sample Volume: 5 mL
Dilution Factor: 1

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	910		ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	320		ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons [†]	440		ug/L	20
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons [†]	910		ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons [†]	770		ug/L	20

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -butyl Ether [⌘]	BRL		ug/L	5
71-43-2	Benzene [⌘]	BRL		ug/L	1
108-88-3	Toluene [⌘]	BRL		ug/L	5
100-41-4	Ethylbenzene [‡]	8		ug/L	5
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	BRL		ug/L	5
95-47-6	<i>ortho</i> -Xylene [‡]	5		ug/L	5
91-20-3	Naphthalene	BRL		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	45	90 %	70 - 130 %
2,5-Dibromotoluene (FID)	50	39	79 %	70 - 130 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◇ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

⌘ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

Massachusetts DEP VPH Method Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID: MWS-3
Project: Union Street New Bedford
Client: Weston & Sampson, Inc.

Matrix: Aqueous
Container: 40 mL VOA Vial
Preservation: HCl/ Cool
QC Batch ID: VGA-4763-W
Instrument ID: GC-10 Agilent 6890
Sample Volume: 5 mL
Dilution Factor: 1

Laboratory ID: 141601-09
Sampled: 04-28-11 16:30
Received: 04-29-11 18:00
Analyzed: 05-10-11 23:17
Analyst: JFR

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	BRL		ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	BRL		ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons [†]	BRL		ug/L	20
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons [†]	BRL		ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons [†]	BRL		ug/L	20

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -butyl Ether [⌘]	BRL		ug/L	5
71-43-2	Benzene [⌘]	BRL		ug/L	1
108-88-3	Toluene [⌘]	BRL		ug/L	5
100-41-4	Ethylbenzene [‡]	BRL		ug/L	5
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	BRL		ug/L	5
95-47-6	<i>ortho</i> -Xylene [‡]	BRL		ug/L	5
91-20-3	Naphthalene	BRL		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	50	101 %	70 - 130 %
2,5-Dibromotoluene (FID)	50	51	101 %	70 - 130 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◇ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

⌘ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

**Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID**

Field ID: **MWS-4**
Project: **Union Street New Bedford**
Client: **Weston & Sampson, Inc.**

Matrix: **Aqueous**
Container: **40 mL VOA Vial**
Preservation: **HCl/ Cool**
QC Batch ID: **VGA-4763-W**
Instrument ID: **GC-10 Agilent 6890**
Sample Volume: **5 mL**
Dilution Factor: **1**

Laboratory ID: **141601-10**
Sampled: **04-28-11 10:30**
Received: **04-29-11 18:00**
Analyzed: **05-10-11 23:57**
Analyst: **JFR**

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	BRL		ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	BRL		ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons [†]	BRL		ug/L	20
<u>Unadjusted</u> n-C5 to n-C8 Aliphatic Hydrocarbons [†]	BRL		ug/L	20
<u>Unadjusted</u> n-C9 to n-C12 Aliphatic Hydrocarbons [†]	BRL		ug/L	20

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -butyl Ether [⌘]	BRL		ug/L	5
71-43-2	Benzene [⌘]	BRL		ug/L	1
108-88-3	Toluene [⌘]	BRL		ug/L	5
100-41-4	Ethylbenzene [‡]	BRL		ug/L	5
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	BRL		ug/L	5
95-47-6	<i>ortho</i> -Xylene [‡]	BRL		ug/L	5
91-20-3	Naphthalene	BRL		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	51	102 %	70 - 130 %
2,5-Dibromotoluene (FID)	50	51	102 %	70 - 130 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◇ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

⌘ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

**Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID**

Field ID: **MW-2**
Project: **Union Street New Bedford**
Client: **Weston & Sampson, Inc.**

Matrix: **Aqueous**
Container: **40 mL VOA Vial**
Preservation: **HCl/ Cool**
QC Batch ID: **VGA-4763-W**
Instrument ID: **GC-10 Agilent 6890**
Sample Volume: **5 mL**
Dilution Factor: **1**

Laboratory ID: **141601-11**
Sampled: **04-29-11 13:30**
Received: **04-29-11 18:00**
Analyzed: **05-11-11 00:37**
Analyst: **JFR**

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	BRL		ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	BRL		ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons [†]	BRL		ug/L	20
<u>Unadjusted</u> n-C5 to n-C8 Aliphatic Hydrocarbons [†]	BRL		ug/L	20
<u>Unadjusted</u> n-C9 to n-C12 Aliphatic Hydrocarbons [†]	BRL		ug/L	20

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -butyl Ether [⌘]	BRL		ug/L	5
71-43-2	Benzene [⌘]	BRL		ug/L	1
108-88-3	Toluene [⌘]	BRL		ug/L	5
100-41-4	Ethylbenzene [‡]	BRL		ug/L	5
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	BRL		ug/L	5
95-47-6	<i>ortho</i> -Xylene [‡]	BRL		ug/L	5
91-20-3	Naphthalene	BRL		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	52	103 %	70 - 130 %
2,5-Dibromotoluene (FID)	50	51	101 %	70 - 130 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◇ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

⌘ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

**Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID**

Field ID: MWS-5
 Project: Union Street New Bedford
 Client: Weston & Sampson, Inc.
 Laboratory ID: 141601-12
 Sampled: 04-28-11 11:00
 Received: 04-29-11 18:00
 Analyzed: 05-11-11 01:17
 Analyst: JFR

Matrix: Aqueous
 Container: 40 mL VOA Vial
 Preservation: HCl/ Cool
 QC Batch ID: VGA-4763-W
 Instrument ID: GC-10 Agilent 6890
 Sample Volume: 5 mL
 Dilution Factor: 1

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	BRL		ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	BRL		ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons [†]	BRL		ug/L	20

Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons [†]	BRL		ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons [†]	BRL		ug/L	20

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	52	104 %	70 - 130 %
2,5-Dibromotoluene (FID)	50	51	102 %	70 - 130 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◇ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ⌘ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

**Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID**

Field ID: **MWS-6**
Project: **Union Street New Bedford**
Client: **Weston & Sampson, Inc.**

Matrix: **Aqueous**
Container: **40 mL VOA Vial**
Preservation: **HCl/ Cool**
QC Batch ID: **VGA-4763-W**
Instrument ID: **GC-10 Agilent 6890**
Sample Volume: **5 mL**
Dilution Factor: **2**

Laboratory ID: **141601-13**
Sampled: **04-29-11 10:30**
Received: **04-29-11 18:00**
Analyzed: **05-11-11 01:57**
Analyst: **JFR**

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	BRL		ug/L	40
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	510		ug/L	40
n-C9 to n-C10 Aromatic Hydrocarbons [†]	1,100		ug/L	40

Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons [†]	BRL		ug/L	40
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons [†]	1,700		ug/L	40

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -butyl Ether [⌘]	BRL		ug/L	10
71-43-2	Benzene [⌘]	BRL		ug/L	2
108-88-3	Toluene [⌘]	BRL		ug/L	10
100-41-4	Ethylbenzene [‡]	27		ug/L	10
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	46		ug/L	10
95-47-6	<i>ortho</i> -Xylene [‡]	BRL		ug/L	10
91-20-3	Naphthalene	210		ug/L	10

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	62	123 %	70 - 130 %
2,5-Dibromotoluene (FID)	50	59	118 %	70 - 130 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◇ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

⌘ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

Massachusetts DEP VPH Method Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID: MW-1
Project: Union Street New Bedford
Client: Weston & Sampson, Inc.

Matrix: Aqueous
Container: 40 mL VOA Vial
Preservation: HCl/ Cool

Laboratory ID: 141601-14
Sampled: 04-29-11 12:00
Received: 04-29-11 18:00
Analyzed: 05-11-11 02:37
Analyst: JFR

QC Batch ID: VGA-4763-W
Instrument ID: GC-10 Agilent 6890
Sample Volume: 5 mL
Dilution Factor: 1

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	BRL		ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	BRL		ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons [†]	BRL		ug/L	20
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons [†]	BRL		ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons [†]	27		ug/L	20

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -butyl Ether [⌘]	BRL		ug/L	5
71-43-2	Benzene [⌘]	BRL		ug/L	1
108-88-3	Toluene [⌘]	BRL		ug/L	5
100-41-4	Ethylbenzene [‡]	BRL		ug/L	5
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	BRL		ug/L	5
95-47-6	<i>ortho</i> -Xylene [‡]	BRL		ug/L	5
91-20-3	Naphthalene	5		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	56	112 %	70 - 130 %
2,5-Dibromotoluene (FID)	50	57	115 %	70 - 130 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◇ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

⌘ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

**Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID**

Field ID: MWS-7
 Project: Union Street New Bedford
 Client: Weston & Sampson, Inc.
 Laboratory ID: 141601-15
 Sampled: 04-28-11 13:00
 Received: 04-29-11 18:00
 Analyzed: 05-11-11 03:17
 Analyst: JFR

Matrix: Aqueous
 Container: 40 mL VOA Vial
 Preservation: HCl/ Cool
 QC Batch ID: VGA-4763-W
 Instrument ID: GC-10 Agilent 6890
 Sample Volume: 5 mL
 Dilution Factor: 1

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	BRL		ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	BRL		ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons [†]	BRL		ug/L	20

Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons [†]	BRL		ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons [†]	BRL		ug/L	20

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	54	107 %	70 - 130 %
2,5-Dibromotoluene (FID)	50	52	105 %	70 - 130 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◇ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ≠ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

**Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID**

Field ID: **MWS-8**
 Project: **Union Street New Bedford**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141601-16**
 Sampled: **04-28-11 14:30**
 Received: **04-29-11 18:00**
 Analyzed: **05-11-11 03:57**
 Analyst: **JFR**

Matrix: **Aqueous**
 Container: **40 mL VOA Vial**
 Preservation: **HCl/ Cool**
 QC Batch ID: **VGA-4763-W**
 Instrument ID: **GC-10 Agilent 6890**
 Sample Volume: **5 mL**
 Dilution Factor: **1**

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	BRL		ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	BRL		ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons [†]	BRL		ug/L	20

Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons [†]	BRL		ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons [†]	BRL		ug/L	20

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	52	105 %	70 - 130 %
2,5-Dibromotoluene (FID)	50	52	103 %	70 - 130 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◇ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ≡ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

**Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID**

Field ID: **DUP-1**
 Project: **Union Street New Bedford**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141601-17**
 Sampled: **04-28-11 13:00**
 Received: **04-29-11 18:00**
 Analyzed: **05-11-11 04:37**
 Analyst: **JFR**

Matrix: **Aqueous**
 Container: **40 mL VOA Vial**
 Preservation: **HCl/ Cool**
 QC Batch ID: **VGA-4763-W**
 Instrument ID: **GC-10 Agilent 6890**
 Sample Volume: **5 mL**
 Dilution Factor: **1**

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	BRL		ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	BRL		ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons [†]	BRL		ug/L	20

Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons [†]	BRL		ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons [†]	BRL		ug/L	20

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	53	107 %	70 - 130 %
2,5-Dibromotoluene (FID)	50	53	106 %	70 - 130 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◇ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ≠ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

Trace Metals

Field ID: **MWS-5**
 Project: **Union Street New Bedford**
 Client: **Weston & Sampson, Inc.**

Matrix: **Aqueous**
 Container: **250 mL Plastic**
 Preservation: **HNO3 / Cool**

Laboratory ID: **141601-18**
 Sampled: **04-28-11 11:00**
 Received: **04-29-11 18:00**

Preserved: **04-28-11 11:00**
 Filtered: **04-28-11 11:00**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 6010B ¹	MB-4418-W	EPA 3010A	05-11-11 00:00	50 mL	ICP-1 PE 3000	PD
EPA 7470A ²	MP-2390-W	EPA 7470A	05-16-11 00:00	25 mL	CVAA-1 PE FIMS	LMS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Dissolved	BRL		mg/L	0.01	1	05-17-11 11:37	EPA 6010B ¹
7440-39-3	Barium, Dissolved	0.19		mg/L	0.05	1	05-17-11 11:37	EPA 6010B ¹
7440-43-9	Cadmium, Dissolved	BRL		mg/L	0.004	1	05-17-11 11:37	EPA 6010B ¹
7440-47-3	Chromium, Dissolved	BRL		mg/L	0.01	1	05-17-11 11:37	EPA 6010B ¹
7439-92-1	Lead, Dissolved	BRL		mg/L	0.005	1	05-17-11 11:37	EPA 6010B ¹
7439-97-6	Mercury, Dissolved	BRL		mg/L	0.0002	1	05-16-11 16:33	EPA 7470A ²
7782-49-2	Selenium, Dissolved	BRL		mg/L	0.05	1	05-17-11 11:37	EPA 6010B ¹
7440-22-4	Silver, Dissolved	BRL		mg/L	0.007	1	05-17-11 11:37	EPA 6010B ¹

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
 DF Dilution Factor.

Trace Metals

Field ID: MWS-7
 Project: Union Street New Bedford
 Client: Weston & Sampson, Inc.

Matrix: Aqueous
 Container: 250 mL Plastic
 Preservation: HNO₃ / Cool

Laboratory ID: 141601-19
 Sampled: 04-28-11 13:00
 Received: 04-29-11 18:00

Preserved: 04-28-11 13:00
 Filtered: 04-28-11 13:00

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 6010B ¹	MB-4418-W	EPA 3010A	05-11-11 00:00	50 mL	ICP-1 PE 3000	PD
EPA 7470A ²	MP-2390-W	EPA 7470A	05-16-11 00:00	25 mL	CVAA-1 PE FIMS	LMS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Dissolved		BRL	mg/L	0.01	1	05-17-11 11:41	EPA 6010B ¹
7440-39-3	Barium, Dissolved		BRL	mg/L	0.05	1	05-17-11 11:41	EPA 6010B ¹
7440-43-9	Cadmium, Dissolved		BRL	mg/L	0.004	1	05-17-11 11:41	EPA 6010B ¹
7440-47-3	Chromium, Dissolved		BRL	mg/L	0.01	1	05-17-11 11:41	EPA 6010B ¹
7439-92-1	Lead, Dissolved		BRL	mg/L	0.005	1	05-17-11 11:41	EPA 6010B ¹
7439-97-6	Mercury, Dissolved		BRL	mg/L	0.0002	1	05-16-11 16:36	EPA 7470A ²
7782-49-2	Selenium, Dissolved		BRL	mg/L	0.05	1	05-17-11 11:41	EPA 6010B ¹
7440-22-4	Silver, Dissolved		BRL	mg/L	0.007	1	05-17-11 11:41	EPA 6010B ¹

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
 DF Dilution Factor.

Trace Metals

Field ID: **MWS-8**
 Project: **Union Street New Bedford**
 Client: **Weston & Sampson, Inc.**

Matrix: **Aqueous**
 Container: **250 mL Plastic**
 Preservation: **HNO3 / Cool**

Laboratory ID: **141601-20**
 Sampled: **04-28-11 14:30**
 Received: **04-29-11 18:00**

Preserved: **04-28-11 14:30**
 Filtered: **04-28-11 14:30**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 6010B ¹	MB-4418-W	EPA 3010A	05-11-11 00:00	50 mL	ICP-1 PE 3000	PD
EPA 7470A ²	MP-2390-W	EPA 7470A	05-16-11 00:00	25 mL	CVAA-1 PE FIMS	LMS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Dissolved	BRL		mg/L	0.01	1	05-17-11 11:46	EPA 6010B ¹
7440-39-3	Barium, Dissolved	0.07		mg/L	0.05	1	05-17-11 11:45	EPA 6010B ¹
7440-43-9	Cadmium, Dissolved	BRL		mg/L	0.004	1	05-17-11 11:46	EPA 6010B ¹
7440-47-3	Chromium, Dissolved	BRL		mg/L	0.01	1	05-17-11 11:45	EPA 6010B ¹
7439-92-1	Lead, Dissolved	BRL		mg/L	0.005	1	05-17-11 11:46	EPA 6010B ¹
7439-97-6	Mercury, Dissolved	0.0002		mg/L	0.0002	1	05-16-11 16:40	EPA 7470A ²
7782-49-2	Selenium, Dissolved	BRL		mg/L	0.05	1	05-17-11 11:46	EPA 6010B ¹
7440-22-4	Silver, Dissolved	BRL		mg/L	0.007	1	05-17-11 11:45	EPA 6010B ¹

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
 DF Dilution Factor.

Trace Metals

Field ID: **DUP-1**
 Project: **Union Street New Bedford**
 Client: **Weston & Sampson, Inc.**

Matrix: **Aqueous**
 Container: **250 mL Plastic**
 Preservation: **HNO3 / Cool**

Laboratory ID: **141601-21**
 Sampled: **04-28-11 14:30**
 Received: **04-29-11 18:00**

Preserved: **04-28-11 14:30**
 Filtered: **04-28-11 14:30**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 6010B ¹	MB-4418-W	EPA 3010A	05-11-11 00:00	50 mL	ICP-1 PE 3000	PD
EPA 7470A ²	MP-2390-W	EPA 7470A	05-16-11 00:00	25 mL	CVAA-1 PE FIMS	LMS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Dissolved		BRL	mg/L	0.01	1	05-17-11 11:50	EPA 6010B ¹
7440-39-3	Barium, Dissolved		BRL	mg/L	0.05	1	05-17-11 11:49	EPA 6010B ¹
7440-43-9	Cadmium, Dissolved		BRL	mg/L	0.004	1	05-17-11 11:50	EPA 6010B ¹
7440-47-3	Chromium, Dissolved		BRL	mg/L	0.01	1	05-17-11 11:49	EPA 6010B ¹
7439-92-1	Lead, Dissolved		BRL	mg/L	0.005	1	05-17-11 11:50	EPA 6010B ¹
7439-97-6	Mercury, Dissolved		BRL	mg/L	0.0002	1	05-16-11 16:43	EPA 7470A ²
7782-49-2	Selenium, Dissolved		BRL	mg/L	0.05	1	05-17-11 11:50	EPA 6010B ¹
7440-22-4	Silver, Dissolved		BRL	mg/L	0.007	1	05-17-11 11:49	EPA 6010B ¹

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
 DF Dilution Factor.

**Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID**

Field ID: MWS-5
 Project: Union Street New Bedford
 Client: Weston & Sampson, Inc.
 Laboratory ID: 141601-22
 Sampled: 04-28-11 11:00
 Received: 04-29-11 18:00
 Extracted: 05-05-11 17:00
 Analyzed (AL): 05-12-11 06:21
 Analyzed (AR): 05-12-11 07:04
 Analyst: JJT

Matrix: Aqueous
 Container: 1 L Amber Glass
 Preservation: H2SO4/ Cool
 QC Batch ID: EP-2412-F
 Instrument ID: GC-9 Agilent 6890
 Sample Volume: 990 mL
 Final Volume: 1 mL
 Aliphatic Dilution Factor: 1
 Aromatic Dilution Factor: 1

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons [†]	BRL		ug/L	200
n-C19 to n-C36 Aliphatic Hydrocarbons [†]	BRL		ug/L	200
n-C11 to n-C22 Aromatic Hydrocarbons [†] [◊]	BRL		ug/L	200
<u>Unadjusted</u> n-C11 to n-C22 Aromatic Hydrocarbons [†]	BRL		ug/L	200

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	40	41	100 %	40 - 140 %
	2-Bromonaphthalene	40	42	105 %	40 - 140 %
Extraction:	Chloro-octadecane	40	26	65 %	40 - 140 %
	<i>ortho</i> -Terphenyl	40	26	64 %	40 - 140 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
 Sample extraction performed by separatory funnel technique.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
[†] Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
[◊] n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

**EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM**

Field ID: MWS-5
 Project: Union Street New Bedford
 Client: Weston & Sampson, Inc.
 Laboratory ID: 141601-22
 Sampled: 04-28-11 11:00
 Received: 04-29-11 18:00
 Extracted: 05-05-11 17:00
 Analyzed: 05-12-11 20:21
 Analyst: MJB

Matrix: Aqueous
 Container: 1 L Amber Glass
 Preservation: H2SO4/ Cool
 QC Batch ID: EP-2412-F
 Instrument ID: MS-12 Agilent 6890
 Sample Volume: 990 mL
 Final Volume: 1 mL
 Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		ug/L	0.5
91-57-6	2-Methylnaphthalene	BRL		ug/L	0.5
208-96-8	Acenaphthylene	BRL		ug/L	0.5
83-32-9	Acenaphthene	BRL		ug/L	0.5
86-73-7	Fluorene	BRL		ug/L	0.5
85-01-8	Phenanthrene	BRL		ug/L	0.5
120-12-7	Anthracene	BRL		ug/L	0.5
206-44-0	Fluoranthene	BRL		ug/L	0.5
129-00-0	Pyrene	BRL		ug/L	0.5
56-55-3	Benzo[a]anthracene	BRL		ug/L	0.1
218-01-9	Chrysene	BRL		ug/L	0.1
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	0.1
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	0.1
50-32-8	Benzo[a]pyrene	BRL		ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	0.1
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	0.1

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho- Terphenyl	40	21	51 %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
 Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
 Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID**

Field ID: MWS-7
 Project: Union Street New Bedford
 Client: Weston & Sampson, Inc.
 Laboratory ID: 141601-23
 Sampled: 04-28-11 13:00
 Received: 04-29-11 18:00
 Extracted: 05-05-11 17:00
 Analyzed (AL): 05-12-11 07:48
 Analyzed (AR): 05-12-11 08:32
 Analyst: JJT

Matrix: Aqueous
 Container: 1 L Amber Glass
 Preservation: H2SO4/ Cool
 QC Batch ID: EP-2412-F
 Instrument ID: GC-9 Agilent 6890
 Sample Volume: 980 mL
 Final Volume: 1 mL
 Aliphatic Dilution Factor: 1
 Aromatic Dilution Factor: 1

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons [†]	BRL		ug/L	200
n-C19 to n-C36 Aliphatic Hydrocarbons [†]	BRL		ug/L	200
n-C11 to n-C22 Aromatic Hydrocarbons [†] [◊]	BRL		ug/L	200
<u>Unadjusted</u> n-C11 to n-C22 Aromatic Hydrocarbons [†]	BRL		ug/L	200

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	41	39	97 %	40 - 140 %
	2-Bromonaphthalene	41	41	100 %	40 - 140 %
Extraction:	Chloro-octadecane	41	27	66 %	40 - 140 %
	<i>ortho</i> -Terphenyl	41	28	70 %	40 - 140 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
 Sample extraction performed by separatory funnel technique.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
[†] Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
[◊] n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

**EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM**

Field ID: MWS-7
 Project: Union Street New Bedford
 Client: Weston & Sampson, Inc.
 Laboratory ID: 141601-23
 Sampled: 04-28-11 13:00
 Received: 04-29-11 18:00
 Extracted: 05-05-11 17:00
 Analyzed: 05-12-11 21:02
 Analyst: MJB

Matrix: Aqueous
 Container: 1 L Amber Glass
 Preservation: H2SO4/ Cool
 QC Batch ID: EP-2412-F
 Instrument ID: MS-12 Agilent 6890
 Sample Volume: 980 mL
 Final Volume: 1 mL
 Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		ug/L	0.5
91-57-6	2-Methylnaphthalene	BRL		ug/L	0.5
208-96-8	Acenaphthylene	BRL		ug/L	0.5
83-32-9	Acenaphthene	BRL		ug/L	0.5
86-73-7	Fluorene	BRL		ug/L	0.5
85-01-8	Phenanthrene	BRL		ug/L	0.5
120-12-7	Anthracene	BRL		ug/L	0.5
206-44-0	Fluoranthene	BRL		ug/L	0.5
129-00-0	Pyrene	BRL		ug/L	0.5
56-55-3	Benzo[a]anthracene	BRL		ug/L	0.1
218-01-9	Chrysene	BRL		ug/L	0.1
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	0.1
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	0.1
50-32-8	Benzo[a]pyrene	BRL		ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	0.1
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	0.1

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho- Terphenyl	41	23	56 %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
 Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
 Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID**

Field ID: MWS-6
 Project: Union Street New Bedford
 Client: Weston & Sampson, Inc.
 Laboratory ID: 141601-24
 Sampled: 04-29-11 10:30
 Received: 04-29-11 18:00
 Extracted: 05-05-11 17:00
 Analyzed (AL): 05-12-11 09:16
 Analyzed (AR): 05-12-11 10:00
 Analyst: KM

Matrix: Aqueous
 Container: 1 L Amber Glass
 Preservation: H2SO4/ Cool
 QC Batch ID: EP-2412-F
 Instrument ID: GC-9 Agilent 6890
 Sample Volume: 1000 mL
 Final Volume: 1 mL
 Aliphatic Dilution Factor: 1
 Aromatic Dilution Factor: 1

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	320		ug/L	100
n-C19 to n-C36 Aliphatic Hydrocarbons †	160		ug/L	100
n-C11 to n-C22 Aromatic Hydrocarbons †◊	1,100		ug/L	100
<u>Unadjusted</u> n-C11 to n-C22 Aromatic Hydrocarbons †	1,500		ug/L	100

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	40	32	81 %
	2-Bromonaphthalene	40	34	85 %
Extraction:	Chloro-octadecane	40	33	83 %
	<i>ortho</i> -Terphenyl	40	32	79 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
 Sample extraction performed by separatory funnel technique.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
 † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
 ◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

**EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM**

Field ID: MWS-6
 Project: Union Street New Bedford
 Client: Weston & Sampson, Inc.
 Laboratory ID: 141601-24
 Sampled: 04-29-11 10:30
 Received: 04-29-11 18:00
 Extracted: 05-05-11 17:00
 Analyzed: 05-12-11 21:43
 Analyst: MJB

Matrix: Aqueous
 Container: 1 L Amber Glass
 Preservation: H2SO4/ Cool
 QC Batch ID: EP-2412-F
 Instrument ID: MS-12 Agilent 6890
 Sample Volume: 1,000 mL
 Final Volume: 1 mL
 Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	36	e	ug/L	0.5
91-57-6	2-Methylnaphthalene	56	e	ug/L	0.5
208-96-8	Acenaphthylene	0.8		ug/L	0.5
83-32-9	Acenaphthene	3.4		ug/L	0.5
86-73-7	Fluorene	5.6		ug/L	0.5
85-01-8	Phenanthrene	4.3		ug/L	0.5
120-12-7	Anthracene	BRL		ug/L	0.5
206-44-0	Fluoranthene	BRL		ug/L	0.5
129-00-0	Pyrene	BRL		ug/L	0.5
56-55-3	Benzo[a]anthracene	BRL		ug/L	0.1
218-01-9	Chrysene	BRL		ug/L	0.1
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	0.1
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	0.1
50-32-8	Benzo[a]pyrene	BRL		ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	0.1
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	0.1

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho- Terphenyl	40	24	60 %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
 Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
 Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
 e Indicates concentration exceeded calibration range for the analyte.

**EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM**

Field ID: **MWS-6**
 Project: **Union Street New Bedford**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141601-24RA1**
 Sampled: **04-29-11 10:30**
 Received: **04-29-11 18:00**
 Extracted: **05-12-11 09:00**
 Analyzed: **05-13-11 11:13**
 Analyst: **MJB**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **H2SO4/ Cool**
 QC Batch ID: **EP-2414-F**
 Instrument ID: **MS-12 Agilent 6890**
 Sample Volume: **1,000 mL**
 Final Volume: **1 mL**
 Dilution Factor: **10**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	100		ug/L	5.0
91-57-6	2-Methylnaphthalene	160		ug/L	5.0
208-96-8	Acenaphthylene	BRL		ug/L	5.0
83-32-9	Acenaphthene	BRL		ug/L	5.0
86-73-7	Fluorene	6.4		ug/L	5.0
85-01-8	Phenanthrene	5.4		ug/L	5.0
120-12-7	Anthracene	BRL		ug/L	5.0
206-44-0	Fluoranthene	BRL		ug/L	5.0
129-00-0	Pyrene	BRL		ug/L	5.0
56-55-3	Benzo[a]anthracene	BRL		ug/L	1.0
218-01-9	Chrysene	BRL		ug/L	1.0
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	1.0
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	1.0
50-32-8	Benzo[a]pyrene	BRL		ug/L	1.0
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	1.0
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	1.0
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	1.0

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
<i>ortho</i> -Terphenyl	40	28	70 %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
 Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
 Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID**

Field ID: **MW-1**
 Project: **Union Street New Bedford**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141601-25**
 Sampled: **04-29-11 12:00**
 Received: **04-29-11 18:00**
 Extracted: **05-05-11 17:00**
 Analyzed (AL): **05-12-11 10:44**
 Analyzed (AR): **05-12-11 11:28**
 Analyst: **KM**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **H2SO4/ Cool**
 QC Batch ID: **EP-2412-F**
 Instrument ID: **GC-9 Agilent 6890**
 Sample Volume: **1000 mL**
 Final Volume: **1 mL**
 Aliphatic Dilution Factor: **1**
 Aromatic Dilution Factor: **1**

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons [†]		BRL	ug/L	100
n-C19 to n-C36 Aliphatic Hydrocarbons [†]	130		ug/L	100
n-C11 to n-C22 Aromatic Hydrocarbons ^{†◊}	190		ug/L	100
<u>Unadjusted</u> n-C11 to n-C22 Aromatic Hydrocarbons [†]	190		ug/L	100

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	40	37	92 %	40 - 140 %
	2-Bromonaphthalene	40	37	93 %	40 - 140 %
Extraction:	Chloro-octadecane	40	33	83 %	40 - 140 %
	<i>ortho</i> -Terphenyl	40	34	86 %	40 - 140 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
 Sample extraction performed by separatory funnel technique.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
[†] Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
[◊] n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

**EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM**

Field ID: **MW-1**
 Project: **Union Street New Bedford**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141601-25**
 Sampled: **04-29-11 12:00**
 Received: **04-29-11 18:00**
 Extracted: **05-05-11 17:00**
 Analyzed: **05-12-11 23:47**
 Analyst: **MJB**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **H2SO4/ Cool**
 QC Batch ID: **EP-2412-F**
 Instrument ID: **MS-12 Agilent 6890**
 Sample Volume: **1,000 mL**
 Final Volume: **1 mL**
 Dilution Factor: **1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	1.7		ug/L	0.5
91-57-6	2-Methylnaphthalene	BRL		ug/L	0.5
208-96-8	Acenaphthylene	BRL		ug/L	0.5
83-32-9	Acenaphthene	BRL		ug/L	0.5
86-73-7	Fluorene	BRL		ug/L	0.5
85-01-8	Phenanthrene	BRL		ug/L	0.5
120-12-7	Anthracene	BRL		ug/L	0.5
206-44-0	Fluoranthene	BRL		ug/L	0.5
129-00-0	Pyrene	BRL		ug/L	0.5
56-55-3	Benzo[a]anthracene	BRL		ug/L	0.1
218-01-9	Chrysene	BRL		ug/L	0.1
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	0.1
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	0.1
50-32-8	Benzo[a]pyrene	BRL		ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	0.1
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	0.1

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
<i>ortho</i> -Terphenyl	40	28	70 %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
 Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
 Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID**

Field ID: **MWS-8**
 Project: **Union Street New Bedford**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141601-26**
 Sampled: **04-28-11 14:30**
 Received: **04-29-11 18:00**
 Extracted: **05-05-11 17:00**
 Analyzed (AL): **05-12-11 12:11**
 Analyzed (AR): **05-12-11 12:55**
 Analyst: **KM**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **H2SO4/ Cool**
 QC Batch ID: **EP-2412-F**
 Instrument ID: **GC-9 Agilent 6890**
 Sample Volume: **990 mL**
 Final Volume: **1 mL**
 Aliphatic Dilution Factor: **1**
 Aromatic Dilution Factor: **1**

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons [†]	BRL		ug/L	120
n-C19 to n-C36 Aliphatic Hydrocarbons [†]	BRL		ug/L	120
n-C11 to n-C22 Aromatic Hydrocarbons ^{†◊}	BRL		ug/L	120
<u>Unadjusted</u> n-C11 to n-C22 Aromatic Hydrocarbons [†]	BRL		ug/L	120

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	40	41	100 %	40 - 140 %
	2-Bromonaphthalene	40	41	103 %	40 - 140 %
Extraction:	Chloro-octadecane	40	26	63 %	40 - 140 %
	<i>ortho</i> -Terphenyl	40	26	65 %	40 - 140 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
 Sample extraction performed by separatory funnel technique.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
[†] Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
[◊] n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

**EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM**

Field ID:	MWS-8	Matrix:	Aqueous
Project:	Union Street New Bedford	Container:	1 L Amber Glass
Client:	Weston & Sampson, Inc.	Preservation:	H2SO4/ Cool
Laboratory ID:	141601-26	QC Batch ID:	EP-2412-F
Sampled:	04-28-11 14:30	Instrument ID:	MS-12 Agilent 6890
Received:	04-29-11 18:00	Sample Volume:	990 mL
Extracted:	05-05-11 17:00	Final Volume:	1 mL
Analyzed:	05-13-11 00:28	Dilution Factor:	1
Analyst:	MJB		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		ug/L	0.5
91-57-6	2-Methylnaphthalene	BRL		ug/L	0.5
208-96-8	Acenaphthylene	BRL		ug/L	0.5
83-32-9	Acenaphthene	BRL		ug/L	0.5
86-73-7	Fluorene	BRL		ug/L	0.5
85-01-8	Phenanthrene	BRL		ug/L	0.5
120-12-7	Anthracene	BRL		ug/L	0.5
206-44-0	Fluoranthene	BRL		ug/L	0.5
129-00-0	Pyrene	BRL		ug/L	0.5
56-55-3	Benzo[a]anthracene	BRL		ug/L	0.1
218-01-9	Chrysene	BRL		ug/L	0.1
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	0.1
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	0.1
50-32-8	Benzo[a]pyrene	BRL		ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	0.1
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	0.1

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho- Terphenyl	40	22	54 %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID**

Field ID: **DUP-1**
 Project: **Union Street New Bedford**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141601-27**
 Sampled: **04-28-11 13:00**
 Received: **04-29-11 18:00**
 Extracted: **05-05-11 17:00**
 Analyzed (AL): **05-12-11 16:05**
 Analyzed (AR): **05-12-11 16:48**
 Analyst: **KM**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **H2SO4/ Cool**
 QC Batch ID: **EP-2412-F**
 Instrument ID: **GC-9 Agilent 6890**
 Sample Volume: **1000 mL**
 Final Volume: **1 mL**
 Aliphatic Dilution Factor: **1**
 Aromatic Dilution Factor: **1**

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons [†]	BRL		ug/L	130
n-C19 to n-C36 Aliphatic Hydrocarbons [†]	BRL		ug/L	130
n-C11 to n-C22 Aromatic Hydrocarbons ^{†◊}	BRL		ug/L	130
<u>Unadjusted</u> n-C11 to n-C22 Aromatic Hydrocarbons [†]	BRL		ug/L	130

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	40	38	94 %
	2-Bromonaphthalene	40	38	94 %
Extraction:	Chloro-octadecane	40	25	63 %
	<i>ortho</i> -Terphenyl	40	22	54 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
 Sample extraction performed by separatory funnel technique.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
[†] Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
[◊] n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

**EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM**

Field ID: **DUP-1**
 Project: **Union Street New Bedford**
 Client: **Weston & Sampson, Inc.**
 Laboratory ID: **141601-27**
 Sampled: **04-28-11 13:00**
 Received: **04-29-11 18:00**
 Extracted: **05-05-11 17:00**
 Analyzed: **05-13-11 01:09**
 Analyst: **MJB**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **H2SO4/ Cool**
 QC Batch ID: **EP-2412-F**
 Instrument ID: **MS-12 Agilent 6890**
 Sample Volume: **1,000 mL**
 Final Volume: **1 mL**
 Dilution Factor: **1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		ug/L	0.5
91-57-6	2-Methylnaphthalene	BRL		ug/L	0.5
208-96-8	Acenaphthylene	BRL		ug/L	0.5
83-32-9	Acenaphthene	BRL		ug/L	0.5
86-73-7	Fluorene	BRL		ug/L	0.5
85-01-8	Phenanthrene	BRL		ug/L	0.5
120-12-7	Anthracene	BRL		ug/L	0.5
206-44-0	Fluoranthene	BRL		ug/L	0.5
129-00-0	Pyrene	BRL		ug/L	0.5
56-55-3	Benzo[a]anthracene	BRL		ug/L	0.1
218-01-9	Chrysene	BRL		ug/L	0.1
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	0.1
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	0.1
50-32-8	Benzo[a]pyrene	BRL		ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	0.1
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	0.1

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho- Terphenyl	40	18	45 %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
 Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
 Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

Project Narrative

Project: **Union Street New Bedford**
Client: **Weston & Sampson, Inc.**

Lab ID: **141601**
Received: **04-29-11 18:00**

A. Documentation and Client Communication

The following documentation discrepancies, and client changes or amendments were noted for this project:

- 1 . No documentation discrepancies, changes, or amendments were noted.

B. Method Modifications, Non-Conformances and Observations

The sample(s) in this project were analyzed by the references analytical method(s), and no method modifications, non-conformances or analytical issues were noted, except as indicated below:

- 1 . EPA 6010B Note: Samples 141601-18,-19,-20 and -21. Samples were analyzed for selected target analytes, as requested by client.
- 2 . EPA 8260B Note: Samples 141601-1 through -6. Recoveries for analytes Dichlorodifluoromethane, 1,1,2-Trichlorotrifluoroethane, Carbon Disulfide and Methylene Chloride were outside the recommended 70 - 130% criteria in the ICV. Quadratic equations were used in the calculations for analytes Bromomethane and Bromoform.
- 3 . EPA 8260B Note: Samples 141601-1 through -6. Bromomethane, Bromoform and trans-1,4-dichloro-2-butene did not meet the 70 - 130% recovery criteria for the low calibration standard. The reporting limit was raised to the next highest acceptable calibration standard.
- 4 . EPA 8270C PAH Non-conformance: Sample 141601-24. Reported results for selected analyte exceeded the high standard of the associated calibration curve. Results are estimated. Sample was reanalyzed and reported with all analytes within calibration.
- 5 . EPA 8270C PAH Note: Sample 141601-24. Sample was diluted prior to analysis. Dilution was required to keep all target analytes within calibration.
- 6 . EPA 8270C PAH Note: Samples 141601-22 through -27. A quadratic equation was used in the calculation for analyte ortho-Terphenyl.
- 7 . MA DEP EPH Note: Samples 141601-22, -23, -24, -25, -26 and -27. Polynuclear aromatic hydrocarbon (PAH) target analytes were identified and quantified by GC/MS-SIM, in accordance with the method provision for alternate determinative methodologies. GC/MS-SIM was used to achieve low quantification limits necessary for regulatory compliance. Target analytes were determined utilizing the same sample extract used for carbon range determination by GC/FID.
- 8 . MA DEP VPH Note: Sample 141601-13. Sample was diluted prior to analysis. Dilution was required to keep all target analytes within calibration. Elevated reporting limits are above the recommended CAM reporting limits for the target analytes.
- 9 . MA DEP VPH Note: Samples 141601-12, -15, -16 and -17. Samples were analyzed for carbon ranges only, per client request.

Quality Assurance/Quality Control

A. Program Overview

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*, US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste*, US EPA, SW-846, Update III (1996).

Quality Control protocols include written Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. All samples, standards, blanks, laboratory control samples, matrix spikes and sample duplicates are spiked with internal standards and surrogate compounds. All instrument sequences begin with an initial calibration verification standard and a blank; and excepting GC/MS sequences, all sequences close with a continuing calibration standard. GC/MS systems are tuned to appropriate ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

B. Definitions

Batches are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples of the same matrix which are prepared together for the same analysis, using the same lots of reagents and the same techniques or manipulations, all within the same continuum of time, up to but not exceeding 24 hours.

Laboratory Control Samples are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target analytes representative of the method analytes. Accuracy is defined as the degree of agreement of the measured value with the true or expected value. Percent Recoveries for the Laboratory Control Samples are calculated to assess accuracy.

Method Blanks are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

Surrogate Compounds are used to assess the effectiveness of an analytical method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to the target analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.

Quality Control Report Laboratory Control Samples

Category:	MA DEP EPH Method	LCS	Instrument ID:	GC-9 Agilent 6890	LCSD	Instrument ID:	GC-9 Agilent 6890
QC Batch ID:	EP-2412-F		Extracted:	05-05-11 17:00		Extracted:	05-05-11 17:00
Matrix:	Aqueous		Analyzed (AL):	05-09-11 13:42		Analyzed (AL):	05-09-11 15:21
Units:	ug/L		Analyzed (AR):	05-09-11 14:26		Analyzed (AR):	05-09-11 16:25
			Analyst:	JJT		Analyst:	JJT

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
111-84-2	<i>n</i> -Nonane (C ₉)	50	23	47 %	50	22	45 %	5 %	30 - 140 %	25 %
124-18-5	<i>n</i> -Decane (C ₁₀)	50	27	54 %	50	26	51 %	4 %	40 - 140 %	25 %
112-40-3	<i>n</i> -Dodecane (C ₁₂)	50	30	60 %	50	29	57 %	3 %	40 - 140 %	25 %
629-59-4	<i>n</i> -Tetradecane (C ₁₄)	50	34	67 %	50	33	65 %	3 %	40 - 140 %	25 %
544-76-3	<i>n</i> -Hexadecane (C ₁₆)	50	40	79 %	50	38	77 %	3 %	40 - 140 %	25 %
593-45-3	<i>n</i> -Octadecane (C ₁₈)	50	44	87 %	50	43	86 %	2 %	40 - 140 %	25 %
n/a	<i>n</i> -C9 to <i>n</i> -C18 Group	300	200	66 %	300	190	64 %	3 %	40 - 140 %	25 %
629-92-5	<i>n</i> -Nonadecane (C ₁₉)	50	44	88 %	50	44	88 %	0 %	40 - 140 %	25 %
112-95-8	<i>n</i> -Eicosane (C ₂₀)	50	44	89 %	50	44	89 %	0 %	40 - 140 %	25 %
629-97-0	<i>n</i> -Docosane (C ₂₂)	50	41	82 %	50	42	83 %	2 %	40 - 140 %	25 %
646-31-1	<i>n</i> -Tetracosane (C ₂₄)	50	43	86 %	50	43	85 %	0 %	40 - 140 %	25 %
630-01-3	<i>n</i> -Hexacosane (C ₂₆)	50	42	83 %	50	42	85 %	2 %	40 - 140 %	25 %
630-02-4	<i>n</i> -Octacosane (C ₂₈)	50	40	81 %	50	41	83 %	2 %	40 - 140 %	25 %
638-68-6	<i>n</i> -Triacontane (C ₃₀)	50	39	79 %	50	41	81 %	3 %	40 - 140 %	25 %
630-06-8	<i>n</i> -Hexatriacontane (C ₃₆)	50	34	68 %	50	35	70 %	3 %	40 - 140 %	25 %
n/a	<i>n</i> -C19 to <i>n</i> -C36 Group	400	330	82 %	400	330	83 %	1 %	40 - 140 %	25 %
91-20-3	Naphthalene	50	36	73 %	50	29	57 %	24 %	40 - 140 %	25 %
91-57-6	2-Methylnaphthalene	50	39	77 %	50	31	61 %	23 %	40 - 140 %	25 %
208-96-8	Acenaphthylene	50	44	89 %	50	36	72 %	21 %	40 - 140 %	25 %
83-32-9	Acenaphthene	50	41	83 %	50	34	68 %	20 %	40 - 140 %	25 %
86-73-7	Fluorene	50	44	89 %	50	38	76 %	15 %	40 - 140 %	25 %
85-01-8	Phenanthrene	50	52	103 %	50	46	93 %	10 %	40 - 140 %	25 %
120-12-7	Anthracene	50	52	105 %	50	48	97 %	8 %	40 - 140 %	25 %
206-44-0	Fluoranthene	50	52	104 %	50	49	99 %	5 %	40 - 140 %	25 %
129-00-0	Pyrene	50	53	106 %	50	51	101 %	4 %	40 - 140 %	25 %
56-55-3	Benzo[a]anthracene	50	46	92 %	50	44	88 %	3 %	40 - 140 %	25 %
218-01-9	Chrysene	50	54	108 %	50	52	105 %	3 %	40 - 140 %	25 %
205-99-2	Benzo[b]fluoranthene	50	48	95 %	50	46	92 %	3 %	40 - 140 %	25 %
207-08-9	Benzo[k]fluoranthene	50	50	99 %	50	48	97 %	3 %	40 - 140 %	25 %
50-32-8	Benzo[a]pyrene	50	51	102 %	50	49	99 %	3 %	40 - 140 %	25 %
193-39-5	Indeno[1,2,3-c,d]pyrene	50	46	93 %	50	45	89 %	4 %	40 - 140 %	25 %
53-70-3	Dibenzo[a,h]anthracene	50	46	93 %	50	45	90 %	3 %	40 - 140 %	25 %
191-24-2	Benzo[g,h,i]perylene	50	44	89 %	50	42	85 %	5 %	40 - 140 %	25 %
n/a	PAH Group	850	800	94 %	850	730	86 %	8 %	40 - 140 %	25 %

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	40	38	95 %	40	31	78 %	40 - 140 %
	2-Bromonaphthalene	40	39	98 %	40	34	85 %	40 - 140 %
Extraction:	Chloro-octadecane	40	34	85 %	40	33	83 %	40 - 140 %
	<i>ortho</i> -Terphenyl	40	39	98 %	40	36	90 %	40 - 140 %

Fractionation Breakthrough Evaluation						QC Limits
91-20-3	Naphthalene	LCS	0 %	LCSD	0 %	5 %
91-57-6	2-Methylnaphthalene	LCS	1 %	LCSD	1 %	5 %

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004). Sample extraction performed by separatory funnel technique.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units. The LCS and LCSD are prepared from separate source standards than those used for calibration.

Quality Control Report Method Blank

Category: **MA DEP EPH**
 QC Batch ID: **EP-2412-F**
 Matrix: **Aqueous**

Instrument ID: **GC-9 Agilent 6890**
 Extracted: **05-05-11 17:00**
 Analyzed (AL): **05-09-11 17:09**
 Analyzed (AR): **05-09-11 17:53**
 Analyst: **JJT**

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons [†]	BRL		ug/L	100
n-C19 to n-C36 Aliphatic Hydrocarbons [†]	BRL		ug/L	100
n-C11 to n-C22 Aromatic Hydrocarbons [†] [◊]	BRL		ug/L	100
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons [†]	BRL		ug/L	100

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		ug/L	5
91-57-6	2-Methylnaphthalene	BRL		ug/L	5
85-01-8	Phenanthrene	BRL		ug/L	5
83-32-9	Acenaphthene	BRL		ug/L	5
208-96-8	Acenaphthylene	BRL		ug/L	5
86-73-7	Fluorene	BRL		ug/L	5
120-12-7	Anthracene	BRL		ug/L	5
206-44-0	Fluoranthene	BRL		ug/L	5
129-00-0	Pyrene	BRL		ug/L	5
56-55-3	Benzo[a]anthracene	BRL		ug/L	5
218-01-9	Chrysene	BRL		ug/L	5
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	5
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	5
50-32-8	Benzo[a]pyrene	BRL		ug/L	5
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	5
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	5
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	40	37	92 %	40 - 140 %
	2-Bromonaphthalene	40	38	94 %	
Extraction:	Chloro-octadecane	40	36	91 %	40 - 140 %
	ortho-Terphenyl	40	37	92 %	

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
 Sample extraction performed by separatory funnel technique.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

**Quality Control Report
Laboratory Control Samples**

Category:	EPA 8270C Modified	LCS	Instrument ID:	MS-12 Agilent 6890	LCSD	Instrument ID:	MS-12 Agilent 6890
QC Batch ID:	EP-2412-F		Extracted:	05-05-11 17:00		Extracted:	05-05-11 17:00
Matrix:	Aqueous		Analyzed:	05-09-11 19:34		Analyzed:	05-09-11 20:15
Units:	ug/L		Analyst:	MJB		Analyst:	MJB

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
91-20-3	Naphthalene	5.0	3.1	62 %	5.0	2.6	52 %	18 %	40 - 140 %	20%
91-57-6	2-Methylnaphthalene	5.0	3.5	70 %	5.0	2.9	58 %	19 %	40 - 140 %	20%
85-01-8	Phenanthrene	5.0	3.6	72 %	5.0	3.2	64 %	12 %	40 - 140 %	20%
83-32-9	Acenaphthene	5.0	3.4	68 %	5.0	2.9	58 %	16 %	40 - 140 %	20%
208-96-8	Acenaphthylene	5.0	3.9	78 %	5.0	3.3	66 %	17 %	40 - 140 %	20%
86-73-7	Fluorene	5.0	3.7	74 %	5.0	3.3	66 %	11 %	40 - 140 %	20%
120-12-7	Anthracene	5.0	4.3	86 %	5.0	3.8	76 %	12 %	40 - 140 %	20%
206-44-0	Fluoranthene	5.0	4.3	86 %	5.0	3.9	78 %	10 %	40 - 140 %	20%
129-00-0	Pyrene	5.0	4.4	88 %	5.0	4.0	80 %	10 %	40 - 140 %	20%
56-55-3	Benzo[a]anthracene	5.0	3.9	78 %	5.0	3.6	72 %	8 %	40 - 140 %	20%
218-01-9	Chrysene	5.0	4.0	80 %	5.0	3.7	74 %	8 %	40 - 140 %	20%
205-99-2	Benzo[b]fluoranthene	5.0	4.1	82 %	5.0	3.7	74 %	10 %	40 - 140 %	20%
207-08-9	Benzo[k]fluoranthene	5.0	3.7	74 %	5.0	3.4	68 %	8 %	40 - 140 %	20%
50-32-8	Benzo[a]pyrene	5.0	4.3	86 %	5.0	3.8	76 %	12 %	40 - 140 %	20%
193-39-5	Indeno[1,2,3-c,d]pyrene	5.0	4.0	80 %	5.0	3.6	72 %	11 %	40 - 140 %	20%
53-70-3	Dibenzo[a,h]anthracene	5.0	4.0	80 %	5.0	3.7	74 %	8 %	40 - 140 %	20%
191-24-2	Benzo[g,h,i]perylene	5.0	4.0	80 %	5.0	3.7	74 %	8 %	40 - 140 %	20%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery	QC Limits
ortho -Terphenyl	40	31	78 %	40	28	70 %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
Sample extraction performed by EPA Method 3510C.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.
The LCS and LCSD are prepared from separate source standards than those used for calibration.

**Quality Control Report
Method Blank**

Category: **EPA Method 8270C (Mod.) - EPH PAHs by GC/MS-SIM**
 QC Batch ID: **EP-2412-F**
 Matrix: **Aqueous**

Instrument ID: **MS-12 Agilent 6890**
 Extracted: **05-05-11 17:00**
 Analyzed: **05-09-11 20:55**
 Analyst: **MJB**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		ug/L	0.5
91-57-6	2-Methylnaphthalene	BRL		ug/L	0.5
208-96-8	Acenaphthylene	BRL		ug/L	0.5
83-32-9	Acenaphthene	BRL		ug/L	0.5
86-73-7	Fluorene	BRL		ug/L	0.5
85-01-8	Phenanthrene	BRL		ug/L	0.5
120-12-7	Anthracene	BRL		ug/L	0.5
206-44-0	Fluoranthene	BRL		ug/L	0.5
129-00-0	Pyrene	BRL		ug/L	0.5
56-55-3	Benzo[a]anthracene	BRL		ug/L	0.1
218-01-9	Chrysene	BRL		ug/L	0.1
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	0.5
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	0.5
50-32-8	Benzo[a]pyrene	BRL		ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	0.5
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	0.5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
<i>ortho</i> -Terphenyl	40	33	82 %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
 Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
 Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**Quality Control Report
Laboratory Control Samples**

Category: **MA DEP VPH**
 QC Batch ID: **VGA-4763-W**
 Matrix: **Aqueous**
 Units: **ug/L**

LCS
 Instrument ID: **GC-10 HP 5890**
 Analyzed: **05-10-11 12:08**
 Analyst: **JFR**

LCSD
 Instrument ID: **GC-10 HP 5890**
 Analyzed: **05-10-11 12:48**
 Analyst: **JFR**

CAS Number	Analyte	LCS			LCS Duplicate			QC Limits		
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
109-66-0	<i>n</i> -Pentane	50	37	75 %	50	38	77 %	2 %	70 - 130 %	25%
107-83-5	2-Methylpentane	50	44	88 %	50	45	90 %	2 %	70 - 130 %	25%
540-84-1	2,2,4-Trimethylpentane	50	52	104 %	50	53	106 %	2 %	70 - 130 %	25%
n/a	Aliphatic Group 1	150	130	87 %	150	140	93 %	7 %	70 - 130 %	25%
111-84-2	<i>n</i> -Nonane	50	52	103 %	50	52	104 %	0 %	70 - 130 %	25%
124-18-5	<i>n</i> -Decane	50	48	95 %	50	48	97 %	2 %	70 - 130 %	25%
1678-93-9	<i>n</i> -Butylcyclohexane	50	54	108 %	50	55	109 %	1 %	70 - 130 %	25%
n/a	Aliphatic Group 2	150	150	100 %	150	150	100 %	0 %	70 - 130 %	25%
1634-04-4	Methyl <i>tert</i> -butyl Ether	50	46	92 %	50	47	93 %	1 %	70 - 130 %	25%
71-43-2	Benzene	50	47	94 %	50	48	96 %	2 %	70 - 130 %	25%
108-88-3	Toluene	50	49	98 %	50	50	99 %	2 %	70 - 130 %	25%
100-41-4	Ethylbenzene	50	50	100 %	50	51	101 %	2 %	70 - 130 %	25%
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene	100	100	100 %	100	100	100 %	0 %	70 - 130 %	25%
95-47-6	<i>ortho</i> -Xylene	50	49	99 %	50	51	101 %	3 %	70 - 130 %	25%
95-63-6	1,2,4-Trimethylbenzene	50	50	100 %	50	51	102 %	1 %	70 - 130 %	25%
91-20-3	Naphthalene	50	45	91 %	50	47	94 %	3 %	70 - 130 %	25%
n/a	Aromatic Group	450	440	98 %	450	440	98 %	0 %	70 - 130 %	25%
QC Surrogate Compound		Spiked	Measured	Recovery	Spiked	Measured	Recovery		QC Limits	
2,5-Dibromotoluene (PID)		50	50	99 %	50	51	101 %		70 - 130 %	
2,5-Dibromotoluene (FID)		50	49	98 %	50	50	100 %		70 - 130 %	

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Method Blank**

Category: **MA DEP VPH**
 QC Batch ID: **VGA-4763-W**
 Matrix: **Aqueous**

Instrument ID: **GC-10 Agilent 6890**
 Analyzed: **05-10-11 13:28**
 Analyst: **JFR**

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	BRL		ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	BRL		ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons [†]	BRL		ug/L	20

Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons [†]	BRL		ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons [†]	BRL		ug/L	20

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -butyl Ether [⌘]	BRL		ug/L	5
71-43-2	Benzene [⌘]	BRL		ug/L	1
108-88-3	Toluene [⌘]	BRL		ug/L	5
100-41-4	Ethylbenzene [‡]	BRL		ug/L	5
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	BRL		ug/L	5
95-47-6	<i>ortho</i> -Xylene [‡]	BRL		ug/L	5
91-20-3	Naphthalene	BRL		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	50	100 %	70 - 130 %
2,5-Dibromotoluene (FID)	50	51	102 %	70 - 130 %

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◇ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ⌘ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

Quality Control Report Laboratory Control Samples

Category: **Metals**
 Matrix: **Aqueous**
 Units: **mg/L**

Sample Type	Method	QC Batch ID	Prep Method	Prepared	Analyzed	Instrument ID	Analyst
LCS	EPA 6010B	MB-4418-WL	EPA 3010A	05-11-11 00:00	05-12-11 19:01	ICP-1 PE 3000	PD
LCS	EPA 7470A	MP-2390-WL	EPA 7470A	05-16-11 00:00	05-16-11 15:35	CVAA-1 PE FIMS	LMS
LCSD	EPA 6010B	MB-4418-WL	EPA 3010A	05-11-11 00:00	05-12-11 19:07	ICP-1 PE 3000	PD
LCSD	EPA 7470A	MP-2390-WL	EPA 7470A	05-16-11 00:00	05-16-11 15:38	CVAA-1 PE FIMS	LMS

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits		Method
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	LCS	RPD	
7440-38-2	Arsenic	5.0	4.9	98%	5.0	4.9	98%	0 %	80-120 %	20 %	EPA 6010B
7440-39-3	Barium	5.0	4.4	87%	5.0	4.4	87%	0 %	80-120 %	20 %	EPA 6010B
7440-43-9	Cadmium	1.0	1.0	97%	1.0	1.0	96%	1 %	80-120 %	20 %	EPA 6010B
7440-47-3	Chromium	1.0	0.9	95%	1.0	1.0	95%	0 %	80-120 %	20 %	EPA 6010B
7439-92-1	Lead	5.0	5.0	99%	5.0	5.0	99%	0 %	80-120 %	20 %	EPA 6010B
7439-97-6	Mercury	0.0010	0.0011	112%	0.0010	0.0009	86%	13 %	80-120 %	20 %	EPA 7470A
7782-49-2	Selenium	5.0	4.9	97%	5.0	4.9	97%	0 %	80-120 %	20 %	EPA 6010B
7440-22-4	Silver	1.0	1.0	96%	1.0	1.0	95%	1 %	80-120 %	20 %	EPA 6010B

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Method Blank**

Category: **Metals**
Matrix: **Aqueous**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Volume</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 6010B	MB-4418-WB	EPA 3010A	05-11-11 00:00	50 mL	ICP-1 PE 3000	PD
EPA 7470A	MP-2390-WB	EPA 7470A	05-16-11 00:00	25 mL	CVAA-1 PE FIMS	LMS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic		BRL	mg/L	0.01	1	05-12-11 18:57	EPA 6010B
7440-39-3	Barium		BRL	mg/L	0.05	1	05-12-11 18:57	EPA 6010B
7440-43-9	Cadmium		BRL	mg/L	0.004	1	05-12-11 18:57	EPA 6010B
7440-47-3	Chromium		BRL	mg/L	0.01	1	05-12-11 18:56	EPA 6010B
7439-92-1	Lead		BRL	mg/L	0.005	1	05-12-11 18:57	EPA 6010B
7439-97-6	Mercury		BRL	mg/L	0.0002	1	05-16-11 15:35	EPA 7470A
7782-49-2	Selenium		BRL	mg/L	0.05	1	05-12-11 18:57	EPA 6010B
7440-22-4	Silver		BRL	mg/L	0.007	1	05-12-11 18:56	EPA 6010B

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
DF Dilution Factor.

Quality Control Report Laboratory Control Samples

Category:	EPA Method 8260B	LCS	Instrument ID:	MS-10 HP 6890	LCSD	Instrument ID:	MS-10 HP 6890
QC Batch ID:	VM10-1303-W		Analyzed:	05-04-11 05:51		Analyzed:	05-04-11 06:15
Matrix:	Aqueous		Analyst:	LMG		Analyst:	LMG
Units:	ug/L						

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CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
75-71-8	Dichlorodifluoromethane	10	9.5	95 %	10	9.3	93 %	2 %	70 - 130 %	20%
74-87-3	Chloromethane	10	9.6	96 %	10	9.1	91 %	5 %	70 - 130 %	20%
75-01-4	Vinyl Chloride	10	10	102 %	10	9.8	98 %	4 %	70 - 130 %	20%
74-83-9	Bromomethane	10	9.5	95 %	10	8.6	86 %	11 %	70 - 130 %	20%
75-00-3	Chloroethane	10	11	106 %	10	9.7	97 %	8 %	70 - 130 %	20%
75-69-4	Trichlorofluoromethane	10	9.8	98 %	10	9.5	95 %	3 %	70 - 130 %	20%
60-29-7	Diethyl Ether	20	18	89 %	20	18	90 %	1 %	70 - 130 %	20%
75-35-4	1,1-Dichloroethene	10	8.6	86 %	10	8.3	83 %	3 %	70 - 130 %	20%
76-13-1	1,1,2-Trichlorotrifluoroethane	20	20	99 %	20	21	103 %	4 %	70 - 130 %	20%
67-64-1	Acetone	20	19	96 %	20	18	90 %	7 %	70 - 130 %	20%
75-15-0	Carbon Disulfide	20	23	116 %	20	22	111 %	4 %	70 - 130 %	20%
75-09-2	Methylene Chloride	10	8.2	82 %	10	7.8	78 %	5 %	70 - 130 %	20%
107-13-1	Acrylonitrile	10	11	108 %	10	10	104 %	3 %	70 - 130 %	20%
156-60-5	trans-1,2-Dichloroethene	10	9.5	95 %	10	9.5	95 %	0 %	70 - 130 %	20%
1634-04-4	Methyl tert-butyl Ether (MTBE)	10	9.3	93 %	10	9.5	95 %	2 %	70 - 130 %	20%
75-34-3	1,1-Dichloroethane	10	10	101 %	10	10	100 %	0 %	70 - 130 %	20%
594-20-7	2,2-Dichloropropane	10	9.9	99 %	10	10	104 %	4 %	70 - 130 %	20%
156-59-2	cis-1,2-Dichloroethene	10	9.4	94 %	10	9.9	99 %	6 %	70 - 130 %	20%
78-93-3	2-Butanone (MEK)	20	19	96 %	20	20	99 %	3 %	70 - 130 %	20%
74-97-5	Bromochloromethane	10	8.7	87 %	10	9.1	91 %	4 %	70 - 130 %	20%
109-99-9	Tetrahydrofuran (THF)	20	21	107 %	20	20	100 %	7 %	70 - 130 %	20%
67-66-3	Chloroform	10	10	100 %	10	9.3	93 %	7 %	70 - 130 %	20%
71-55-6	1,1,1-Trichloroethane	10	10	103 %	10	10	104 %	2 %	70 - 130 %	20%
56-23-5	Carbon Tetrachloride	10	10	102 %	10	9.9	99 %	3 %	70 - 130 %	20%
563-58-6	1,1-Dichloropropene	10	9.4	94 %	10	9.1	91 %	3 %	70 - 130 %	20%
71-43-2	Benzene	10	9.6	96 %	10	9.5	95 %	2 %	70 - 130 %	20%
107-06-2	1,2-Dichloroethane	10	9.5	95 %	10	9.4	94 %	1 %	70 - 130 %	20%
79-01-6	Trichloroethene	10	9.5	95 %	10	9.5	95 %	0 %	70 - 130 %	20%
78-87-5	1,2-Dichloropropane	10	8.8	88 %	10	9.5	95 %	7 %	70 - 130 %	20%
74-95-3	Dibromomethane	10	9.3	93 %	10	9.6	96 %	2 %	70 - 130 %	20%
75-27-4	Bromodichloromethane	10	9.3	93 %	10	9.7	97 %	5 %	70 - 130 %	20%
123-91-1	1,4-Dioxane	200	160	78 %	200	140	71 %	10 %	70 - 130 %	20%
10061-01-5	cis-1,3-Dichloropropene	10	9.1	91 %	10	8.1	81 %	12 %	70 - 130 %	20%
108-10-1	4-Methyl-2-Pentanone (MIBK)	20	21	104 %	20	21	104 %	0 %	70 - 130 %	20%
108-88-3	Toluene	10	9.3	93 %	10	9.2	92 %	1 %	70 - 130 %	20%
10061-02-6	trans-1,3-Dichloropropene	10	8.4	84 %	10	8.1	81 %	3 %	70 - 130 %	20%
79-00-5	1,1,2-Trichloroethane	10	9.8	98 %	10	9.9	99 %	1 %	70 - 130 %	20%
127-18-4	Tetrachloroethene	10	8.6	86 %	10	9.2	92 %	7 %	70 - 130 %	20%
142-28-9	1,3-Dichloropropane	10	9.5	95 %	10	9.9	99 %	3 %	70 - 130 %	20%
591-78-6	2-Hexanone	20	21	106 %	20	21	107 %	1 %	70 - 130 %	20%
124-48-1	Dibromochloromethane	10	9.9	99 %	10	10	100 %	0 %	70 - 130 %	20%
106-93-4	1,2-Dibromoethane (EDB)	10	9.4	94 %	10	9.8	98 %	4 %	70 - 130 %	20%
108-90-7	Chlorobenzene	10	8.8	88 %	10	8.7	87 %	0 %	70 - 130 %	20%
630-20-6	1,1,1,2-Tetrachloroethane	10	9.4	94 %	10	9.5	95 %	1 %	70 - 130 %	20%
100-41-4	Ethylbenzene	10	8.8	88 %	10	9.3	93 %	5 %	70 - 130 %	20%
108-38-3/106-42-3	meta-Xylene and para-Xylene	20	18	92 %	20	19	95 %	3 %	70 - 130 %	20%
95-47-6	ortho-Xylene	10	9.2	92 %	10	9.2	92 %	0 %	70 - 130 %	20%
100-42-5	Styrene	10	8.8	88 %	10	8.7	87 %	1 %	70 - 130 %	20%
75-25-2	Bromoform	10	10	104 %	10	10	105 %	0 %	70 - 130 %	20%

**Quality Control Report
Laboratory Control Samples**

Category: **EPA Method 8260B**
 QC Batch ID: **VM10-1303-W**
 Matrix: **Aqueous**
 Units: **ug/L**

LCS
 Instrument ID: **MS-10 HP 6890**
 Analyzed: **05-04-11 05:51**
 Analyst: **LMG**

LCSD
 Instrument ID: **MS-10 HP 6890**
 Analyzed: **05-04-11 06:15**
 Analyst: **LMG**

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
98-82-8	Isopropylbenzene	10	8.0	80 %	10	8.1	81 %	0 %	70 - 130 %	20%
108-86-1	Bromobenzene	10	9.0	90 %	10	9.2	92 %	2 %	70 - 130 %	20%
79-34-5	1,1,2,2-Tetrachloroethane	10	9.9	99 %	10	9.8	98 %	1 %	70 - 130 %	20%
96-18-4	1,2,3-Trichloropropane	10	9.6	96 %	10	9.0	90 %	6 %	70 - 130 %	20%
110-57-6	trans-1,4-Dichloro-2-butene	200	230	113 %	200	200	98 %	14 %	70 - 130 %	20%
103-65-1	n-Propylbenzene	10	9.5	95 %	10	9.3	93 %	1 %	70 - 130 %	20%
95-49-8	2-Chlorotoluene	10	9.4	94 %	10	9.6	96 %	3 %	70 - 130 %	20%
108-67-8	1,3,5-Trimethylbenzene	10	9.5	95 %	10	9.4	94 %	1 %	70 - 130 %	20%
106-43-4	4-Chlorotoluene	10	8.7	87 %	10	9.1	91 %	5 %	70 - 130 %	20%
98-06-6	tert-Butylbenzene	10	8.9	89 %	10	8.9	89 %	0 %	70 - 130 %	20%
95-63-6	1,2,4-Trimethylbenzene	10	9.6	96 %	10	9.6	96 %	0 %	70 - 130 %	20%
135-98-8	sec-Butylbenzene	10	9.8	98 %	10	9.5	95 %	3 %	70 - 130 %	20%
541-73-1	1,3-Dichlorobenzene	10	9.5	95 %	10	9.1	91 %	4 %	70 - 130 %	20%
99-87-6	4-Isopropyltoluene	10	9.0	90 %	10	8.9	89 %	0 %	70 - 130 %	20%
106-46-7	1,4-Dichlorobenzene	10	9.1	91 %	10	9.3	93 %	2 %	70 - 130 %	20%
95-50-1	1,2-Dichlorobenzene	10	9.4	94 %	10	9.2	92 %	2 %	70 - 130 %	20%
104-51-8	n-Butylbenzene	10	9.8	98 %	10	9.6	96 %	2 %	70 - 130 %	20%
96-12-8	1,2-Dibromo-3-chloropropane	10	11	108 %	10	8.9	89 %	19 %	70 - 130 %	20%
108-70-3	1,3,5-Trichlorobenzene	10	8.1	81 %	10	8.0	80 %	1 %	70 - 130 %	20%
120-82-1	1,2,4-Trichlorobenzene	10	8.3	83 %	10	7.8	78 %	6 %	70 - 130 %	20%
87-68-3	Hexachlorobutadiene	10	8.5	85 %	10	8.2	82 %	4 %	70 - 130 %	20%
91-20-3	Naphthalene	10	8.4	84 %	10	8.5	85 %	1 %	70 - 130 %	20%
87-61-6	1,2,3-Trichlorobenzene	10	8.3	83 %	10	8.7	87 %	4 %	70 - 130 %	20%
75-65-0	tert-Butyl Alcohol (TBA)	200	180	92 %	200	170	85 %	8 %	70 - 130 %	20%
108-20-3	Di-isopropyl Ether (DIPE)	10	9.6	96 %	10	9.7	97 %	1 %	70 - 130 %	20%
637-92-3	Ethyl tert-butyl Ether (ETBE)	10	9.1	91 %	10	9.0	90 %	0 %	70 - 130 %	20%
994-05-8	tert-Amyl Methyl Ether (TAME)	10	8.3	83 %	10	8.4	84 %	1 %	70 - 130 %	20%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	10	11	112 %	10	11	110 %	70 - 130 %
1,2-Dichloroethane-d ₄	10	10	104 %	10	11	112 %	70 - 130 %
Toluene-d ₈	10	11	107 %	10	11	106 %	70 - 130 %
4-Bromofluorobenzene	10	11	108 %	10	10	102 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample preparation performed by EPA Method 5030B.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Method Blank**

Category: **EPA Method 8260B**
 QC Batch ID: **VM10-1303-W**
 Matrix: **Aqueous**

Instrument ID: **MS-10 HP 6890**
 Analyzed: **05-04-11 06:38**
 Analyst: **LMG**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/L	0.50
74-87-3	Chloromethane	BRL		ug/L	0.50
75-01-4	Vinyl Chloride	BRL		ug/L	0.50
74-83-9	Bromomethane	BRL		ug/L	2.5
75-00-3	Chloroethane	BRL		ug/L	0.50
75-69-4	Trichlorofluoromethane	BRL		ug/L	0.50
60-29-7	Diethyl Ether	BRL		ug/L	2.0
75-35-4	1,1-Dichloroethene	BRL		ug/L	0.50
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/L	5.0
67-64-1	Acetone	BRL		ug/L	10
75-15-0	Carbon Disulfide	BRL		ug/L	5.0
75-09-2	Methylene Chloride	BRL		ug/L	2.5
107-13-1	Acrylonitrile	BRL		ug/L	2.5
156-60-5	trans- 1,2-Dichloroethene	BRL		ug/L	0.50
1634-04-4	Methyl tert- butyl Ether (MTBE)	BRL		ug/L	0.50
75-34-3	1,1-Dichloroethane	BRL		ug/L	0.50
594-20-7	2,2-Dichloropropane	BRL		ug/L	0.50
156-59-2	cis- 1,2-Dichloroethene	BRL		ug/L	0.50
78-93-3	2-Butanone (MEK)	BRL		ug/L	5.0
74-97-5	Bromochloromethane	BRL		ug/L	0.50
109-99-9	Tetrahydrofuran (THF)	BRL		ug/L	5.0
67-66-3	Chloroform	BRL		ug/L	0.50
71-55-6	1,1,1-Trichloroethane	BRL		ug/L	0.50
56-23-5	Carbon Tetrachloride	BRL		ug/L	0.50
563-58-6	1,1-Dichloropropene	BRL		ug/L	0.50
71-43-2	Benzene	BRL		ug/L	0.50
107-06-2	1,2-Dichloroethane	BRL		ug/L	0.50
79-01-6	Trichloroethene	BRL		ug/L	0.50
78-87-5	1,2-Dichloropropane	BRL		ug/L	0.50
74-95-3	Dibromomethane	BRL		ug/L	0.50
75-27-4	Bromodichloromethane	BRL		ug/L	0.50
123-91-1	1,4-Dioxane	BRL		ug/L	500
10061-01-5	cis- 1,3-Dichloropropene	BRL		ug/L	0.40
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/L	5.0
108-88-3	Toluene	BRL		ug/L	0.50
10061-02-6	trans- 1,3-Dichloropropene	BRL		ug/L	0.40
79-00-5	1,1,2-Trichloroethane	BRL		ug/L	0.50
127-18-4	Tetrachloroethene	BRL		ug/L	0.50
142-28-9	1,3-Dichloropropane	BRL		ug/L	0.50
591-78-6	2-Hexanone	BRL		ug/L	5.0
124-48-1	Dibromochloromethane	BRL		ug/L	0.50
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/L	0.50
108-90-7	Chlorobenzene	BRL		ug/L	0.50
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/L	0.50
100-41-4	Ethylbenzene	BRL		ug/L	0.50
108-38-3/106-42-3	meta- Xylene and para- Xylene	BRL		ug/L	0.50
95-47-6	ortho- Xylene	BRL		ug/L	0.50
100-42-5	Styrene	BRL		ug/L	0.50
75-25-2	Bromoform	BRL		ug/L	2.5

**Quality Control Report
Method Blank**

Category: **EPA Method 8260B**
 QC Batch ID: **VM10-1303-W**
 Matrix: **Aqueous**

Instrument ID: **MS-10 HP 6890**
 Analyzed: **05-04-11 06:38**
 Analyst: **LMG**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
98-82-8	Isopropylbenzene	BRL		ug/L	0.50
108-86-1	Bromobenzene	BRL		ug/L	0.50
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/L	0.50
96-18-4	1,2,3-Trichloropropane	BRL		ug/L	0.50
110-57-6	<i>trans</i> -1,4-Dichloro-2-butene	BRL		ug/L	50
103-65-1	<i>n</i> -Propylbenzene	BRL		ug/L	0.50
95-49-8	2-Chlorotoluene	BRL		ug/L	0.50
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/L	0.50
106-43-4	4-Chlorotoluene	BRL		ug/L	0.50
98-06-6	<i>tert</i> -Butylbenzene	BRL		ug/L	0.50
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/L	0.50
135-98-8	<i>sec</i> -Butylbenzene	BRL		ug/L	0.50
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	0.50
99-87-6	4-Isopropyltoluene	BRL		ug/L	0.50
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	0.50
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	0.50
104-51-8	<i>n</i> -Butylbenzene	BRL		ug/L	0.50
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/L	0.50
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/L	0.50
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	0.50
87-68-3	Hexachlorobutadiene	BRL		ug/L	0.50
91-20-3	Naphthalene	BRL		ug/L	0.50
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/L	0.50
75-65-0	<i>tert</i> -Butyl Alcohol (TBA)	BRL		ug/L	20
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/L	0.50
637-92-3	Ethyl <i>tert</i> -butyl Ether (ETBE)	BRL		ug/L	0.50
994-05-8	<i>tert</i> -Amyl Methyl Ether (TAME)	BRL		ug/L	0.50

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	10	11	114 %	70 - 130 %
1,2-Dichloroethane-d ₄	10	13	128 %	70 - 130 %
Toluene-d ₈	10	11	107 %	70 - 130 %
4-Bromofluorobenzene	10	9.8	98 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample preparation performed by EPA Method 5030B.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

Certifications and Approvals

Groundwater Analytical maintains environmental laboratory certification in a variety of states. Copies of our current certificates may be obtained from our website:

<http://www.groundwateranalytical.com/qualifications.htm>

CONNECTICUT

Department of Health Services, PH-0586 Potable Water, Wastewater, Solid Waste and Soil
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/Out_State.pdf

MASSACHUSETTS

Department of Environmental Protection, M-MA-103 Potable Water and Non-Potable Water
<http://public.dep.state.ma.us/labcert/labcert.aspx>

Department of Labor, Asbestos Analytical Services, Class A
Division of Occupational Safety, AA000195
http://www.mass.gov/dos/forms/la-rpt_list_aa.pdf

NEW HAMPSHIRE

Department of Environmental Services, 202708 Potable Water, Non-Potable Water, Solid and Chemical Materials
<http://www4.egov.nh.gov/DES/NHELAP>

NEW YORK

Department of Health, 11754 Potable Water, Non-Potable Water, Solid and Hazardous Waste
<http://www.wadsworth.org/labcert/elap/comm.html>

RHODE ISLAND

Department of Health, Potable and Non-Potable Water Microbiology, Organic and Inorganic Chemistry
Division of Laboratories, LAO00054
<http://www.health.ri.gov/labs/outofstatelabs.pdf>

U.S. DEPARTMENT OF AGRICULTURE

USDA, Soil Permit, S-53921 Foreign soil import permit

VERMONT

Department of Health, VT-87643 Potable Water
http://healthvermont.gov/enviro/ph_lab/water_test.aspx#cert

Certifications and Approvals

MASSACHUSETTS

Department of Environmental Protection, M-MA-103

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Potable Water (Drinking Water)		Non-Potable Water (Wastewater)	
Analyte	Method	Analyte	Method
1,2-Dibromo-3-Chloropropane	EPA 504.1	Aluminum	EPA 200.8
1,2-Dibromoethane	EPA 504.1	Ammonia-N	Lachat 10-107-06-1-B
Alkalinity, Total	SM 2320-B	Antimony	EPA 200.7
Antimony	EPA 200.8	Antimony	EPA 200.8
Arsenic	EPA 200.8	Arsenic	EPA 200.7
Barium	EPA 200.7	Arsenic	EPA 200.8
Barium	EPA 200.8	Beryllium	EPA 200.7
Beryllium	EPA 200.7	Beryllium	EPA 200.8
Beryllium	EPA 200.8	Beta-BHC	EPA 608
Cadmium	EPA 200.7	Biochemical Oxygen Demand	SM 5210-B
Cadmium	EPA 200.8	Cadmium	EPA 200.7
Calcium	EPA 200.7	Cadmium	EPA 200.8
Chlorine, Residual Free	SM 4500-CL-G	Calcium	EPA 200.7
Chromium	EPA 200.7	Chemical Oxygen Demand	SM 5220-D
Copper	EPA 200.7	Chlordane	EPA 608
Copper	EPA 200.8	Chloride	EPA 300.0
Cyanide, Total	Lachat 10-204-00-1-A	Chlorine, Total Residual	SM 4500-CL-G
E. Coli (Treatment and Distribution)	Enz. Sub. SM 9223	Chromium	EPA 200.7
E. Coli (Treatment and Distribution)	NA-MUG SM 9222-G	Chromium	EPA 200.8
Fecal Coliform (Source Water)	MF SM 9222-D	Cobalt	EPA 200.7
Fluoride	EPA 300.0	Cobalt	EPA 200.8
Fluoride	SM 4500-F-C	Copper	EPA 200.7
Haloacetic Acids	EPA 552.2	Copper	EPA 200.8
Heterotrophic Plate Count	SM 9215-B	Cyanide, Total	Lachat 10-204-00-1-A
Lead	EPA 200.8	DDD	EPA 608
Mercury	EPA 245.1	DDE	EPA 608
Nickel	EPA 200.7	DDT	EPA 608
Nickel	EPA 200.8	Delta-BHC	EPA 608
Nitrate-N	EPA 300.0	Dieldrin	EPA 608
Nitrate-N	Lachat 10-107-04-1-C	Endosulfan I	EPA 608
Nitrite-N	EPA 300.0	Endosulfan II	EPA 608
Nitrite-N	Lachat 10-107-04-1-C	Endosulfan Sulfate	EPA 608
pH	SM 4500-H-B	Endrin	EPA 608
Selenium	EPA 200.8	Endrin Aldehyde	EPA 608
Silver	EPA 200.7	Gamma-BHC	EPA 608
Silver	EPA 200.8	Hardness (CaCO ₃), Total	EPA 200.7
Sodium	EPA 200.7	Hardness (CaCO ₃), Total	SM 2340-B
Sulfate	EPA 300.0	Heptachlor	EPA 608
Thallium	EPA 200.8	Heptachlor Epoxide	EPA 608
Total Coliform (Treatment and Distribution)	Enz. Sub. SM 9223	Iron	EPA 200.7
Total Coliform (Treatment and Distribution)	MF SM 9222-B	Kjeldahl-N	Lachat 10-107-06-02-D
Total Dissolved Solids	SM 2540-C	Lead	EPA 200.7
Trihalomethanes	EPA 524.2	Magnesium	EPA 200.7
Turbidity	SM 2130-B	Manganese	EPA 200.7
Volatile Organic Compounds	EPA 524.2	Manganese	EPA 200.8
		Mercury	EPA 245.1
		Molybdenum	EPA 200.7
		Molybdenum	EPA 200.8
		Nickel	EPA 200.7
		Nickel	EPA 200.8
		Nitrate-N	EPA 300.0
		Nitrate-N	Lachat 10-107-04-1-C
		Non-Filterable Residue	SM 2540-D
		Oil and Grease	EPA 1664
Non-Potable Water (Wastewater)			
Analyte	Method		
Aldrin	EPA 608		
Alkalinity, Total	SM 2320-B		
Alpha-BHC	EPA 608		
Aluminum	EPA 200.7		

Certifications and Approvals

MASSACHUSETTS

Department of Environmental Protection, M-MA-103

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Non-Potable Water (Wastewater)

Analyte	Method
Orthophosphate	Lachat 10-115-01-1-A
pH	SM 4500-H-B
Phenolics, Total	EPA 420.4
Phenolics, Total	Lachat 10-210-00-1-B
Phosphorus, Total	Lachat 10-115-01-1-C
Phosphorus, Total	SM 4500-P-B,E
Polychlorinated Biphenyls (Oil)	EPA 600/4-81-045
Polychlorinated Biphenyls (Water)	EPA 608
Potassium	EPA 200.7
Selenium	EPA 200.7
Selenium	EPA 200.8
Silver	EPA 200.7
Sodium	EPA 200.7
Specific Conductivity	SM 2510-B
Strontium	EPA 200.7
Sulfate	EPA 300.0
SVOC-Acid Extractables	EPA 625
SVOC-Base/Neutral Extractables	EPA 625
Thallium	EPA 200.7
Thallium	EPA 200.8
Titanium	EPA 200.7
Total Dissolved Solids	SM 2540-C
Total Organic Carbon	SM 5310-B
Toxaphene	EPA 608
Vanadium	EPA 200.7
Vanadium	EPA 200.8
Volatile Aromatics	EPA 602
Volatile Aromatics	EPA 624
Volatile Halocarbons	EPA 624
Zinc	EPA 200.7
Zinc	EPA 200.8

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ANALYTICAL DATA REPORT

prepared for:

Weston and Sampson
5 Centennial Drive
Peabody, MA 01960
Jim Carrier

Report Number: E205960
Revision 6
Project: 478 - 480 Union Street

Received Date: 05/15/2012

Report Date: 06/13/2012

Revision Date: 08/03/2012



Premier Laboratory, Inc
Authorized Signature



Certified and Compliant with:

CT (PH-0465), EPA (CT00008), MA (M-CT008), ME (CT0050), NH (2020), NJ (CT007), NY (11549), PA (68-04413), RI (LAO00300), VT (VT11549)



101-000000337972

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MADEP Analytical Protocol Certification Form					
Laboratory Name: Premier Laboratory, Inc			Project #: E205960		
Project Location: New Bedford, MA			RTN :		
This Form provides certifications for the following data set:[list Laboratory Sample ID Number(s)] 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26					
Matrices: <input checked="" type="checkbox"/> Groundwater/Surface Water <input checked="" type="checkbox"/> Soil/Sediment <input type="checkbox"/> Drinking Water <input type="checkbox"/> Air <input type="checkbox"/> Other:					
CAM Protocol (check all that apply below):					
8260 VOC CAM II A <input type="checkbox"/>	7470/7471 Hg CAM III B <input type="checkbox"/>	MassDEP VPH CAM IV A <input checked="" type="checkbox"/>	8081 Pesticides CAM V B <input type="checkbox"/>	7196 Hex Cr CAM VI B <input type="checkbox"/>	MassDEP APH CAM IX A <input type="checkbox"/>
8270 SVOC CAM II B <input type="checkbox"/>	7010 Metals CAM III C <input type="checkbox"/>	MassDEP EPH CAM IV B <input checked="" type="checkbox"/>	8151A Herbicides CAM V C <input type="checkbox"/>	8330 Explosives CAM VIII A <input type="checkbox"/>	TO-15 VOC CAM IX B <input type="checkbox"/>
6010 Metals CAM III A <input checked="" type="checkbox"/>	6020 Metals CAM III D <input type="checkbox"/>	8082 PCB CAM V A <input type="checkbox"/>	9014 Total Cyanide/PAC CAM VI A <input type="checkbox"/>	6860 Perchlorate CAM VIII B <input type="checkbox"/>	
Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status					
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
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).				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?				<input type="checkbox"/> Yes <input type="checkbox"/> No ¹
F	Were all applicable CAM III protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to questions A through E)?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
Responses to questions G, H and I below are required for "Presumptive Certainty" status					
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No ¹
Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40 (2)(k) and WSC-07-350					
H	Were all QC performance standards specified in the CAM protocol(s) achieved?				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No ¹
¹ All negative responses must be addressed in an attached laboratory narrative.					
<i>I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.</i>					
Signature: <u> <i>R. Warila</i> </u>		Position: <u> Laboratory Director </u>			
Printed Name: <u> Ronald Warila </u>		Date: <u> 8/3/2012 </u>			



101-000000337972

Report No: E205960
Client: Weston and Sampson
Project: 478 - 480 Union Street

CASE NARRATIVE / METHOD CONFORMANCE SUMMARY

Premier Laboratory, Inc received 22 samples from Weston and Sampson on 05/15/2012. The samples were analyzed for the following list of analyses:

Subcontract - EPH	Trace Metals by 6010B
MADEP EPH	6010B[3000]
Volatile Petroleum Hydrocarbon (VPH)	
MADEP VPH	

The requested compound list is not inclusive of all of the MCP Target Analytes for Method 6010B.

Non-Conformances:

Work Order:

None

Sample:

None

Analysis:

Sample 12B, WS-21 (13-15'), Volatile Petroleum Hydrocarbon (VPH): One surrogate spike was outside quality control limits for the sample due to matrix interference.

Sample 12B, WS-21 (13-15'), Volatile Petroleum Hydrocarbon (VPH): The CAM reporting limits were not met due to sample dilution.

Sample 14B, WS-23 (13-15'), Volatile Petroleum Hydrocarbon (VPH): One surrogate spike was outside quality control limits for the sample due to matrix interference.

Sample 14B, WS-23 (13-15'), Volatile Petroleum Hydrocarbon (VPH): The CAM reporting limits were not met due to sample dilution.

Sample 15B, WS-24 (13-15'), Volatile Petroleum Hydrocarbon (VPH): One surrogate spike was outside quality control limits for the sample, due to matrix interference. The sample was re-analyzed and the surrogate was still outside control limits.

Sample 1B, WS-12 (13.5-15'), Volatile Petroleum Hydrocarbon (VPH): The CAM reporting limits were not met due to sample dilution.

Sample 25, WS-18 (0-5') [Matrix Spike], Trace Metals by 6010B: Lead recovery for the matrix spike was above the established control limits.

Sample 26, WS-18 (0-5') [Matrix Spike Duplicate], Trace Metals by 6010B: Lead recovery for the matrix spike duplicate was above the established control limits.

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Report No: E205960
Client: Weston and Sampson
Project: 478 - 480 Union Street

CASE NARRATIVE / METHOD CONFORMANCE SUMMARY

Non-Conformances:

Analysis:

Sample 4B, WS-15 (13.5-15'), Volatile Petroleum Hydrocarbon (VPH): The CAM reporting limits were not met due to sample dilution.

Sample 9B, WS-16 (15-19'), Volatile Petroleum Hydrocarbon (VPH): The CAM reporting limits were not met due to sample dilution.

Premier Laboratory, Inc

Analytical Data Report

Report No: E205960
 Date Received: 05/15/2012 16:38

Customer: Weston and Sampson
 Project: 478 - 480 Union Street

Parameter	Result	DL	Units	Completed	By	Dilution
(16) WS-18 (0-5')						
Date Collected: 05/11/2012 12:00		Matrix: Solid				
Trace Metals by 6010B						
Lead	70	0.11	mg/kg	05/29/2012 14:22	NJB	
(17) WS-16 (0-5')						
Date Collected: 05/11/2012 16:30		Matrix: Solid				
Trace Metals by 6010B						
Lead	48	0.11	mg/kg	05/29/2012 14:25	NJB	
(18) WS-17 (0-5')						
Date Collected: 05/11/2012 12:30		Matrix: Solid				
Trace Metals by 6010B						
Lead	150	0.11	mg/kg	05/29/2012 14:28	NJB	
(19) WS-19 (0-5')						
Date Collected: 05/11/2012 13:00		Matrix: Solid				
Trace Metals by 6010B						
Lead	300	0.11	mg/kg	05/29/2012 14:37	NJB	
(20) DUP-2						
Date Collected: 05/11/2012		Matrix: Solid				
Trace Metals by 6010B						
Lead	20	0.11	mg/kg	05/29/2012 14:39	NJB	
(24) WS-18 (0-5') [Standard Sample]						
Date Collected: 05/11/2012 12:00		Matrix: Solid				
Trace Metals by 6010B						
Lead	87	0.11	mg/kg	08/01/2012 13:13	AJR	
(25) WS-18 (0-5') [Matrix Spike]						
Date Collected: 05/11/2012 12:00		Matrix: Solid				
Trace Metals by 6010B						
Lead	140	0.11	mg/kg	08/01/2012 13:19	AJR	
(26) WS-18 (0-5') [Matrix Spike Duplicate]						
Date Collected: 05/11/2012 12:00		Matrix: Solid				
Trace Metals by 6010B						
Lead	150	0.11	mg/kg	08/01/2012 13:21	AJR	

Premier Laboratory, Inc Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
Report No:	E205960	Location:	New Bedford, MA
Sample No:	1	Project:	478 - 480 Union Street
Preservative:		Sample Description:	WS-12 (13.5-15')
Date Collected:	5/11/2012	Dilution (Target):	100
Date Received:	5/15/2012	Matrix:	Solid
Date Extracted:		Percent Moisture:	20
Date Analyzed:	6/6/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	100	370000	14000	ug/kg
C9-C12 Aliphatics**	100	360000	14000	ug/kg
C9-C10 Aromatics***	100	220000	14000	ug/kg

* Excludes MTBE, Benzene, and Toluene

** Excludes Ethylbenzene, Xylenes

*** Excludes Naphthalene

SURROGATE RECOVERIES

Surrogate	% Recovery	Acceptance Range
2,5-dibromotoluene #2	105%	70%-130%
2,5-dibromotoluene	110%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	ND	140	ug/kg
Benzene	ND	700	ug/kg
Toluene	ND	700	ug/kg
Ethylbenzene	ND	700	ug/kg
m,p-Xylenes	ND	700	ug/kg
o-Xylene	ND	700	ug/kg
Naphthalene	ND	700	ug/kg

Premier Laboratory, Inc Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
Report No:	E205960	Location:	New Bedford, MA
Sample No:	2	Project:	478 - 480 Union Street
Preservative:		Sample Description:	WS-13 (13.5-15')
Date Collected:	5/11/2012	Dilution (Target):	50
Date Received:	5/15/2012	Matrix:	Solid
Date Extracted:		Percent Moisture:	19
Date Analyzed:	6/5/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	50	63000	6200	ug/kg
C9-C12 Aliphatics**	50	ND	6200	ug/kg
C9-C10 Aromatics***	50	ND	6200	ug/kg

* Excludes MTBE, Benzene, and Toluene

** Excludes Ethylbenzene, Xylenes

*** Excludes Naphthalene

SURROGATE RECOVERIES

Surrogate	% Recovery	Acceptance Range
2,5-dibromotoluene #2	95%	70%-130%
2,5-dibromotoluene	96%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	ND	62	ug/kg
Benzene	ND	310	ug/kg
Toluene	ND	310	ug/kg
Ethylbenzene	ND	310	ug/kg
m,p-Xylenes	ND	310	ug/kg
o-Xylene	ND	310	ug/kg
Naphthalene	ND	310	ug/kg

Premier Laboratory, Inc Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
Report No:	E205960	Location:	New Bedford, MA
Sample No:	3	Project:	478 - 480 Union Street
Preservative:		Sample Description:	WS-14 (13.5-15')
Date Collected:	5/11/2012	Dilution (Target):	50
Date Received:	5/15/2012	Matrix:	Solid
Date Extracted:		Percent Moisture:	9.7
Date Analyzed:	6/5/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	50	ND	5000	ug/kg
C9-C12 Aliphatics**	50	66000	5000	ug/kg
C9-C10 Aromatics***	50	62000	5000	ug/kg

* Excludes MTBE, Benzene, and Toluene

** Excludes Ethylbenzene, Xylenes

*** Excludes Naphthalene

SURROGATE RECOVERIES

Surrogate	% Recovery	Acceptance Range
2,5-dibromotoluene #2	77%	70%-130%
2,5-dibromotoluene	106%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	ND	50	ug/kg
Benzene	ND	250	ug/kg
Toluene	ND	250	ug/kg
Ethylbenzene	ND	250	ug/kg
m,p-Xylenes	ND	250	ug/kg
o-Xylene	ND	250	ug/kg
Naphthalene	ND	250	ug/kg

Premier Laboratory, Inc Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
Report No:	E205960	Location:	New Bedford, MA
Sample No:	4	Project:	478 - 480 Union Street
Preservative:		Sample Description:	WS-15 (13.5-15')
Date Collected:	5/11/2012	Dilution (Target):	400
Date Received:	5/15/2012	Matrix:	Solid
Date Extracted:		Percent Moisture:	24
Date Analyzed:	6/6/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	400	4400000	52000	ug/kg
C9-C12 Aliphatics**	400	2800000	52000	ug/kg
C9-C10 Aromatics***	400	1400000	52000	ug/kg

* Excludes MTBE, Benzene, and Toluene

** Excludes Ethylbenzene, Xylenes

*** Excludes Naphthalene

SURROGATE RECOVERIES

Surrogate	% Recovery	Acceptance Range
2,5-dibromotoluene #2	88%	70%-130%
2,5-dibromotoluene	105%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	ND	520	ug/kg
Benzene	ND	2600	ug/kg
Toluene	ND	2600	ug/kg
Ethylbenzene	ND	2600	ug/kg
m,p-Xylenes	ND	2600	ug/kg
o-Xylene	ND	2600	ug/kg
Naphthalene	9600	2600	ug/kg

Premier Laboratory, Inc Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
Report No:	E205960	Location:	New Bedford, MA
Sample No:	5	Project:	478 - 480 Union Street
Preservative:		Sample Description:	DUP-1
Date Collected:	5/11/2012	Dilution (Target):	50
Date Received:	5/15/2012	Matrix:	Solid
Date Extracted:		Percent Moisture:	18
Date Analyzed:	6/5/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	50	480000	6800	ug/kg
C9-C12 Aliphatics**	50	530000	6800	ug/kg
C9-C10 Aromatics***	50	240000	6800	ug/kg

* Excludes MTBE, Benzene, and Toluene

** Excludes Ethylbenzene, Xylenes

*** Excludes Naphthalene

SURROGATE RECOVERIES

Surrogate	% Recovery	Acceptance Range
2,5-dibromotoluene #2	109%	70%-130%
2,5-dibromotoluene	107%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	ND	68	ug/kg
Benzene	ND	340	ug/kg
Toluene	ND	340	ug/kg
Ethylbenzene	ND	340	ug/kg
m,p-Xylenes	ND	340	ug/kg
o-Xylene	ND	340	ug/kg
Naphthalene	ND	340	ug/kg

Premier Laboratory, Inc Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
Report No:	E205960	Location:	New Bedford, MA
Sample No:	6	Project:	478 - 480 Union Street
Preservative:		Sample Description:	WS-18 (15-19') MS
Date Collected:	5/11/2012	Dilution (Target):	1
Date Received:	5/15/2012	Matrix:	Solid
Date Extracted:		Percent Moisture:	18
Date Analyzed:	6/7/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	1	140	130	ug/kg
C9-C12 Aliphatics**	1	210	130	ug/kg
C9-C10 Aromatics***	1	76	130	ug/kg

* Excludes MTBE, Benzene, and Toluene

** Excludes Ethylbenzene, Xylenes

*** Excludes Naphthalene

SURROGATE RECOVERIES

Surrogate	% Recovery	Acceptance Range
2,5-dibromotoluene #2	108%	70%-130%
2,5-dibromotoluene	105%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	64	1.3	ug/kg
Benzene	73	6.7	ug/kg
Toluene	75	6.7	ug/kg
Ethylbenzene	75	6.7	ug/kg
m,p-Xylenes	150	6.7	ug/kg
o-Xylene	74	6.7	ug/kg
Naphthalene	76	6.7	ug/kg

Premier Laboratory, Inc Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
Report No:	E205960	Location:	New Bedford, MA
Sample No:	7	Project:	478 - 480 Union Street
Preservative:		Sample Description:	WS-18 (15-19') MSD
Date Collected:	5/11/2012	Dilution (Target):	1
Date Received:	5/15/2012	Matrix:	Solid
Date Extracted:		Percent Moisture:	19
Date Analyzed:	6/7/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	1	120	110	ug/kg
C9-C12 Aliphatics**	1	170	110	ug/kg
C9-C10 Aromatics***	1	62	110	ug/kg

* Excludes MTBE, Benzene, and Toluene

** Excludes Ethylbenzene, Xylenes

*** Excludes Naphthalene

SURROGATE RECOVERIES

Surrogate	% Recovery	Acceptance Range
2,5-dibromotoluene #2	108%	70%-130%
2,5-dibromotoluene	109%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	55	1.1	ug/kg
Benzene	61	5.5	ug/kg
Toluene	61	5.5	ug/kg
Ethylbenzene	62	5.5	ug/kg
m,p-Xylenes	120	5.5	ug/kg
o-Xylene	59	5.5	ug/kg
Naphthalene	63	5.5	ug/kg

Premier Laboratory, Inc Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
Report No:	E205960	Location:	New Bedford, MA
Sample No:	8	Project:	478 - 480 Union Street
Preservative:		Sample Description:	WS-17 (15-19')
Date Collected:	5/11/2012	Dilution (Target):	50
Date Received:	5/15/2012	Matrix:	Solid
Date Extracted:		Percent Moisture:	26
Date Analyzed:	6/5/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	50	170000	7500	ug/kg
C9-C12 Aliphatics**	50	120000	7500	ug/kg
C9-C10 Aromatics***	50	74000	7500	ug/kg

* Excludes MTBE, Benzene, and Toluene

** Excludes Ethylbenzene, Xylenes

*** Excludes Naphthalene

SURROGATE RECOVERIES

Surrogate	% Recovery	Acceptance Range
2,5-dibromotoluene #2	104%	70%-130%
2,5-dibromotoluene	107%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	ND	75	ug/kg
Benzene	ND	370	ug/kg
Toluene	ND	370	ug/kg
Ethylbenzene	ND	370	ug/kg
m,p-Xylenes	ND	370	ug/kg
o-Xylene	ND	370	ug/kg
Naphthalene	ND	370	ug/kg

Premier Laboratory, Inc Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
Report No:	E205960	Location:	New Bedford, MA
Sample No:	9	Project:	478 - 480 Union Street
Preservative:		Sample Description:	WS-16 (15-19')
Date Collected:	5/11/2012	Dilution (Target):	400
Date Received:	5/15/2012	Matrix:	Solid
Date Extracted:		Percent Moisture:	14
Date Analyzed:	6/6/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	400	3000000	46000	ug/kg
C9-C12 Aliphatics**	400	2000000	46000	ug/kg
C9-C10 Aromatics***	400	1100000	46000	ug/kg

* Excludes MTBE, Benzene, and Toluene

** Excludes Ethylbenzene, Xylenes

*** Excludes Naphthalene

SURROGATE RECOVERIES

Surrogate	% Recovery	Acceptance Range
2,5-dibromotoluene #2	92%	70%-130%
2,5-dibromotoluene	114%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	ND	460	ug/kg
Benzene	ND	2300	ug/kg
Toluene	ND	2300	ug/kg
Ethylbenzene	ND	2300	ug/kg
m,p-Xylenes	ND	2300	ug/kg
o-Xylene	ND	2300	ug/kg
Naphthalene	ND	2300	ug/kg

Premier Laboratory, Inc Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
Report No:	E205960	Location:	New Bedford, MA
Sample No:	10	Project:	478 - 480 Union Street
Preservative:		Sample Description:	WS-19 (15-19')
Date Collected:	5/11/2012	Dilution (Target):	50
Date Received:	5/15/2012	Matrix:	Solid
Date Extracted:		Percent Moisture:	10
Date Analyzed:	6/5/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	50	ND	5600	ug/kg
C9-C12 Aliphatics**	50	ND	5600	ug/kg
C9-C10 Aromatics***	50	ND	5600	ug/kg

* Excludes MTBE, Benzene, and Toluene

** Excludes Ethylbenzene, Xylenes

*** Excludes Naphthalene

SURROGATE RECOVERIES

Surrogate	% Recovery	Acceptance Range
2,5-dibromotoluene #2	87%	70%-130%
2,5-dibromotoluene	98%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	ND	56	ug/kg
Benzene	ND	280	ug/kg
Toluene	ND	280	ug/kg
Ethylbenzene	ND	280	ug/kg
m,p-Xylenes	ND	280	ug/kg
o-Xylene	ND	280	ug/kg
Naphthalene	ND	280	ug/kg

Premier Laboratory, Inc Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
Report No:	E205960	Location:	New Bedford, MA
Sample No:	11	Project:	478 - 480 Union Street
Preservative:		Sample Description:	WS-20 (13-15')
Date Collected:	5/11/2012	Dilution (Target):	50
Date Received:	5/15/2012	Matrix:	Solid
Date Extracted:		Percent Moisture:	8.0
Date Analyzed:	6/5/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	50	46000	5800	ug/kg
C9-C12 Aliphatics**	50	240000	5800	ug/kg
C9-C10 Aromatics***	50	180000	5800	ug/kg

* Excludes MTBE, Benzene, and Toluene

** Excludes Ethylbenzene, Xylenes

*** Excludes Naphthalene

SURROGATE RECOVERIES

Surrogate	% Recovery	Acceptance Range
2,5-dibromotoluene #2	76%	70%-130%
2,5-dibromotoluene	78%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	ND	58	ug/kg
Benzene	ND	290	ug/kg
Toluene	ND	290	ug/kg
Ethylbenzene	ND	290	ug/kg
m,p-Xylenes	ND	290	ug/kg
o-Xylene	ND	290	ug/kg
Naphthalene	2900	290	ug/kg

Premier Laboratory, Inc

Analytical Data Report

Report No: E205960
Sample No: 11
Sample Description: WS-20 (13-15')

Customer: Weston and Sampson
Project: 478 - 480 Union Street

Date Collected: 05/11/2012 14:30
Date Received: 05/15/2012 16:38
Date Analyzed: 06/07/2012 00:00 By: SUB
Analytical Method: MADEP EPH

Matrix: Solid
Percent Moisture: 8.0
Dilution Factor: 1
Lab Data File:

CAS No.	Parameter	Result	DL	Units
	Subcontract EPH	Attached		ug/L

Premier Laboratory, Inc Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
Report No:	E205960	Location:	New Bedford, MA
Sample No:	12	Project:	478 - 480 Union Street
Preservative:		Sample Description:	WS-21 (13-15')
Date Collected:	5/11/2012	Dilution (Target):	100
Date Received:	5/15/2012	Matrix:	Solid
Date Extracted:		Percent Moisture:	12
Date Analyzed:	6/6/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	100	100000	13000	ug/kg
C9-C12 Aliphatics**	100	820000	13000	ug/kg
C9-C10 Aromatics***	100	590000	13000	ug/kg

* Excludes MTBE, Benzene, and Toluene

** Excludes Ethylbenzene, Xylenes

*** Excludes Naphthalene

SURROGATE RECOVERIES

Surrogate	% Recovery	Acceptance Range
2,5-dibromotoluene #2	24%	70%-130%
2,5-dibromotoluene	24%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	ND	130	ug/kg
Benzene	ND	660	ug/kg
Toluene	ND	660	ug/kg
Ethylbenzene	ND	660	ug/kg
m,p-Xylenes	ND	660	ug/kg
o-Xylene	ND	660	ug/kg
Naphthalene	16000	660	ug/kg

Premier Laboratory, Inc

Analytical Data Report

Report No: E205960
Sample No: 12
Sample Description: WS-21 (13-15')

Customer: Weston and Sampson
Project: 478 - 480 Union Street

Date Collected: 05/11/2012 15:00
Date Received: 05/15/2012 16:38
Date Analyzed: 06/07/2012 00:00 By: SUB
Analytical Method: MADEP EPH

Matrix: Solid
Percent Moisture: 12
Dilution Factor: 1
Lab Data File:

CAS No.	Parameter	Result	DL	Units
	Subcontract EPH	Attached		ug/L

Premier Laboratory, Inc Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
Report No:	E205960	Location:	New Bedford, MA
Sample No:	13	Project:	478 - 480 Union Street
Preservative:		Sample Description:	WS-22 (13-15')
Date Collected:	5/11/2012	Dilution (Target):	50
Date Received:	5/15/2012	Matrix:	Solid
Date Extracted:		Percent Moisture:	16
Date Analyzed:	6/6/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	50	51000	6800	ug/kg
C9-C12 Aliphatics**	50	87000	6800	ug/kg
C9-C10 Aromatics***	50	90000	6800	ug/kg

* Excludes MTBE, Benzene, and Toluene

** Excludes Ethylbenzene, Xylenes

*** Excludes Naphthalene

SURROGATE RECOVERIES

Surrogate	% Recovery	Acceptance Range
2,5-dibromotoluene #2	75%	70%-130%
2,5-dibromotoluene	102%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	ND	68	ug/kg
Benzene	ND	340	ug/kg
Toluene	ND	340	ug/kg
Ethylbenzene	ND	340	ug/kg
m,p-Xylenes	ND	340	ug/kg
o-Xylene	ND	340	ug/kg
Naphthalene	750	340	ug/kg

Premier Laboratory, Inc

Analytical Data Report

Report No: E205960
Sample No: 13
Sample Description: WS-22 (13-15')

Customer: Weston and Sampson
Project: 478 - 480 Union Street

Date Collected: 05/11/2012 16:00
Date Received: 05/15/2012 16:38
Date Analyzed: 06/07/2012 00:00 By: SUB
Analytical Method: MADEP EPH

Matrix: Solid
Percent Moisture: 16
Dilution Factor: 1
Lab Data File:

CAS No.	Parameter	Result	DL	Units
	Subcontract EPH	Attached		ug/L

Premier Laboratory, Inc Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
Report No:	E205960	Location:	New Bedford, MA
Sample No:	14	Project:	478 - 480 Union Street
Preservative:		Sample Description:	WS-23 (13-15')
Date Collected:	5/11/2012	Dilution (Target):	100
Date Received:	5/15/2012	Matrix:	Solid
Date Extracted:		Percent Moisture:	18
Date Analyzed:	6/6/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	100	120000	14000	ug/kg
C9-C12 Aliphatics**	100	980000	14000	ug/kg
C9-C10 Aromatics***	100	670000	14000	ug/kg

* Excludes MTBE, Benzene, and Toluene

** Excludes Ethylbenzene, Xylenes

*** Excludes Naphthalene

SURROGATE RECOVERIES

Surrogate	% Recovery	Acceptance Range
2,5-dibromotoluene #2	3.9%	70%-130%
2,5-dibromotoluene	8.1%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	ND	140	ug/kg
Benzene	ND	720	ug/kg
Toluene	ND	720	ug/kg
Ethylbenzene	ND	720	ug/kg
m,p-Xylenes	ND	720	ug/kg
o-Xylene	ND	720	ug/kg
Naphthalene	23000	720	ug/kg

Premier Laboratory, Inc

Analytical Data Report

Report No: E205960
Sample No: 14
Sample Description: WS-23 (13-15')

Customer: Weston and Sampson
Project: 478 - 480 Union Street

Date Collected: 05/11/2012 15:30
Date Received: 05/15/2012 16:38
Date Analyzed: 06/07/2012 00:00 By: SUB
Analytical Method: MADEP EPH

Matrix: Solid
Percent Moisture: 18
Dilution Factor: 1
Lab Data File:

CAS No.	Parameter	Result	DL	Units
	Subcontract EPH	Attached		ug/L

Premier Laboratory, Inc Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
Report No:	E205960	Location:	New Bedford, MA
Sample No:	15	Project:	478 - 480 Union Street
Preservative:		Sample Description:	WS-24 (13-15')
Date Collected:	5/11/2012	Dilution (Target):	50
Date Received:	5/15/2012	Matrix:	Solid
Date Extracted:		Percent Moisture:	8.3
Date Analyzed:	6/5/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	50	31000	5000	ug/kg
C9-C12 Aliphatics**	50	320000	5000	ug/kg
C9-C10 Aromatics***	50	220000	5000	ug/kg

* Excludes MTBE, Benzene, and Toluene

** Excludes Ethylbenzene, Xylenes

*** Excludes Naphthalene

SURROGATE RECOVERIES

Surrogate	% Recovery	Acceptance Range
2,5-dibromotoluene #2	26%	70%-130%
2,5-dibromotoluene	18%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	ND	50	ug/kg
Benzene	ND	250	ug/kg
Toluene	ND	250	ug/kg
Ethylbenzene	ND	250	ug/kg
m,p-Xylenes	ND	250	ug/kg
o-Xylene	ND	250	ug/kg
Naphthalene	6000	250	ug/kg

Premier Laboratory, Inc

Analytical Data Report

Report No: E205960
Sample No: 15
Sample Description: WS-24 (13-15')

Customer: Weston and Sampson
Project: 478 - 480 Union Street

Date Collected: 05/11/2012 14:00
Date Received: 05/15/2012 16:38
Date Analyzed: 06/07/2012 00:00 By: SUB
Analytical Method: MADEP EPH

Matrix: Solid
Percent Moisture: 8.3
Dilution Factor: 1
Lab Data File:

CAS No.	Parameter	Result	DL	Units
	Subcontract EPH	Attached		ug/L

Premier Laboratory, Inc

Analytical Data Report

Report No: E205960
Sample No: 21
Sample Description: DUP-3

Customer: Weston and Sampson
Project: 478 - 480 Union Street

Date Collected: 05/11/2012 00:00
Date Received: 05/15/2012 16:38
Date Analyzed: 06/07/2012 00:00 By: SUB
Analytical Method: MADEP EPH

Matrix: Solid
Percent Moisture: 11
Dilution Factor: 1
Lab Data File:

CAS No.	Parameter	Result	DL	Units
	Subcontract EPH	Attached		ug/L

Premier Laboratory, Inc Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
Report No:	E205960	Location:	New Bedford, MA
Sample No:	22	Project:	478 - 480 Union Street
Preservative:		Sample Description:	Trip Blank
Date Collected:	5/11/2012	Dilution (Target):	50
Date Received:	5/15/2012	Matrix:	Aqueous
Date Extracted:		Percent Moisture:	N/A
Date Analyzed:	6/5/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	50	ND	5000	ug/L
C9-C12 Aliphatics**	50	ND	5000	ug/L
C9-C10 Aromatics***	50	ND	5000	ug/L

* Excludes MTBE, Benzene, and Toluene

** Excludes Ethylbenzene, Xylenes

*** Excludes Naphthalene

SURROGATE RECOVERIES

Surrogate	% Recovery	Acceptance Range
2,5-dibromotoluene #2	95%	70%-130%
2,5-dibromotoluene	100%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	ND	50	ug/L
Benzene	ND	250	ug/L
Toluene	ND	250	ug/L
Ethylbenzene	ND	250	ug/L
m,p-Xylenes	ND	250	ug/L
o-Xylene	ND	250	ug/L
Naphthalene	ND	250	ug/L

Premier Laboratory, Inc Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
Report No:	E205960	Location:	New Bedford, MA
Sample No:	23	Project:	478 - 480 Union Street
Preservative:		Sample Description:	WS-18 (15-19')
Date Collected:	5/11/2012	Dilution (Target):	50
Date Received:	5/15/2012	Matrix:	Solid
Date Extracted:		Percent Moisture:	18
Date Analyzed:	6/8/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	50	ND	6700	ug/kg
C9-C12 Aliphatics**	50	ND	6700	ug/kg
C9-C10 Aromatics***	50	ND	6700	ug/kg

* Excludes MTBE, Benzene, and Toluene

** Excludes Ethylbenzene, Xylenes

*** Excludes Naphthalene

SURROGATE RECOVERIES

Surrogate	% Recovery	Acceptance Range
2,5-dibromotoluene #2	103%	70%-130%
2,5-dibromotoluene	111%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	ND	67	ug/kg
Benzene	ND	330	ug/kg
Toluene	ND	330	ug/kg
Ethylbenzene	ND	330	ug/kg
m,p-Xylenes	ND	330	ug/kg
o-Xylene	ND	330	ug/kg
Naphthalene	ND	330	ug/kg

FORM 3
Soil 6010B Lab Control Sample

Lab Name: Premier Laboratory, Inc Date Analyzed 5/29/2012
 Project No.: E205960 Project: 478 - 480 Union Street
 Sample No.: LCS Location: New Bedford, MA
 Lab File ID: 100411A.lim Batch No.: 95568

Compound	Spike Added (ppb)	Sample Concentration (ppb)	% Rec #	QC Limits Rec
Aluminum				-
Antimony				-
Arsenic				-
Barium				-
Beryllium				-
Boron				-
Cadmium				-
Calcium				-
Chromium				-
Cobalt				-
Copper				-
Iron				-
Lead				-
Magnesium				-
Manganese				-
Molybdenum				-
Nickel				-
Potassium				-
Selenium				-
Silver				-
Sodium				-
Thallium				-
Tin				-
Titanium				-
Vanadium				-
Zinc				-

Column to be used to flag recovery values with an asterisk
 * Values outside of QC limits

FORM 3
Soil 6010B Matrix Spike/Matrix Spike Duplicate Recovery

Lab Name: Premier Laboratory, Inc Date Analyzed 8/1/2012 1:19:01PM
 Project No.: E205960 Project: 478 - 480 Union Street
 Sample No.: E205960-25 Location: New Bedford, MA
 Batch No.: 97706

Compound	Spike Added (ppb)	Sample Concentration (ppb)	MS Concentration (ppb)	MS % Rec #	QC Limits Rec
Aluminum					-
Antimony					-
Arsenic					-
Barium					-
Beryllium					-
Boron					-
Cadmium					-
Calcium					-
Chromium					-
Cobalt					-
Copper					-
Iron					-
Lead					-
Magnesium					-
Manganese					-
Molybdenum					-
Nickel					-
Potassium					-
Selenium					-
Silver					-
Sodium					-
Thallium					-
Tin					-
Titanium					-
Vanadium					-
Zinc					-

Column to be used to flag recovery and RPD values with an asterisk
 * Values outside of QC limits

Spike Recovery: 0 out of 26 outside limits

FORM 3
Soil 6010B Matrix Spike/Matrix Spike Duplicate Recovery

Lab Name: Premier Laboratory, Inc Date Analyzed 8/1/2012 1:21:58PM
 Project No.: E205960 Project: 478 - 480 Union Street
 Sample No.: E205960-26 Location: New Bedford, MA
 Batch No.: 97706

Compound	Spike Added (ppb)	MSD Concentration (ppb)	MSD %		QC Limits	
			Rec #	RPD #	RPD	Rec
Aluminum						-
Antimony						-
Arsenic						-
Barium						-
Beryllium						-
Boron						-
Cadmium						-
Calcium						-
Chromium						-
Cobalt						-
Copper						-
Iron						-
Lead						-
Magnesium						-
Manganese						-
Molybdenum						-
Nickel						-
Potassium						-
Selenium						-
Silver						-
Sodium						-
Thallium						-
Tin						-
Titanium						-
Vanadium						-
Zinc						-

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 26 outside limits

Spike Recovery: 0 out of 26 outside limits

FORM 4
6010B Method Blank Summary

Project No.: E205960

Project: 478 - 480 Union Street

Lab File ID: 100411A.lim

Lab Sample ID: Blank

Matrix: Soil

Date Analyzed: 5/29/2012

Instrument ID: VarICP

Batch No.: 95568

Time Analyzed: 1326

This Method Blank Applies To The Following Samples, MS and MSD:

	Lab Sample No.	Client Sample ID	Lab File ID	Date Analyzed
1	E205960-16	WS-18 (0-5')		5/29/2012
2	E205960-17	WS-16 (0-5')		5/29/2012
3	E205960-18	WS-17 (0-5')		5/29/2012
4	E205960-19	WS-19 (0-5')		5/29/2012
5	E205960-20	DUP-2		5/29/2012
6	0552801A LFM	0552801A LFM	100411A.lim	5/29/2012
7	0552801A LFMD	0552801A LFMD	100411A.lim	5/29/2012
8	LCS	LCS	100411A.lim	5/29/2012

FORM 4
6010B Method Blank Summary

Project No.: E205960

Project: 478 - 480 Union Street

Lab File ID: 100411A.lim

Lab Sample ID: Blank

Matrix: Soil

Date Analyzed: 8/3/2012

Instrument ID: VarICP

Batch No.: 97706

Time Analyzed: 1215

This Method Blank Applies To The Following Samples, MS and MSD:

	Lab Sample No.	Client Sample ID	Lab File ID	Date Analyzed
1	E205960-24	WS-18 (0-5') [8/1/2012
2	0596025 LFM	0596025 LFM	100411A.lim	8/3/2012
3	0596026 LFMD	0596026 LFMD	100411A.lim	8/3/2012

FORM 2
Water MADEP VPH Surrogate Recovery

Lab Name: Premier Laboratory, Inc

Project No.: E205960

Project: 478 - 480 Union Street

Batch No.: 95893

Location: New Bedford, MA

	Lab Sample No.	S1 %Rec #	S2 %Rec #	S3 %Rec #	S4 %Rec #	S5 %Rec #	S6 %Rec #	Tot Out
1	VBLK0607	105	104					0
2	VLCS0607	110	112					0

QC Limits

S1 = 2,5-dibromotoluene (70-130)

S2 = 2,5-dibromotoluene #2 #2 (70-130)

Column to be used to flag recovery values

* Values outside of QC limits

D Surrogate diluted out

FORM 2
Water MADEP VPH Surrogate Recovery

Lab Name: Premier Laboratory, Inc

Project No.: E205960

Project: 478 - 480 Union Street

Batch No.: 95898

Location: New Bedford, MA

	Lab Sample No.	S7 %Rec #	S8 %Rec #	S9 %Rec #	S10 %Rec #	S11 %Rec #	S12 %Rec #	Tot Out
1	E205960-22	100	95					0
2	VBLK0604	92	83					0
3	VLCS0604	93	94					0
4	VLCSICV	98	99					0

QC Limits

S7 = 2,5-dibromotoluene (70-130)

S8 = 2,5-dibromotoluene #2 #2 (70-130)

Column to be used to flag recovery values

* Values outside of QC limits

D Surrogate diluted out

FORM 2
Water MADEP VPH Surrogate Recovery

Lab Name: Premier Laboratory, Inc

Project No.: E205960

Project: 478 - 480 Union Street

Batch No.: 95973

Location: New Bedford, MA

	Lab Sample No.	S13 %Rec #	S14 %Rec #	S15 %Rec #	S16 %Rec #	S17 %Rec #	S18 %Rec #	Tot Out
1	VBLK0606	107	102					0
2	VLCS0606	110	110					0

QC Limits

S13= 2,5-dibromotoluene (70-130)

S14= 2,5-dibromotoluene #2 #2 (70-130)

Column to be used to flag recovery values

* Values outside of QC limits

D Surrogate diluted out

FORM 2
Soil MADEP VPH Surrogate Recovery

Lab Name: Premier Laboratory, Inc

Project No.: E205960

Project: 478 - 480 Union Street

Batch No.: 95893

Location: New Bedford, MA

	Lab Sample No.	S1 %Rec #	S2 %Rec #	S3 %Rec #	S4 %Rec #	S5 %Rec #	S6 %Rec #	Tot Out
1	E205960-23B	111	103					0
2	E205960-6B	105	108					0
3	E205960-7B	105	108					0

QC Limits

S1 = 2,5-dibromotoluene (70-130)
S2 = 2,5-dibromotoluene #2 #2 (70-130)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogate diluted out

FORM 2
Soil MADEP VPH Surrogate Recovery

Lab Name: Premier Laboratory, Inc

Project No.: E205960

Project: 478 - 480 Union Street

Batch No.: 95898

Location: New Bedford, MA

	Lab Sample No.	S7 %Rec #	S8 %Rec #	S9 %Rec #	S10 %Rec #	S11 %Rec #	S12 %Rec #	Tot Out
1	E205960-10B	98	87					0
2	E205960-11B	88	78					0
3	E205960-15B	30 *	12 *					2
4	E205960-2B	96	95					0
5	E205960-3B	110	77					0
6	E205960-5B	110	109					0
7	E205960-8B	107	104					0

QC Limits

S7 = 2,5-dibromotoluene (70-130)
 S8 = 2,5-dibromotoluene #2 #2 (70-130)

Column to be used to flag recovery values
 * Values outside of QC limits
 D Surrogate diluted out

FORM 2
Soil MADEP VPH Surrogate Recovery

Lab Name: Premier Laboratory, Inc

Project No.: E205960

Project: 478 - 480 Union Street

Batch No.: 95973

Location: New Bedford, MA

	Lab Sample No.	S13 %Rec #	S14 %Rec #	S15 %Rec #	S16 %Rec #	S17 %Rec #	S18 %Rec #	Tot Out
1	E205960-12B	23 *	24 *					2
2	E205960-13B	102	75					0
3	E205960-14B	8.1 *	3.9 *					2
4	E205960-1B	110	105					0
5	E205960-4B	105	88					0
6	E205960-9B	114	92					0

QC Limits

S13= 2,5-dibromotoluene (70-130)

S14= 2,5-dibromotoluene #2 #2 (70-130)

Column to be used to flag recovery values

* Values outside of QC limits

D Surrogate diluted out

FORM 3
Water MADEP VPH Lab Control Sample

Lab Name: Premier Laboratory, Inc Date Analyzed 6/7/2012
 Project No.: E205960 Project: 478 - 480 Union Street
 Sample No.: VLCS0607 Location: New Bedford, MA
 Lab File ID: 2060702.D Batch No.: 95893

Compound	Spike Added (ug/L)	Sample Concentration (ug/L)	% Rec #	QC Limits Rec
1,2,4-Trimethylbenzene	20.00	21.22	106	70-130
2-Methylpentane	20.00	21.54	108	70-130
Benzene	20.00	20.89	104	70-130
C5-C8 Aliphatics	60.00	63.08	105	70-130
C9-C10 Aromatics	20.00	22.27	111	70-130
C9-C12 Aliphatics	60.00	64.24	107	70-130
Decane	20.00	20.84	104	70-130
Ethylbenzene	20.00	20.21	101	70-130
m,p-Xylenes	40.00	40.61	102	70-130
Methyl tert-butyl ether (M	20.00	21.06	105	70-130
n-Butylcyclohexane	20.00	21.88	109	70-130
Naphthalene	20.00	24.15	121	70-130
Nonane	20.00	21.53	108	70-130
o-Xylene	20.00	19.56	98	70-130
Toluene	20.00	20.19	101	70-130
Benzene #2	20.00	20.09	100	70-130
Ethylbenzene #2	20.00	21.08	105	70-130
m,p-Xylenes #2	40.00	43.39	108	70-130
Methyl tert-butyl ether (M	20.00	19.81	99	70-130
Naphthalene #2	20.00	25.47	127	70-130
o-Xylene #2	20.00	20.75	104	70-130
Toluene #2	20.00	20.59	103	70-130

FORM 3
Water MADEP VPH Lab Control Sample Duplicate

Lab Name: Premier Laboratory, Inc Date Analyzed 6/7/2012
 Project No.: E205960 Project: 478 - 480 Union Street
 Sample No.: VLCS0607 Location: New Bedford, MA
 Lab File ID: 2060703.D Batch No.: 95893

Compound	Spike Added (ug/L)	Sample Concentration (ug/L)	% Rec #	RPD #	QC Limits	
					RPD	Rec
1,2,4-Trimethylbenzene	20.00	20.70	103	2.87	25	70-130
2-Methylpentane	20.00	20.66	103	4.74	25	70-130
Benzene	20.00	20.22	101	2.93	25	70-130
C5-C8 Aliphatics	60.00	62.46	104	0.96	25	70-130
C9-C10 Aromatics	20.00	21.65	108	2.74	25	70-130
C9-C12 Aliphatics	60.00	62.35	104	2.84	25	70-130
Decane	20.00	20.25	101	2.93	25	70-130
Ethylbenzene	20.00	19.69	98	3.02	25	70-130
m,p-Xylenes	40.00	39.56	99	2.98	25	70-130
Methyl tert-butyl ether (M)	20.00	20.69	103	1.92	25	70-130
n-Butylcyclohexane	20.00	21.18	106	2.79	25	70-130
Naphthalene	20.00	23.24	116	4.22	25	70-130
Nonane	20.00	20.92	105	2.82	25	70-130
o-Xylene	20.00	19.09	95	3.11	25	70-130
Toluene	20.00	19.82	99	2.00	25	70-130
Benzene #2	20.00	19.60	98	2.02	25	70-130
Ethylbenzene #2	20.00	20.46	102	2.90	25	70-130
m,p-Xylenes #2	40.00	42.18	105	2.82	25	70-130
Methyl tert-butyl ether (M)	20.00	19.15	96	3.08	25	70-130
Naphthalene #2	20.00	24.34	122	4.02	25	70-130
o-Xylene #2	20.00	20.25	101	2.93	25	70-130
Toluene #2	20.00	19.95	100	2.96	25	70-130

FORM 3
Water MADEP VPH Lab Control Sample

Lab Name: Premier Laboratory, Inc Date Analyzed 6/4/2012
 Project No.: E205960 Project: 478 - 480 Union Street
 Sample No.: VLCSICV Location: New Bedford, MA
 Lab File ID: 2060414.D Batch No.: 95898

Compound	Spike Added (ug/L)	Sample Concentration (ug/L)	% Rec #	QC Limits Rec
1,2,4-Trimethylbenzene	50.00	50.56	101	70-130
2-Methylpentane	50.00	49.62	99	70-130
Benzene	50.00	51.21	102	70-130
C5-C8 Aliphatics	150.0	149.2	99	70-130
C9-C10 Aromatics	50.00	50.17	100	70-130
C9-C12 Aliphatics	150.0	136.1	91	70-130
Decane	50.00	45.74	91	70-130
Ethylbenzene	50.00	49.54	99	70-130
m,p-Xylenes	100.0	99.40	99	70-130
Methyl tert-butyl ether (M)	50.00	54.20	108	70-130
n-Butylcyclohexane	50.00	42.91	86	70-130
Naphthalene	50.00	50.66	101	70-130
Nonane	50.00	47.43	95	70-130
o-Xylene	50.00	48.75	98	70-130
Toluene	50.00	49.90	100	70-130
Benzene #2	50.00	46.25	92	70-130
Ethylbenzene #2	50.00	48.70	97	70-130
m,p-Xylenes #2	100.0	101.2	101	70-130
Methyl tert-butyl ether (M)	50.00	47.09	94	70-130
Naphthalene #2	50.00	51.93	104	70-130
o-Xylene #2	50.00	49.74	99	70-130
Toluene #2	50.00	46.76	94	70-130

FORM 3
Water MADEP VPH Lab Control Sample Duplicate

Lab Name: Premier Laboratory, Inc Date Analyzed 6/4/2012
 Project No.: E205960 Project: 478 - 480 Union Street
 Sample No.: VLCSICV Location: New Bedford, MA
 Lab File ID: 2060419.D Batch No.: 95898

Compound	Spike Added (ug/L)	Sample Concentration (ug/L)	% Rec #	RPD #	QC Limits	
					RPD	Rec
1,2,4-Trimethylbenzene	20.00	18.80	94	2.10	25	70-130
2-Methylpentane	20.00	19.75	99	3.96	25	70-130
Benzene	20.00	19.65	98	3.02	25	70-130
C5-C8 Aliphatics	60.00	59.57	99	2.00	25	70-130
C9-C10 Aromatics	20.00	19.60	98	1.02	25	70-130
C9-C12 Aliphatics	60.00	53.62	89	4.40	25	70-130
Decane	20.00	18.15	91	3.24	25	70-130
Ethylbenzene	20.00	19.15	96	2.06	25	70-130
m,p-Xylenes	40.00	38.52	96	2.06	25	70-130
Methyl tert-butyl ether (M	20.00	19.62	98	1.02	25	70-130
n-Butylcyclohexane	20.00	16.55	83	3.55	25	70-130
Naphthalene	20.00	18.03	90	1.12	25	70-130
Nonane	20.00	18.92	95	4.12	25	70-130
o-Xylene	20.00	18.77	94	2.10	25	70-130
Toluene	20.00	19.28	96	2.06	25	70-130
Benzene #2	20.00	18.80	94	2.15	25	70-130
Ethylbenzene #2	20.00	19.56	98	2.06	25	70-130
m,p-Xylenes #2	40.00	40.60	102	.930	25	70-130
Methyl tert-butyl ether (M	20.00	18.20	91	1.10	25	70-130
Naphthalene #2	20.00	19.11	96	2.10	25	70-130
o-Xylene #2	20.00	19.64	98	1.02	25	70-130
Toluene #2	20.00	18.89	94	1.07	25	70-130

FORM 3
Water MADEP VPH Lab Control Sample

Lab Name: Premier Laboratory, Inc Date Analyzed 6/4/2012
 Project No.: E205960 Project: 478 - 480 Union Street
 Sample No.: VLCS0604 Location: New Bedford, MA
 Lab File ID: 2060418.D Batch No.: 95898

Compound	Spike Added (ug/L)	Sample Concentration (ug/L)	% Rec #	QC Limits Rec
1,2,4-Trimethylbenzene	20.00	19.17	96	70-130
2-Methylpentane	20.00	20.59	103	70-130
Benzene	20.00	20.14	101	70-130
C5-C8 Aliphatics	60.00	60.57	101	70-130
C9-C10 Aromatics	20.00	19.86	99	70-130
C9-C12 Aliphatics	60.00	55.90	93	70-130
Decane	20.00	18.82	94	70-130
Ethylbenzene	20.00	19.57	98	70-130
m,p-Xylenes	40.00	39.37	98	70-130
Methyl tert-butyl ether (M)	20.00	19.89	99	70-130
n-Butylcyclohexane	20.00	17.24	86	70-130
Naphthalene	20.00	17.84	89	70-130
Nonane	20.00	19.85	99	70-130
o-Xylene	20.00	19.15	96	70-130
Toluene	20.00	19.69	98	70-130
Benzene #2	20.00	18.50	92	70-130
Ethylbenzene #2	20.00	19.27	96	70-130
m,p-Xylenes #2	40.00	40.98	102	70-130
Methyl tert-butyl ether (M)	20.00	17.93	90	70-130
Naphthalene #2	20.00	18.82	94	70-130
o-Xylene #2	20.00	19.87	99	70-130
Toluene #2	20.00	18.58	93	70-130

FORM 3
Water MADEP VPH Lab Control Sample

Lab Name: Premier Laboratory, Inc Date Analyzed 6/6/2012
 Project No.: E205960 Project: 478 - 480 Union Street
 Sample No.: VLCS0606 Location: New Bedford, MA
 Lab File ID: 2060603.D Batch No.: 95973

Compound	Spike Added (ug/L)	Sample Concentration (ug/L)	% Rec #	QC Limits Rec
1,2,4-Trimethylbenzene	20.00	20.37	102	70-130
2-Methylpentane	20.00	20.46	102	70-130
Benzene	20.00	19.99	100	70-130
C5-C8 Aliphatics	60.00	60.03	100	70-130
C9-C10 Aromatics	20.00	21.51	108	70-130
C9-C12 Aliphatics	60.00	61.34	102	70-130
Decane	20.00	19.90	99	70-130
Ethylbenzene	20.00	19.54	98	70-130
m,p-Xylenes	40.00	39.28	98	70-130
Methyl tert-butyl ether (M	20.00	19.86	99	70-130
n-Butylcyclohexane	20.00	20.80	104	70-130
Naphthalene	20.00	21.53	108	70-130
Nonane	20.00	20.63	103	70-130
o-Xylene	20.00	18.82	94	70-130
Toluene	20.00	19.53	98	70-130
Benzene #2	20.00	19.40	97	70-130
Ethylbenzene #2	20.00	20.43	102	70-130
m,p-Xylenes #2	40.00	42.04	105	70-130
Methyl tert-butyl ether (M	20.00	18.49	92	70-130
Naphthalene #2	20.00	22.70	114	70-130
o-Xylene #2	20.00	20.09	100	70-130
Toluene #2	20.00	19.83	99	70-130

FORM 3
Water MADEP VPH Lab Control Sample Duplicate

Lab Name: Premier Laboratory, Inc Date Analyzed 6/6/2012
 Project No.: E205960 Project: 478 - 480 Union Street
 Sample No.: VLCS0606 Location: New Bedford, MA
 Lab File ID: 2060604.D Batch No.: 95973

Compound	Spike Added (ug/L)	Sample Concentration (ug/L)	% Rec #	RPD #	QC Limits	
					RPD	Rec
1,2,4-Trimethylbenzene	20.00	20.14	101	0.98	25	70-130
2-Methylpentane	20.00	19.95	100	1.98	25	70-130
Benzene	20.00	19.62	98	2.02	25	70-130
C5-C8 Aliphatics	60.00	58.55	98	2.02	25	70-130
C9-C10 Aromatics	20.00	21.19	106	1.87	25	70-130
C9-C12 Aliphatics	60.00	59.50	99	2.98	25	70-130
Decane	20.00	19.49	97	2.04	25	70-130
Ethylbenzene	20.00	19.12	96	2.06	25	70-130
m,p-Xylenes	40.00	38.53	96	2.06	25	70-130
Methyl tert-butyl ether (M)	20.00	19.95	100	1.00	25	70-130
n-Butylcyclohexane	20.00	20.04	100	3.92	25	70-130
Naphthalene	20.00	21.76	109	0.92	25	70-130
Nonane	20.00	19.96	100	2.96	25	70-130
o-Xylene	20.00	18.44	92	2.15	25	70-130
Toluene	20.00	19.15	96	2.06	25	70-130
Benzene #2	20.00	19.49	97	0	25	70-130
Ethylbenzene #2	20.00	20.12	101	0.98	25	70-130
m,p-Xylenes #2	40.00	41.31	103	1.92	25	70-130
Methyl tert-butyl ether (M)	20.00	18.64	93	1.08	25	70-130
Naphthalene #2	20.00	22.92	115	0.87	25	70-130
o-Xylene #2	20.00	19.86	99	1.00	25	70-130
Toluene #2	20.00	19.68	98	1.02	25	70-130

FORM 3
Soil MADEP VPH Matrix Spike/Matrix Spike Duplicate Recovery

Lab Name: Premier Laboratory, Inc Date Analyzed 6/8/2012 2:31:00PM
 Project No.: E205960 Project: 478 - 480 Union Street
 Sample No.: E205960-23B Location: New Bedford, MA
 Batch No.: 95893

Compound	Spike Added (ug/kg)	Sample Concentration (ug/kg)	MS Concentration (ug/kg)	MS % Rec #	QC Limits Rec
1,2,4-Trimethylbenzene	60.83	0	67.98	112	70-130
2-Methylpentane	60.83	0	65.97	108	70-130
Benzene	60.83	0	65.23	107	70-130
C5-C8 Aliphatics	182.5	0	132.6	73	70-130
C9-C10 Aromatics	60.83	0	69.55	114	70-130
C9-C12 Aliphatics	182.5	0	191.6	105	70-130
Decane	60.83	0	63.72	105	70-130
Ethylbenzene	60.83	0	65.35	107	70-130
m,p-Xylenes	121.6	0	130.6	107	70-130
Methyl tert-butyl ether	60.83	0	59.02	97	70-130
n-Butylcyclohexane	60.83	0	62.75	103	70-130
Naphthalene	60.83	0	65.94	108	70-130
Nonane	60.83	0	65.15	107	70-130
o-Xylene	60.83	0	64.02	105	70-130
Toluene	60.83	0	66.22	109	70-130
Benzene #2	60.83	0	66.73	110	70-130
Ethylbenzene #2	60.83	0	68.32	112	70-130
m,p-Xylenes #2	121.6	0	137.1	113	70-130
Methyl tert-butyl ether	60.83	0	58.54	96	70-130
Naphthalene #2	60.83	0	69.36	114	70-130
o-Xylene #2	60.83	0	67.81	111	70-130
Toluene #2	60.83	0	68.03	112	70-130

Compound	Spike Added (ug/kg)	MSD Concentration (ug/kg)	MSD % Rec #	% RPD #	QC Limits RPD Rec
1,2,4-Trimethylbenzene	61.96	67.35	109	2.71	25 70-130
2-Methylpentane	61.96	69.44	112	3.64	25 70-130
Benzene	61.96	66.20	107	0	25 70-130
C5-C8 Aliphatics	185.9	137.5	74	1.36	25 70-130
C9-C10 Aromatics	61.96	69.92	113	0.88	25 70-130
C9-C12 Aliphatics	185.9	194.5	105	0	25 70-130
Decane	61.96	63.84	103	1.92	25 70-130
Ethylbenzene	61.96	65.17	105	1.89	25 70-130
m,p-Xylenes	123.9	129.3	104	2.84	25 70-130
Methyl tert-butyl ether	61.96	63.40	102	5.02	25 70-130
n-Butylcyclohexane	61.96	63.10	102	0.98	25 70-130
Naphthalene	61.96	66.49	107	0.93	25 70-130
Nonane	61.96	67.34	109	1.85	25 70-130
o-Xylene	61.96	62.28	100	4.88	25 70-130
Toluene	61.96	65.96	106	2.79	25 70-130
Benzene #2	61.96	68.20	110	0	25 70-130
Ethylbenzene #2	61.96	69.26	112	0	25 70-130
m,p-Xylenes #2	123.9	137.3	111	1.78	25 70-130
Methyl tert-butyl ether	61.96	62.12	100	4.08	25 70-130

FORM 3
Soil MADEP VPH Matrix Spike/Matrix Spike Duplicate Recovery

Lab Name: Premier Laboratory, Inc Date Analyzed 6/8/2012 2:31:00PM
 Project No.: E205960 Project: 478 - 480 Union Street
 Sample No.: E205960-23B Location: New Bedford, MA
 Batch No.: 95893

Compound	Spike Added (ug/kg)	MSD Concentration (ug/kg)	MSD		QC Limits	
			% Rec #	% RPD #	RPD	Rec
Naphthalene #2	61.96	70.36	114	0	25	70-130
o-Xylene #2	61.96	66.23	107	3.67	25	70-130
Toluene #2	61.96	68.68	111	0.90	25	70-130

Column to be used to flag recovery and RPD values with an asterisk
 * Values outside of QC limits
 RPD: 0 out of 22 outside limits
 Spike Recovery: 0 out of 44 outside limits

FORM 4
MADEP VPH Method Blank Summary

Project No.: E205960

Project: 478 - 480 Union Street

Lab File ID: 2060421.D

Lab Sample ID: VBLK0604

Matrix: Water

Date Analyzed: 6/4/2012

Instrument ID: GC2

Batch No.: 95898

Time Analyzed: 2238

This Method Blank Applies To The Following Samples, MS and MSD:

	Lab Sample No.	Client Sample ID	Lab File ID	Date Analyzed
1	E205960-2B	WS-13 (13.5-15	2060426.D	6/5/2012
2	E205960-3B	WS-14 (13.5-15	2060433.D	6/5/2012
3	E205960-5B	DUP-1	2060427.D	6/5/2012
4	E205960-8B	WS-17 (15-19')	2060428.D	6/5/2012
5	E205960-10B	WS-19 (15-19')	2060429.D	6/5/2012
6	E205960-11B	WS-20 (13-15')	2060439.D	6/5/2012
7	E205960-15B	WS-24 (13-15')	2060444.D	6/5/2012
8	E205960-22	Trip Blank	2060425.D	6/5/2012
9	VLCS0604	VLCS0604	2060418.D	6/4/2012
10	VLCS0604	VLCS0604	2060419.D	6/4/2012
11	VLCSICV	VLCSICV	2060414.D	6/4/2012

FORM 4
MADEP VPH Method Blank Summary

Project No.: E205960

Project: 478 - 480 Union Street

Lab File ID: 2060606.D

Lab Sample ID: VBLK0606

Matrix: Water

Date Analyzed: 6/6/2012

Instrument ID: GC2

Batch No.: 95973

Time Analyzed: 1153

This Method Blank Applies To The Following Samples, MS and MSD:

	Lab Sample No.	Client Sample ID	Lab File ID	Date Analyzed
1	E205960-1B	WS-12 (13.5-15	2060617.D	6/6/2012
2	E205960-4B	WS-15 (13.5-15	2060619.D	6/6/2012
3	E205960-9B	WS-16 (15-19')	2060621.D	6/6/2012
4	E205960-12B	WS-21 (13-15')	2060623.D	6/6/2012
5	E205960-13B	WS-22 (13-15')	2060615.D	6/6/2012
6	E205960-14B	WS-23 (13-15')	2060625.D	6/6/2012
7	VLCS0606	VLCS0606	2060603.D	6/6/2012
8	VLCS0606	VLCS0606	2060604.D	6/6/2012

FORM 4
MADEP VPH Method Blank Summary

Project No.: E205960

Project: 478 - 480 Union Street

Lab File ID: 2060708.D

Lab Sample ID: VBLK0607

Matrix: Water

Date Analyzed: 6/7/2012

Instrument ID: GC2

Batch No.: 95893

Time Analyzed: 1305

This Method Blank Applies To The Following Samples, MS and MSD:

	Lab Sample No.	Client Sample ID	Lab File ID	Date Analyzed
1	E205960-6B	WS-18 (15-19')	2060721.D	6/7/2012
2	E205960-7B	WS-18 (15-19')	2060722.D	6/7/2012
3	E205960-23B	WS-18 (15-19')	2060806.D	6/8/2012
4	VLCS0607	VLCS0607	2060702.D	6/7/2012
5	VLCS0607	VLCS0607	2060703.D	6/7/2012

June 11, 2012

Brad Gauthier
Premier Laboratory
61 Louisa Viens Drive
Dayville, CT 06241

Project Location: New Bedford, MA
Client Job Number:
Project Number: E205G37
Laboratory Work Order Number: 12E1131

Enclosed are results of analyses for samples received by the laboratory on May 31, 2012. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Meghan E. Kelley
Project Manager

Premier Laboratory
 61 Louisa Viens Drive
 Dayville, CT 06241
 ATTN: Brad Gauthier

REPORT DATE: 6/11/2012

PURCHASE ORDER NUMBER: E205G37

PROJECT NUMBER: E205G37

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 12E1131

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

PROJECT LOCATION: New Bedford, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
E205960-11C	12E1131-01	Soil		MADEP-EPH-04-1.1 SM 2540G	
E205960-12C	12E1131-02	Soil		MADEP-EPH-04-1.1 SM 2540G	
E205960-13C	12E1131-03	Soil		MADEP-EPH-04-1.1 SM 2540G	
E205960-14C	12E1131-04	Soil		MADEP-EPH-04-1.1 SM 2540G	
E205960-15C	12E1131-05	Soil		MADEP-EPH-04-1.1 SM 2540G	
E205960-21C	12E1131-06	Soil		MADEP-EPH-04-1.1 SM 2540G	
LCS	12E1131-07	Soil		MADEP-EPH-04-1.1	
LCS 2	12E1131-08	Soil		MADEP-EPH-04-1.1	
LCS 3	12E1131-09	Soil		MADEP-EPH-04-1.1	
Blank	12E1131-10	Soil		MADEP-EPH-04-1.1	

CASE NARRATIVE SUMMARY

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

For MA EPH analysis, Con-Test Analytical Laboratory performed only the analysis, not the extraction.

MADEP-EPH-04-1.1

Qualifications:

Surrogate recovery outside of control limits due to suspected sample matrix interference.

Analyte & Samples(s) Qualified:

o-Terphenyl (OTP)

12E1131-02[E205960-12C]

MADEP-EPH-04-1.1

SPE cartridge contamination with non-petroleum compounds, if present, is verified by GC/MS in each method blank per extraction batch and excluded from C11-C22 aromatic range fraction in all samples in the batch. No significant modifications were made to the method.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Daren J. Damboragian
Laboratory Manager

Project Location: New Bedford, MA

Sample Description:

Work Order: 12E1131

Date Received: 5/31/2012

Field Sample #: E205960-11C

Sampled: 5/11/2012 14:30

Sample ID: 12E1131-01

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	32000	4900	mg/Kg dry	20		MADEP-EPH-04-1.1	6/4/12	6/7/12 10:25	SCS
C19-C36 Aliphatics	3900	250	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 19:46	SCS
Unadjusted C11-C22 Aromatics	11000	1200	mg/Kg dry	5		MADEP-EPH-04-1.1	6/4/12	6/7/12 10:25	SCS
C11-C22 Aromatics	11000	1200	mg/Kg dry	5		MADEP-EPH-04-1.1	6/4/12	6/7/12 10:25	SCS
Acenaphthene	27	2.5	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 19:46	SCS
Acenaphthylene	65	2.5	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 19:46	SCS
Anthracene	3.3	2.5	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 19:46	SCS
Benzo(a)anthracene	ND	2.5	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 19:46	SCS
Benzo(a)pyrene	ND	2.5	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 19:46	SCS
Benzo(b)fluoranthene	ND	2.5	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 19:46	SCS
Benzo(g,h,i)perylene	ND	2.5	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 19:46	SCS
Benzo(k)fluoranthene	ND	2.5	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 19:46	SCS
Chrysene	ND	2.5	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 19:46	SCS
Dibenz(a,h)anthracene	ND	2.5	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 19:46	SCS
Fluoranthene	2.9	2.5	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 19:46	SCS
Fluorene	66	2.5	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 19:46	SCS
Indeno(1,2,3-cd)pyrene	ND	2.5	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 19:46	SCS
2-Methylnaphthalene	170	2.5	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 19:46	SCS
Naphthalene	47	2.5	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 19:46	SCS
Phenanthrene	45	2.5	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 19:46	SCS
Pyrene	3.4	2.5	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 19:46	SCS

Surrogates	% Recovery	Recovery Limits	Flag
Chlorooctadecane (COD)	64.0	40-140	
o-Terphenyl (OTP)	109	40-140	
2-Bromonaphthalene	62.6	40-140	
2-Fluorobiphenyl	77.8	40-140	

Project Location: New Bedford, MA

Sample Description:

Work Order: 12E1131

Date Received: 5/31/2012

Sampled: 5/11/2012 14:30

Field Sample #: E205960-11C

Sample ID: 12E1131-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	8.04		% Wt	1		SM 2540G	6/5/12	6/5/12 14:45	FWD

Project Location: New Bedford, MA

Sample Description:

Work Order: 12E1131

Date Received: 5/31/2012

Field Sample #: E205960-12C

Sampled: 5/11/2012 15:00

Sample ID: 12E1131-02

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	55000	8200	mg/Kg dry	50		MADEP-EPH-04-1.1	6/4/12	6/6/12 12:19	SCS
C19-C36 Aliphatics	8200	8200	mg/Kg dry	50		MADEP-EPH-04-1.1	6/4/12	6/6/12 12:19	SCS
Unadjusted C11-C22 Aromatics	15000	1600	mg/Kg dry	10		MADEP-EPH-04-1.1	6/4/12	6/6/12 12:19	SCS
C11-C22 Aromatics	14000	1600	mg/Kg dry	10		MADEP-EPH-04-1.1	6/4/12	6/6/12 12:19	SCS
Acenaphthene	40	1.6	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 17:41	SCS
Acenaphthylene	110	1.6	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 17:41	SCS
Anthracene	5.5	1.6	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 17:41	SCS
Benzo(a)anthracene	ND	1.6	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 17:41	SCS
Benzo(a)pyrene	ND	1.6	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 17:41	SCS
Benzo(b)fluoranthene	ND	1.6	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 17:41	SCS
Benzo(g,h,i)perylene	ND	1.6	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 17:41	SCS
Benzo(k)fluoranthene	ND	1.6	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 17:41	SCS
Chrysene	ND	1.6	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 17:41	SCS
Dibenz(a,h)anthracene	ND	1.6	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 17:41	SCS
Fluoranthene	4.1	1.6	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 17:41	SCS
Fluorene	110	1.6	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 17:41	SCS
Indeno(1,2,3-cd)pyrene	ND	1.6	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 17:41	SCS
2-Methylnaphthalene	470	16	mg/Kg dry	10		MADEP-EPH-04-1.1	6/4/12	6/6/12 12:19	SCS
Naphthalene	120	1.6	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 17:41	SCS
Phenanthrene	73	1.6	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 17:41	SCS
Pyrene	5.6	1.6	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 17:41	SCS

Surrogates	% Recovery	Recovery Limits	Flag	Date/Time Analyzed
Chlorooctadecane (COD)	76.3	40-140		6/5/12 17:41
o-Terphenyl (OTP)	156 *	40-140	S-03	6/5/12 17:41
2-Bromonaphthalene	50.2	40-140		6/5/12 17:41
2-Fluorobiphenyl	98.7	40-140		6/5/12 17:41

Project Location: New Bedford, MA

Sample Description:

Work Order: 12E1131

Date Received: 5/31/2012

Field Sample #: E205960-12C

Sampled: 5/11/2012 15:00

Sample ID: 12E1131-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	12.2		% Wt	1		SM 2540G	6/5/12	6/5/12 14:45	FWD

Project Location: New Bedford, MA

Sample Description:

Work Order: 12E1131

Date Received: 5/31/2012

Field Sample #: E205960-13C

Sampled: 5/11/2012 16:00

Sample ID: 12E1131-03

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	16000	2500	mg/Kg dry	20		MADEP-EPH-04-1.1	6/4/12	6/6/12 14:50	SCS
C19-C36 Aliphatics	2000	130	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:02	SCS
Unadjusted C11-C22 Aromatics	4500	630	mg/Kg dry	5		MADEP-EPH-04-1.1	6/4/12	6/6/12 14:50	SCS
C11-C22 Aromatics	4400	630	mg/Kg dry	5		MADEP-EPH-04-1.1	6/4/12	6/6/12 14:50	SCS
Acenaphthene	10	1.3	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:02	SCS
Acenaphthylene	18	1.3	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:02	SCS
Anthracene	1.9	1.3	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:02	SCS
Benzo(a)anthracene	ND	1.3	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:02	SCS
Benzo(a)pyrene	ND	1.3	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:02	SCS
Benzo(b)fluoranthene	ND	1.3	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:02	SCS
Benzo(g,h,i)perylene	ND	1.3	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:02	SCS
Benzo(k)fluoranthene	ND	1.3	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:02	SCS
Chrysene	ND	1.3	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:02	SCS
Dibenz(a,h)anthracene	ND	1.3	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:02	SCS
Fluoranthene	ND	1.3	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:02	SCS
Fluorene	25	1.3	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:02	SCS
Indeno(1,2,3-cd)pyrene	ND	1.3	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:02	SCS
2-Methylnaphthalene	12	1.3	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:02	SCS
Naphthalene	14	1.3	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:02	SCS
Phenanthrene	23	1.3	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:02	SCS
Pyrene	1.6	1.3	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:02	SCS

Surrogates	% Recovery	Recovery Limits	Flag
Chlorooctadecane (COD)	72.5	40-140	
o-Terphenyl (OTP)	112	40-140	
2-Bromonaphthalene	42.1	40-140	
2-Fluorobiphenyl	96.2	40-140	

Project Location: New Bedford, MA

Sample Description:

Work Order: 12E1131

Date Received: 5/31/2012

Field Sample #: E205960-13C

Sampled: 5/11/2012 16:00

Sample ID: 12E1131-03

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	15.5		% Wt	1		SM 2540G	6/5/12	6/5/12 14:45	FWD

Project Location: New Bedford, MA

Sample Description:

Work Order: 12E1131

Date Received: 5/31/2012

Field Sample #: E205960-14C

Sampled: 5/11/2012 15:30

Sample ID: 12E1131-04

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	10000	1100	mg/Kg dry	10		MADEP-EPH-04-1.1	6/4/12	6/6/12 15:11	SCS
C19-C36 Aliphatics	1400	110	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:23	SCS
Unadjusted C11-C22 Aromatics	4100	540	mg/Kg dry	5		MADEP-EPH-04-1.1	6/4/12	6/6/12 15:11	SCS
C11-C22 Aromatics	4000	540	mg/Kg dry	5		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:23	SCS
Acenaphthene	8.9	1.1	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:23	SCS
Acenaphthylene	27	1.1	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:23	SCS
Anthracene	1.5	1.1	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:23	SCS
Benzo(a)anthracene	ND	1.1	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:23	SCS
Benzo(a)pyrene	ND	1.1	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:23	SCS
Benzo(b)fluoranthene	ND	1.1	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:23	SCS
Benzo(g,h,i)perylene	ND	1.1	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:23	SCS
Benzo(k)fluoranthene	ND	1.1	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:23	SCS
Chrysene	ND	1.1	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:23	SCS
Dibenz(a,h)anthracene	ND	1.1	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:23	SCS
Fluoranthene	ND	1.1	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:23	SCS
Fluorene	27	1.1	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:23	SCS
Indeno(1,2,3-cd)pyrene	ND	1.1	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:23	SCS
2-Methylnaphthalene	68	1.1	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:23	SCS
Naphthalene	21	1.1	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:23	SCS
Phenanthrene	17	1.1	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:23	SCS
Pyrene	2.2	1.1	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 18:23	SCS

Surrogates	% Recovery	Recovery Limits	Flag
Chlorooctadecane (COD)	76.5	40-140	
o-Terphenyl (OTP)	84.1	40-140	
2-Bromonaphthalene	62.5	40-140	
2-Fluorobiphenyl	95.9	40-140	

Project Location: New Bedford, MA

Sample Description:

Work Order: 12E1131

Date Received: 5/31/2012

Field Sample #: E205960-14C

Sampled: 5/11/2012 15:30

Sample ID: 12E1131-04

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	18.3		% Wt	1		SM 2540G	6/5/12	6/5/12 14:45	FWD

Project Location: New Bedford, MA

Sample Description:

Work Order: 12E1131

Date Received: 5/31/2012

Field Sample #: E205960-15C

Sampled: 5/11/2012 14:00

Sample ID: 12E1131-05

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	19000	2400	mg/Kg dry	10		MADEP-EPH-04-1.1	6/4/12	6/7/12 10:46	SCS
C19-C36 Aliphatics	3000	240	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:07	SCS
Unadjusted C11-C22 Aromatics	9300	1200	mg/Kg dry	5		MADEP-EPH-04-1.1	6/4/12	6/7/12 10:46	SCS
C11-C22 Aromatics	8900	1200	mg/Kg dry	5		MADEP-EPH-04-1.1	6/4/12	6/7/12 10:46	SCS
Acenaphthene	20	2.4	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:07	SCS
Acenaphthylene	55	2.4	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:07	SCS
Anthracene	8.4	2.4	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:07	SCS
Benzo(a)anthracene	ND	2.4	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:07	SCS
Benzo(a)pyrene	ND	2.4	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:07	SCS
Benzo(b)fluoranthene	ND	2.4	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:07	SCS
Benzo(g,h,i)perylene	ND	2.4	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:07	SCS
Benzo(k)fluoranthene	ND	2.4	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:07	SCS
Chrysene	ND	2.4	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:07	SCS
Dibenz(a,h)anthracene	ND	2.4	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:07	SCS
Fluoranthene	3.1	2.4	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:07	SCS
Fluorene	58	2.4	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:07	SCS
Indeno(1,2,3-cd)pyrene	ND	2.4	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:07	SCS
2-Methylnaphthalene	230	2.4	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:07	SCS
Naphthalene	64	2.4	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:07	SCS
Phenanthrene	40	2.4	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:07	SCS
Pyrene	7.0	2.4	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:07	SCS

Surrogates	% Recovery	Recovery Limits	Flag
Chlorooctadecane (COD)	66.2	40-140	
o-Terphenyl (OTP)	73.5	40-140	
2-Bromonaphthalene	49.5	40-140	
2-Fluorobiphenyl	84.4	40-140	

Project Location: New Bedford, MA

Sample Description:

Work Order: 12E1131

Date Received: 5/31/2012

Field Sample #: E205960-15C

Sampled: 5/11/2012 14:00

Sample ID: 12E1131-05

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	8.32		% Wt	1		SM 2540G	6/5/12	6/5/12 14:45	FWD

Project Location: New Bedford, MA

Sample Description:

Work Order: 12E1131

Date Received: 5/31/2012

Field Sample #: E205960-21C

Sampled: 5/11/2012 00:00

Sample ID: 12E1131-06

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	20000	1900	mg/Kg dry	10		MADEP-EPH-04-1.1	6/4/12	6/6/12 15:32	SCS
C19-C36 Aliphatics	3400	1900	mg/Kg dry	10		MADEP-EPH-04-1.1	6/4/12	6/6/12 15:32	SCS
Unadjusted C11-C22 Aromatics	11000	1900	mg/Kg dry	10		MADEP-EPH-04-1.1	6/4/12	6/6/12 15:32	SCS
C11-C22 Aromatics	11000	1900	mg/Kg dry	10		MADEP-EPH-04-1.1	6/4/12	6/6/12 15:32	SCS
Acenaphthene	22	1.9	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:05	SCS
Acenaphthylene	59	1.9	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:05	SCS
Anthracene	9.4	1.9	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:05	SCS
Benzo(a)anthracene	ND	1.9	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:05	SCS
Benzo(a)pyrene	ND	1.9	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:05	SCS
Benzo(b)fluoranthene	ND	1.9	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:05	SCS
Benzo(g,h,i)perylene	ND	1.9	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:05	SCS
Benzo(k)fluoranthene	ND	1.9	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:05	SCS
Chrysene	ND	1.9	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:05	SCS
Dibenz(a,h)anthracene	ND	1.9	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:05	SCS
Fluoranthene	4.0	1.9	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:05	SCS
Fluorene	62	1.9	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:05	SCS
Indeno(1,2,3-cd)pyrene	ND	1.9	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:05	SCS
2-Methylnaphthalene	150	1.9	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:05	SCS
Naphthalene	51	1.9	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:05	SCS
Phenanthrene	42	1.9	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:05	SCS
Pyrene	7.7	1.9	mg/Kg dry	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:05	SCS
Surrogates		% Recovery	Recovery Limits		Flag				
Chlorooctadecane (COD)		76.9	40-140					6/5/12 19:05	
o-Terphenyl (OTP)		95.7	40-140					6/5/12 19:05	
2-Bromonaphthalene		64.3	40-140					6/5/12 19:05	
2-Fluorobiphenyl		106	40-140					6/5/12 19:05	

Project Location: New Bedford, MA

Sample Description:

Work Order: 12E1131

Date Received: 5/31/2012

Field Sample #: E205960-21C

Sampled: 5/11/2012 00:00

Sample ID: 12E1131-06

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	10.6		% Wt	1		SM 2540G	6/5/12	6/5/12 14:45	FWD

Project Location: New Bedford, MA

Sample Description:

Work Order: 12E1131

Date Received: 5/31/2012

Field Sample #: LCS

Sampled: 5/11/2012 00:00

Sample ID: 12E1131-07

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	36	20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:26	SCS
C19-C36 Aliphatics	46	20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:26	SCS
Unadjusted C11-C22 Aromatics	71	20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:26	SCS
C11-C22 Aromatics	ND	20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:26	SCS
Acenaphthene	3.9	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:26	SCS
Acenaphthylene	3.3	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:26	SCS
Anthracene	3.4	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:26	SCS
Benzo(a)anthracene	3.9	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:26	SCS
Benzo(a)pyrene	3.3	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:26	SCS
Benzo(b)fluoranthene	3.6	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:26	SCS
Benzo(g,h,i)perylene	3.7	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:26	SCS
Benzo(k)fluoranthene	3.7	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:26	SCS
Chrysene	3.7	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:26	SCS
Dibenz(a,h)anthracene	3.9	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:26	SCS
Fluoranthene	3.8	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:26	SCS
Fluorene	3.5	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:26	SCS
Indeno(1,2,3-cd)pyrene	3.5	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:26	SCS
2-Methylnaphthalene	2.8	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:26	SCS
Naphthalene	2.6	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:26	SCS
Phenanthrene	3.5	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:26	SCS
Pyrene	3.5	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:26	SCS
Surrogates		% Recovery	Recovery Limits		Flag				
Chlorooctadecane (COD)		79.4	40-140					6/5/12 19:26	
o-Terphenyl (OTP)		79.4	40-140					6/5/12 19:26	
2-Bromonaphthalene		85.8	40-140					6/5/12 19:26	
2-Fluorobiphenyl		97.2	40-140					6/5/12 19:26	

Project Location: New Bedford, MA

Sample Description:

Work Order: 12E1131

Date Received: 5/31/2012

Field Sample #: LCS 2

Sampled: 5/11/2012 00:00

Sample ID: 12E1131-08

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	34	20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:47	SCS
C19-C36 Aliphatics	45	20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:47	SCS
Unadjusted C11-C22 Aromatics	73	20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:47	SCS
C11-C22 Aromatics	ND	20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:47	SCS
Acenaphthene	3.9	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:47	SCS
Acenaphthylene	3.3	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:47	SCS
Anthracene	3.6	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:47	SCS
Benzo(a)anthracene	4.1	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:47	SCS
Benzo(a)pyrene	3.4	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:47	SCS
Benzo(b)fluoranthene	3.8	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:47	SCS
Benzo(g,h,i)perylene	3.8	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:47	SCS
Benzo(k)fluoranthene	3.9	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:47	SCS
Chrysene	3.8	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:47	SCS
Dibenz(a,h)anthracene	4.0	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:47	SCS
Fluoranthene	4.0	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:47	SCS
Fluorene	3.6	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:47	SCS
Indeno(1,2,3-cd)pyrene	3.6	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:47	SCS
2-Methylnaphthalene	2.8	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:47	SCS
Naphthalene	2.8	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:47	SCS
Phenanthrene	3.6	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:47	SCS
Pyrene	3.7	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 19:47	SCS

Surrogates	% Recovery	Recovery Limits	Flag
Chlorooctadecane (COD)	77.5	40-140	
o-Terphenyl (OTP)	80.9	40-140	
2-Bromonaphthalene	90.5	40-140	
2-Fluorobiphenyl	102	40-140	

Project Location: New Bedford, MA

Sample Description:

Work Order: 12E1131

Date Received: 5/31/2012

Field Sample #: LCS 3

Sampled: 5/11/2012 00:00

Sample ID: 12E1131-09

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	38	20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:28	SCS
C19-C36 Aliphatics	49	20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:28	SCS
Unadjusted C11-C22 Aromatics	80	20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:28	SCS
C11-C22 Aromatics	ND	20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:28	SCS
Acenaphthene	4.5	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:28	SCS
Acenaphthylene	3.6	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:28	SCS
Anthracene	3.9	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:28	SCS
Benzo(a)anthracene	4.4	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:28	SCS
Benzo(a)pyrene	3.6	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:28	SCS
Benzo(b)fluoranthene	4.0	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:28	SCS
Benzo(g,h,i)perylene	4.1	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:28	SCS
Benzo(k)fluoranthene	4.2	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:28	SCS
Chrysene	4.1	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:28	SCS
Dibenz(a,h)anthracene	4.3	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:28	SCS
Fluoranthene	4.4	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:28	SCS
Fluorene	4.1	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:28	SCS
Indeno(1,2,3-cd)pyrene	3.9	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:28	SCS
2-Methylnaphthalene	3.2	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:28	SCS
Naphthalene	2.9	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:28	SCS
Phenanthrene	4.0	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:28	SCS
Pyrene	4.0	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/6/12 20:28	SCS
Surrogates		% Recovery	Recovery Limits		Flag				
Chlorooctadecane (COD)		80.4	40-140					6/6/12 20:28	
o-Terphenyl (OTP)		89.1	40-140					6/6/12 20:28	
2-Bromonaphthalene		94.5	40-140					6/6/12 20:28	
2-Fluorobiphenyl		107	40-140					6/6/12 20:28	

Project Location: New Bedford, MA

Sample Description:

Work Order: 12E1131

Date Received: 5/31/2012

Sampled: 5/11/2012 00:00

Field Sample #: Blank

Sample ID: 12E1131-10

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 20:29	SCS
C19-C36 Aliphatics	ND	20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 20:29	SCS
Unadjusted C11-C22 Aromatics	ND	20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 20:29	SCS
C11-C22 Aromatics	ND	20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 20:29	SCS
Acenaphthene	ND	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 20:29	SCS
Acenaphthylene	ND	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 20:29	SCS
Anthracene	ND	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 20:29	SCS
Benzo(a)anthracene	ND	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 20:29	SCS
Benzo(a)pyrene	ND	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 20:29	SCS
Benzo(b)fluoranthene	ND	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 20:29	SCS
Benzo(g,h,i)perylene	ND	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 20:29	SCS
Benzo(k)fluoranthene	ND	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 20:29	SCS
Chrysene	ND	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 20:29	SCS
Dibenz(a,h)anthracene	ND	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 20:29	SCS
Fluoranthene	ND	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 20:29	SCS
Fluorene	ND	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 20:29	SCS
Indeno(1,2,3-cd)pyrene	ND	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 20:29	SCS
2-Methylnaphthalene	ND	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 20:29	SCS
Naphthalene	ND	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 20:29	SCS
Phenanthrene	ND	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 20:29	SCS
Pyrene	ND	0.20	mg/Kg wet	1		MADEP-EPH-04-1.1	6/4/12	6/5/12 20:29	SCS

Surrogates	% Recovery	Recovery Limits	Flag
Chlorooctadecane (COD)	79.4	40-140	
o-Terphenyl (OTP)	82.3	40-140	
2-Bromonaphthalene	96.6	40-140	
2-Fluorobiphenyl	99.8	40-140	

Sample Extraction Data

Prep Method: SW-846 3546-MADEP-EPH-04-1.1

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
12E1131-01 [E205960-11C]	B052670	10.1	2.00	06/04/12
12E1131-02 [E205960-12C]	B052670	10.0	2.00	06/04/12
12E1131-03 [E205960-13C]	B052670	10.2	2.00	06/04/12
12E1131-04 [E205960-14C]	B052670	10.2	2.00	06/04/12
12E1131-05 [E205960-15C]	B052670	10.1	2.00	06/04/12
12E1131-06 [E205960-21C]	B052670	10.0	2.00	06/04/12
12E1131-07 [LCS]	B052670	10.0	2.00	06/04/12
12E1131-08 [LCS 2]	B052670	10.0	2.00	06/04/12
12E1131-09 [LCS 3]	B052670	10.0	2.00	06/04/12
12E1131-10 [Blank]	B052670	10.0	2.00	06/04/12

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
12E1131-01 [E205960-11C]	B052791	06/05/12
12E1131-02 [E205960-12C]	B052791	06/05/12
12E1131-03 [E205960-13C]	B052791	06/05/12
12E1131-04 [E205960-14C]	B052791	06/05/12
12E1131-05 [E205960-15C]	B052791	06/05/12
12E1131-06 [E205960-21C]	B052791	06/05/12

QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B052670 - SW-846 3546

Blank (B052670-BLK1)

Prepared & Analyzed: 06/05/12

C9-C18 Aliphatics	ND	20	mg/Kg wet							
C19-C36 Aliphatics	ND	20	mg/Kg wet							
Unadjusted C11-C22 Aromatics	ND	20	mg/Kg wet							
C11-C22 Aromatics	ND	20	mg/Kg wet							
Acenaphthene	ND	0.20	mg/Kg wet							
Acenaphthylene	ND	0.20	mg/Kg wet							
Anthracene	ND	0.20	mg/Kg wet							
Benzo(a)anthracene	ND	0.20	mg/Kg wet							
Benzo(a)pyrene	ND	0.20	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.20	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.20	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.20	mg/Kg wet							
Chrysene	ND	0.20	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.20	mg/Kg wet							
Fluoranthene	ND	0.20	mg/Kg wet							
Fluorene	ND	0.20	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.20	mg/Kg wet							
2-Methylnaphthalene	ND	0.20	mg/Kg wet							
Naphthalene	ND	0.20	mg/Kg wet							
Phenanthrene	ND	0.20	mg/Kg wet							
Pyrene	ND	0.20	mg/Kg wet							
Surrogate: Chlorooctadecane (COD)	3.17		mg/Kg wet	3.99		79.4	40-140			
Surrogate: o-Terphenyl (OTP)	3.29		mg/Kg wet	4.00		82.3	40-140			
Surrogate: 2-Bromonaphthalene	9.66		mg/Kg wet	10.0		96.6	40-140			
Surrogate: 2-Fluorobiphenyl	9.98		mg/Kg wet	10.0		99.8	40-140			

LCS (B052670-BS1)

Prepared & Analyzed: 06/05/12

Acenaphthene	3.88	0.20	mg/Kg wet	5.00		77.6	40-140			
Acenaphthylene	3.28	0.20	mg/Kg wet	5.00		65.7	40-140			
Anthracene	3.41	0.20	mg/Kg wet	5.00		68.3	40-140			
Benzo(a)anthracene	3.92	0.20	mg/Kg wet	5.00		78.4	40-140			
Benzo(a)pyrene	3.28	0.20	mg/Kg wet	5.00		65.6	40-140			
Benzo(b)fluoranthene	3.60	0.20	mg/Kg wet	5.00		72.0	40-140			
Benzo(g,h,i)perylene	3.67	0.20	mg/Kg wet	5.00		73.5	40-140			
Benzo(k)fluoranthene	3.73	0.20	mg/Kg wet	5.00		74.5	40-140			
Chrysene	3.65	0.20	mg/Kg wet	5.00		73.0	40-140			
Dibenz(a,h)anthracene	3.86	0.20	mg/Kg wet	5.00		77.2	40-140			
Fluoranthene	3.83	0.20	mg/Kg wet	5.00		76.6	40-140			
Fluorene	3.54	0.20	mg/Kg wet	5.00		70.8	40-140			
Indeno(1,2,3-cd)pyrene	3.48	0.20	mg/Kg wet	5.00		69.7	40-140			
2-Methylnaphthalene	2.81	0.20	mg/Kg wet	5.00		56.2	40-140			
Naphthalene	2.56	0.20	mg/Kg wet	5.00		51.2	40-140			
Phenanthrene	3.48	0.20	mg/Kg wet	5.00		69.7	40-140			
Pyrene	3.50	0.20	mg/Kg wet	5.00		70.0	40-140			
n-Decane	3.19	0.20	mg/Kg wet	5.00		63.8	40-140			
n-Docosane	5.20	0.20	mg/Kg wet	5.00		104	40-140			
n-Dodecane	3.88	0.20	mg/Kg wet	5.00		77.5	40-140			
n-Eicosane	5.11	0.20	mg/Kg wet	5.00		102	40-140			
n-Hexacosane	4.89	0.20	mg/Kg wet	5.00		97.8	40-140			
n-Hexadecane	5.29	0.20	mg/Kg wet	5.00		106	40-140			
n-Hexatriacontane	4.51	0.20	mg/Kg wet	5.00		90.2	40-140			
n-Nonadecane	4.95	0.20	mg/Kg wet	5.00		99.1	40-140			

QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B052670 - SW-846 3546

LCS (B052670-BS1)

Prepared & Analyzed: 06/05/12

n-Nonane	2.35	0.20	mg/Kg wet	5.00		47.1	30-140			
n-Octacosane	4.89	0.20	mg/Kg wet	5.00		97.7	40-140			
n-Octadecane	5.40	0.20	mg/Kg wet	5.00		108	40-140			
n-Tetracosane	4.87	0.20	mg/Kg wet	5.00		97.4	40-140			
n-Tetradecane	4.49	0.20	mg/Kg wet	5.00		89.8	40-140			
n-Triacontane	4.82	0.20	mg/Kg wet	5.00		96.4	40-140			
Naphthalene-aliphatic fraction	ND	0.20	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.20	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	3.17		mg/Kg wet	3.99		79.4	40-140			
Surrogate: o-Terphenyl (OTP)	3.18		mg/Kg wet	4.00		79.4	40-140			
Surrogate: 2-Bromonaphthalene	8.58		mg/Kg wet	10.0		85.8	40-140			
Surrogate: 2-Fluorobiphenyl	9.72		mg/Kg wet	10.0		97.2	40-140			

LCS Dup (B052670-BSD1)

Prepared & Analyzed: 06/05/12

Acenaphthene	3.92	0.20	mg/Kg wet	5.00		78.5	40-140	1.13	25	
Acenaphthylene	3.31	0.20	mg/Kg wet	5.00		66.3	40-140	0.885	25	
Anthracene	3.57	0.20	mg/Kg wet	5.00		71.4	40-140	4.51	25	
Benzo(a)anthracene	4.14	0.20	mg/Kg wet	5.00		82.8	40-140	5.49	25	
Benzo(a)pyrene	3.45	0.20	mg/Kg wet	5.00		69.0	40-140	5.09	25	
Benzo(b)fluoranthene	3.81	0.20	mg/Kg wet	5.00		76.2	40-140	5.63	25	
Benzo(g,h,i)perylene	3.81	0.20	mg/Kg wet	5.00		76.1	40-140	3.53	25	
Benzo(k)fluoranthene	3.91	0.20	mg/Kg wet	5.00		78.3	40-140	4.90	25	
Chrysene	3.85	0.20	mg/Kg wet	5.00		76.9	40-140	5.20	25	
Dibenz(a,h)anthracene	4.03	0.20	mg/Kg wet	5.00		80.6	40-140	4.27	25	
Fluoranthene	4.03	0.20	mg/Kg wet	5.00		80.6	40-140	5.19	25	
Fluorene	3.63	0.20	mg/Kg wet	5.00		72.6	40-140	2.40	25	
Indeno(1,2,3-cd)pyrene	3.64	0.20	mg/Kg wet	5.00		72.8	40-140	4.44	25	
2-Methylnaphthalene	2.82	0.20	mg/Kg wet	5.00		56.4	40-140	0.362	25	
Naphthalene	2.81	0.20	mg/Kg wet	5.00		56.3	40-140	9.45	25	
Phenanthrene	3.64	0.20	mg/Kg wet	5.00		72.8	40-140	4.34	25	
Pyrene	3.71	0.20	mg/Kg wet	5.00		74.1	40-140	5.71	25	
n-Decane	3.08	0.20	mg/Kg wet	5.00		61.6	40-140	3.53	25	
n-Docosane	5.25	0.20	mg/Kg wet	5.00		105	40-140	1.04	25	
n-Dodecane	3.76	0.20	mg/Kg wet	5.00		75.2	40-140	3.04	25	
n-Eicosane	5.15	0.20	mg/Kg wet	5.00		103	40-140	0.800	25	
n-Hexacosane	4.88	0.20	mg/Kg wet	5.00		97.6	40-140	0.197	25	
n-Hexadecane	5.26	0.20	mg/Kg wet	5.00		105	40-140	0.573	25	
n-Hexatriacontane	4.38	0.20	mg/Kg wet	5.00		87.6	40-140	3.00	25	
n-Nonadecane	4.96	0.20	mg/Kg wet	5.00		99.2	40-140	0.141	25	
n-Nonane	2.24	0.20	mg/Kg wet	5.00		44.7	30-140	5.15	25	
n-Octacosane	4.89	0.20	mg/Kg wet	5.00		97.8	40-140	0.0532	25	
n-Octadecane	5.44	0.20	mg/Kg wet	5.00		109	40-140	0.778	25	
n-Tetracosane	4.87	0.20	mg/Kg wet	5.00		97.4	40-140	0.0370	25	
n-Tetradecane	4.38	0.20	mg/Kg wet	5.00		87.7	40-140	2.41	25	
n-Triacontane	4.81	0.20	mg/Kg wet	5.00		96.3	40-140	0.0997	25	
Naphthalene-aliphatic fraction	ND	0.20	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.20	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	3.09		mg/Kg wet	3.99		77.5	40-140			
Surrogate: o-Terphenyl (OTP)	3.24		mg/Kg wet	4.00		80.9	40-140			
Surrogate: 2-Bromonaphthalene	9.05		mg/Kg wet	10.0		90.5	40-140			
Surrogate: 2-Fluorobiphenyl	10.2		mg/Kg wet	10.0		102	40-140			

FLAG/QUALIFIER SUMMARY

- * QC result is outside of established limits.
 - † Wide recovery limits established for difficult compound.
 - ‡ Wide RPD limits established for difficult compound.
 - # Data exceeded client recommended or regulatory level
- Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
- S-03 Surrogate recovery outside of control limits due to suspected sample matrix interference.

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
MADEP-EPH-04-1.1 in Soil	
C9-C18 Aliphatics	CT,NC,WA,ME
C19-C36 Aliphatics	CT,NC,WA,ME
Unadjusted C11-C22 Aromatics	CT,NC,WA,ME
C11-C22 Aromatics	CT,NC,WA,ME
Acenaphthene	CT,NC,WA,ME
Acenaphthylene	CT,NC,WA,ME
Anthracene	CT,NC,WA,ME
Benzo(a)anthracene	CT,NC,WA,ME
Benzo(a)pyrene	CT,NC,WA,ME
Benzo(b)fluoranthene	CT,NC,WA,ME
Benzo(g,h,i)perylene	CT,NC,WA,ME
Benzo(k)fluoranthene	CT,NC,WA,ME
Chrysene	CT,NC,WA,ME
Dibenz(a,h)anthracene	CT,NC,WA,ME
Fluoranthene	CT,NC,WA,ME
Fluorene	CT,NC,WA,ME
Indeno(1,2,3-cd)pyrene	CT,NC,WA,ME
2-Methylnaphthalene	CT,NC,WA,ME
Naphthalene	CT,NC,WA,ME
Phenanthrene	CT,NC,WA,ME
Pyrene	CT,NC,WA,ME

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2014
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Public Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2013
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2013
RI	Rhode Island Department of Health	LAO00112	12/30/2012
NC	North Carolina Div. of Water Quality	652	12/31/2012
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2013
ME	State of Maine	2011028	06/9/2013
VA	Commonwealth of Virginia	1381	12/14/2012

SAMPLE	WEIGHT (G)
BLANK	10
LCS	10
LCS DUPLICATE	10
E205960-11C	10.1
E205960-12C	10.04
E205960-13C	10.22
E205960-14C	10.15
E205960-15C	10.14
E205960-21	10

All samples and QC were spiked with 1 mL of a 40 mg/L surrogate solution.

Surrogates are 1-chlorooctadecane and o-terphenyl

LCS and LCS duplicate were spiked with 1 mL of a 50 mg/L solution containing both aliphatic and aromatic hydrocarbons per MCP method.



61 Louisa Viens Drive
Dayville, CT 06241
860-774-2689
860-774-6814 800-932-1150

**** E**

Company: **Con-Test Laboratory**
Address: Con-Test Laboratory
39 Spruce Street
East Longmeadow, MA 01028
413-525-2332

Order Date: 05/30/2012 17:21
Product: EPH Drop-off
Contact: Meghan Kelly
Technician: Bradford Gauthier

Bottle Order must be delivered no later than: 05/31/20 Time

Method of shipment: LAB Driver

Matrix	ST	C/G	Qty	Size	Type	Preservative	Analysis
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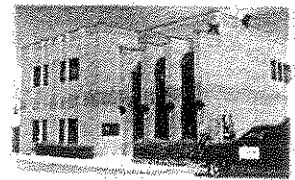
Preservatives:

ST: S = Sample; TB = Trip Blank; FB = Field Blank
C/G: C = Composite; G = Grab

Ice Packs No Coolers No Labels No COC No Custody Seals No
Field Blanks No Trip Blanks No DI Water No Volume
Protective Wrap No Cooler Qty

Comments: Please deliver a cooler w/ packaged samples to the attention of Meghan Kelly at Contest. The cooler is in the middle walk-in cooler with a copy of this sheet taped to the lid.

39 Spruce St.
 East Longmeadow, MA. 01028
 P: 413-525-2332
 F: 413-525-6405
 www.contestlabs.com



Sample Receipt Checklist

CLIENT NAME: Premier + Weston + Sampson RECEIVED BY: SD DATE: 5/9/12

- 1) Was the chain(s) of custody relinquished and signed? Yes No No CoC Included
 2) Does the chain agree with the samples? Yes No
 If not, explain:
 3) Are all the samples in good condition? Yes No
 If not, explain:

4) How were the samples received:
 On Ice Direct from Sampling Ambient In Cooler(s)

Were the samples received in Temperature Compliance of (2-6°C)? Yes No N/A
 Temperature °C by Temp blank _____ Temperature °C by Temp gun 4.8

5) Are there Dissolved samples for the lab to filter? Yes No
 Who was notified _____ Date _____ Time _____

6) Are there any RUSH or SHORT HOLDING TIME samples? Yes No
 Who was notified _____ Date _____ Time _____

7) Location where samples are stored: 19
 Permission to subcontract samples? Yes No
 (Walk-in clients only) if not already approved
 Client Signature: _____

8) Do all samples have the proper Acid pH: Yes No N/A

9) Do all samples have the proper Base pH: Yes No N/A

Containers received at Con-Test

		# of containers			# of containers
1 Liter Amber			8 oz amber/clear jar		
500 mL Amber			4 oz amber/clear jar		
250 mL Amber (8oz amber)			2 oz amber/clear jar		
1 Liter Plastic			Air Cassette		
500 mL Plastic			Hg/Hopcalite Tube		
250 mL plastic			Plastic Bag / Ziploc		
40 mL Vial - type listed below			PM 2.5 / PM 10		
Colisure / bacteria bottle			PUF Cartridge		
Dissolved Oxygen bottle			SOC Kit		
Encore			TO-17 Tubes		
Flashpoint bottle			Non-ConTest Container		
Perchlorate Kit			Other glass jar		
250mL Other clear glass		10	Other		

Laboratory Comments: See Premier's second sheet. Has all the I.D.'s of samples we received that are not on coc (Blank, LES, LES Dup, E205460-21 Sample LES 3 is not on coc or 2nd page)

40 mL vials: # HCl _____ # Methanol _____
 # Bisulfate _____ # DI Water _____
 # Thiosulfate _____ Unpreserved _____
 Time and Date Frozen: _____

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 12E1131
Project Location: New Bedford, MA	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]
 12E1131-01 thru 12E1131-10

Matrices: Soil

CAM Protocol (check all that below)

8260 VOC CAM II A ()	7470/7471 Hg CAM IIIB ()	MassDEP VPH CAM IV A ()	8081 Pesticides CAM V B ()	7196 Hex Cr CAM VI B ()	MassDEP APH CAM IX A ()
8270 SVOC CAM II B ()	7010 Metals CAM III C ()	MassDEP EPH CAM IV A (X)	8151 Herbicides CAM V C ()	8330 Explosives CAM VIII A ()	TO-15 VOC CAM IX B ()
6010 Metals CAM III A ()	6020 Metals CAM III D ()	8082 PCB CAM V A ()	9014 Total Cyanide/PAC CAM VI A ()	6860 Perchlorate CAM VIII B ()	

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?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
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).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input type="checkbox"/> Yes <input type="checkbox"/> No ¹
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹

A response to questions G, H and I below 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)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
----------	---	--

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.

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

¹ All Negative responses must be addressed in an attached Environmental Laboratory case narrative.

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

Signature: _____ 	Position: Laboratory Manager
Printed Name: Daren J. Damboragian	Date: 06/11/12

FORM 3
SOIL MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: PREMIER LABORATORY, LLC Date Analyzed: 08/01/2012

Project No.: Project: 97625

Sample No.: 0596025 LFM Location:

COMPOUND	SPIKE ADDED (ppb)	SAMPLE CONCENTRATION (ppb)	MS CONCENTRATION (ppb)	MS % REC #	QC LIMITS REC
Lead	27960	87000	135900	175*	70-130

COMPOUND	SPIKE ADDED (ppb)	MSD CONCENTRATION (ppb)	MSD % REC #	% RPD #	QC LIMITS RPD REC
Lead	27960	148400	220*	22.8*	20 70-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 1 out of 1 outside limits

Spike Recovery: 2 out of 2 outside limits

COMMENTS:

FILE: 100411A.lim

FORM 3
SOIL MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: PREMIER LABORATORY, LLC Date Analyzed: 08/01/2012

Project No.: Project: 97625

Sample No.: 0596025 LFM Location:

COMPOUND	SPIKE ADDED (ppb)	SAMPLE CONCENTRATION (ppb)	MS CONCENTRATION (ppb)	MS % REC #	QC LIMITS REC
Lead	27960	87000	135900	175*	70-130

COMPOUND	SPIKE ADDED (ppb)	MSD CONCENTRATION (ppb)	MSD % REC #	% RPD #	QC LIMITS RPD REC
Lead	27960	148400	220*	22.8*	20 70-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 1 out of 1 outside limits

Spike Recovery: 2 out of 2 outside limits

COMMENTS:

FILE: 100411A.lim



Premier Laboratory
 61 Louisa Viens Drive
 Dayville, CT 06241
 Phone: (800) 334-0103
 Fax: (860) 774-2689

Chain of Custody

WWW.PREMIERLABORATORY.COM

Lab WO#: E205960
 Project Manager: BG

Copy of Report To	Billing Information	Project Information
CUSTOMER: <u>WESTON & SWAMPSON</u>	BILL TO: <u>ESD, NEW BEDFORD</u>	Project: <u>478-480 UNION STREET</u>
ADDRESS: <u>100 FOXBOROUGH ROAD</u>	ADDRESS: <u>133 WILLIAM STREET, RM 304</u>	Project Location: <u>NEW BEDFORD, MA</u>
<u>FOXBOROUGH, MA</u>	ADDRESS: <u>NEW BEDFORD, MA 02740</u>	Project Manager: <u>SEAN HEALEY</u>
ATTENTION: <u>SEAN HEALEY</u>	ATTENTION: <u>CHERYL HENSLIN</u>	E-MAIL: <u>healeys@wiseinc.com</u>
E-MAIL: <u>healeys@wiseinc.com; phil@wiseinc.com</u>	TELEPHONE:	TELEPHONE: <u>800 STAMPS ON</u>
PHONE: <u>800 STAMPS ON</u> Fax:	PURCHASE ORDER #:	FAX:

IN CASE WE HAVE ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL:

Sample Identification	Date Collected	Time Collected	Sample Type:		Sample Matrix DW, SW, GW, Solid	# OF BOTTLES	Analysis	Preservatives								
			COMPOSITE	GRAB				H2SO4	HCL	HNO3	NAOH	NON-PRES	MeOH			
WS-12 (13-15)	5-11-12	0930	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Solid	2	X								X	
WS-13 (13-15)		0950	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
WS-14 (13-15)		1115	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
WS-15 (13-15)		1130	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
DVP-1			<input type="checkbox"/>	<input checked="" type="checkbox"/>												
WS-18 (15-19) ms/msd		1200	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
WS-17 (15-19)		1230	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
WS-16 (15-19)		1630	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
WS-19 (15-19)		1300	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
WS-20 (13-15)		1430	<input type="checkbox"/>	<input checked="" type="checkbox"/>	V	3										

TURNAROUND (INDICATE IN CALENDAR DAYS): STANDARD

FAX HARD COPY E-MAIL

EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS: 0% SOLID PROVIDED IN JARS FOR ALL VPH SAMPLES. (Do NOT use Pb labeled jars for 0% solid ANALYSIS, DEPTHS ARE DIFFERENT. NEED MCP PRES CRT. CONDITIONS UPON RECEIPT: (CHECK ONE) COOLED AMBIENT 3.0 °C Upon Receipt at LAB

CUSTODY TRANSFER	DATE	TIME
SAMPLER: <u>JMSBRENCE</u>	5-14-12	0700
RECEIVED: <u>John Healey</u>	5-15-12	1350
RELINQUISHED: <u>Colleen Healey</u>	5-15-12	1638
RECEIVED:		
RELINQUISHED:		
RECEIVED: <u>Michael Noble</u>	5/15/12	16:38



Premier Laboratory
 61 Louisa Viens Drive
 Dayville, CT 06241
 Phone: (800) 334-0103
 Fax: (860) 774-2689

Chain of Custody

WWW.PREMIERLABORATORY.COM

Lab WO#: E205960

Project Manager: TJCS

Copy of Report To

CUSTOMER: WESTON STAMPSUM
 ADDRESS: 100 FORDGATE BLVD
FORDGATE, MA
 ATTENTION: SEAN HART
 E-MAIL: sean.hart@wiseinc.com; pilsn@wiseinc.com
 PHONE: 800 STAMPSUM Fax:

Billing Information

BILL TO: ESD, NEW BEDFORD
 ADDRESS: 133 WILLIAM STREET, 3RD
NEW BEDFORD, MA 02740
 ATTENTION: CHERYL HENLIN
 TELEPHONE:
 PURCHASE ORDER #:

Project Information

Project: 478-480 UNION STREET
 Project Location: NEW BEDFORD, MA
 Project Manager: SEAN HART
IN CASE WE HAVE ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL:
 E-MAIL: sean.hart@wiseinc.com
 TELEPHONE: 800 STAMPSUM
 FAX:

Sample Identification	Date Collected	Time Collected	Sample Type		Sample Matrix	# of Bottles	Analysis	Preservatives									
			COMPOSITE	Grab				H2SO4	HCL	HNO3	NAOH	NON-PRES	MeOH				
WS-21 (13-15')	5/11/12	1500	<input type="checkbox"/>	<input checked="" type="checkbox"/>	.	3	Pb										
WS-22 (13-15')		1600	<input type="checkbox"/>	<input checked="" type="checkbox"/>	.	3	VPH										
WS-23 (13-15')		1830	<input type="checkbox"/>	<input checked="" type="checkbox"/>	.	3											
WS-24 (13-15')		1400	<input type="checkbox"/>	<input checked="" type="checkbox"/>	.	3											
WS-18 (0-5')		1200	<input type="checkbox"/>	<input checked="" type="checkbox"/>	.	1											
WS-16 (0-5')		1630	<input type="checkbox"/>	<input checked="" type="checkbox"/>	.	1											
WS-17 (0-5')		1230	<input type="checkbox"/>	<input checked="" type="checkbox"/>	.	1											
WS-19 (0-5')		1300	<input type="checkbox"/>	<input checked="" type="checkbox"/>	.	1											
DUP-2			<input type="checkbox"/>	<input checked="" type="checkbox"/>	.	1											
DUP-3			<input type="checkbox"/>	<input checked="" type="checkbox"/>	.	1											

TURNAROUND (INDICATE IN CALENDAR DAYS): STANDARD

FAX _____ HARD COPY _____ E-MAIL _____

EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS: Please also run DRIP BLANKS FOR VPH

CONDITIONS UPON RECEIPT: (CHECK ONE)

COOLED AMBIENT

30 °C Upon Receipt at LAB

CUSTOMER TRANSFER	DATE	TIME
SAMPLER: <u>Joe Spencer</u>	5-11-12	0700
RECEIVED: <u>Cheryl Henlin</u>	5-15-12	1230
RELINQUISHED: <u>Cheryl Henlin</u>	5-15-12	1638
RECEIVED:		
RELINQUISHED:		
RECEIVED: <u>Michael Noble</u>	5/15/12	16:38



61 Louisa Viens Drive
Dayville, CT 06241
Fax: 860-774-2689
Phone: 860-774-6814
Toll-Free: 800-334-0103

ANALYTICAL DATA REPORT

prepared for:

Weston and Sampson
5 Centennial Drive
Peabody, MA 01960
Jim Carrier

Report Number: E205G37
Revision 2
Project: 478 - 480 Union Street

Received Date: 05/25/2012
Report Date: 06/12/2012
Revision Date: 06/15/2012

Premier Laboratory, Inc
Authorized Signature



Certified and Compliant with:

CT (PH-0465), EPA (CT00008), MA (M-CT008), ME (CT0050), NH (2020), NJ (CT007), NY (11549), PA (68-04413), RI (LAO00300),
UCMR2 (CT00008), VT (VT11549)



101-000000338967



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Report No: E205G37
Client: Weston and Sampson
Project: 478 - 480 Union Street

CASE NARRATIVE / METHOD CONFORMANCE SUMMARY

Premier Laboratory, Inc received four samples from Weston and Sampson on 05/25/2012. The samples were analyzed for the following list of analyses:

Subcontract - EPH
MADEP EPH
Volatiles by 8260B in GW/SW
8260B

Volatile Petroleum Hydrocarbon (VPH)
MADEP VPH

Non-Conformances:
Work Order:

None

Sample:

None

Analysis:

None

Premier Laboratory, Inc Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
Report No:	E205G37	Location:	New Bedford, MA
Sample No:	1	Project:	478 - 480 Union Street
Preservative:		Sample Description:	WS-12
Date Collected:	5/25/2012	Dilution (Target):	1
Date Received:	5/25/2012	Matrix:	Aqueous
Date Extracted:		Percent Moisture:	N/A
Date Analyzed:	6/7/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	1	ND	100	ug/L
C9-C12 Aliphatics**	1	ND	100	ug/L
C9-C10 Aromatics***	1	ND	100	ug/L

* Excludes MTBE, Benzene, and Toluene

** Excludes Ethylbenzene, Xylenes

*** Excludes Naphthalene

SURROGATE RECOVERIES

Surrogate	% Recovery	Acceptance Range
2,5-dibromotoluene #2	111%	70%-130%
2,5-dibromotoluene	113%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	ND	1.0	ug/L
Benzene	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
m,p-Xylenes	ND	5.0	ug/L
o-Xylene	ND	5.0	ug/L
Naphthalene	ND	5.0	ug/L

Premier Laboratory, Inc Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
Report No:	E205G37	Location:	New Bedford, MA
Sample No:	2	Project:	478 - 480 Union Street
Preservative:		Sample Description:	WS-23
Date Collected:	5/25/2012	Dilution (Target):	1
Date Received:	5/25/2012	Matrix:	Aqueous
Date Extracted:		Percent Moisture:	N/A
Date Analyzed:	6/7/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	1	ND	100	ug/L
C9-C12 Aliphatics**	1	410	100	ug/L
C9-C10 Aromatics***	1	780	100	ug/L

* Excludes MTBE, Benzene, and Toluene

** Excludes Ethylbenzene, Xylenes

*** Excludes Naphthalene

SURROGATE RECOVERIES

Surrogate	% Recovery	Acceptance Range
2,5-dibromotoluene #2	87%	70%-130%
2,5-dibromotoluene	96%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	ND	1.0	ug/L
Benzene	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Ethylbenzene	12	5.0	ug/L
m,p-Xylenes	33	5.0	ug/L
o-Xylene	ND	5.0	ug/L
Naphthalene	190	5.0	ug/L

Premier Laboratory, Inc

Analytical Data Report

Report No: E205G37
Sample No: 2
Sample Description: WS-23

Customer: Weston and Sampson
Project: 478 - 480 Union Street

Date Collected: 05/25/2012 15:30
Date Received: 05/25/2012 17:47
Date Analyzed: 06/05/2012 00:00 By: SUB
Analytical Method: MADEP EPH

Matrix: Aqueous
Percent Moisture: N/A
Dilution Factor: 1
Lab Data File:

CAS No.	Parameter	Result	DL	Units
	Subcontract EPH	Attached		ug/L

Premier Laboratory, Inc Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
Report No:	E205G37	Location:	New Bedford, MA
Sample No:	3	Project:	478 - 480 Union Street
Preservative:		Sample Description:	Dup-1
Date Collected:	5/25/2012	Dilution (Target):	1
Date Received:	5/25/2012	Matrix:	Aqueous
Date Extracted:		Percent Moisture:	N/A
Date Analyzed:	6/7/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	1	ND	100	ug/L
C9-C12 Aliphatics**	1	460	100	ug/L
C9-C10 Aromatics***	1	840	100	ug/L

* Excludes MTBE, Benzene, and Toluene

** Excludes Ethylbenzene, Xylenes

*** Excludes Naphthalene

SURROGATE RECOVERIES

Surrogate	% Recovery	Acceptance Range
2,5-dibromotoluene #2	84%	70%-130%
2,5-dibromotoluene	94%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	ND	1.0	ug/L
Benzene	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Ethylbenzene	12	5.0	ug/L
m,p-Xylenes	34	5.0	ug/L
o-Xylene	ND	5.0	ug/L
Naphthalene	200	5.0	ug/L

Premier Laboratory, Inc

Analytical Data Report

Report No: E205G37
Sample No: 3
Sample Description: Dup-1

Customer: Weston and Sampson
Project: 478 - 480 Union Street

Date Collected: 05/25/2012 00:00
Date Received: 05/25/2012 17:47
Date Analyzed: 06/05/2012 00:00 By: SUB
Analytical Method: MADEP EPH

Matrix: Aqueous
Percent Moisture: N/A
Dilution Factor: 1
Lab Data File:

CAS No.	Parameter	Result	DL	Units
	Subcontract EPH	Attached		ug/L

Premier Laboratory, Inc

Analytical Data Report

Report No: E205G37
 Sample No: 4
 Sample Description: Trip Blank

Customer: Weston and Sampson
 Project: 478 - 480 Union Street

Date Collected: 05/25/2012 00:00
 Date Received: 05/25/2012 17:47
 Date Analyzed: 05/31/2012 11:49 By: CT
 Analytical Method: 8260B

Matrix: Aqueous
 Percent Moisture: N/A
 Dilution Factor: 1
 Lab Data File: Q26033.D
 QC Batch#: 95642

CAS No.	Parameter	Result	DL	Units
67-64-1	Acetone	ND	20	ug/L
107-13-1	Acrylonitrile	ND	25	ug/L
71-43-2	Benzene	ND	5.0	ug/L
108-86-1	Bromobenzene	ND	5.0	ug/L
74-97-5	Bromochloromethane	ND	5.0	ug/L
75-27-4	Bromodichloromethane	ND	5.0	ug/L
75-25-2	Bromoform	ND	5.0	ug/L
74-83-9	Bromomethane	ND	5.0	ug/L
78-93-3	2-Butanone (MEK)	ND	10	ug/L
104-51-8	n-Butylbenzene	ND	5.0	ug/L
135-98-8	sec-Butylbenzene	ND	5.0	ug/L
98-06-6	tert-Butylbenzene	ND	5.0	ug/L
75-15-0	Carbon disulfide	ND	5.0	ug/L
56-23-5	Carbon tetrachloride	ND	5.0	ug/L
108-90-7	Chlorobenzene	ND	5.0	ug/L
75-00-3	Chloroethane	ND	5.0	ug/L
67-66-3	Chloroform	ND	5.0	ug/L
74-87-3	Chloromethane	ND	5.0	ug/L
95-49-8	2-Chlorotoluene	ND	5.0	ug/L
106-43-4	4-Chlorotoluene	ND	5.0	ug/L
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	ug/L
124-48-1	Dibromochloromethane	ND	5.0	ug/L
106-93-4	1,2-Dibromoethane (EDB)	ND	5.0	ug/L
74-95-3	Dibromomethane	ND	5.0	ug/L
95-50-1	1,2-Dichlorobenzene	ND	5.0	ug/L
541-73-1	1,3-Dichlorobenzene	ND	5.0	ug/L
106-46-7	1,4-Dichlorobenzene	ND	5.0	ug/L
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/L
75-34-3	1,1-Dichloroethane	ND	5.0	ug/L
107-06-2	1,2-Dichloroethane	ND	5.0	ug/L
75-35-4	1,1-Dichloroethene	ND	5.0	ug/L
156-59-2	cis-1,2-Dichloroethene	ND	5.0	ug/L
156-60-5	trans-1,2-Dichloroethene	ND	5.0	ug/L
78-87-5	1,2-Dichloropropane	ND	5.0	ug/L
142-28-9	1,3-Dichloropropane	ND	5.0	ug/L
594-20-7	2,2-Dichloropropane	ND	5.0	ug/L
563-58-6	1,1-Dichloropropene	ND	5.0	ug/L
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	ug/L
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	ug/L
60-29-7	Diethyl ether	ND	10	ug/L

Premier Laboratory, Inc

Analytical Data Report

Report No: E205G37
 Sample No: 4
 Sample Description: Trip Blank

Customer: Weston and Sampson
 Project: 478 - 480 Union Street

Date Collected: 05/25/2012 00:00
 Date Received: 05/25/2012 17:47
 Date Analyzed: 05/31/2012 11:49 By: CT
 Analytical Method: 8260B

Matrix: Aqueous
 Percent Moisture: N/A
 Dilution Factor: 1
 Lab Data File: Q26033.D
 QC Batch#: 95642

CAS No.	Parameter	Result	DL	Units
123-91-1	1,4-Dioxane	ND	50	ug/L
100-41-4	Ethylbenzene	ND	5.0	ug/L
87-68-3	Hexachlorobutadiene	ND	5.0	ug/L
591-78-6	2-Hexanone	ND	10	ug/L
98-82-8	Isopropylbenzene	ND	5.0	ug/L
99-87-6	4-Isopropyltoluene	ND	5.0	ug/L
1634-04-4	Methyl tert-butyl ether (MTBE)	ND	5.0	ug/L
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	10	ug/L
75-09-2	Methylene chloride	ND	5.0	ug/L
91-20-3	Naphthalene	ND	5.0	ug/L
103-65-1	n-Propylbenzene	ND	5.0	ug/L
100-42-5	Styrene	ND	5.0	ug/L
109-99-9	Tetrahydrofuran	ND	5.0	ug/L
110-57-6	trans-1,4-Dichloro-2-butene	ND	5.0	ug/L
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND	5.0	ug/L
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/L
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
127-18-4	Tetrachloroethene (PCE)	ND	5.0	ug/L
108-88-3	Toluene	ND	5.0	ug/L
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/L
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/L
71-55-6	1,1,1-Trichloroethane	ND	5.0	ug/L
79-00-5	1,1,2-Trichloroethane	ND	5.0	ug/L
79-01-6	Trichloroethene (TCE)	ND	5.0	ug/L
75-69-4	Trichlorofluoromethane	ND	5.0	ug/L
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/L
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/L
75-01-4	Vinyl chloride	ND	5.0	ug/L
95-47-6	o-Xylene	ND	5.0	ug/L
108-38-3	m,p-Xylenes	ND	10	ug/L

Sample QC			
Surrogate	Recovery	QC Limits	
Bromofluorobenzene	99%	90%-106%	
1,2-Dichloroethane-d4	96%	88%-107%	
Toluene-d8	100%	95%-107%	

FORM 2
Water 8260B Surrogate Recovery

Lab Name: Premier Laboratory, Inc

Project No.: E205G37

Project: 478 - 480 Union Street

Batch No.: 95642

Location: New Bedford, MA

	Lab Sample No.	S1 %Rec #	S2 %Rec #	S3 %Rec #	S4 %Rec #	S5 %Rec #	S6 %Rec #	Tot Out
1	E205G37-4	96	99	100				0
2	VBLK0531	96	101	100				0
3	VLCS0531	94	106	99				0

QC Limits

S1 = 1,2-Dichloroethane-d4 (88-107)
S2 = Bromofluorobenzene (90-106)
S3 = Toluene-d8 (95-107)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogate diluted out

FORM 3
Water 8260B Lab Control Sample

Lab Name: Premier Laboratory, Inc Date Analyzed 5/31/2012
 Project No.: E205G37 Project: 478 - 480 Union Street
 Sample No.: VLCS0531 Location: New Bedford, MA
 Lab File ID: Q26029.D Batch No.: 95642

Compound	Spike Added (ug/L)	Sample Concentration (ug/L)	% Rec #	QC Limits Rec
1,1,1,2-Tetrachloroethane	50.00	54.40	109	70-130
1,1,1-Trichloroethane	50.00	56.65	113	70-130
1,1,2,2-Tetrachloroethane	50.00	54.63	109	70-130
1,1,2-Trichloroethane	50.00	53.09	106	70-130
1,1-Dichloroethane	50.00	49.91	100	70-130
1,1-Dichloroethene	50.00	52.83	106	70-130
1,1-Dichloropropene	50.00	53.29	106	70-130
1,2,3-Trichlorobenzene	50.00	50.73	101	70-130
1,2,4-Trichlorobenzene	50.00	50.85	102	70-130
1,2,4-Trimethylbenzene	50.00	51.69	103	70-130
1,2-Dibromoethane (EDB)	50.00	46.91	94	70-130
1,2-Dichlorobenzene	50.00	48.23	96	70-130
1,2-Dichloroethane	50.00	48.72	97	70-130
1,2-Dichloropropane	50.00	49.30	99	70-130
1,3,5-Trimethylbenzene	50.00	53.07	106	70-130
1,3-Dichlorobenzene	50.00	47.38	95	70-130
1,3-Dichloropropane	50.00	48.66	97	70-130
1,4-Dichlorobenzene	50.00	51.63	103	70-130
1,4-Dioxane	50.00	41.51	83	70-130
2,2-Dichloropropane	50.00	53.80	108	70-130
2-Butanone (MEK)	50.00	47.63	95	70-130
4-Chlorotoluene	50.00	45.90	92	70-130
4-Isopropyltoluene	50.00	49.82	100	70-130
4-Methyl-2-pentanone (MIBK)	50.00	44.80	90	70-130
Acetone	50.00	42.87	86	70-130
Benzene	50.00	53.30	106	70-130
Bromobenzene	50.00	53.21	106	70-130
Bromochloromethane	50.00	54.27	108	70-130
Bromodichloromethane	50.00	52.90	106	70-130
Bromoform	50.00	52.41	105	70-130
Bromomethane	50.00	52.72	105	70-130
Carbon disulfide	50.00	62.81	126	70-130
Carbon tetrachloride	50.00	57.57	115	70-130
Chlorobenzene	50.00	48.33	97	70-130
Chloroform	50.00	52.47	105	70-130
Chloromethane	50.00	45.39	91	70-130
cis-1,2-Dichloroethene	50.00	51.86	104	70-130
cis-1,3-Dichloropropene	50.00	55.39	111	70-130
Di-isopropyl ether (DIPE)	50.00	49.45	99	70-130
Dibromochloromethane	50.00	53.21	106	70-130
Dibromomethane	50.00	53.32	107	70-130
Dichlorodifluoromethane	50.00	48.65	97	70-130

Column to be used to flag recovery values with an asterisk
 * Values outside of QC limits

FORM 3
Water 8260B Lab Control Sample

Lab Name: Premier Laboratory, Inc Date Analyzed 5/31/2012
 Project No.: E205G37 Project: 478 - 480 Union Street
 Sample No.: VLCS0531 Location: New Bedford, MA
 Lab File ID: Q26029.D Batch No.: 95642

Compound	Spike Added (ug/L)	Sample Concentration (ug/L)	% Rec #	QC Limits Rec
Ethyl tertiary-butyl ether	50.00	49.73	99	70-130
Ethylbenzene	50.00	51.28	102	70-130
Hexachlorobutadiene	50.00	56.28	112	70-130
Isopropylbenzene	50.00	47.54	95	70-130
m,p-Xylenes	100.0	104.8	105	70-130
Methyl tert-butyl ether (M)	50.00	53.33	107	70-130
Methylene chloride	50.00	52.13	104	70-130
n-Butylbenzene	50.00	54.89	110	70-130
n-Propylbenzene	50.00	46.47	93	70-130
Naphthalene	50.00	50.36	101	70-130
o-Xylene	50.00	47.18	94	70-130
sec-Butylbenzene	50.00	49.53	99	70-130
Styrene	50.00	54.24	108	70-130
tert-Butylbenzene	50.00	47.42	95	70-130
Tertiary-amyl methyl ether	50.00	48.46	97	70-130
Tetrachloroethene (PCE)	50.00	57.22	114	70-130
Toluene	50.00	52.21	104	70-130
trans-1,2-Dichloroethene	50.00	54.82	110	70-130
trans-1,3-Dichloropropene	50.00	53.13	106	70-130
Trichloroethene (TCE)	50.00	54.32	109	70-130
Trichlorofluoromethane	50.00	55.86	112	70-130
Vinyl chloride	50.00	53.04	106	70-130

FORM 3
Water 8260B Lab Control Sample Duplicate

Lab Name: Premier Laboratory, Inc Date Analyzed 5/31/2012
 Project No.: E205G37 Project: 478 - 480 Union Street
 Sample No.: VLCS0531 Location: New Bedford, MA
 Lab File ID: Q26030.D Batch No.: 95642

Compound	Spike Added (ug/L)	Sample Concentration (ug/L)	% Rec #	RPD #	QC Limits	
					RPD	Rec
1,1,1,2-Tetrachloroethane	50.00	52.63	105	3.74	25	70-130
1,1,1-Trichloroethane	50.00	54.70	109	3.60	25	70-130
1,1,2,2-Tetrachloroethane	50.00	54.07	108	0.92	25	70-130
1,1,2-Trichloroethane	50.00	50.98	102	3.85	25	70-130
1,1-Dichloroethane	50.00	48.44	97	3.04	25	70-130
1,1-Dichloroethene	50.00	50.60	101	4.83	25	70-130
1,1-Dichloropropene	50.00	51.52	103	2.87	25	70-130
1,2,3-Trichlorobenzene	50.00	50.42	101	0	25	70-130
1,2,4-Trichlorobenzene	50.00	49.84	100	1.98	25	70-130
1,2,4-Trimethylbenzene	50.00	50.27	100	2.96	25	70-130
1,2-Dibromoethane (EDB)	50.00	46.21	92	2.15	25	70-130
1,2-Dichlorobenzene	50.00	47.30	95	1.05	25	70-130
1,2-Dichloroethane	50.00	47.40	95	2.08	25	70-130
1,2-Dichloropropane	50.00	47.93	96	3.08	25	70-130
1,3,5-Trimethylbenzene	50.00	51.25	102	3.85	25	70-130
1,3-Dichlorobenzene	50.00	46.34	93	2.13	25	70-130
1,3-Dichloropropane	50.00	47.67	95	2.08	25	70-130
1,4-Dichlorobenzene	50.00	50.85	102	0.98	25	70-130
1,4-Dioxane	50.00	42.02	84	1.20	25	70-130
2,2-Dichloropropane	50.00	51.36	103	4.74	25	70-130
2-Butanone (MEK)	50.00	46.41	93	2.13	25	70-130
4-Chlorotoluene	50.00	44.78	90	2.20	25	70-130
4-Isopropyltoluene	50.00	48.65	97	3.04	25	70-130
4-Methyl-2-pentanone (MIBK)	50.00	44.08	88	2.25	25	70-130
Acetone	50.00	40.91	82	4.76	25	70-130
Benzene	50.00	51.05	102	3.85	25	70-130
Bromobenzene	50.00	52.36	105	0.95	25	70-130
Bromochloromethane	50.00	52.03	104	3.77	25	70-130
Bromodichloromethane	50.00	51.46	103	2.87	25	70-130
Bromoform	50.00	51.72	103	1.92	25	70-130
Bromomethane	50.00	51.89	104	0.96	25	70-130
Carbon disulfide	50.00	61.07	122	3.22	25	70-130
Carbon tetrachloride	50.00	56.83	114	0.87	25	70-130
Chlorobenzene	50.00	46.10	92	5.29	25	70-130
Chloroform	50.00	51.06	102	2.90	25	70-130
Chloromethane	50.00	43.80	88	3.35	25	70-130
cis-1,2-Dichloroethene	50.00	50.57	101	2.93	25	70-130
cis-1,3-Dichloropropene	50.00	53.97	108	2.74	25	70-130
Di-isopropyl ether (DIPE)	50.00	48.55	97	2.04	25	70-130
Dibromochloromethane	50.00	51.83	104	1.90	25	70-130
Dibromomethane	50.00	52.01	104	2.84	25	70-130
Dichlorodifluoromethane	50.00	47.24	94	3.14	25	70-130

Column to be used to flag recovery values with an asterisk
 * Values outside of QC limits

FORM 3
Water 8260B Lab Control Sample Duplicate

Lab Name: Premier Laboratory, Inc Date Analyzed 5/31/2012
 Project No.: E205G37 Project: 478 - 480 Union Street
 Sample No.: VLCS0531 Location: New Bedford, MA
 Lab File ID: Q26030.D Batch No.: 95642

Compound	Spike Added (ug/L)	Sample Concentration (ug/L)	% Rec #	RPD #	QC Limits	
					RPD	Rec
Ethyl tertiary-butyl ether	50.00	48.79	98	1.02	25	70-130
Ethylbenzene	50.00	49.49	99	2.98	25	70-130
Hexachlorobutadiene	50.00	55.44	111	0.90	25	70-130
Isopropylbenzene	50.00	46.39	93	2.13	25	70-130
m,p-Xylenes	100.0	101.4	101	3.88	25	70-130
Methyl tert-butyl ether (M)	50.00	52.98	106	0.94	25	70-130
Methylene chloride	50.00	51.06	102	1.94	25	70-130
n-Butylbenzene	50.00	53.93	108	1.83	25	70-130
n-Propylbenzene	50.00	45.40	91	2.17	25	70-130
Naphthalene	50.00	50.08	100	1.0	25	70-130
o-Xylene	50.00	46.04	92	2.15	25	70-130
sec-Butylbenzene	50.00	48.37	97	2.04	25	70-130
Styrene	50.00	52.78	106	1.87	25	70-130
tert-Butylbenzene	50.00	46.82	94	1.06	25	70-130
Tertiary-amyl methyl ether	50.00	48.06	96	1.04	25	70-130
Tetrachloroethene (PCE)	50.00	54.97	110	3.57	25	70-130
Toluene	50.00	50.87	102	1.94	25	70-130
trans-1,2-Dichloroethene	50.00	52.09	104	5.61	25	70-130
trans-1,3-Dichloropropene	50.00	51.65	103	2.87	25	70-130
Trichloroethene (TCE)	50.00	52.97	106	2.79	25	70-130
Trichlorofluoromethane	50.00	55.29	110	1.80	25	70-130
Vinyl chloride	50.00	51.55	103	2.87	25	70-130

FORM 4
8260B Method Blank Summary

Project No.: E205G37

Project: 478 - 480 Union Street

Lab File ID: Q26032.D

Lab Sample ID: VBLK0531

Matrix: Water

Date Analyzed: 5/31/2012

Instrument ID: GCMS 14

Batch No.: 95642

Time Analyzed: 1126

This Method Blank Applies To The Following Samples, MS and MSD:

	Lab Sample No.	Client Sample ID	Lab File ID	Date Analyzed
1	E205G37-4	Trip Blank	Q26033.D	5/31/2012
2	VLCS0531	VLCS0531	Q26029.D	5/31/2012
3	VLCS0531	VLCS0531	Q26030.D	5/31/2012

FORM 2
Water MADEP VPH Surrogate Recovery

Lab Name: Premier Laboratory, Inc

Project No.: E205G37

Project: 478 - 480 Union Street

Batch No.: 95893

Location: New Bedford, MA

	Lab Sample No.	S1 %Rec #	S2 %Rec #	S3 %Rec #	S4 %Rec #	S5 %Rec #	S6 %Rec #	Tot Out
1	E205G37-1	115	111					0
2	E205G37-2A	96	87					0
3	E205G37-3A	94	84					0
4	VBLK0607	105	104					0
5	VLCS0607	110	112					0

QC Limits

S1 = 2,5-dibromotoluene (70-130)
 S2 = 2,5-dibromotoluene #2 #2 (70-130)

Column to be used to flag recovery values
 * Values outside of QC limits
 D Surrogate diluted out

FORM 3
Water MADEP VPH Lab Control Sample

Lab Name: Premier Laboratory, Inc Date Analyzed 6/7/2012
 Project No.: E205G37 Project: 478 - 480 Union Street
 Sample No.: VLCS0607 Location: New Bedford, MA
 Lab File ID: 2060702.D Batch No.: 95893

Compound	Spike Added (ug/L)	Sample Concentration (ug/L)	% Rec #	QC Limits Rec
1,2,4-Trimethylbenzene	20.00	21.22	106	70-130
2-Methylpentane	20.00	21.54	108	70-130
Benzene	20.00	20.89	104	70-130
C5-C8 Aliphatics	60.00	63.08	105	70-130
C9-C10 Aromatics	20.00	22.27	111	70-130
C9-C12 Aliphatics	60.00	64.24	107	70-130
Decane	20.00	20.84	104	70-130
Ethylbenzene	20.00	20.21	101	70-130
m,p-Xylenes	40.00	40.61	102	70-130
Methyl tert-butyl ether (M	20.00	21.06	105	70-130
n-Butylcyclohexane	20.00	21.88	109	70-130
Naphthalene	20.00	24.15	121	70-130
Nonane	20.00	21.53	108	70-130
o-Xylene	20.00	19.56	98	70-130
Toluene	20.00	20.19	101	70-130
Benzene #2	20.00	20.09	100	70-130
Ethylbenzene #2	20.00	21.08	105	70-130
m,p-Xylenes #2	40.00	43.39	108	70-130
Methyl tert-butyl ether (M	20.00	19.81	99	70-130
Naphthalene #2	20.00	25.47	127	70-130
o-Xylene #2	20.00	20.75	104	70-130
Toluene #2	20.00	20.59	103	70-130

FORM 3
Water MADEP VPH Lab Control Sample Duplicate

Lab Name: Premier Laboratory, Inc Date Analyzed 6/7/2012
 Project No.: E205G37 Project: 478 - 480 Union Street
 Sample No.: VLCS0607 Location: New Bedford, MA
 Lab File ID: 2060703.D Batch No.: 95893

Compound	Spike Added (ug/L)	Sample Concentration (ug/L)	% Rec #	RPD #	QC Limits	
					RPD	Rec
1,2,4-Trimethylbenzene	20.00	20.70	103	2.87	25	70-130
2-Methylpentane	20.00	20.66	103	4.74	25	70-130
Benzene	20.00	20.22	101	2.93	25	70-130
C5-C8 Aliphatics	60.00	62.46	104	0.96	25	70-130
C9-C10 Aromatics	20.00	21.65	108	2.74	25	70-130
C9-C12 Aliphatics	60.00	62.35	104	2.84	25	70-130
Decane	20.00	20.25	101	2.93	25	70-130
Ethylbenzene	20.00	19.69	98	3.02	25	70-130
m,p-Xylenes	40.00	39.56	99	2.98	25	70-130
Methyl tert-butyl ether (M)	20.00	20.69	103	1.92	25	70-130
n-Butylcyclohexane	20.00	21.18	106	2.79	25	70-130
Naphthalene	20.00	23.24	116	4.22	25	70-130
Nonane	20.00	20.92	105	2.82	25	70-130
o-Xylene	20.00	19.09	95	3.11	25	70-130
Toluene	20.00	19.82	99	2.00	25	70-130
Benzene #2	20.00	19.60	98	2.02	25	70-130
Ethylbenzene #2	20.00	20.46	102	2.90	25	70-130
m,p-Xylenes #2	40.00	42.18	105	2.82	25	70-130
Methyl tert-butyl ether (M)	20.00	19.15	96	3.08	25	70-130
Naphthalene #2	20.00	24.34	122	4.02	25	70-130
o-Xylene #2	20.00	20.25	101	2.93	25	70-130
Toluene #2	20.00	19.95	100	2.96	25	70-130

FORM 4
MADEP VPH Method Blank Summary

Project No.: E205G37

Project: 478 - 480 Union Street

Lab File ID: 2060708.D

Lab Sample ID: VBLK0607

Matrix: Water

Date Analyzed: 6/7/2012

Instrument ID: GC2

Batch No.: 95893

Time Analyzed: 1305

This Method Blank Applies To The Following Samples, MS and MSD:

	Lab Sample No.	Client Sample ID	Lab File ID	Date Analyzed
1	E205G37-1	WS-12	2060709.D	6/7/2012
2	E205G37-2A	WS-23	2060711.D	6/7/2012
3	E205G37-3A	Dup-1	2060713.D	6/7/2012
4	E205960-6B	WS-18 (15-19')	2060721.D	6/7/2012
5	E205960-7B	WS-18 (15-19')	2060722.D	6/7/2012
6	VLCS0607	VLCS0607	2060702.D	6/7/2012
7	VLCS0607	VLCS0607	2060703.D	6/7/2012

June 7, 2012

Brad Gauthier
Premier Laboratory
61 Louisa Viens Drive
Dayville, CT 06241

Project Location: New Bedford, MA
Client Job Number:
Project Number: E205G37
Laboratory Work Order Number: 12E1143

Enclosed are results of analyses for samples received by the laboratory on May 31, 2012. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Meghan E. Kelley". The signature is written in a cursive style with a large, sweeping 'y' at the end.

Meghan E. Kelley
Project Manager

Premier Laboratory
61 Louisa Viens Drive
Dayville, CT 06241
ATTN: Brad Gauthier

REPORT DATE: 6/7/2012

PURCHASE ORDER NUMBER: E205G37

PROJECT NUMBER: E205G37

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 12E1143

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

PROJECT LOCATION: New Bedford, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
E205G37-2B (WS-23)	12E1143-01	Water		MADEP-EPH-04-1.1 SW-846 8270D	
E205G37-3B (DUP-1)	12E1143-02	Water		MADEP-EPH-04-1.1 SW-846 8270D	

CASE NARRATIVE SUMMARY

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

For method 8270, only a select list of PAH compounds were analyzed and reported in order to achieve lower detection limits than possible with the EPH analysis.

MADEP-EPH-04-1.1

SPE cartridge contamination with non-petroleum compounds, if present, is verified by GC/MS in each method blank per extraction batch and excluded from C 11-C22 aromatic range fraction in all samples in the batch. No significant modifications were made to the method.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Michael A. Erickson
Laboratory Director

Project Location: New Bedford, MA

Sample Description:

Work Order: 12E1143

Date Received: 5/31/2012

Field Sample #: E205G37-2B (WS-23)

Sampled: 5/25/2012 15:30

Sample ID: 12E1143-01

Sample Matrix: Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Benzo(a)anthracene	ND	0.025	µg/L	1		SW-846 8270D	6/1/12	6/5/12 17:42	CJM
Benzo(a)pyrene	ND	0.025	µg/L	1		SW-846 8270D	6/1/12	6/5/12 17:42	CJM
Benzo(b)fluoranthene	ND	0.025	µg/L	1		SW-846 8270D	6/1/12	6/5/12 17:42	CJM
Benzo(g,h,i)perylene	ND	0.025	µg/L	1		SW-846 8270D	6/1/12	6/5/12 17:42	CJM
Benzo(k)fluoranthene	ND	0.025	µg/L	1		SW-846 8270D	6/1/12	6/5/12 17:42	CJM
Chrysene	ND	0.025	µg/L	1		SW-846 8270D	6/1/12	6/5/12 17:42	CJM
Dibenz(a,h)anthracene	ND	0.025	µg/L	1		SW-846 8270D	6/1/12	6/5/12 17:42	CJM
Indeno(1,2,3-cd)pyrene	ND	0.025	µg/L	1		SW-846 8270D	6/1/12	6/5/12 17:42	CJM
Surrogates		% Recovery	Recovery Limits		Flag				
o-Terphenyl (OTP)		87.2	30-130					6/5/12 17:42	

Project Location: New Bedford, MA

Sample Description:

Work Order: 12E1143

Date Received: 5/31/2012

Field Sample #: E205G37-2B (WS-23)

Sampled: 5/25/2012 15:30

Sample ID: 12E1143-01

Sample Matrix: Water

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	260	100	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:01	SCS
C19-C36 Aliphatics	ND	100	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:01	SCS
Unadjusted C11-C22 Aromatics	1000	100	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:01	SCS
C11-C22 Aromatics	730	100	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:01	SCS
Acenaphthene	11	2.0	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:01	SCS
Acenaphthylene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:01	SCS
Anthracene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:01	SCS
Benzo(a)anthracene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:01	SCS
Benzo(a)pyrene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:01	SCS
Benzo(b)fluoranthene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:01	SCS
Benzo(g,h,i)perylene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:01	SCS
Benzo(k)fluoranthene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:01	SCS
Chrysene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:01	SCS
Dibenz(a,h)anthracene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:01	SCS
Fluoranthene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:01	SCS
Fluorene	8.7	2.0	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:01	SCS
Indeno(1,2,3-cd)pyrene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:01	SCS
2-Methylnaphthalene	130	2.0	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:01	SCS
Naphthalene	120	2.0	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:01	SCS
Phenanthrene	3.7	2.0	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:01	SCS
Pyrene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:01	SCS

Surrogates	% Recovery	Recovery Limits	Flag
Chlorooctadecane (COD)	59.7	40-140	
o-Terphenyl (OTP)	87.6	40-140	
2-Bromonaphthalene	89.5	40-140	
2-Fluorobiphenyl	116	40-140	

Project Location: New Bedford, MA

Sample Description:

Work Order: 12E1143

Date Received: 5/31/2012

Field Sample #: E205G37-3B (DUP-1)

Sampled: 5/25/2012 00:00

Sample ID: 12E1143-02

Sample Matrix: Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Benzo(a)anthracene	ND	0.025	µg/L	1		SW-846 8270D	6/1/12	6/5/12 18:14	CJM
Benzo(a)pyrene	ND	0.025	µg/L	1		SW-846 8270D	6/1/12	6/5/12 18:14	CJM
Benzo(b)fluoranthene	ND	0.025	µg/L	1		SW-846 8270D	6/1/12	6/5/12 18:14	CJM
Benzo(g,h,i)perylene	ND	0.025	µg/L	1		SW-846 8270D	6/1/12	6/5/12 18:14	CJM
Benzo(k)fluoranthene	ND	0.025	µg/L	1		SW-846 8270D	6/1/12	6/5/12 18:14	CJM
Chrysene	ND	0.025	µg/L	1		SW-846 8270D	6/1/12	6/5/12 18:14	CJM
Dibenz(a,h)anthracene	ND	0.025	µg/L	1		SW-846 8270D	6/1/12	6/5/12 18:14	CJM
Indeno(1,2,3-cd)pyrene	ND	0.025	µg/L	1		SW-846 8270D	6/1/12	6/5/12 18:14	CJM
Surrogates		% Recovery		Recovery Limits	Flag				
o-Terphenyl (OTP)		90.0		30-130				6/5/12 18:14	

Project Location: New Bedford, MA

Sample Description:

Work Order: 12E1143

Date Received: 5/31/2012

Field Sample #: E205G37-3B (DUP-1)

Sampled: 5/25/2012 00:00

Sample ID: 12E1143-02

Sample Matrix: Water

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	250	100	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:22	SCS
C19-C36 Aliphatics	ND	100	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:22	SCS
Unadjusted C11-C22 Aromatics	1100	100	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:22	SCS
C11-C22 Aromatics	770	100	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:22	SCS
Acenaphthene	13	2.0	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:22	SCS
Acenaphthylene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:22	SCS
Anthracene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:22	SCS
Benzo(a)anthracene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:22	SCS
Benzo(a)pyrene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:22	SCS
Benzo(b)fluoranthene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:22	SCS
Benzo(g,h,i)perylene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:22	SCS
Benzo(k)fluoranthene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:22	SCS
Chrysene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:22	SCS
Dibenz(a,h)anthracene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:22	SCS
Fluoranthene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:22	SCS
Fluorene	9.2	2.0	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:22	SCS
Indeno(1,2,3-cd)pyrene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:22	SCS
2-Methylnaphthalene	140	2.0	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:22	SCS
Naphthalene	130	2.0	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:22	SCS
Phenanthrene	4.0	2.0	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:22	SCS
Pyrene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/1/12	6/4/12 21:22	SCS

Surrogates	% Recovery	Recovery Limits	Flag
Chlorooctadecane (COD)	64.2	40-140	
o-Terphenyl (OTP)	88.6	40-140	
2-Bromonaphthalene	84.0	40-140	
2-Fluorobiphenyl	108	40-140	

Sample Extraction Data

Prep Method: SW-846 3510C-MADEP-EPH-04-1.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
12E1143-01 [E205G37-2B (WS-23)]	B052577	1000	2.00	06/01/12
12E1143-02 [E205G37-3B (DUP-1)]	B052577	1000	2.00	06/01/12

Prep Method: SW-846 3510C-SW-846 8270D

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
12E1143-01 [E205G37-2B (WS-23)]	B052771	1000	2.00	06/01/12
12E1143-02 [E205G37-3B (DUP-1)]	B052771	1000	2.00	06/01/12

QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B052771 - SW-846 3510C										
Blank (B052771-BLK1)										
Prepared: 06/01/12 Analyzed: 06/05/12										
Benzo(a)anthracene	ND	0.025	µg/L							
Benzo(a)pyrene	ND	0.025	µg/L							
Benzo(b)fluoranthene	ND	0.025	µg/L							
Benzo(g,h,i)perylene	ND	0.025	µg/L							
Benzo(k)fluoranthene	ND	0.025	µg/L							
Chrysene	ND	0.025	µg/L							
Dibenz(a,h)anthracene	ND	0.025	µg/L							
Indeno(1,2,3-cd)pyrene	ND	0.025	µg/L							
Surrogate: o-Terphenyl (OTP)	88.2		µg/L	100		88.2	30-130			
LCS (B052771-BS1)										
Prepared: 06/01/12 Analyzed: 06/05/12										
Benzo(a)anthracene	109	0.62	µg/L	100		109	40-140			
Benzo(a)pyrene	107	0.62	µg/L	100		107	40-140			
Benzo(b)fluoranthene	106	0.62	µg/L	100		106	40-140			
Benzo(g,h,i)perylene	116	0.62	µg/L	100		116	40-140			
Benzo(k)fluoranthene	107	0.62	µg/L	100		107	40-140			
Chrysene	112	0.62	µg/L	100		112	40-140			
Dibenz(a,h)anthracene	114	0.62	µg/L	100		114	40-140			
Indeno(1,2,3-cd)pyrene	111	0.62	µg/L	100		111	40-140			
Surrogate: o-Terphenyl (OTP)	89.5		µg/L	100		89.5	30-130			
LCS Dup (B052771-BSD1)										
Prepared: 06/01/12 Analyzed: 06/06/12										
Benzo(a)anthracene	108	0.62	µg/L	100		108	40-140	0.692	20	
Benzo(a)pyrene	107	0.62	µg/L	100		107	40-140	0.421	20	
Benzo(b)fluoranthene	106	0.62	µg/L	100		106	40-140	0.331	20	
Benzo(g,h,i)perylene	118	0.62	µg/L	100		118	40-140	1.59	20	
Benzo(k)fluoranthene	106	0.62	µg/L	100		106	40-140	0.748	20	
Chrysene	112	0.62	µg/L	100		112	40-140	0.268	20	
Dibenz(a,h)anthracene	116	0.62	µg/L	100		116	40-140	1.61	20	
Indeno(1,2,3-cd)pyrene	112	0.62	µg/L	100		112	40-140	1.57	20	
Surrogate: o-Terphenyl (OTP)	97.0		µg/L	100		97.0	30-130			

QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B052577 - SW-846 3510C

Blank (B052577-BLK1)

Prepared: 06/01/12 Analyzed: 06/04/12

C9-C18 Aliphatics	ND	100	µg/L							
C19-C36 Aliphatics	ND	100	µg/L							
Unadjusted C11-C22 Aromatics	ND	100	µg/L							
C11-C22 Aromatics	ND	100	µg/L							
Acenaphthene	ND	2.0	µg/L							
Acenaphthylene	ND	2.0	µg/L							
Anthracene	ND	2.0	µg/L							
Benzo(a)anthracene	ND	2.0	µg/L							
Benzo(a)pyrene	ND	2.0	µg/L							
Benzo(b)fluoranthene	ND	2.0	µg/L							
Benzo(g,h,i)perylene	ND	2.0	µg/L							
Benzo(k)fluoranthene	ND	2.0	µg/L							
Chrysene	ND	2.0	µg/L							
Dibenz(a,h)anthracene	ND	2.0	µg/L							
Fluoranthene	ND	2.0	µg/L							
Fluorene	ND	2.0	µg/L							
Indeno(1,2,3-cd)pyrene	ND	2.0	µg/L							
2-Methylnaphthalene	ND	2.0	µg/L							
Naphthalene	ND	2.0	µg/L							
Phenanthrene	ND	2.0	µg/L							
Pyrene	ND	2.0	µg/L							
Surrogate: Chlorooctadecane (COD)	65.2		µg/L	99.8		65.3	40-140			
Surrogate: o-Terphenyl (OTP)	82.9		µg/L	100		82.9	40-140			
Surrogate: 2-Bromonaphthalene	95.1		µg/L	100		95.1	40-140			
Surrogate: 2-Fluorobiphenyl	98.8		µg/L	100		98.8	40-140			

LCS (B052577-BS1)

Prepared: 06/01/12 Analyzed: 06/04/12

Acenaphthene	85.7	2.0	µg/L	100		85.7	40-140			
Acenaphthylene	79.3	2.0	µg/L	100		79.3	40-140			
Anthracene	87.2	2.0	µg/L	100		87.2	40-140			
Benzo(a)anthracene	96.2	2.0	µg/L	100		96.2	40-140			
Benzo(a)pyrene	82.7	2.0	µg/L	100		82.7	40-140			
Benzo(b)fluoranthene	87.5	2.0	µg/L	100		87.5	40-140			
Benzo(g,h,i)perylene	88.8	2.0	µg/L	100		88.8	40-140			
Benzo(k)fluoranthene	88.5	2.0	µg/L	100		88.5	40-140			
Chrysene	84.2	2.0	µg/L	100		84.2	40-140			
Dibenz(a,h)anthracene	93.3	2.0	µg/L	100		93.3	40-140			
Fluoranthene	91.4	2.0	µg/L	100		91.4	40-140			
Fluorene	85.9	2.0	µg/L	100		85.9	40-140			
Indeno(1,2,3-cd)pyrene	84.5	2.0	µg/L	100		84.5	40-140			
2-Methylnaphthalene	69.2	2.0	µg/L	100		69.2	40-140			
Naphthalene	60.0	2.0	µg/L	100		60.0	40-140			
Phenanthrene	85.5	2.0	µg/L	100		85.5	40-140			
Pyrene	87.7	2.0	µg/L	100		87.7	40-140			
n-Decane	51.1	2.0	µg/L	100		51.1	40-140			
n-Docosane	103	2.0	µg/L	100		103	40-140			
n-Dodecane	72.8	2.0	µg/L	100		72.8	40-140			
n-Eicosane	101	2.0	µg/L	100		101	40-140			
n-Hexacosane	98.8	2.0	µg/L	100		98.8	40-140			
n-Hexadecane	102	2.0	µg/L	100		102	40-140			
n-Hexatriacontane	103	2.0	µg/L	100		103	40-140			
n-Nonadecane	98.4	2.0	µg/L	100		98.4	40-140			

QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B052577 - SW-846 3510C										
LCS (B052577-BS1)										
					Prepared: 06/01/12 Analyzed: 06/04/12					
n-Nonane	36.7	2.0	µg/L	100		36.7	30-140			
n-Octacosane	97.5	2.0	µg/L	100		97.5	40-140			
n-Octadecane	105	2.0	µg/L	100		105	40-140			
n-Tetracosane	98.7	2.0	µg/L	100		98.7	40-140			
n-Tetradecane	89.5	2.0	µg/L	100		89.5	40-140			
n-Triacontane	100	2.0	µg/L	100		100	40-140			
Naphthalene-aliphatic fraction	ND	2.0	µg/L	100			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	2.0	µg/L	100			0-5			
Surrogate: Chlorooctadecane (COD)	65.6		µg/L	99.8		65.7	40-140			
Surrogate: o-Terphenyl (OTP)	89.8		µg/L	100		89.8	40-140			
Surrogate: 2-Bromonaphthalene	91.3		µg/L	100		91.3	40-140			
Surrogate: 2-Fluorobiphenyl	103		µg/L	100		103	40-140			
LCS Dup (B052577-BSD1)										
					Prepared: 06/01/12 Analyzed: 06/04/12					
Acenaphthene	80.2	2.0	µg/L	100		80.2	40-140	6.60	25	
Acenaphthylene	73.8	2.0	µg/L	100		73.8	40-140	7.08	25	
Anthracene	81.2	2.0	µg/L	100		81.2	40-140	7.11	25	
Benzo(a)anthracene	89.3	2.0	µg/L	100		89.3	40-140	7.46	25	
Benzo(a)pyrene	76.7	2.0	µg/L	100		76.7	40-140	7.53	25	
Benzo(b)fluoranthene	80.9	2.0	µg/L	100		80.9	40-140	7.81	25	
Benzo(g,h,i)perylene	81.9	2.0	µg/L	100		81.9	40-140	7.99	25	
Benzo(k)fluoranthene	82.3	2.0	µg/L	100		82.3	40-140	7.28	25	
Chrysene	78.4	2.0	µg/L	100		78.4	40-140	7.13	25	
Dibenz(a,h)anthracene	86.0	2.0	µg/L	100		86.0	40-140	8.07	25	
Fluoranthene	85.1	2.0	µg/L	100		85.1	40-140	7.04	25	
Fluorene	79.6	2.0	µg/L	100		79.6	40-140	7.57	25	
Indeno(1,2,3-cd)pyrene	78.3	2.0	µg/L	100		78.3	40-140	7.64	25	
2-Methylnaphthalene	64.0	2.0	µg/L	100		64.0	40-140	7.79	25	
Naphthalene	55.2	2.0	µg/L	100		55.2	40-140	8.35	25	
Phenanthrene	79.7	2.0	µg/L	100		79.7	40-140	7.03	25	
Pyrene	82.0	2.0	µg/L	100		82.0	40-140	6.68	25	
n-Decane	43.5	2.0	µg/L	100		43.5	40-140	16.1	25	
n-Docosane	96.7	2.0	µg/L	100		96.7	40-140	6.77	25	
n-Dodecane	64.8	2.0	µg/L	100		64.8	40-140	11.6	25	
n-Eicosane	94.4	2.0	µg/L	100		94.4	40-140	6.61	25	
n-Hexacosane	92.0	2.0	µg/L	100		92.0	40-140	7.11	25	
n-Hexadecane	94.3	2.0	µg/L	100		94.3	40-140	7.84	25	
n-Hexatriacontane	97.0	2.0	µg/L	100		97.0	40-140	6.31	25	
n-Nonadecane	92.6	2.0	µg/L	100		92.6	40-140	6.04	25	
n-Nonane	30.9	2.0	µg/L	100		30.9	30-140	17.4	25	
n-Octacosane	90.5	2.0	µg/L	100		90.5	40-140	7.45	25	
n-Octadecane	97.6	2.0	µg/L	100		97.6	40-140	7.06	25	
n-Tetracosane	91.7	2.0	µg/L	100		91.7	40-140	7.39	25	
n-Tetradecane	82.8	2.0	µg/L	100		82.8	40-140	7.74	25	
n-Triacontane	93.3	2.0	µg/L	100		93.3	40-140	7.16	25	
Naphthalene-aliphatic fraction	ND	2.0	µg/L	100			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	2.0	µg/L	100			0-5			
Surrogate: Chlorooctadecane (COD)	58.5		µg/L	99.8		58.6	40-140			
Surrogate: o-Terphenyl (OTP)	82.6		µg/L	100		82.6	40-140			
Surrogate: 2-Bromonaphthalene	90.3		µg/L	100		90.3	40-140			
Surrogate: 2-Fluorobiphenyl	102		µg/L	100		102	40-140			

FLAG/QUALIFIER SUMMARY

- * QC result is outside of established limits.
- † Wide recovery limits established for difficult compound.
- ‡ Wide RPD limits established for difficult compound.
- # Data exceeded client recommended or regulatory level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

CERTIFICATIONS

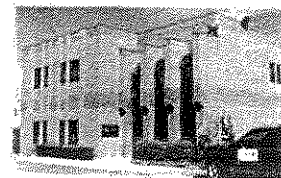
Certified Analyses included in this Report

Analyte	Certifications
MADEP-EPH-04-1.1 in Water	
C9-C18 Aliphatics	CT,NC,WA,ME
C19-C36 Aliphatics	CT,NC,WA,ME
Unadjusted C11-C22 Aromatics	CT,NC,WA,ME
C11-C22 Aromatics	CT,NC,WA,ME
Acenaphthene	CT,NC,WA,ME
Acenaphthylene	CT,NC,WA,ME
Anthracene	CT,NC,WA,ME
Benzo(a)anthracene	CT,NC,WA,ME
Benzo(a)pyrene	CT,NC,WA,ME
Benzo(b)fluoranthene	CT,NC,WA,ME
Benzo(g,h,i)perylene	CT,NC,WA,ME
Benzo(k)fluoranthene	CT,NC,WA,ME
Chrysene	CT,NC,WA,ME
Dibenz(a,h)anthracene	CT,NC,WA,ME
Fluoranthene	CT,NC,WA,ME
Fluorene	CT,NC,WA,ME
Indeno(1,2,3-cd)pyrene	CT,NC,WA,ME
2-Methylnaphthalene	CT,NC,WA,ME
Naphthalene	CT,NC,WA,ME
Phenanthrene	CT,NC,WA,ME
Pyrene	CT,NC,WA,ME
SW-846 8270D in Water	
Acenaphthene	ME,NC,NY,CT,NH
Acenaphthylene	ME,NC,NY,CT,NH
Anthracene	ME,NC,NY,CT,NH
Benzo(a)anthracene	ME,NC,NY,CT,NH
Benzo(a)pyrene	ME,NC,NY,CT,NH
Benzo(b)fluoranthene	ME,NC,NY,CT,NH
Benzo(g,h,i)perylene	ME,NC,NY,CT,NH
Benzo(k)fluoranthene	ME,NC,NY,CT,NH
Chrysene	ME,NC,NY,CT,NH
Dibenz(a,h)anthracene	ME,NC,NY,CT,NH
Fluoranthene	ME,NC,NY,CT,NH
Fluorene	ME,NC,NY,CT,NH
Indeno(1,2,3-cd)pyrene	ME,NC,NY,CT,NH
2-Methylnaphthalene	ME,NC
Naphthalene	ME,NC,NY,CT,NH
Phenanthrene	ME,NC,NY,CT,NH
Pyrene	ME,NC,NY,CT,NH

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2014
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Public Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2013
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2013
RI	Rhode Island Department of Health	LAO00112	12/30/2012
NC	North Carolina Div. of Water Quality	652	12/31/2012
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2013
ME	State of Maine	2011028	06/9/2013
VA	Commonwealth of Virginia	1381	12/14/2012

39 Spruce St.
 East Longmeadow, MA. 01028
 P: 413-525-2332
 F: 413-525-6405
 www.contestlabs.com



Sample Receipt Checklist

CLIENT NAME: Premier + Weston + Sampson RECEIVED BY: SD DATE: 5/3/12

- 1) Was the chain(s) of custody relinquished and signed? Yes No No CoC Included
- 2) Does the chain agree with the samples? Yes No
 If not, explain:
- 3) Are all the samples in good condition? Yes No
 If not, explain:

4) How were the samples received:
 On Ice Direct from Sampling Ambient In Cooler(s)

Were the samples received in Temperature Compliance of (2-6°C)? Yes No N/A
 Temperature °C by Temp blank _____ Temperature °C by Temp gun 4.8

5) Are there Dissolved samples for the lab to filter? Yes No
 Who was notified _____ Date _____ Time _____

6) Are there any RUSH or SHORT HOLDING TIME samples? Yes No
 Who was notified _____ Date _____ Time _____

7) Location where samples are stored: 19
 Permission to subcontract samples? Yes No
 (Walk-in clients only) if not already approved
 Client Signature: _____

8) Do all samples have the proper Acid pH: Yes No N/A

9) Do all samples have the proper Base pH: Yes No N/A

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber	2	8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	
250 mL Amber (8oz amber)		2 oz amber/clear jar	
1 Liter Plastic		Air Cassette	
500 mL Plastic		Hg/Hopcalite Tube	
250 mL plastic		Plastic Bag / Ziploc	
40 mL Vial - type listed below		PM 2.5 / PM 10	
Colisure / bacteria bottle		PUF Cartridge	
Dissolved Oxygen bottle		SOC Kit	
Encore		TO-17 Tubes	
Flashpoint bottle		Non-ConTest Container	
Perchlorate Kit		Other glass jar	
Other		Other	

Laboratory Comments:

40 mL vials: # HCl _____ # Methanol _____
 # Bisulfate _____ # DI Water _____
 # Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 12E1143
Project Location: New Bedford, MA	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]
 12E1143-01 thru 12E1143-02

Matrices: Water

CAM Protocol (check all that below)

8260 VOC CAM II A ()	7470/7471 Hg CAM III B ()	MassDEP VPH CAM IV A ()	8081 Pesticides CAM V B ()	7196 Hex Cr CAM VI B ()	MassDEP APH CAM IX A ()
8270 SVOC CAM II B (X)	7010 Metals CAM III C ()	MassDEP EPH CAM IV A (X)	8151 Herbicides CAM V C ()	8330 Explosives CAM VIII A ()	TO-15 VOC CAM IX B ()
6010 Metals CAM III A ()	6020 Metals CAM III D ()	8082 PCB CAM V A ()	9014 Total Cyanide/PAC CAM VI A ()	6860 Perchlorate CAM VIII B ()	

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?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
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).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input type="checkbox"/> Yes <input type="checkbox"/> No ¹
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹

A response to questions G, H and I below 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)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
----------	---	--

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.

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

¹ All Negative responses must be addressed in an attached Environmental Laboratory case narrative.

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

Signature: _____ 	Position: Laboratory Director
Printed Name: Michael A. Erickson	Date: 06/07/12

E205637 of NA

CHAIN OF CUSTODY RECORD

Phone: 413-525-2332
 Fax: 413-525-6405
 Email: info@contestlabs.com
 www.contestlabs.com



39 Spruce Street
 East Longmeadow, MA 01028

Page _____ of NA

Company Name: WESTON & SAMPSON Telephone: 1-800-SAMPSON

Address: 100 FOREBRO BLD. Project # _____

FOREBROUGH, MA Client PO# _____

Attention: SEAN HEALEY (881-710-4394) DATA DELIVERY (check all that apply)

Project Location: UNION ST. NEW BEDFORD FAX EMAIL WEBSITE

Sampled By: PADRAIC KAVANAGH Email: HEALEY.S@WS&S.COM

Project Proposal Provided? (for billing purposes) yes no proposal date

Format: PDF EXCEL OGIS OTHER

Collection "Enhanced Data Package"

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	Composite	Grab	Matrix Code	Cont. Code
	WS-12	05/25	10:45				
	WS-23	05/25	15:30				
	DUP-1	05/25					
	TRIP BLANK						

Comments: PLEASE CALL ABOUT TAT

Reinquired by: (signature) John Kavanagh Date/Time: 5/25/12/15:08

Received by: (signature) P.A. Healey Date/Time: 5/25/12/15:08

Reinquired by: (signature) P.A. Healey Date/Time: 5/25/12/17:47

Received by: (signature) [Signature] Date/Time: 5/25/12/17:47

Turnaround 7 Day

7-Day 10-Day Other

RUSH 24-Hr 48-Hr 72-Hr 14-Day

Require lab approval

Detection Limit Requirements

Massachusetts: _____

Connecticut: _____

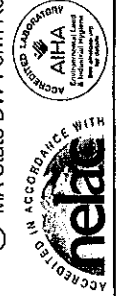
Other: _____

Is your project MCP or RCP?

MCP Analytical Certification Form Required

RCP Analysis Certification Form Required

MA State DW Form Required PWSID # _____



NELAC & AIHA Certified
 WBE/DBE Certified

# of Containers	** Preservation	*** Container Code	ANALYSIS REQUESTED
<u>2</u>			
<u>4</u>			
<u>A</u>			
			<u>VOCs</u>
			<u>FPt w/ PATHS</u>
			<u>VPt w/ VOCs</u>
			<u>8260</u>

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:

H - High; M - Medium; L - Low; C - Clean; U - Unknown

SCANNED