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Supplemental Phase II Comprehensive Site Assessment Report

Former Dartmouth Finishing Site
45 Cove Street
New Bedford, Massachusetts
RTN 4-23616

Prepared for:

City of New Bedford
Department of Environmental Stewardship

January 2013

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EXECUTIVE SUMMARY

Weston & Sampson was contracted by the City of New Bedford Department of Environmental Stewardship to perform a Supplemental Phase II Site Investigation at the vacant parcel of land located at 45 Cove Street in New Bedford, Massachusetts (the Site). The Site is also known as the former Dartmouth Finishing facility. The supplemental investigation was funded by MassDevelopment to further evaluate the Recognized Environmental Conditions (RECs) identified in a Weston & Sampson Phase I Environmental Site Assessment (ESA) completed for the Site in November 2010 and contaminant conditions summarized in an April 2011 Weston & Sampson Phase II Comprehensive Site Assessment (CSA). This Supplemental Phase II Site Investigation is associated with the City of New Bedford's Brownfields Assessment program.

The initial Phase II CSA investigation identified contaminant conditions in soil and groundwater beneath the concrete slab that appear to be inconsistent with previous field investigations and a Response Action Outcome (RAO) submittal filed with the Massachusetts Department of Environmental Protection (MassDEP) in 2004. Based on the previous Phase I ESA and Phase II CSA results, Weston & Sampson developed a Supplemental Phase II Scope of Work (SOW) designed to assist with the evaluation of risk characterization and remedial response action (RAA) alternatives that focus on eliminating potential exposure to contaminated soil and groundwater under current and future use conditions.

The Supplemental Phase II CSA identified the following:

- Soil contaminants identified at the Site above the Massachusetts Contingency Plan (MCP) Method 1 S-1/GW-2 and S-1/GW-3 cleanup standards include extractable petroleum hydrocarbon and volatile petroleum hydrocarbon fractions, total petroleum hydrocarbons, semivolatile organic compounds, and lead.
- Weston & Sampson identified two discrete locations (TP-19 and TP-9) as having petroleum impacts consistent with fuel oil releases. The analytical results and spatial distribution of the locations suggests two separate releases.
- Dissolved silver was not detected at locations MW-4, WS-8, WS-4 and WS-1. Due to inconsistencies in groundwater analytical results, Weston & Sampson suggests that supplemental groundwater sampling for dissolved silver is warranted at well locations MW-4, WS-8, WS-4 and WS-1.
- The results of the Method 1 preliminary risk characterization indicate that a condition of No Significant Risk (NSR) to human health does <u>not</u> exist at the Site due to potential exposure to contaminants in soil, specifically C_9-C_{10} Aromatics.

Based on the findings of the supplemental Phase II CSA, Weston & Sampson recommends an additional round of groundwater sampling for dissolved silver, which will provide adequate data to confirm or reject the presence of dissolved silver in groundwater at the four locations mentioned above. Based on historical and current soil and groundwater investigations conducted at the Site, targeted soil excavation below the slab and capping appears to be the appropriate cleanup strategy for this Site prior to redevelopment to eliminate exposure pathways. This work can be conducted in conjunction with Site development activities. In addition, an Activity and Use Limitation (AUL) would be required to prohibit direct contact with soil under any scenario unless remedial response actions are successful in achieving a condition of NSR for all exposure pathways.

1.0 INTRODUCTION

1.1 General

Weston & Sampson was contracted by the City of New Bedford Department of Environmental Stewardship to perform a Supplemental Phase II Investigation at the vacant parcel of land located at 45 Cove Street in New Bedford, Massachusetts. The Site is also known as the former Dartmouth Finishing facility. The City of New Bedford (the City) has identified the Site as a strategic location for remediation and redevelopment. The assessment and remediation of environmental contamination left on the Site will expedite the City's plan to reuse this former industrial property, and contribute to the economic revitalization of the surrounding area. This Supplemental Phase II Investigation is associated with the City of New Bedford's Brownfields Assessment program, and the project was funded by MassDevelopment to evaluate the environmental conditions of the Site prior to redevelopment. This report is subject to the Limitations described in Section 9.0.

1.2 Site Location and Description

The Site consists of one vacant parcel totaling approximately 4.304 acres located at 45 Cove Street in New Bedford, Massachusetts. A Locus Map is included as Figure 1, and a Supplemental Phase II Site Investigation Plan showing test pit and monitoring well locations is included as Figure 2. Figure 3 – Area Receptors Map depicts the location of receptors proximate to the Site.

The approximate geographic coordinates for the Site are:

UTM:	4,608,923.5	m North
	340,418	m East
Latitude/Longitude:	41° 37' 4.8"	North
	70° 54' 55.4"	West

The map, lot, address, and square footage of the Site parcel is identified on the City of New Bedford's mapping website as follows:

Parcel ID	Address	Lot Size
Map 21 Lot 45	45 Cove Street	187,482 ft^2

The Site is situated between Cove Street to the south and Gifford Street to the north, and is located within the Cove Street Mill Overlay District (COSMOD) of the City of New Bedford, Massachusetts. The COSMOD provides adequate minimum standards and procedures for the construction of new housing facilities and rehabilitation of existing structures to promote economic and cultural development in this area.

The Site was formerly occupied by Dartmouth Finishing, a fabric finishing and dyeing business, which abandoned the property in 1994. The property was previously improved with a single-story brick building that occupied most of the Site. The building demolition was completed in 2002, and the Site has remained vacant with small piles of demolition debris located throughout the property. The City acquired the Site as a tax foreclosure in June 2007.

The property is currently vacant and primarily consists of areas of overgrown vegetation and standing water atop the former building basement floor slab, which is approximately five to six feet below street grade. The foundation walls of a former boiler room were noted at the central western portion of the property, and piles of demolition debris are scattered throughout the property.

The Site is abutted to the east and west by one- and two-story brick mill buildings currently used by industrial and commercial businesses. Cove Street abuts the property to the south. Residential and commercial properties are located across Cove Street. A vacant parcel, which was the location of a former mill building, abuts the Site to the north. A large rock and construction debris pile is currently located on this adjacent property. Gifford Street is located further to the north. Cleared property across Gifford Street is currently used as a boat storage yard and for parking to access a public boat ramp at the end of Gifford Street to the northeast. Debris piles and the former building footprint are shown in Figure 2 – Supplemental Phase II Site Investigation Plan.

The surrounding area is relatively level in topography and located at an average elevation of less than two feet above mean sea level. The Site is flat and the general slope of the contiguous area is to the east-southeast toward New Bedford Harbor. The Site Locus Map (Figure 1) depicts the Site and surrounding topography as based on the United States Geological Survey (USGS) New Bedford Quadrangle 7.5-minute series topographic map.

1.3 Site Ownership and History

Dartmouth Finishing ceased operations at the Site in 1994, and abandoned the property through bankruptcy. The former Dartmouth Finishing business was part of a Hathaway Mill complex, a manufacturing complex originally constructed as a textile mill. According to an April 1997 Removal Action Administrative Record File and Index prepared for the Environmental Protection Agency (EPA) by Roy F. Weston, Inc., the Site was previously improved with an approximately 120,000 square foot single-story brick building with a full basement, and a strip of grass and scrub brush approximately 20 feet wide was located to the east between the Site and a similar brick mill building.

1.4 Area Receptors

Figure 3 - Area Receptors Map was prepared by Weston & Sampson from Massachusetts Geographic Information System (MassGIS) data in the ArcView software package using ArcMap Version 9.3. According to the MassGIS map, the Site does not overlie a potentially productive aquifer and is not located within a Current or Potential Drinking Water Source Area, Interim Wellhead Protection Area, Sole Source Aquifer, a Zone II wellhead protection area, or the Zone A of a Class A surface water supply as defined by the MCP. There are no wetlands or water bodies located on the Site.

Several protected open spaces are located within a 0.25-mile radius of the Site. No Natural Heritage and Endangered Species Protected (NHESP) Wetlands Habitat for Rare or Endangered Species or other sensitive environmental receptors were identified within 0.25-mile radius of the Site.

1.5 MCP Method 1 Soil and Groundwater Classification

The MCP soil and groundwater classifications presented below were identified in accordance with 310 CMR 40.0933 and 310 CMR 40.0932, respectively, and were used to compare the soil and groundwater analytical results with applicable Method 1 cleanup standards developed by MassDEP for preliminary risk screening purposes.

1.5.1 Soil

Under current use conditions and for risk characterization screening purposes, soil located beneath the slab is classified as Method 1 S-2 and S-3. The contaminants in soil located beneath the concrete slab are considered potentially accessible in some portions of the Site where the slab is broken or fractured, and isolated in other areas of the Site where the slab is competent. The frequency and intensity of exposure to impacted soil beneath the concrete slab for both adults and children is currently low, and the soil classification is S-2 and S-3.

The S-1 cleanup standards were also used for comparison to Site concentrations. The Method 1 S-1 cleanup standards are the most stringent and considered to be protective of human health for residential use, which has the highest exposure potential and the most sensitive receptors (young children, elderly, pregnant females). Consequently, if concentrations are below Method 1 S-1 cleanup standards, it may be concluded that a condition of No Significant Risk exists for unrestricted use, and no further risk characterization or remedial response actions are required.

1.5.2 Groundwater

Groundwater at the Site is classified as GW-2 and GW-3. The GW-1 classification does not apply at the Site because groundwater is not categorized as a current or potential drinking water source. The GW-2 designation pertains to groundwater that may have potential indoor air impacts and is applicable at sites where groundwater is less than 15 feet below grade and within 30 feet of an occupied structure. Both criteria apply to the Site because the average depth to groundwater at the Site is approximately 3.23 feet below grade (Section 4.2) and groundwater is located within 30 feet of the mill building currently occupied on the eastern boundary of the Site.

The GW-3 classification pertains to groundwater that may potentially impact surface water. By definition under the MCP, all groundwater is categorized as GW-3 because it eventually discharges to a surface water body.

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2.0 RELEASE HISTORY AND PREVIOUS RESPONSE ACTIONS

2.1 Regulatory Noncompliance and Removal Action, DEP and EPA, 1994 and 1997

The MassDEP Waste Site/Reportable Releases Look Up website indicates that 45 Cove Street (i.e., Dartmouth Finishing) is identified as a disposal site, and was assigned Release Tracking Number (RTN) 4-12810 by MassDEP on January 21, 1997. Weston & Sampson performed a MassDEP file review for RTN 4-12810 on October 27, 2010 at the Southeast Regional Office located in Lakeville, Massachusetts. A summary of the records reviewed is as follows:

- The regulatory file review performed by Weston & Sampson indicated that a Notice of Noncompliance (NON) was issued by MassDEP to Dartmouth Finishing in 1994 for violations of state hazardous waste, air quality, and industrial wastewater programs.

- MassDEP and the EPA responded to a notification in 1997 by the New Bedford Fire Department that OHM present in corroded drums in the former Site building represented a threat of release. An initial inspection of the Site building by the EPA, MassDEP, and a representative of the Site owner occurred on January 21, 1997. The EPA collected samples from some of the drums to characterize the contents and verify the presence of OHM. A total of 480 drums varying in size from 40 gallons to 85 gallons, one aboveground tank, four vats, and two No. 6 fuel oil underground storage tanks (USTs) were inventoried by the EPA. A removal action included pumping oil from the two USTs, removing sludge from the vats and troughs in the basement, and removing 480 drums of OHM for off-site disposal to abate the identified imminent hazard and stabilize site conditions.

2.2 IRA and Class A-2 RAO Statement, Roberts Consulting, August 2004

An Immediate Response Action (IRA) was completed at the Site in 2004 by Roberts Consulting Inc., (Roberts) and included the removal of two 10,000-gallon USTs and approximately 80 cubic yards of petroleum-impacted soil. A subsurface investigation, including the advancement of six soil borings completed as groundwater monitoring wells, a groundwater elevation survey, and the collection and analysis of soil and groundwater samples, was also completed at the Site by Roberts in 2004. Based on the results of the 2004 subsurface investigation and the completion of a Method 1 Risk Characterization, a Class A-2 Response Action Outcome (RAO) was filed for RTN 4-12810 by Roberts in August 2004. A Class A-2 RAO is a Permanent Solution and means that a level of No Significant Risk exists at the release site. A copy of the 2004 Roberts IRA Completion and RAO Statement is included in Appendix A.

2.3 Weston & Sampson Phase I Environmental Site Assessment, November 2010

Weston & Sampson performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-05 of the Site in November 2010.

This assessment revealed the following recognized environmental conditions (RECs) associated with the Site:

1. The former use of the Site as a textile processing facility is considered a REC.
2. The issuance of a NON by MassDEP to the former Site owner is considered a REC.
3. Potential releases from the basement ASTs, vats, troughs, and floor drains are considered a REC.
4. The presence of historical fill and numerous debris piles is considered a REC.

The conclusions of the Phase I ESA indicated the possibility of the presence of hazardous substances or petroleum products in soil and groundwater at the Site. Weston & Sampson recommended that further assessment be completed under a Phase II program to address the above-referenced RECs.

2.4 Weston & Sampson Phase II Comprehensive Site Assessment, April 2011

Weston & Sampson conducted a Phase II – Comprehensive Site Assessment (CSA) at the former Dartmouth Finishing facility in April 2011. The general objective of the Phase II CSA was to evaluate the Recognized Environmental Conditions (RECs) identified in a Weston & Sampson Phase I Environmental Site Assessment completed for the Site in November 2010.

In order to efficiently complete the Phase II CSA field investigation and sampling program, the Site initially required clearing of the heavy overgrowth and debris. Weston & Sampson utilized a front-end loader and excavator to perform the clearing and also document the extent of a concrete basement slab across the property.

At the conclusion of site clearing activities, Weston & Sampson advanced seventeen (17) test pits and ten (10) soil borings in a grid pattern across the Site to provide a representative evaluation of subsurface conditions. The ten soil borings were each subsequently completed as a groundwater monitoring well. Soil samples were collected for laboratory analyses from the test pits, soil borings, and five soil stockpiles. Some of the stockpiles previously existed and some were generated as a result of the Site clearing operations. Groundwater samples were collected for laboratory analysis at each of the groundwater monitoring wells, and a groundwater elevation survey was performed.

In summary, the Phase II CSA investigation identified contaminant concentrations in soil and groundwater above applicable MassDEP Reportable Concentrations (RCs) in both soil and groundwater at the Site. Specifically, the contaminant concentrations in soil identified beneath the concrete slab at the Site appear to be inconsistent with the previous RAO submittal filed for the Site with the MassDEP in 2004. In addition, the analysis of stockpiled soil staged above the slab identified contaminant concentrations greater than regulatory reportable thresholds. These soils were not previously sampled as part of the prior RAO and are located above the slab, suggesting a different exposure assumption. Also, the investigation identified concentrations of dissolved silver in groundwater above applicable reporting criteria, which is inconsistent with the previous RAO findings. The detection of contaminant concentrations in soil and groundwater above reporting criteria constituted a 120-day notification obligation to MassDEP, in accordance with the MCP at 310 CMR 40.0315.

Based on the findings of the Phase II CSA, Weston & Sampson recommended performing a Supplemental Phase II investigation at the Site to further examine the nature and extent of impacts identified in soil and groundwater and assess the potential level of risk at the Site to human health.

3.0 CONCEPTUAL SITE MODEL

The Conceptual Site Model (CSM) is a three-dimensional evaluation of site conditions that presents contaminant distributions, release mechanisms, exposure pathways and migration routes, and potential receptors. The CSM documents current site conditions and is supported herein by maps and site diagrams that illustrate human and environmental exposure through contaminant release and migration to potential receptors.

To evaluate Site risk and to gather information in support of Site reuse, the Phase II investigations assessed soil and groundwater below the slab as well as the condition of soil piles located above the slab. The slab is intact in some areas and broken in other locations across the Site. The water observed on top of the slab is believed to be perched rainwater but also may be shallow groundwater. The slab is located approximately five to six feet below grade and New Bedford Harbor is located within 100 feet of the northern Site property boundary. Weston & Sampson excavated test pits, advanced soil borings and installed groundwater monitoring wells to investigate soil and groundwater across the Site.

The source of contamination is not attributed to a single release, but rather a result of industrial activities at the Site for over 60 years. Release mechanisms include the deposition of fill material at the Site and petroleum releases from two separate storage tanks to the surface and sub-surface. Contamination at the Site includes petroleum-impacted soil, which is limited spatially to areas proximate to TP-9 and TP-19. Metals contamination is widespread; however, concentrations above the MCP cleanup standards are limited to lead at three locations: TP-5, TP-9, and TP-18W. Chromium, which was detected at all test pit locations during the April/May 2012 sampling event, was speciated during the August 2012 sampling event. All chromium detected during the August 2012 sampling event was trivalent chromium. Analytical results show concentrations of VOCs and SVOCs, including PAHs, below the MCP cleanup standards at most sampling locations.

Concentrations of dissolved silver in groundwater were detected above the MCP GW-3 cleanup standard during the April 2011 sampling event at monitoring wells MW-4, WS-8, WS-4 and WS-1. Weston & Sampson resampled the locations in April 2012, and dissolved silver was not detected. Detections of contaminants below the MCP GW-3 cleanup standards include low levels of metals, VOCs, and SVOCs.

Potentially affected receptors include human trespassers exposed to contaminated soil via ingestion and/or dermal adsorption, and terrestrial biota via ingestion and dermal adsorption.

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4.0 SUPPLEMENTAL PHASE II SUBSURFACE INVESTIGATION

4.1 Field Investigation Approach and Objectives

The project approach designed by Weston & Sampson was to provide additional information regarding the nature and extent of contamination, and to support the analysis of appropriate remedial action alternatives and their associated costs. Weston & Sampson determined the number and location of field explorations based on the previous Phase I and Phase II report findings.

The primary objectives of the Supplemental Phase II field investigation included the following:

- Examine the nature and extent of petroleum, chromium, and lead impacts in soil identified in the area of test pit TP-9. The concentrations reported at this location in the initial Phase II were significantly higher than what was identified in the 2004 RAO.

- Delineate the extent of petroleum impacts in soil in the area of test pit TP-19. Based on field screening results obtained during the Weston & Sampson investigation, this area appears to be impacted from a release of fuel oil. This area was not investigated as part of the previous investigation and 2004 RAO.

- Examine the nature and extent of chromium impacts in soil at the northern portion of the Site (TP-2, TP-8, TP-9 and TP-18). Chromium was detected above the RCS-1 standards during the initial Phase II investigation, which is inconsistent with the previous RAO results.

- Further evaluate dissolved silver in groundwater at monitoring wells MW-4, WS-8, WS-4 and WS-1. The regulatory exceedances of dissolved silver in these locations are inconsistent with previous investigations.

4.2 Test Pit Excavation, Sampling, and Analyses

4.2.1 Test Pit Excavation and Soil Sampling Event April/May 2012

On April 30 and May 7, 2012, Weston & Sampson observed the excavation of sixteen (16) test pits located on the periphery of previous test pit areas, designated as TP-2, TP-8, TP-9, TP-18 and TP-19. Each test pit was excavated to an approximate depth of 3 feet below grade surface (bgs).

Soil samples were collected from each test pit at the zero to three (0-3) foot depth interval bgs. Weston & Sampson recorded soil type, color, field instrumentation readings, evidence of soil contamination, and sampling intervals. Each soil sample was screened for total volatile organic compounds (TVOCs) utilizing a photoionization detector (PID). For quality control purposes a duplicate sample (TP-DUP) was collected from TP-9W and a matrix spike/matrix spike duplicate analysis was performed on TP-9N.

All soil samples were placed directly into new laboratory-prepared sample containers and submitted to Premier Laboratory, Inc. for analyses of volatile petroleum hydrocarbons (VPH), extractable petroleum hydrocarbons (EPH), lead, and speciated chromium via EPA methods or equivalent State-approved methods. Chain-of-custody documentation was maintained throughout the sampling process. Field notes and test pit logs are included in Appendix B.

4.2.2 Test Pit Excavation and Soil Sampling Event August 2012

Due to laboratory analytical issues, which included non-conformances with associated WSC-CAM QA/QC guidelines, Weston & Sampson returned to the Site on August 9 and 10, 2012 to collect additional samples for re-analysis of hexavalent chromium and EPH. The previous test pit areas were located by Weston & Sampson field staff using maps, photographs and field notes, and confirmed by the excavating contractor. The test pit locations for this subsequent event are considered to be the identical to the April/May 2012 test pit locations; therefore, they carry the same nomenclature. Each test pit was excavated to an approximate depth of 3 feet bgs.

Soil samples were collected from each test pit at the zero to three (0-3) foot depth interval bgs. Weston & Sampson recorded soil type, color, field instrumentation readings, evidence of soil contamination, and sampling intervals. For quality control purposes a duplicate sample (DUP-1) was collected from TP-18S.

All soil samples were placed directly into new laboratory-prepared sample containers and submitted to Con-Test Analytical Laboratory, Inc. for analyses of EPH, and speciated chromium via EPA methods or equivalent State-approved methods. Chain-of-custody documentation was maintained throughout the sampling process. Field notes and test pit logs are included in Appendix B.

4.3 Groundwater Sampling and Analyses

On April 16, 2012, Weston & Sampson collected groundwater samples from monitoring wells MW-4, WS-8, WS-4 and WS-1 using low-flow sampling techniques in accordance with EPA's Region I "Low Stress (low flow) Purging and Sampling Procedure for the Collection of Ground Water Samples from Monitoring Wells", EPASOP-GW 001 (Revision 3, January 19, 2010). Groundwater samples were collected using peristaltic pumps and dedicated tubing. For quality control purposes a duplicate sample (DUP-1) was collected at WS-4.

All groundwater samples were field filtered, placed directly into new laboratory-prepared sample containers, and submitted to Premier Laboratory, Inc. for analyses of dissolved silver via EPA methods or equivalent State-approved methods. Chain-of-custody documentation was maintained throughout the sampling process. Field notes and low-flow sampling purge reports are included in Appendix B.

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5.0 SUPPLEMENTAL PHASE II SUBSURFACE INVESTIGATION RESULTS

5.1 Underlying Bedrock and Surficial Geology

5.1.1 *Bedrock Geology*

No bedrock outcroppings were observed by Weston & Sampson during the April 2012 or August 2012 field activities. Information concerning the geology of the Site was obtained from the USGS Map of the Physical Divisions of the United States (1946). The Site is located within the Seaboard Lowland section of the New England physiographic province, which consists of peneplains less than 500 feet above sea level that have been post-maturely eroded and glaciated.

5.1.2 *Surficial Geology*

According to a previous subsurface investigation performed at the Site in 2004 by Roberts, a concrete floor was located at a depth of less than one foot across most of the Site. A thin layer of fill material consisting of sand, gravel and debris (concrete and brick) was located above the concrete. The 2004 Roberts RAO indicated that the floor was underlain by layers of gray fine sand and silt, organic peat, and fine to coarse sands and gravel. Fill material consisting of sand, gravel and debris was located to depths of about four feet in borings MW-4, MW-5 and MW-6 installed in the southern portion of the Site.

During the April 2012 and August 2012 Weston & Sampson subsurface investigations, two geologic units were encountered as follows:

Fill:	Sand, silt, and gravel mixed with concrete, wood, and brick remnants
Native Material:	Brown to gray fine-grained sand and silt

5.2 Hydrogeology

5.2.1 *Groundwater Elevations and Flow Direction*

Well gauging and groundwater elevation data from April 14, 2012 is presented in Table 1. Depth to groundwater in the four wells sampled ranged from 2.62 feet at WS-1 to 4.60 feet at MW-4 with an average depth of 3.47 feet. The groundwater measurements were consistent with the initial Phase II CSA groundwater data, which shows that groundwater flows east toward New Bedford Harbor.

5.2.2 *Hydraulic Gradients*

Average horizontal hydraulic gradient for groundwater at the Site was calculated based on groundwater gauging measurements for SW-MW8 and SW-MW9 obtained November 3, 2011 using the following equation:

$$i = dh/dl$$

Where:

i	=	horizontal hydraulic gradient
dh	=	change in head
dl	=	distance between measurement points

The horizontal hydraulic gradient across the Site was calculated to be approximately 0.004.

5.2.3 *Hydraulic Gradients*

Literature values for similar geologic materials were used to estimate the hydraulic conductivity (K) of the urban fill unit, the primary soil/geologic unit underlying the Site through which groundwater is flowing. Based on K values for silty sand and fine sand presented in Hydrogeology (CW Fetter, 1994), the urban fill unit was estimated to be 10^{-3} centimeters per second (cm/sec) or 2.84 feet/day. The K value was used to calculate groundwater velocity (v) in the urban fill unit using Darcy's Law as follows:

$$v = \frac{K * I_{AVG}}{n}$$

Where:

v	=	groundwater velocity (feet/day)
I_{AVG}	=	horizontal gradient during high groundwater conditions = 0.004
K	=	hydraulic conductivity (feet/day)
n	=	effective porosity (e.g., Freeze and Cherry, 1979) = 0.25 for the urban fill unit.

Site groundwater velocity was estimated to be 0.045 feet/day or 16.58 feet/year through the urban fill layer.

5.3 Groundwater Results

5.3.1 *Groundwater Field-Screening Results*

As part of the low-flow sampling procedure, field measurements of pH, dissolved oxygen, temperature and specific conductance were recorded during well purging. Well purging reports are included in Appendix B. No separate-phase product or sheen was detected in any of the wells during the April 2012 sampling event.

5.3.2 *Groundwater Analytical Results*

The groundwater analytical results for the April 2012 sampling event are included in Table 2, and the laboratory reports are provided in Appendix C. Dissolved silver was not detected in any of the groundwater samples.

5.4 Soil Results

5.4.1 *Soil Field-Screening Results*

The PID readings obtained during the excavation of the test pits in April 2012 are included on the test pit logs in Appendix B. All PID readings were below 10 ppm for the test pits, with the exception of TP-2W, TP-19W, TP-19E, and TP-9E recorded at 35.6, 53.0, 650, and 19.0 ppm, respectively.

5.4.2 *Soil Analytical Results*

The Supplemental Phase II soil analytical results are summarized in Table 3 and the laboratory reports are provided in Appendix C. As shown in Table 3, petroleum hydrocarbons and chromium were detected above laboratory reporting limits (RLs). Concentrations that exceeded the MCP Method 1 S-1 cleanup standards and their respective locations are depicted in Figure 4 - Supplemental Phase II Test Pits – Contaminant Concentrations in Soil.

Results that exceed the MCP Reportable Concentrations for the S-1 reporting category are shaded green in Table 3 and summarized as follows:

- 2-Methylnapthalene in test pit sample TP-19S
- Phenanthrene in test pit samples TP-9S and TP-9W
- Naphthalene in test pit sample TP-19S

Results that exceed the MCP Method 1 S-1/GW-2 or S-1/GW-3 standards are shaded yellow in Table 3 and summarized as follows:

- The VPH fraction, C9-C10 Aromatics in test pit sample TP-19N
- The VPH fraction, C9-C12 Aliphatics in test pit sample TP-19E
- Acenapthene in test pit sample TP-9W
- Benzo(a)anthracene in test pit sample TP-9W
- Benzo(a)pyrene in test pit sample TP-8S
- Benzo(b)flouranthene in test pit samples TP-9S, TP-9W, and TP-19E
- Dibenz(a,h)anthracene in test pit samples TP-9S and TP-9W
- Unadjusted TPH in test pit sample TP-19E
- Unspeciated chromium in test pit samples TP-2N and TP-2W; however, subsequent sampling confirmed that the chromium in these locations is trivalent

Results that exceed the MCP Method 1 S-1/GW-2 or S-1/GW-3 and S-2/GW-2 or S-2/GW-3 standards are shaded orange in Table 3 and summarized as follows:

- The VPH fraction, C9-C10 Aromatics in test pit sample TP-19E
- Benzo(a)pyrene in test pit samples TP-9S, TP-9W, and TP-19E
- Lead in test pit sample TP-18W

5.5 Nature and Extent of Contamination

The Supplemental Phase II Investigation confirmed the presence of petroleum contamination at the two locations identified in the April 2011 Weston & Sampson Phase II CSA. Petroleum impacts in soil identified in the area of TP-9 and TP-19 are above the applicable MCP reportable and cleanup standards. Concentrations are significantly higher than what was previously identified in the 2004 RAO. Weston & Sampson field staff confirmed petroleum impacts in soil in the area of test pit TP-19 as a separate release condition, and were successful in delineating the extent of gross contamination using field screening methods. The approximate delineation of fuel oil is shown as a red, dashed line in Figure 2 – Supplemental Phase II Site Investigation Plan. This area was not investigated as part of the previous investigation and 2004 RAO.

Chromium impacted soil was identified on the northern portion of the Site above the MCP Method 1 S-1 cleanup standards (TP-2) during the initial sampling event in April and May 2012. Due to a holding time non-conformance, Weston & Sampson was unable to obtain speciation data for the chromium detected. Analytical results from the subsequent sampling event in August 2012 identified all chromium as trivalent. In addition, reducing conditions in Site soils support Weston & Sampson's opinion that chromium impacts on Site are trivalent only.

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6.0 REPRESENTATIVENESS EVALUATION AND DATA USABILITY ASSESSMENT

The Representativeness Evaluation and Data Usability Assessment (REDUA) presented in this section were prepared in general accordance with MassDEP Policy WSC-07-350, dated September 2007. The REDUA for the samples collected and the analyses done as part of this Supplemental Phase II is presented below.

6.1 Representativeness Evaluation

The purpose of the Representativeness Evaluation is to demonstrate the following: the spatial and temporal data sets used to support the Supplemental Phase II are adequate considering the Site's historical use, hydrogeological and physical characteristics, and field observations; the data set in total sufficiently characterizes conditions at the Site and supports a coherent Conceptual Site Model; the cumulative data to characterize the nature and extent of contamination at the Site, the risk to health, safety, public welfare and the environment, and the elimination/control of OHM sources is adequate; and, the use of the data to support this investigation is justified considering any inconsistent and incomplete information, and potential sources of uncertainty. Sections 6.1.1 through 6.1.8 below describe the elements that were evaluated in the Representativeness Evaluation in support of this Supplemental Phase II Site Investigation and Risk Assessment.

6.1.1 Conceptual Site Model

The source of contamination is not attributed to a single release, but rather a result of industrial activities at the Site for over 60 years. Release mechanisms include the deposition of fill material at the Site and petroleum releases from two separate storage tanks to the surface and sub-surface. Contamination at the Site includes petroleum-impacted soil, which is limited spatially to areas proximate to TP-9 and TP-19. Metals contamination is widespread; however, concentrations above the MCP cleanup standards are limited to lead at three locations: TP-5, TP-9, and TP-18W. Chromium, which was detected at all test pit locations during the April/May 2012 sampling event, was speciated during the August 2012 sampling event. All chromium detected during the August 2012 sampling event was trivalent chromium. Analytical results show concentrations of VOCs and SVOCs, including PAHs, below the MCP cleanup standards at most sampling locations.

Concentrations of dissolved silver in groundwater were detected above the MCP GW-3 Standard during the April 2011 sampling event at monitoring wells MW-4, WS-8, WS-4 and WS-1. Weston & Sampson resampled the locations in April 2012, and dissolved silver was not detected. Detections of contaminants below the GW-3 standard include low levels of metals, VOCs, and SVOCs.

Potentially affected receptors include human trespassers exposed to contaminated soil via ingestion and/or dermal adsorption, and terrestrial biota via ingestion and dermal adsorption.

6.1.2 Use of Field Screening Data

During the course of assessment activities associated with the supplemental field investigation, field data were recorded during sample collection. Field data include values from screening soil sample headspace for volatile compounds with a photoionization detector (PID), as well as recording of visual and olfactory observations. Laboratory data and field screening data were reviewed together with the associated analytical data as part of the data quality assessment. The data sets collected during the course of the investigation are considered appropriate for the data quality objectives of this Supplemental Phase II CSA.

6.1.3 Sampling Rationale

As previously outlined in Section 4.0, the sampling rationale presented in the Supplemental Phase II SOW was to evaluate inconsistencies in contaminant concentrations at the Site including petroleum hydrocarbons, chromium, and lead in soils, and dissolved silver in groundwater. The sampling program was focused on addressing the test pit and groundwater well locations where contaminant concentration inconsistencies were discovered. As discussed in Sections 4.2 and 4.3, soil samples were collected from the periphery of previous test pit locations in order to confirm and delineate contamination. Groundwater samples were collected only at wells for which dissolved silver was detected during the April 2011 Phase II sampling event.

6.1.4 Number, Spatial Distribution, and Handling of Samples

Prior to conducting the 2012 sampling program, existing Site information and data sets collected by Weston & Sampson and others were reviewed to assist in developing the number, spatial distribution and handling (e.g., compositing split samples, etc.) of samples. Weston & Sampson determined the number, spatial distribution, and handling of samples based on a review of historical subsurface data and discussions with the City of New Bedford.

6.1.5 Temporal Distribution of Samples

Adequate characterization should include consecutive seasonal rounds of gauging to provide an understanding of the magnitude of water table fluctuations and their potential effect on groundwater contaminant concentrations. The current and historical data from this and previous site investigations have provided sufficient temporal evaluation to support the findings of this Supplemental Phase II CSA.

6.1.6 Completeness

There were no data gaps identified in the sampling locations and analytical data collected during this Supplemental Phase II CSA. The target completeness for critical samples for data set validity was established as 100% and achieved.

6.1.7 Inconsistency and Uncertainty

No inconsistencies were identified with analytical results, field screening measurements, or field observations. The field screening and visual and olfactory observations were consistent with the analytical results.

Data bias as a result of QA/QC outliers, where applicable, was considered in the data quality review process.

6.1.8 Information Considered Unrepresentative

Based on our usability assessment of the data set, some data were rejected from use in this Supplemental Phase II CSA. Unusable data has been either flagged as such, or omitted entirely from the data presented in Tables 2-4. The sampling plan for the August 2012 field activities was designed to replace or augment the unusable data obtained during the initial April/May field activities; therefore, the data set is suitably complete. No other analytical data collected was considered unrepresentative for purposes of risk characterization. The soil and groundwater sample results from the 2012 field investigation, as they are presented herein, are considered to be representative of current conditions at the Site.

6.2 Data Usability Assessment

The Data Usability Assessment evaluates the validity of the data being used for MCP risk characterization and/or other response actions, focusing on actual quality assurance/quality control (QA/QC) procedures used in the field during sample collection, and laboratory analytical methods. The broad performance standards for the acquisition, analysis and reporting of the analytical and environmental monitoring data used to support MCP response actions are specified in 310 CMR 40.0017 and 40.0191(2)(c). To facilitate the application of these MCP performance standards, MassDEP published a Compendium of Analytical Methods (CAM), a series of recommended protocols for the acquisition, analysis, and reporting of MCP-related analytical data. The minimum criteria and performance standards for the collection and analysis of data to be used in MCP risk assessments, background determinations, and/or site closure are outlined in the current MassDEP publications WSC-CAM-VIIA (revised July 1, 2010) and WSC-10-320 (effective July 1, 2010). Samples collected and analyzed in compliance with CAM have achieved "Presumptive Certainty", which assures that the precision, accuracy, and sensitivity have been adequately determined.

6.2.1 PARCCS Evaluation

Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements; thus, data usability is also evaluated by the following parameters: precision, accuracy, representativeness, comparability, completeness and sensitivity (referred to as PARCCS). Representativeness was discussed in Section 6.1. The remaining PARCCS parameters are controlled by the laboratory through strict QA/QC procedures, and any issues that might affect data usability are identified and described in the case narrative of each laboratory report. Data usability tables summarizing the case narrative for each soil and groundwater laboratory report reviewed are included in Appendix D.

6.2.2 Precision

Precision is a measure of mutual agreement among individual measurements of the same property and is generally expressed as the reproducibility of the analytical result between initial sample and field duplicate as expressed by the relative percent difference (RPD). Precision is a measure of the reproducibility of sampling technique, matrix homogeneity, and analytical method. It should be noted that a number of field duplicate RPDs were outside control limits and likely due to sample matrix inconsistencies and interferences. A review of laboratory control sample/laboratory control sample duplicate (LCS/LCSD) information finds that the data appear to be consistent from sample to sample, and consistent with field observations. Overall the data are considered suitably precise to support this Supplemental Phase II Investigation, and no further action was taken.

6.2.3 Accuracy

Accuracy is the degree of agreement of a measurement with an accepted reference or true value. Accuracy is reported as the percent recovery of known concentrations added to the matrix sample to determine the influence of matrix on the analytical method. Overall the data are considered suitably accurate to support this Supplemental Phase II Investigation, and no further action was taken.

6.2.4 Representativeness

Representativeness expresses the degree to which data accurately and precisely represent a characteristic of the population, parameter variation, or environmental condition. Weston & Sampson designed the sampling protocol to ensure representativeness by incorporating factors such as site history, visual and olfactory observations, physical features, proper sample

collection and preservation procedures, appropriate testing methodology, and field screening data. The samples collected from the Site are considered representative based on the known subsurface conditions.

6.2.5 Completeness

Completeness is a measure of whether enough data has been collected to support an LSP opinion and is expressed as a percent representing the ratio of valid data to expected data. Data may be considered invalid for reasons such as exceeding the holding time, poor calibration of analytical instruments, and poor surrogate or matrix spike recoveries. Based on a review of the case narratives and lab QA/QC samples, the data collected for this Site is complete and sufficient to support an LSP opinion.

6.2.6 Comparability

Comparability refers to the level of confidence with the correlation of data collected during separate events or by different persons, or analyzed by different methods. This may be measured qualitatively based on a review of sampling and testing procedures or quantitatively by comparison of sample data collected at the same location using the same sampling and testing procedures. All sampling and testing procedures were followed utilizing accepted standards for quality assurance and quality control.

6.2.7 Sensitivity

Sensitivity is a measure of whether the laboratory method was sufficient to report detected contaminants at concentrations at or below the applicable MCP cleanup criteria. For example, if a contaminant is reported as “not detected”, but the laboratory method detection limit was higher than the MCP cleanup criteria, we would be unable to state unequivocally that the tested medium was free of impact consistent with a level of No Significant Risk. In general, sampling results were adequately sensitive to evaluate whether No Significant Risk exists at the Site. In some instances, a number of reporting limits are higher due to dilution of the samples required at the laboratory in order to quantify constituents in the analysis.

In summary, the results of the PARCCS evaluation indicate that data quality indicators are acceptable, and the soil and groundwater data obtained during the Weston & Sampson investigation is adequate for characterizing Site conditions and risk. Weston & Sampson considers the data to be of sufficient level of sensitivity to support the conclusions in this Supplemental Phase II Investigation and Risk Assessment.

6.3 Data Representativeness Evaluation & Data Usability Assessment Conclusions

Our evaluation of data available for this report and how it was used to support the report conclusions are described in the previous sections. In general, data were used to determine general nature and extent of contamination and assessment of risks. The data herein has been assessed for representativeness and selected QA/QC parameters, and Weston & Sampson concludes that the results are acceptable for incorporation into this Supplemental Phase II Investigation and are suitable for the intended use.

7.0 RISK CHARACTERIZATION

7.1 General

The overview presented as part of this Supplemental Phase II CSA is to report contaminant concentrations that are currently above the applicable MCP Method 1 soil and groundwater cleanup standards. A preliminary Method 1 risk assessment screening was performed to evaluate risk to human health. The screening assessment considered both current and reasonably foreseeable future Site activities and uses.

Soil is categorized as S-1, in accordance with the MCP 310 CMR 40.0933(5). The MCP Method 1 S-1 cleanup standards are the most stringent and considered to be protective of human health for residential use, which has the highest exposure potential and the most sensitive receptors (young children, elderly, pregnant females). Consequently, if concentrations are below Method 1 S-1 cleanup standards, it may be concluded that a condition of No Significant Risk exists for unrestricted use, and no further risk characterization or remedial response actions are required.

Groundwater at the Site is classified as GW-2 and GW-3. The GW-1 classification does not apply at the Site because groundwater is not a current or potential drinking water source. The GW-2 designation pertains to groundwater that may have potential indoor air impacts and is applicable at sites where groundwater is less than 15 feet below grade and within 30 feet of an occupied structure. Both criteria apply to the Site because the average depth to groundwater at the Site is approximately 3.23 feet below grade and groundwater is located within 30 feet of the mill building currently occupied on the eastern boundary of the Site. The GW-3 classification pertains to groundwater that may potentially impact surface water. By definition under the MCP, all groundwater is categorized as GW-3 (310 CMR 40.932) because it eventually discharges to a surface water body. Groundwater was not evaluated in this risk assessment because additional data is necessary to confirm or reject previous data pertaining to dissolved silver in groundwater.

7.2 Contaminants of Concern

Contaminants of Concern (CoCs) identified at the Site during the initial and supplemental Phase II Investigations are summarized in the following table:

Contaminants of Concern – Spatial Distribution			
Media	**Category**	**Analyte**	**Location**
Soil	Metals	Chromium Lead	TP-2, TP-2W, TP-2N, TP-8, TP-9, TP-18 TP-5, TP-9, TP-18W
	VPH	C9-C12 Aliphatics C9-C10 Aromatics	TP-19E TP-19, TP-19N, TP-19E
	SVOCs	Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Dibenz(a,h)anthracene	TP-9W TP-8S, TP-9W, TP-9S, TP-19, TP-19E, WS-15 TP-9S, TP-9W, TP-19E TP-9S, TP-9W
	EPH	C11-C22 Aromatics	TP-9, TP-9W
	TPH	Unadjusted TPH	TP-19E
Groundwater	Metals	Silver	MW-4, WS-1, WS-4, WS-8

7.3 Human Receptor Information

Under existing conditions, the Site is currently vacant land with no improvements or structures. Potential for exposure to impacts at the Site by visitors, trespassers, or construction/utility workers may be associated with ingestion and dermal contact of impacted soils and stockpiled materials, and inhalation of fugitive dust during Site activities.

Based on the results of the human health screening evaluation, several constituents were identified above the applicable cleanup standards for soil and/or groundwater. The constituents and associated standards are outlined in the following table:

Contaminants of Concern - Standards Exceeded		
Media	**Constituent**	**Standard(s) Exceeded**
Soil	**EPH:** C11-C22 Aromatics	S-1/GW-2, S-1/GW-3
	TPH: Unadjusted TPH	S-1/GW-2, S-1/GW-3
	SVOC: Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Dibenz(a,h)anthracene,	S-1/GW-2, S-1/GW-3 S-2/GW-2, S-2/GW-3
	VPH: C9-C12 Aliphatics, C9-C10 Aromatics	S-1/GW-2, S-1/GW-3, S-2/GW-2, S-2/GW-3
	Metals: Chromium, Lead	S-1/GW-2, S-1/GW-3, S-2/GW-2, S-2/GW-3
Groundwater	**Metals:** Silver	GW-3

7.4 Exposure-Point Concentrations (EPCs)

For soil, the exposure point is determined by the horizontal and vertical distribution of contamination and the applicable soil categories. When more than one MCP Method 1 soil category applies to a contiguous volume of contaminated soil, the soil in each category is considered a separate exposure point. Under current use and conditions, all soils at the Site are classified as Category S-1; thus, the sixty-three (63) soil samples presented in Table 4 were used to calculate Exposure Point Concentrations (EPC).

7.4.1 *Identification of Hot Spots*

Consistent with the MCP at 310 CMR 40.0924(2) and the Guidance For Disposal Site Risk Characterization (DEP, 1995a), discrete areas of contamination that meet the MCP definition of a Hot Spot (310 CMR 40.0006) should be evaluated as additional, individual exposure points; therefore, it is important to identify hot spots in soil prior to calculating EPCs for a particular contaminant. According to the guidance, an elevated concentration at a single sample location does not necessarily constitute a hot spot.

A preliminary hot spot evaluation was completed in accordance with the MCP and in the following manner: The maximum detected concentration of each contaminant exceeding either the S-1/GW-2 or S-1/GW-3 cleanup standard was compared to the arithmetic mean of that contaminant concentration in the remainder of the relevant samples (i.e. samples outside of the discrete area of maximum concentration). For samples reported as “non-detect” by the laboratory, the appropriate surrogate concentration was calculated using a factor of 0.50 of the sample quantitation limit/laboratory method detection limit. The purpose of this screening step is to identify discrete locations at which the contaminant concentration represents a separate EPC. If the maximum concentration for the contaminant under examination is less than 100 times the

arithmetic mean of the remainder of relevant sample concentrations, it can be assumed that no Hot Spot exists for that constituent.

If the maximum concentration does exceed 100 times the arithmetic mean of the remaining samples, the data is examined to determine if a discrete area around the sample containing the maximum concentration might represent a potential hot spot. In some cases, additional samples with elevated concentrations of a particular contaminant were removed from the calculation of the mean of remaining sample concentrations because of their close proximity to the sample under examination. Maximum concentrations that are more than 100 times the mean concentration than the remainder of relevant sample concentrations are identified as Hot Spots unless the maximum concentration is less than the applicable soil standard.

The Hot Spot screening step identified one (1) discrete area for which the maximum contaminant concentration was greater than 100 times the arithmetic mean of the remainder of relevant concentrations. The following table depicts the maximum concentration of C_9-C_{10} Aromatics compared with the arithmetic mean concentration for the remainder of the relevant site sample concentrations:

Hot Spot Analysis			
Analyte	**Maximum Concentration (mg/kg)**	**Mean of the Remainder of Relevant Site Samples (mg/kg)**	**Enrichment Factor of the Maximum Concentration**
C_9-C_{10} Aromatics	1,600	6.59	242.67

This assessment conservatively assumes the S-1/GW-2 and S-1/GW-3 standards are applicable. As outlined in the MCP, in no case would a concentration below an applicable standard be considered a Hot Spot. The Hot Spot evaluation discussed above was applied to all contaminants for which a concentration above the applicable standard(s) was detected at, at least, one location. In total one (1) Hot Spot, the discrete area surrounding TP-19E, was identified for the Site.

7.4.2 *EPC Calculation and Results*

As stated in 310 CMR 40.0926, the arithmetic mean concentration of an identified contaminant is used to determine a disposal Site's overall EPC. For samples reported as "non-detect" by the laboratory, the appropriate surrogate concentration was calculated using a factor of 0.50 of the sample quantitation limit/laboratory method detection limit. In evaluating the risk to human health at a Site, the MCP also requires that calculations to determine the percent of samples exhibiting a concentration above the applicable standard(s) be performed. In addition to an overall EPC under the applicable MCP cleanup standard, for a contaminant to be considered not to pose a risk to human health, it must not be present above the applicable cleanup standard in greater than 25 percent of Site samples.

Of the ten constituents identified as COCs, only C_9-C_{10} Aromatics exhibited an EPC above the applicable S-1 Standard, and only at the Hot Spot location around TP-19. Overall EPCs for the remaining nine constituents and C_9-C_{10} Aromatics (without the inclusion of the TP-19E and immediately proximate data) were well below the applicable MCP cleanup standard. The values used in the calculations described in Sections 7.4.1 and 7.4.2, and the associated results are shown in Table 4 – Summary of Method 1 Risk Assessment Data.

7.5 Risk Assessment Summary

The results of the Method 1 Risk Assessment indicate that a condition of NSR to human health does not exist at the Site due to potential exposure to contaminants in soil, specifically C_9-C_{10} Aromatics. Based on historical and current soil and groundwater investigations conducted at the Site, soil excavation and capping is the appropriate cleanup strategy for this Site prior to redevelopment to eliminate exposure pathways. In addition, an AUL would be required to prohibit direct contact with soil under any scenario unless remedial response actions are successful in achieving a condition of NSR for all exposure pathways. Capping, paving, and improving the Site with a permanent structure would reduce the frequency and intensity with which human receptors could come in contact with the impacted soil, and significantly reduce the level of risk to human health.

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8.0 CONCLUSIONS

The Supplemental Phase II CSA consisted of the excavation of sixteen (16) test pits, and soil and groundwater sampling at the Site. The sampling locations were based on a need to further characterize the Site for redevelopment and risk assessment, and to reconcile inconsistencies in previous investigations. Based on the results of the Supplemental Phase II CSA investigation, Weston & Sampson concludes the following:

- Soil contaminants identified at the Site above the MCP Method 1 S-1/GW-2 and S-1/GW-3 cleanup standards include extractable petroleum hydrocarbon and volatile petroleum hydrocarbon fractions, total petroleum hydrocarbons, semivolatile organic compounds, and lead.
- Weston & Sampson identified two discrete locations (TP-19 and TP-9) as having petroleum impacts consistent with a fuel oil release. The analytical results and spatial distribution of the locations are consistent with two separate releases. Weston & Sampson field staff delineated gross contamination around TP-19 by visual/olfactory evidence and field instrument screening. Laboratory analytical results confirmed the field delineation.
- Dissolved silver was not detected at locations MW-4, WS-8, WS-4 and WS-1. Due to inconsistencies in groundwater analytical results, Weston & Sampson opines that supplemental groundwater sampling for dissolved silver is warranted at well locations MW-4, WS-8, WS-4 and WS-1. An additional round of analytical results will provide adequate data to confirm or reject the presence of dissolved silver in groundwater at these four locations.
- The results of the Method 1 preliminary risk characterization indicate that a condition of No Significant Risk (NSR) to human health does not exist at the Site due to potential exposure to contaminants in soil, specifically C_9-C_{10} Aromatics. Based on historical and current soil and groundwater investigations conducted at the Site, targeted soil excavation below the existing slab and capping appears to be the appropriate cleanup strategy for this Site prior to redevelopment to eliminate exposure pathways. This work can be conducted in conjunction with Site development activities. In addition, an Activity and Use Limitation (AUL) would be required to prohibit direct contact with soil under any scenario unless remedial response actions are successful in achieving a condition of NSR for all exposure pathways.

Site closure can be achieved at the Site if the source of impacts has been eliminated or controlled <u>and</u> a condition of NSR exists for current and future site use conditions. The results of the Phase II investigation indicate that OHM concentrations in soil exceed the MCP Method 1 cleanup standards. The source of contamination is attributed to the former industrial operations.

We are currently assuming that the plan is to backfill the entire Site with clean fill material and that the majority of the Site will have at least a 3 foot cover of clean fill material. Processing of the on-Site soil and debris piles above the slab could be performed under a RAM Plan. It is possible that some of the concrete and asphalt debris could be crushed and reused on-Site as fill under a crushing notice. However, the City should confirm with MassDEP that a BUD will not be required. Under a RAM Plan, the soil stockpiles would be processed on-Site to remove debris and then fully characterized for disposal or potential reuse on-Site. A geotechnical engineer would need to approve any materials reused as fill on-Site.

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9.0 LIMITATIONS

This report was prepared for the use of 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 Site or neighboring properties, which could directly impact the Site 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 Site 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 accordance with generally accepted engineering and geological practices. No other warranty, express or implied, is made.

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10.0 REFERENCES

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Tables

Weston&Sampson

Table 1
Weston & Sampson
Groundwater Elevations
16-Apr-12
45 Cove Street
New Bedford, MA

Location/ Monitoring Well	Well Diameter (inches)	Well Depth (feet)	Elevation of Measuring Point - Top of PVC Well Casing (feet)	Depth to Water (feet)	Water Elevation (feet)
WS-1	2	11.70	96.47	2.62	93.85
WS-4	2	12.81	97.30	3.22	94.08
WS-8	2	12.68	96.93	3.42	93.51
MW-4	2	13.15	98.69	4.60	94.09

Notes:

Depth to groundwater measured in monitoring wells from top of PVC riser pipes

Table 2
Weston & Sampson
Summary of Groundwater Analytical Results
Cove Street
New Bedford, MA
April 16, 2012

Parameter	Units	Method 1 GW-1 Standard (1)	Method 1 GW-2 Standard (1)	Method 1 GW-3 Standard (1)	Monitoring Wells				
					WS-4	WS-4 (DUP-1)	MW-4	WS-1	WS-8
Dissolved Metals									
Silver	mg/L	100	NS	0.007	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020

QC by EN

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Abbreviations:
mg/L = milligrams per liter
NS = no standard

Notes:

Table 3a
Weston & Sampson
Summary of Soil Analytical Results
45 Cove Street
New Bedford, MA
April, May, August 2012

Parameters	Units	MassDEP Reportable Concentrations[5]	Method 1 Soil Standards[1]				Sampling Location, Depth, and Date																
		RC S-1	S-1/GW2	S-1/GW3	S-2/GW2	S-2/GW3	TP-19N 0-3 ft 5/7/12	TP-19N 0-3 ft 8/9/12	TP-19S 0-3 ft 5/7/12	TP-19S 0-3 ft 8/10/12	TP-19E 0-3 ft 4/30/12	TP-19E 0-3 ft 8/9/12	TP-19W 0-3 ft 5/7/12	TP-19W 0-3 ft 8/10/12	TP-2N 0-3 ft 5/7/12	TP-2N 0-3 ft 8/10/12	TP-2W 0-3 ft 5/7/12	TP-2W 0-3 ft 8/10/12	TP-18W 0-3 ft 5/7/12	TP-18W 0-3 ft 8/10/12	TP-18S 0-3 ft 5/7/12	TP-18S 0-3 ft 8/10/12	DUP-1 0-3 ft 8/10/12
TPH																							
UNADJUSTED TPH	mg/kg	1000	1000	1000	3000	3000	**150**	NA	**125**	NA	**2700 ***	NA	**240 ***	NA	**290 ***	NA	**800 ***	NA	**380 ***	NA	**220**	NA	NA
EPH																							
C9-C18 ALIPHATICS	mg/kg	1000	1000	1000	3000	3000	NA	**19**	NA	**120**	NA	**60**	NA	<20	NA	<14	NA	<13	NA	<13	NA	<14	<13
C19-C36 ALIPHATICS	mg/kg	3000	3000	3000	5000	5000	NA	**36**	NA	**350**	NA	**140**	NA	<20	NA	**41**	NA	<13	NA	**24**	NA	<14	**13**
Unadjusted n-C11 to n-C22 AROMATICS	mg/kg	NS	NS	NS	NS	NS	NA	**67**	NA	**330**	NA	**260**	NA	<20	NA	**69**	NA	**29**	NA	**39**	NA	<14	**17**
C11-C22 AROMATICS	mg/kg	1000	1000	1000	3000	3000	NA	**49**	NA	**300**	NA	**180**	NA	<20	NA	**55**	NA	**23**	NA	**35**	NA	<14	**16**
ACENAPHTHENE	mg/kg	4	1000	1000	3000	3000	NA	**0.26**	NA	**1.3**	NA	**0.70**	NA	<0.20	NA	<0.14	NA	**0.13**	NA	<0.13	NA	<0.14	<0.13
ACENAPHTHYLENE	mg/kg	1	600	10	600	10	NA	<0.12	NA	**0.85**	NA	<0.38	NA	<0.20	NA	<0.14	NA	<0.13	NA	<0.13	NA	<0.14	<0.13
ANTHRACENE	mg/kg	1000	1000	1000	3000	3000	NA	**0.46**	NA	<0.80	NA	**1.5**	NA	<0.20	NA	**0.37**	NA	<0.13	NA	<0.13	NA	<0.14	<0.13
BENZO(A)ANTHRACENE	mg/kg	7	7	7	40	40	NA	**1.5**	NA	**2.2**	NA	**6.8**	NA	0.20	NA	**1.0**	NA	**0.62**	NA	**0.45**	NA	<0.14	**0.35**
BENZO(A)PYRENE	mg/kg	2	2	2	4	4	NA	**1.2**	NA	**1.8**	NA	**5.5**	NA	<0.20	NA	**0.91**	NA	**0.43**	NA	**0.42**	NA	<0.14	<0.13
BENZO(B)FLUORANTHENE	mg/kg	7	7	7	40	40	NA	**1.7**	NA	**3.0**	NA	**8.0**	NA	<0.20	NA	**1.3**	NA	**0.51**	NA	**0.53**	NA	<0.14	<0.13
BENZO(G,H,I)PERYLENE	mg/kg	1000	1000	1000	3000	3000	NA	**0.70**	NA	<0.80	NA	**3.7**	NA	<0.20	NA	**0.53**	NA	**0.35**	NA	**0.60**	NA	<0.14	<0.13
BENZO(K)FLUORANTHENE	mg/kg	70	70	70	400	400	NA	**0.57**	NA	**1.6**	NA	**2.8**	NA	<0.20	NA	**0.46**	NA	**0.15**	NA	**0.26**	NA	<0.14	<0.13
CHRYSENE	mg/kg	70	70	70	400	400	NA	**1.6**	NA	**1.9**	NA	**7.1**	NA	**0.22**	NA	**1.2**	NA	**0.55**	NA	**0.33**	NA	<0.14	**0.16**
DIBENZ(A,H)ANTHRACENE	mg/kg	0.7	0.7	0.7	4	4	NA	**0.27**	NA	<0.80 [6]	NA	**1.2**	NA	<0.20	NA	**0.22**	NA	<0.13	NA	<0.13	NA	<0.14	<0.13
FLUORANTHENE	mg/kg	1000	1000	1000	3000	3000	NA	**2.9**	NA	**4.3**	NA	**12**	NA	**0.27**	NA	**2.5**	NA	**0.82**	NA	**0.71**	NA	<0.14	<0.13
FLUORENE	mg/kg	1000	1000	1000	3000	3000	NA	**0.35**	NA	**0.86**	NA	**0.78**	NA	<0.20	NA	**0.21**	NA	<0.13	NA	<0.13	NA	<0.14	<0.13
INDENO(1,2,3-CD)PYRENE	mg/kg	7	7	7	40	40	NA	**0.84**	NA	<0.80	NA	**3.9**	NA	<0.20	NA	**0.65**	NA	**0.27**	NA	<0.13	NA	<0.14	<0.13
2-METHYLNAPHTHALENE	mg/kg	0.7	80	300	80	500	NA	**<0.12**	NA	**11**	NA	<0.38	NA	<0.20	NA	<0.14	NA	<0.13	NA	<0.13	NA	<0.14	<0.13
NAPHTHALENE	mg/kg	4	40	500	40	1000	NA	**0.19**	NA	**0.86**	NA	<0.38	NA	<0.20	NA	<0.14	NA	<0.13	NA	<0.13	NA	<0.14	<0.13
PHENANTHRENE	mg/kg	10	500	500	1000	1000	NA	**2.5**	NA	**2.5**	NA	**8.4**	NA	**0.20**	NA	**1.7**	NA	**0.82**	NA	**0.19**	NA	<0.14	<0.13
PYRENE	mg/kg	1000	1000	1000	3000	3000	NA	**2.7**	NA	**4.3**	NA	**12**	NA	**0.27**	NA	**2.3**	NA	**0.93**	NA	**0.80**	NA	<0.14	<0.13
VPH																							
C5-C8 ALIPHATICS	mg/kg	100	100	100	500	500	<7.8	NA	<4.3	NA	<83	NA	<4.4	NA	<13	NA	<16	NA	<31	NA	<21	NA	NA
C9-C12 ALIPHATICS	mg/kg	1000	1000	1000	3000	3000	**20**	NA	**14**	NA	**1,800**	NA	**11**	NA	<13	NA	<16	NA	<31	NA	<21	NA	NA
C9-C10 AROMATICS	mg/kg	100	100	100	500	500	**110**	NA	**13**	NA	**1,600**	NA	**6.6**	NA	<13	NA	<16	NA	<31	NA	<21	NA	NA
MTBE	mg/kg	0.1	100	100	100	500	<0.078	NA	<0.043	NA	<0.830	NA	<0.044	NA	<0.130	NA	<0.160	NA	<0.310	NA	<0.210	NA	NA
BENZENE	mg/kg	2	30	30	200	200	<0.390	NA	<0.210	NA	<4.1	NA	<0.220	NA	<0.670	NA	<0.780	NA	<1.5	NA	<1.0	NA	NA
TOLUENE	mg/kg	30	500	500	1000	1000	<0.390	NA	<0.210	NA	<4.1	NA	<0.220	NA	<0.670	NA	<0.780	NA	<1.5	NA	<1.0	NA	NA
ETHYLBENZENE	mg/kg	40	500	500	1000	1000	<0.390	NA	<0.210	NA	<4.1	NA	<0.220	NA	<0.670	NA	<0.780	NA	<1.5	NA	<1.0	NA	NA
M,P- XYLENES	mg/kg	300 [4]	300 [4]	500 [4]	300 [4]	1000 [4]	<0.390	NA	<0.210	NA	<4.1	NA	<0.220	NA	<0.670	NA	<0.780	NA	<1.5	NA	<1.0	NA	NA
O-XYLENE	mg/kg						<0.390	NA	<0.210	NA	<4.1	NA	<0.220	NA	<0.670	NA	<0.780	NA	<1.5	NA	<1.0	NA	NA
NAPHTHALENE	mg/kg	4	40	500	40	1000	**0.400**	NA	<0.210	NA	**28**	NA	<0.220	NA	<0.670	NA	<0.780	NA	<1.5	NA	<1.0	NA	NA
Inorganics																							
TOTAL CHROMIUM[2]	mg/kg	30	30	30	200	200	**8.2**	DNA	**9.3**	DNA	**7.6**	DNA	**8.6**	DNA	**94.0**	DNA	**39.0**	DNA	**12.0**	DNA	**12.0**	DNA	DNA
TRIVALENT CHROMIUM	mg/kg	1000	1000	1000	3000	3000	NA[3]	**11**	NA[3]	**46**	NA[3]	**48**	NA[3]	**12**	NA[3]	**30**	NA[3]	**9.0**	NA[3]	**130**	NA[3]	**6.4**	**6.2**
HEXAVALENT CHROMIUM	mg/kg	30	30	30	200	200	<1.3[3]	<0.39	<1.1[3]	<0.52	<1.5[3]	<0.61	<1.1[3]	<7.8	<1.6[3]	<1.1	<1.8[3]	<0.40	<2.2[3]	<1.0	<1.6[3]	<1.1	<0.41
LEAD	mg/kg	300	300	300	300	300	**21**	NA	**20**	NA	**160**	NA	**51**	NA	**200**	NA	**200**	NA	**730**	NA	**51**	NA	NA
General Chemistry																							
pH	pH units	NS	NS	NS	NS	NS	**7.4**	**7.8**	**7.8**	**7.8**	**8.4**	**7.8**	**8.3**	**7.6**	**7.9**	**7.4**	**8.2**	**7.1**	**8.0**	**7.2**	**7.9**	**7.4**	**7.3**
ORP	mV	NS	NS	NS	NS	NS	**180**	**86**	**220**	**83**	**170**	**100**	**170**	**98**	**220**	**78**	**200**	**66**	**210**	**82**	**220**	**86**	**83**
PERCENT SOLIDS	% weight	NS	NS	NS	NS	NS	NA	**80.1**	NA	**61.2**	NA	**52.1**	NA	**50.3**	NA	**68.8**	NA	**77.2**	NA	**75.1**	NA	**72.1**	**77.0**

QA/QC by LEM 6/7/12; JRS 8/22/12

Abbreviations:
EPH = Extractable Petroleum Hydrocarbons
TPH = Total Petroleum Hydrocarbons
VPH = Volatile Petroleum Hydrocarbons
mg/kg = milligrams per kilogram
mV = millivolts
NS = No Standard
NA = Not Analyzed
DNA - Does Not Apply
ORP = Oxidation/Reduction Potential
RC = Reportable Concentration

Notes:
BOLD Parameter detected above laboratory detection limit
BOLD Parameter exceeds the MassDEP RC S-1 standard
BOLD Parameter exceeds the applicable MCP Method 1 S-1 standard and the RC S-1 standard
BOLD Parameter exceeds the applicable MCP Method 1 S-2 standard and the RC S-1 standard
* = Reported result is an estimated concentration.
< = indicates parameter not detected above laboratory method reporting limit, shown
1 = Standards are from the Massachusetts Contingency Plan (MCP), 310 CMR 40.0000, revised June 26, 2009
2 = Total Chromium standard applies only in the absence of chromium speciation
3 = Laboratory results for hexavalent chromium are considered invalid due to holding time non-conformances; therefore, results are compared to the Total Chromium standard
4 = Standard is for mixed isomers, MassDEP does not publish standards for individual isomers
5 = Standards are from the MassDEP website updated February 2008
6 = Reporting limits exceed the RC S-1 standard
7 = Reporting limits exceed the applicable Method 1 standard and the RC S-1 standard

Table 3b
Weston & Sampson
Summary of Soil Analytical Results
45 Cove Street
New Bedford, MA
April, May, August 2012

Parameters	Units	MassDEP Reportable Concentrations[5]	Method 1 Soil Standards[1]				Sampling Location, Depth, and Date																
		RC S-1	S-1/GW2	S-1/GW3	S-2/GW2	S-2/GW3	TP-8N 0-3 ft 5/7/12	TP-8N 0-3 ft 8/9/12	TP-8S 0-3 ft 5/7/12	TP-8S 0-3 ft 8/9/12	TP-8E 0-3 ft 5/7/12	TP-8E 0-3 ft 8/9/12	TP-8W 0-3 ft 5/7/12	TP-8W 0-3 ft 8/9/12	TP-9N 0-3 ft 4/30/12	TP-9N 0-3 ft 8/9/12	TP-9S 0-3 ft 4/30/12	TP-9S 0-3 ft 8/9/12	TP-9E 0-3 ft 4/30/12	TP-9E 0-3 ft 8/9/12	TP-9W 0-3 ft 4/30/12	TP-Dup 0-3 ft 4/30/12	TP-9W 0-3 ft 8/9/12
TPH																							
UNADJUSTED TPH	mg/kg	1000	1000	1000	3000	3000	**260**	NA	**290 ***	NA	**390 ***	NA	**440 ***	NA	**660 ***	NA	**990 ***	NA	**180 ***	NA	**320 ***	**630 ***	NA
EPH																							
C9-C18 ALIPHATICS	mg/kg	1000	1000	1000	3000	3000	NA	<14	NA	**34**	NA	<13	NA	<18	NA	<14	NA	<12	NA	<14	NA	NA	**310**
C19-C36 ALIPHATICS	mg/kg	3000	3000	3000	5000	5000	NA	**20**	NA	**250**	NA	<13	NA	**23**	NA	**58**	NA	**18**	NA	**17**	NA	NA	**1100**
Unadjusted n-C11 to n-C22 AROMATICS	mg/kg	NS	NS	NS	NS	NS	NA	**33**	NA	**190**	NA	<13	NA	**43**	NA	**130**	NA	**240**	NA	**41**	NA	NA	**2200**
C11-C22 AROMATICS	mg/kg	1000	1000	1000	3000	3000	NA	**31**	NA	**160**	NA	<13	NA	**43**	NA	**100**	NA	**140**	NA	**35**	NA	NA	**2000**
ACENAPHTHENE	mg/kg	4	1000	1000	3000	3000	NA	<0.14	NA	<0.27	NA	<0.13	NA	<0.18	NA	**0.28**	NA	**0.48**	NA	<0.14	NA	NA	**2.0**
ACENAPHTHYLENE	mg/kg	1	600	10	600	10	NA	<0.14	NA	<0.27	NA	<0.13	NA	<0.18	NA	<0.14	NA	**0.41**	NA	<0.14	NA	NA	<0.73
ANTHRACENE	mg/kg	1000	1000	1000	3000	3000	NA	<0.14	NA	**0.47**	NA	<0.13	NA	<0.18	NA	**0.58**	NA	**3.1**	NA	<0.14	NA	NA	**5.3**
BENZO(A)ANTHRACENE	mg/kg	7	7	7	40	40	NA	**0.31**	NA	**5.6**	NA	<0.13	NA	<0.18	NA	**2.3**	NA	**6.8**	NA	**0.45**	NA	NA	**13**
BENZO(A)PYRENE	mg/kg	2	2	2	4	4	NA	**0.18**	NA	**2.1**	NA	<0.13	NA	<0.18	NA	**1.9**	NA	**6.1**	NA	**0.46**	NA	NA	**12**
BENZO(B)FLUORANTHENE	mg/kg	7	7	7	40	40	NA	**0.24**	NA	**3.0**	NA	<0.13	NA	<0.18	NA	**2.9**	NA	**8.3**	NA	**0.64**	NA	NA	**16**
BENZO(G,H,I)PERYLENE	mg/kg	1000	1000	1000	3000	3000	NA	<0.14	NA	**1.4**	NA	<0.13	NA	<0.18	NA	<0.14	NA	**5.5**	NA	<0.14	NA	NA	**4.6**
BENZO(K)FLUORANTHENE	mg/kg	70	70	70	400	400	NA	<0.14	NA	**1.1**	NA	<0.13	NA	<0.18	NA	**0.98**	NA	**3.1**	NA	**0.21**	NA	NA	**6.3**
CHRYSENE	mg/kg	70	70	70	400	400	NA	**0.25**	NA	**2.8**	NA	<0.13	NA	<0.18	NA	**2.4**	NA	**7.2**	NA	**0.54**	NA	NA	**13**
DIBENZ(A,H)ANTHRACENE	mg/kg	0.7	0.7	0.7	4	4	NA	<0.14	NA	**0.41**	NA	<0.13	NA	<0.18	NA	**0.39**	NA	**0.95**	NA	<0.14	NA	NA	**2.0**
FLUORANTHENE	mg/kg	1000	1000	1000	3000	3000	NA	**0.38**	NA	**4.3**	NA	<0.13	NA	<0.18	NA	**5.2**	NA	**19**	NA	**1.0**	NA	NA	**38**
FLUORENE	mg/kg	1000	1000	1000	3000	3000	NA	<0.14	NA	**0.30**	NA	<0.13	NA	<0.18	NA	**0.36**	NA	**1.2**	NA	<0.14	NA	NA	**3.1**
INDENO(1,2,3-CD)PYRENE	mg/kg	7	7	7	40	40	NA	<0.14	NA	**1.4**	NA	<0.13	NA	<0.18	NA	**1.4**	NA	**4.3**	NA	**0.36**	NA	NA	**5.8**
2-METHYLNAPHTHALENE	mg/kg	0.7	80	300	80	500	NA	<0.14	NA	<0.27	NA	<0.13	NA	<0.18	NA	<0.14	NA	<0.12	NA	<0.14	NA	NA	<0.73 [6]
NAPHTHALENE	mg/kg	4	40	500	40	1000	NA	<0.14	NA	<0.27	NA	<0.13	NA	<0.18	NA	<0.14	NA	<0.12	NA	<0.14	NA	NA	**0.81**
PHENANTHRENE	mg/kg	10	500	500	1000	1000	NA	**0.27**	NA	**2.8**	NA	<0.13	NA	<0.18	NA	**2.6**	NA	**14**	NA	**0.66**	NA	NA	**34**
PYRENE	mg/kg	1000	1000	1000	3000	3000	NA	**0.36**	NA	**4.3**	NA	<0.13	NA	**0.39**	NA	**4.8**	NA	**17**	NA	**0.97**	NA	NA	**40**
VPH																							
C5-C8 ALIPHATICS	mg/kg	100	100	100	500	500	<14	NA	<12	NA	<26	NA	<22	NA	<9.2	NA	<78	NA	<6.3	NA	<5.9	<5.3	NA
C9-C12 ALIPHATICS	mg/kg	1000	1000	1000	3000	3000	<14	NA	<12	NA	<26	NA	<22	NA	<9.2	NA	<78	NA	**23**	NA	<5.9	<5.3	NA
C9-C10 AROMATICS	mg/kg	100	100	100	500	500	<14	NA	<12	NA	<26	NA	<22	NA	<9.2	NA	<78	NA	**12**	NA	<5.9	<5.3	NA
MTBE	mg/kg	0.1	100	100	100	500	<0.140	NA	<0.120	NA	<0.260	NA	<0.220	NA	<0.092	NA	<0.780	NA	<0.063	NA	<0.059	<0.053	NA
BENZENE	mg/kg	2	30	30	200	200	<0.720	NA	<0.620	NA	<1.3	NA	<1.1	NA	<0.460	NA	<3.9	NA	<0.310	NA	<0.300	<0.270	NA
TOLUENE	mg/kg	30	500	500	1000	1000	<0.720	NA	<0.620	NA	<1.3	NA	<1.1	NA	<0.460	NA	<3.9	NA	<0.310	NA	<0.300	<0.270	NA
ETHYLBENZENE	mg/kg	40	500	500	1000	1000	<0.720	NA	<0.620	NA	<1.3	NA	<1.1	NA	<0.460	NA	<3.9	NA	<0.310	NA	<0.300	<0.270	NA
M,P- XYLENES	mg/kg	300 [4]	300 [4]	500 [4]	300 [4]	1000 [4]	<0.720	NA	<0.620	NA	<1.3	NA	<1.1	NA	<0.460	NA	<3.9	NA	<0.310	NA	**0.5**	<0.270	NA
O-XYLENE	mg/kg						<0.720	NA	<0.620	NA	<1.3	NA	<1.1	NA	<0.460	NA	<3.9	NA	<0.310	NA	<0.300	<0.270	NA
NAPHTHALENE	mg/kg	4	40	500	40	1000	<0.720	NA	<0.620	NA	<1.3	NA	<1.1	NA	<0.460	NA	<3.9	NA	<0.310	NA	<0.300	<0.270	NA
Inorganics																							
TOTAL CHROMIUM[2]	mg/kg	30	30	30	200	200	**18.0**	DNA	**28.0**	DNA	**15.0**	DNA	**9.9**	DNA	**28.0**	DNA	**8.4**	DNA	**13.0**	DNA	**10.0**	**12.0**	DNA
TRIVALENT CHROMIUM	mg/kg	1000	1000	1000	3000	3000	NA[3]	**11.0**	NA[3]	**36.0**	NA[3]	**11.0**	NA[3]	**20.0**	NA[3]	**25.0**	NA[3]	**11.0**	NA[3]	**10.0**	NA[3]	NA[3]	**170.0**
HEXAVALENT CHROMIUM	mg/kg	30	30	30	200	200	<1.9[3]	<0.44	<1.9[3]	<0.44	<2.8[3]	**1.0**	<1.5[3]	<1.4	<1.4[3]	<1.1	<5.7[3]	<0.98	<1.2[3]	<1.1	<1.2[3]	<1.2[3]	<0.46
LEAD	mg/kg	300	300	300	300	300	**15**	NA	**120**	NA	**50**	NA	**31**	NA	**120**	NA	**9.4**	NA	**58**	NA	**25**	**33**	NA
General Chemistry																							
pH	pH units	NS	NS	NS	NS	NS	**8.2**	**7.8**	**8.4**	**7.8**	**8.3**	**8.0**	**8.6**	**8.1**	**7.7**	**7.4**	**7.8**	**7.9**	**9.1**	**7.8**	**9.1**	**9.2**	**7.4**
ORP	mV	NS	NS	NS	NS	NS	**200**	**96**	**190**	**110**	**190**	**100**	**190**	**100**	**240**	**68**	**260**	**90**	**190**	**89**	**190**	**170**	**76**
PERCENT SOLIDS	% weight	NS	NS	NS	NS	NS	NA	**71.4**	NA	**35.9**	NA	**78.5**	NA	**54.8**	NA	**72.2**	NA	**81.3**	NA	**71.6**	NA	NA	**68**

QA/QC by LEM 6/7/12; JRS 8/22/12

Abbreviations:
EPH = Extractable Petroleum Hydrocarbons
TPH = Total Petroleum Hydrocarbons
VPH = Volatile Petroleum Hydrocarbons
mg/kg = milligrams per kilogram
mV = millivolts
NS = No Standard
NA = Not Analyzed
DNA - Does Not Apply
ORP = Oxidation/Reduction Potential
RC = Reportable Concentration

Notes:
BOLD Parameter detected above laboratory detection limit
BOLD Parameter exceeds the MassDEP RC S-1 standard
BOLD Parameter exceeds the applicable MCP Method 1 S-1 standard and the RC S-1 standard
BOLD Parameter exceeds the applicable MCP Method 1 S-2 standard and the RC S-1 standard
* = Reported result is an estimated concentration.
< = indicates parameter not detected above laboratory method reporting limit, shown
1 = Standards are from the Massachusetts Contingency Plan (MCP), 310 CMR 40.0000, revised June 26, 2009
2 = Total Chromium standard applies only in the absence of chromium speciation
3 = Laboratory results for hexavalent chromium are considered invalid due to holding time non-conformances; therefore, results are compared to the Total Chromium standard
4 = Standard is for mixed isomers, MassDEP does not publish standards for individual isomers
5 = Standards are from the MassDEP website updated February 2008
6 = Reporting limits exceed the RC S-1 standard
7 = Reporting limits exceed the applicable Method 1 standard and the RC S-1 standard

Table 4
Weston & Sampson
Summary of Method 1 Risk Assement Data
45 Cove Street
New Bedford, MA
2011-2012

Location	Date	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	C11-C22 Aromatics	C9-C10 Aromatics	C9-C12 Aliphatics	Dibenz(a,h)anthracene	Lead	Total Chromium[2]	TPH
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
TP-19N	5/7/12	NA	NA	NA	NA	110	20	NA	21	8.2	150
TP-19N	8/9/12	1.5	1.2	1.7	49	NA	NA	0.27	NA	DNA	NA
TP-19S	5/7/12	NA	NA	NA	NA	13	14	NA	20	9.3	125
TP-19S	8/10/12	2.2	1.8	3	300	NA	NA	0.4	NA	DNA	NA
TP-19E	4/30/12	NA	NA	NA	NA	1,600	1,800	NA	160	7.6	2700
TP-19E	8/9/12	6.8	5.5	8	180	NA	NA	1.2	NA	DNA	NA
TP-19W	5/7/12	NA	NA	NA	NA	6.6	11	NA	51	8.6	240
TP-19W	8/10/12	0.2	0.1	0.1	10	NA	NA	0.1	NA	DNA	NA
TP-2N	5/7/12	NA	NA	NA	NA	6.5	6.5	NA	200	94.0	290
TP-2N	8/10/12	1	0.91	1.3	55	NA	NA	0.22	NA	DNA	NA
TP-2W	5/7/12	NA	NA	NA	NA	8	8	NA	200	39.0	800
TP-2W	8/10/12	0.62	0.43	0.51	23	NA	NA	0.065	NA	DNA	NA
TP-18W	5/7/12	NA	NA	NA	NA	15.5	15.5	NA	730	12.0	380
TP-18W	8/10/12	0.45	0.42	0.53	35	NA	NA	0.065	NA	DNA	NA
TP-18S	5/7/12	NA	NA	NA	NA	10.5	10.5	NA	51	12.0	220
TP-18S	8/10/12	0.07	0.07	0.07	7	NA	NA	0.07	NA	DNA	NA
DUP-1 (TP-18S)	8/10/12	0.35	0.065	0.065	16	NA	NA	0.065	NA	DNA	NA
TP-8N	5/7/12	NA	NA	NA	NA	7	7	NA	15	18.0	260
TP-8N	8/9/12	0.31	0.18	0.24	31	NA	NA	0.07	NA	DNA	NA
TP-8S	5/7/12	NA	NA	NA	NA	6	6	NA	120	28.0	290
TP-8S	8/9/12	5.6	2.1	3	160	NA	NA	0.41	NA	DNA	NA
TP-8E	5/7/12	NA	NA	NA	NA	13	13	NA	50	15.0	390
TP-8E	8/9/12	0.065	0.065	0.065	6.5	NA	NA	0.065	NA	DNA	NA
TP-8W	5/7/12	NA	NA	NA	NA	11	11	NA	31	9.9	440
TP-8W	8/9/12	0.09	0.09	0.09	43	NA	NA	0.09	NA	DNA	NA
TP-9N	4/30/12	NA	NA	NA	NA	4.6	4.6	NA	120	28.0	660
TP-9N	8/9/12	2.3	1.9	2.9	100	NA	NA	0.39	NA	DNA	NA
TP-9S	4/30/12	NA	NA	NA	NA	39	39	NA	9.4	8.4	990
TP-9S	8/9/12	6.8	6.1	8.3	140	NA	NA	0.95	NA	DNA	NA
TP-9E	4/30/12	NA	NA	NA	NA	12	23	NA	58	13.0	180
TP-9E	8/9/12	0.45	0.46	0.64	35	NA	NA	0.07	NA	DNA	NA
TP-9W	4/30/12	NA	NA	NA	NA	2.95	2.95	NA	25	10.0	320
TP-Dup (TP-9W)	4/30/12	NA	NA	NA	NA	2.65	2.65	NA	33	12.0	630
TP-9W	8/9/12	13	12	16	2000	NA	NA	2	NA	DNA	NA
TP-1	4/7/11	NA	NA	NA	17.5	NA	NA	NA	85	7.2	NA
TP-2	4/7/11	NA	NA	NA	100	NA	NA	NA	42	54	NA
TP-3	4/7/11	NA	NA	NA	56	NA	NA	NA	33	9.5	NA
TP-4	4/7/11	NA	NA	NA	46	NA	NA	NA	44	7.1	NA
TP-5	4/7/11	NA	NA	NA	170	NA	NA	NA	320	12	NA
TP-6	4/7/11	NA	NA	NA	89	NA	NA	NA	21	5.0	NA
TP-7	4/7/11	0.49	0.49	0.68	120	0.8	2	NA	48	8.5	NA
TP-8	4/7/11	0.56	0.64	0.74	160	4.4	5.6	NA	110	73	NA
TP-9	4/7/11	NA	NA	NA	3,500	NA	NA	NA	1,400	100	NA
TP-10	4/7/11	0.205	0.205	0.205	82	3.9	3.3	NA	7.4	20	NA
TP-11	4/6/11	NA	NA	NA	48	NA	NA	NA	6.9	8.6	NA
TP-12	4/6/11	NA	NA	NA	45	NA	NA	NA	3.30	6.4	NA
TP-13	4/6/11	0.195	0.195	0.195	17.5	0.7	0.7	NA	2.95	12	NA
TP-15	4/6/11	NA	NA	NA	18.5	NA	NA	NA	3.15	4.0	NA
TP-17	4/6/11	NA	NA	NA	49	NA	NA	NA	34	8.8	NA
TP-18	4/7/11	NA	NA	NA	82	NA	NA	NA	38	300	NA
DUP-1 (TP-18)	4/7/11	NA	NA	NA	88	NA	NA	NA	26	6.1	NA
TP-19	4/7/11	3.80	3.50	4.00	160	680	720	NA	52	5.9	NA
WS-1	4/20/11	2.10	1.70	2.20	140	1.85	1.85	NA	100	8.30	NA
WS-3	4/20/11	1.50	1.40	2.00	96	0.65	0.65	NA	64	15	NA
WS-4	4/20/11	0.22	0.22	0.22	98	0.8	0.8	NA	12	13	NA
WS-7	4/20/11	1.40	1.10	1.80	160	0.55	0.55	NA	75.0	8.5	NA
WS-8	4/20/11	2.20	1.90	3.00	500	21	20	NA	46	17	NA
WS-9	4/20/11	0.40	0.38	0.52	87	2.3	4.3	NA	36	13	NA
WS-11	4/20/11	0.185	0.185	0.185	50	0.5	0.5	NA	8.50	12	NA
DUP-1 (WS-11)	4/19/11	0.18	0.18	0.18	52	0.5	0.5	NA	7.10	9.30	NA
WS-13	4/19/11	0.18	0.18	0.18	33	0.5	0.5	NA	2.85	8.00	NA
WS-14	4/19/11	0.20	0.20	0.41	41	0.5	0.5	NA	6.20	6.90	NA
WS-15	4/19/11	3.10	2.70	4.10	98	0.55	0.55	NA	47	9.5	NA
Max		13	12	16	3500	1600	1800	2	1400	300	2700
Remaining Mean		1.43	1.14	1.60	130.98	6.59	29.91	0.28	70.57	17.81	397.81
Enrichment Factor of Max		9.10	10.50	10.02	26.72	242.67	60.19	7.11	19.84	16.84	6.79
Overall Mean		1.78	1.47	2.03	204.22	78.42	83.55	0.38	99.47	23.95	533.24
S-1/GW-2 [1]		7	2	7	1,000	100	1,000	0.7	300	30	1000
S-1/GW-3 [1]		7	2	7	1,000	100	1,000	0.7	300	30	1000
% Data < Applicable Standard		96.97	81.82	90.91	95.65	90.91	96.97	88.24	93.48	86.96	94.12

Abbreviations:
EPH = Extractable Petroleum Hydrocarbons
TPH = Total Petroleum Hydrocarbons
VPH = Volatile Petroleum Hydrocarbons
mg/kg = milligrams per kilogram
NA = Not Analyzed
DNA - Does Not Apply

Notes:
BOLD Parameter detected above laboratory detection limit
BOLD Parameter exceeds the applicable standard
BOLD Indicates a "Hot Spot" condition
< = indicates parameter not detected above laboratory method reporting limit, shown
1 = Standards are from the Massachusetts Contingency Plan (MCP), 310 CMR 40.0000, revised June 26, 2009
2 = Total Chromium standard applies only in the absence of chromium speciation
Concentrations in standard weight font are non-detects, and are set to one half of the laboratory reporting limit

Figures

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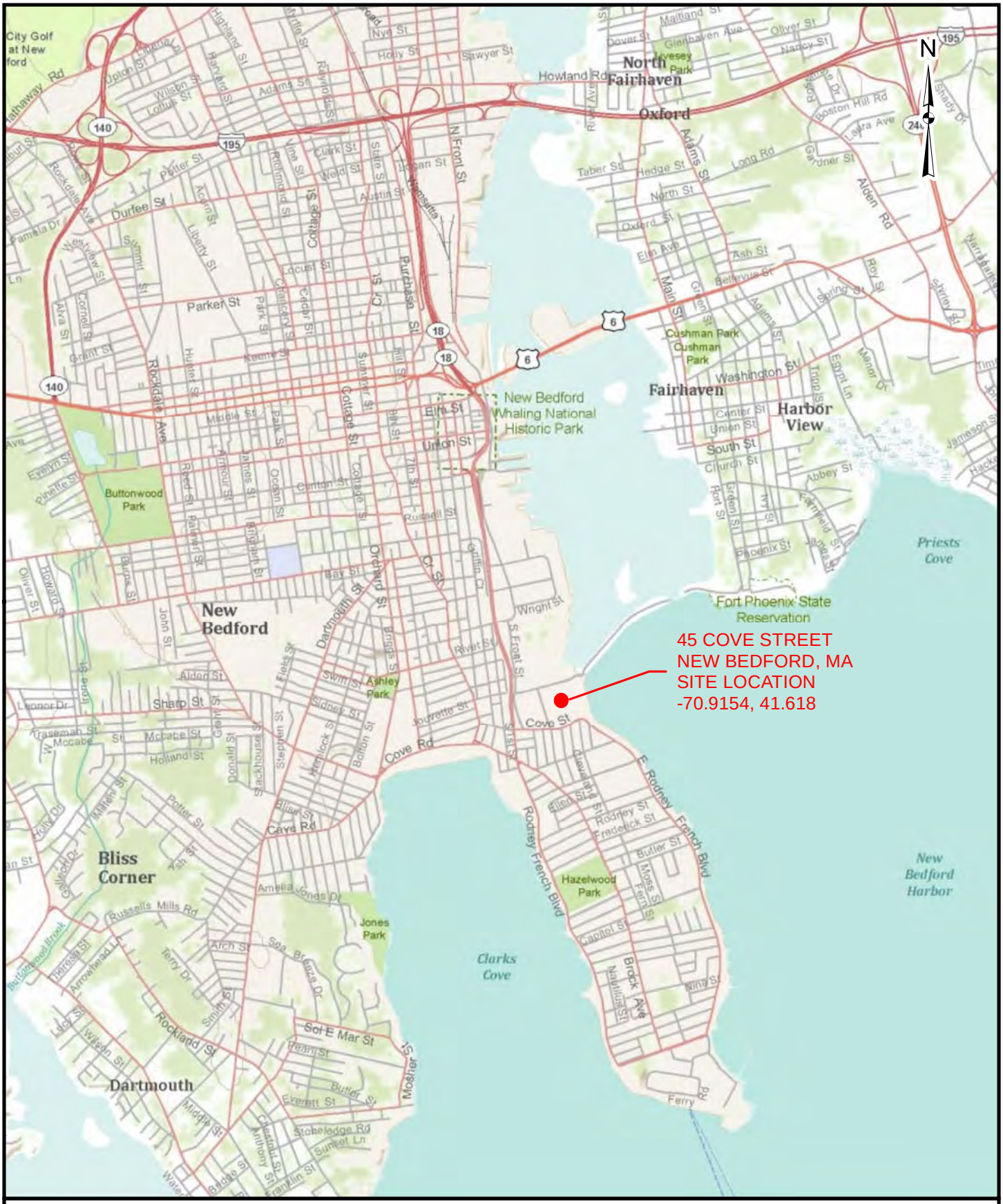

FIGURE 1

LOCUS MAP

LOCUS MAP
45 COVE STREET BROWNFIELDS
NEW BEDFORD, MASSACHUSETTS

0 2,000 4,000 8,000 Feet

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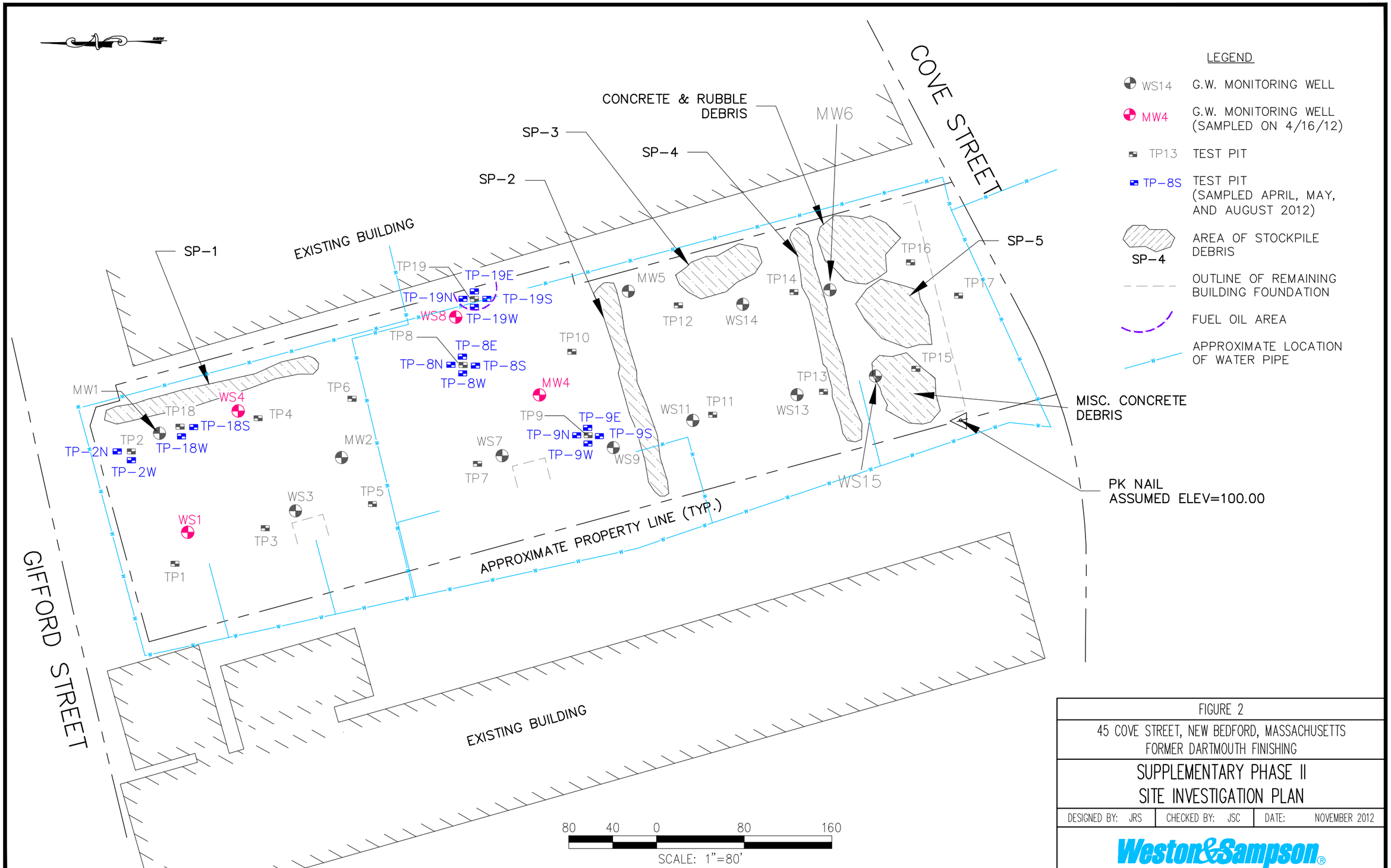

FIGURE 2

45 COVE STREET, NEW BEDFORD, MASSACHUSETTS
FORMER DARTMOUTH FINISHING

SUPPLEMENTARY PHASE II
SITE INVESTIGATION PLAN

DESIGNED BY: JRS	CHECKED BY: JSC	DATE: NOVEMBER 2012

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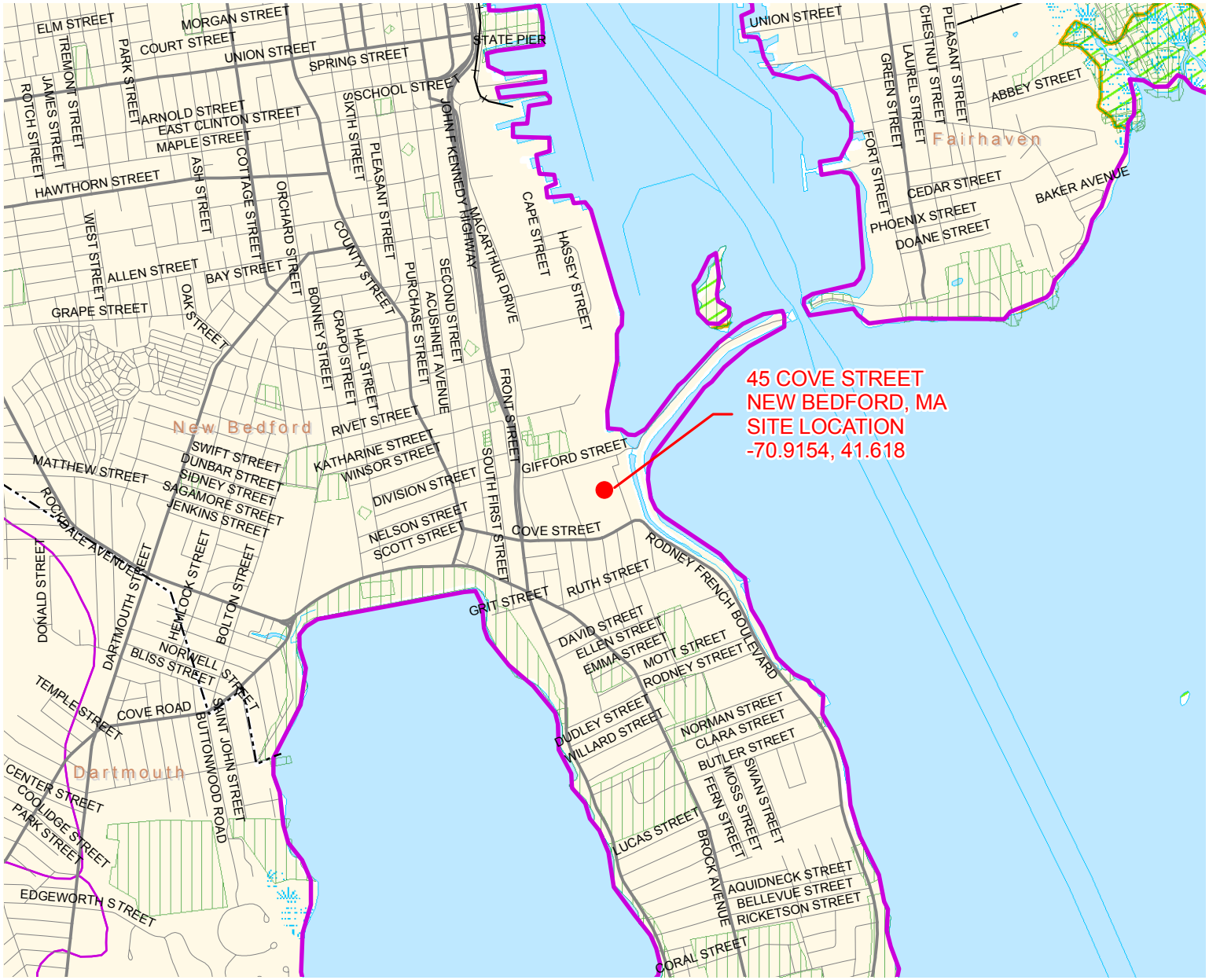

Legend

- 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
- IWPAs
- 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)

N W E S

2,000 1,000 0 2,000 Feet

0.5 0.25 0 0.5 Miles

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

Notes: Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Environmental Affairs. Fill in this area with other notes as needed.

FIGURE 3

Area Receptors Map
45 Cove Street Brownfields
City of New Bedford
Massachusetts

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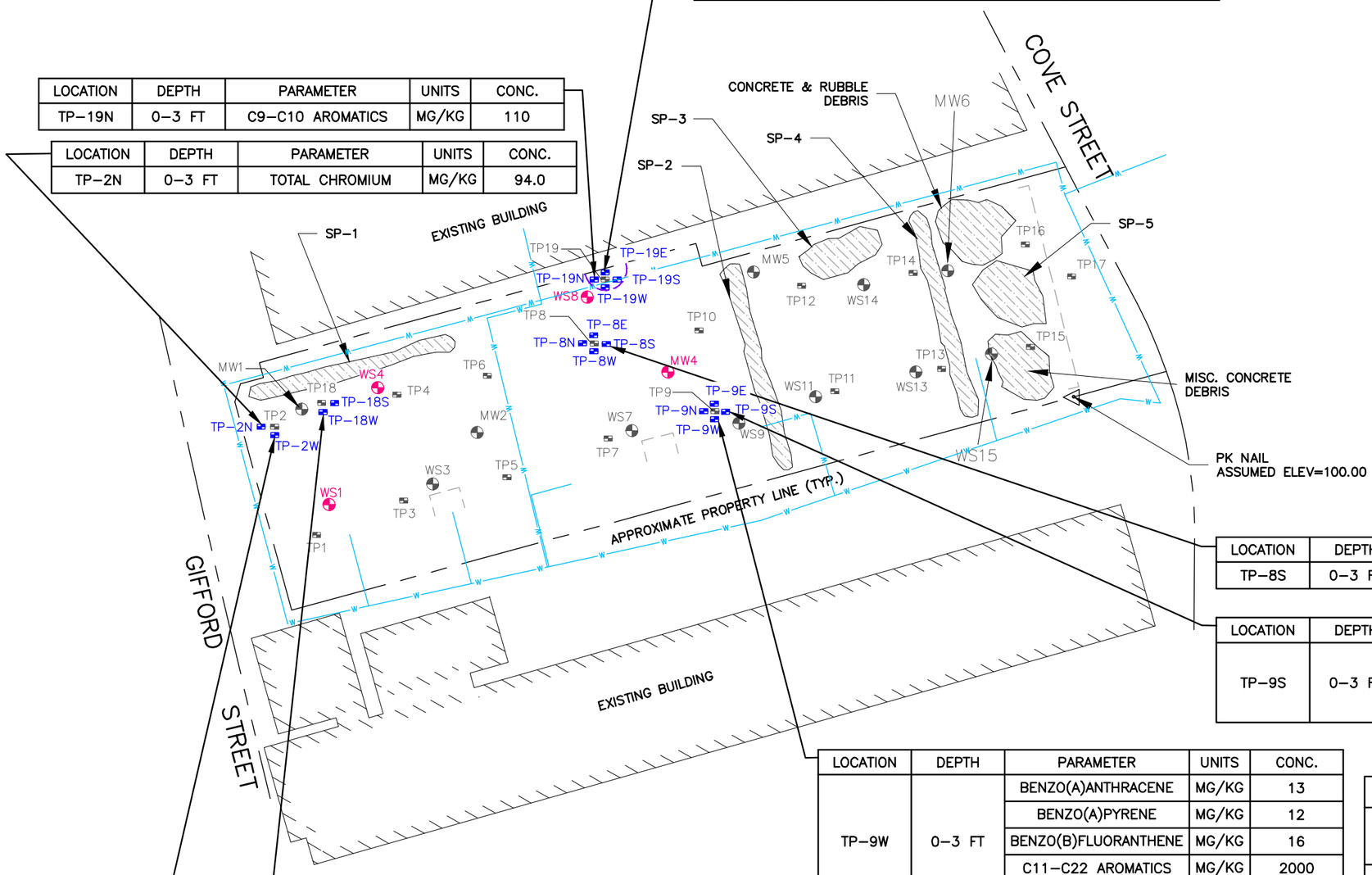

LOCATION	DEPTH	PARAMETER	UNITS	CONC.
TP-19E (4/30/12)	0-3 FT	C9-C10 AROMATICS	MG/KG	1600
		C9-C12 ALIPHATICS	MG/KG	1800
		TPH	MG/KG	2700

LOCATION	DEPTH	PARAMETER	UNITS	CONC.
TP-19E (8/9/12)	0-3 FT	BENZO(A)PYRENE	MG/KG	5.5
		BENZO(B)FLUORANTHENE	MG/KG	8

LOCATION	DEPTH	PARAMETER	UNITS	CONC.
TP-19N	0-3 FT	C9-C10 AROMATICS	MG/KG	110

LOCATION	DEPTH	PARAMETER	UNITS	CONC.
TP-2N	0-3 FT	TOTAL CHROMIUM	MG/KG	94.0

LOCATION	DEPTH	PARAMETER	UNITS	CONC.
TP-8S	0-3 FT	BENZO(A)PYRENE	MG/KG	2.1

LOCATION	DEPTH	PARAMETER	UNITS	CONC.
TP-9S	0-3 FT	BENZO(A)PYRENE	MG/KG	6.1
		BENZO(B)FLUORANTHENE	MG/KG	8.3
		DIBENZ(A,H)ANTHRACENE	MG/KG	0.95

LOCATION	DEPTH	PARAMETER	UNITS	CONC.
TP-9W	0-3 FT	BENZO(A)ANTHRACENE	MG/KG	13
		BENZO(A)PYRENE	MG/KG	12
		BENZO(B)FLUORANTHENE	MG/KG	16
		C11-C22 AROMATICS	MG/KG	2000
		DIBENZ(A,H)ANTHRACENE	MG/KG	2

LOCATION	DEPTH	PARAMETER	UNITS	CONC.
TP-18W	0-3 FT	LEAD	MG/KG	730

LOCATION	DEPTH	PARAMETER	UNITS	CONC.
TP-2W	0-3 FT	TOTAL CHROMIUM	MG/KG	39.0

LEGEND

- WS14 — G.W. MONITORING WELL
- MW4 — G.W. MONITORING WELL (SAMPLED ON 4/16/12)
- TP13 — TEST PIT
- TP-8S — TEST PIT (SAMPLED APRIL, MAY, AND AUGUST 2012)
- SP-4 — AREA OF STOCKPILE DEBRIS
- OUTLINE OF REMAINING BUILDING FOUNDATION
- FUEL OIL AREA
- APPROXIMATE LOCATION OF WATER PIPE

120 60 0 120 240

SCALE: 1"=120'

FIGURE 4

45 COVE STREET, NEW BEDFORD, MASSACHUSETTS
FORMER DARTMOUTH FINISHING

SUPPLEMENTARY PHASE II TEST PITS
CONTAMINANT CONCENTRATIONS IN SOIL

DESIGNED BY: JRS | CHECKED BY: JSC | DATE: NOVEMBER 2012

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Appendix A

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APPENDIX A

IRA Completion and Class A-2 RAO Statement. August 2004
Roberts Consulting, Inc

IRA Completion and Class A-2 RAO Statement

Former Dartmouth Finishing
45 Cove Street
New Bedford, MA 02744

RTN 4-12810

Prepared for:
G&L Bedford Realty, Inc.

August 30, 2004

ROBERTS CONSULTING, INC.
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robertsconsulting@comcast.net

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1.0 INTRODUCTION

On behalf of G&L Bedford Realty, Inc., Roberts Consulting, Inc., (Roberts Consulting) has prepared this report as documentation supporting an Immediate Response Action (IRA) Completion and a Class A-2 Response Action Outcome (RAO) Statement for the Former Dartmouth Finishing property located at 45 Cove Street in New Bedford, Massachusetts (the Site). A Site Locus Map showing the Site location and surrounding area is attached as Figure 1.

In 1997, Massachusetts Department of Environmental Protection (MADEP) and the United States Environmental Protection Agency (USEPA) responded to a notification by the New Bedford Fire Department that oil and hazardous material (OHM) present in corroded drums at the abandoned former industrial property represented a threat of a release. The USEPA inventoried 480 drums, one aboveground tank, four vats and two underground storage tanks (USTs) for No. 6 fuel oil at the property. The USEPA and MADEP categorized site conditions as representing an imminent hazard and conducted removal actions to abate the imminent hazard in 1997. Removal actions conducted included: removal of 480 drums of OHM, removal of sludge from the vats and troughs in the basement and removal of oil from the two USTs. Following the USEPA and MADEP action, the owner removed asbestos-containing building materials and demolished the building between 1999 and 2001.

This IRA Completion and RAO Statement documents response actions conducted at the Site in accordance with a Massachusetts Department of Environmental Protection (MADEP) Administrative Consent Order (ACO) # ACOP-BO-03-Z-002, dated April 2, 2003 and amended on February 10, 2004. As required by MADEP, an IRA Plan was submitted in August 2002 that proposed that prior removal actions conducted by the USEPA and MEDEP in 1997 be confirmed and that the two former No. 6 fuel oil USTs be removed and a subsurface investigation be conducted.

Following submittal of the IRA Plan, the following actions were taken:

- A Site inspection was conducted and regulatory files were reviewed to confirm the prior removal actions.
- Two fuel oil USTs and surrounding soil were removed; perimeter samples from the UST excavations and the soil stockpile were analyzed; and the soil stockpile was disposed of off-site at a recycling facility.
- Six soil borings were installed and completed as monitoring wells; soil and groundwater samples were collected and analyzed and groundwater flow direction was evaluated.
- A Method 1 Risk Characterization and was conducted and the Feasibility of Achieving or Approaching Background was evaluated.

Based on the foregoing, a level of *No Significant Risk* (NSR) was demonstrated, and conditions were shown to approach background. Therefore, no further response actions are required.

1.1 RAO Limits

For the purposes of this report, the Disposal Site and limits of the RAO are defined as the 45 Cove Street parcel. Figure 2 shows the boundaries of the Disposal Site.

Results of the Method 1 Risk Characterization completed for the Disposal Site have documented a level of NSR to human health, safety, welfare, and the environment for unrestricted future uses. Documentation supporting the Class A-2 RAO is presented in this report.

1.2 Transmittal Form

Roberts Consulting has attached an RAO Statement Transmittal Form (BWSC-104) and an IRA Transmittal Form (BWSC-105). Copies of the forms are in Appendix A.

2.0 DESCRIPTION OF SITE AND SURROUNDINGS

The Site is located at 45 Cove Street in New Bedford, Massachusetts and consists of an approximately 4-acre vacant property. A one-story brick mill building with a basement was formerly located on the property from about the late1880s until it was razed between 1999 and 2001. The property was used most recently by Dartmouth Finishing for a fabric finishing and dyeing business. In 1994, operations ceased and the building and its contents were abandoned due to bankruptcy. G&L Bedford Realty, Inc. acquired the property by auction in late 1995, but, except for demolishing the buildings and removing the resulting debris to protect the public safety, G&L Bedford Realty, Inc. has conducted no operations at the Site.

The Site is currently a fenced vacant lot. The concrete sidewalls and floor of the basement of the former mill building are evident across much of the Site along with a few remaining piles of demolition debris. The Site is located in the South End of New Bedford within a former mill complex. The Site is abutted to the east and west by one and two story brick former mill buildings currently used by industrial and commercial businesses. Cove Street abuts the property to the south. Residential and commercial properties are located across Cove Street. A vacant parcel, where another mill building was formerly located, abuts the Site to the north. A large rock wall is currently present on this adjacent property. Cleared property across Gifford Street is currently used for a boat storage yard and for parking for a public boat ramp at the end of Gifford Street.

The nearest surface water body is New Bedford Harbor located about 500 feet east of the Site. The Site is not located within a Zone II or Interim Wellhead Protection Area (IWPA) for a public water supply or any other current or potential drinking water resource area.

According to a Massachusetts Geographical Information Systems (GIS) Map prepared for the Disposal Site (Figure 3), several protected open spaces are located within 0.25 miles north and south of the Site. No National Heritage and

Endangered Species Protected (NHESP) Wetlands Habitat for Rare or Endangered Species or other sensitive environmental receptors were identified within 0.25 miles of the Disposal Site.

3.0 PREVIOUS REMOVAL ACTIONS

As discussed above, the MADEP and USEPA conducted removal actions at the Site in 1997. According the USEPA Pollution Report, dated July 21, 1997, tests performed on samples collected by EPA from containers at the Site indicated the presence of hazardous substances including but not limited to corrosive chemicals (pH<2.0), ignitable chemicals (flashpoint <140 Deg. F) and xylenes (84%). A partial inventory of chemical names on drums noted during the initial inspection included acetic acid, sodium hydroxide and xylenes. USEPA reported that upon project completion the following OHM were shipped off-site:

- 119 drums for re-use;
- 430 drums for disposal including those found on site, generated from cleanup activities and lab-packed small containers,
- 8,526 gallons of chemical from tanks;
- Approximately 15,000 gallons of wastewater from vats;
- 9.5 cubic yards of asbestos, grossly contaminated wood and lab-packed small containers;
- 20 cubic yards of personal protective equipment
- 238 empty contaminated drums; and,
- 38 empty drums for re-use.

According a MADEP field report, MADEP contracted Environmental Products and Services Inc. to empty and clean the two USTs between August 26 and 28, 1997. A total of 7,100-gallons of No. 2 and No. 6 fuel oil was removed from the two tanks. Two 55-gallon drums of oily solids and one 55-gallon drum of liquids were also generated during cleaning of the tanks.

4.0 DESCRIPTION OF RESPONSE ACTIONS

As proposed in the IRA Plan and as required by the ACO, Roberts Consulting and Lightship Engineering, LLC, field-engineering subcontractor to Roberts Consulting, conducted the following remedial and assessment response actions:

- Removal of two USTs and excavation and removal of about 80 cubic yards of fuel oil impacted soil;
- Collection and analysis of post-excavation perimeter soil samples;
- Collection and analysis of waste characterization samples and disposal of the resulting soil stockpile;
- Advancement of six soil borings and installation of six groundwater monitoring wells;
- Completion of a groundwater elevation survey and
- Collection and analysis of soil and groundwater samples.

The results of the IRA are described below.

4.1 UST Removal and Preliminary Soil Excavation

Between May 5 and 7, 2004, two 10,000-gallon USTs were excavated and removed from the locations shown on Figure 2. Tree-Line Construction of Millbury, MA provided excavation and tank transport services. Enviro-Safe Corp. provided tank-cleaning services. The tanks appeared to have been previously emptied and cleaned, however, each tank was about half-full with water and some sludge remained on the bottoms. A vacuum truck was used to pump the oil-water mixture from both tanks and personnel from Enviro-Safe cleaned the insides of the tanks prior to their removal. A total of 8,560 gallons of oily water and two drums of oily solids generated during UST cleaning were disposed of off-site as presented in Section 6.0. The USTs were transported on May 7, 2004 to Mid City Scrap yard in Westport, MA for disposal.

Soil was excavated on May 5 and 6, 2004 from the locations surrounding the USTs as shown on Figure 2. Soil surrounding the USTs consisted of brown, fine to medium sands with some gravel and debris including brick, metal, concrete and ash. The excavation was limited to the west by a gas line and the property boundary, to the east by the former concrete building foundation walls and on the bottom by the groundwater table encountered at approximately five feet below grade. About 25 cubic yards of soil with obvious petroleum odors or staining was removed from the excavation, stockpiled on-site, and covered with polyethylene sheeting pending off-Site disposal. Contamination appeared to be limited to the northeast end of each tank in the vicinity the former tank fittings. After the excavation, petroleum odors and staining were only evident in soil and groundwater located northeast of each tank beneath the concrete foundation wall.

4.2 Preliminary Soil Excavation Perimeter and Stockpile Sampling

On May 5 and 6, 2004, Lightship Engineering collected soil samples from the excavated material and from the sidewalls and the base of the excavated areas. Soil samples collected were field screened for total organic vapors (TOV) using a photo ionization detector (PID). Field screening results indicate that TOV concentrations of the excavated contaminated soil ranged from 5.5 to 6.7 parts per million (ppm). TOV concentrations in the perimeter samples collected ranged from 0 to 3.3 ppm. The only areas with obvious contamination were located northeast of the USTs. Minor TOV concentrations detected in perimeter samples collected from the other sidewalls were attributed to conditions related to the background urban fill, such as the presence of peat and marine sediments. Excavation logs are presented in Appendix B.

Post-excavation samples collected from the perimeters of the excavations on May 5 and 6, 2004 were submitted to Groundwater Analytical Laboratory for analysis for Extractable Petroleum Hydrocarbons (EPH) and Polynuclear Aromatic Hydrocarbons (PAHs) by the MADEP Method. The laboratory report is included in Appendix C and the results are summarized in Table 1. As shown on Table 1, EPH and PAH compounds were detected above MCP Reportable Concentrations

for S-1 soil at sampling locations northeast of both tanks (T1-East-North and T2 East North) in May 2004. PAH concentrations were also detected above RCS-1 Reporting Thresholds at sampling locations T1-East-South and T2-South; however, no evidence of fuel oil contamination was evident at these locations and the PAH compounds detected were attributed to background urban fill.

Lightship Engineering collected composite soil samples from the soil stockpile on May 6, 2004 for waste characterization analysis. The soil sample was submitted to Groundwater Analytical for MA Disposal Criteria analyses including: Total Petroleum Hydrocarbons (TPH) by GC/FID; Volatile Organic Compounds (VOCs) by EPA Method 8260; Polychlorinated Biphenyls (PCBs); RCRA 5 Metals, Corrosivity, Ignitability and Reactivity. The laboratory report is included in Appendix C and the results are summarized in Table 2. As shown on Table 2, the results of the waste characterization analysis showed some TPH and metals present in the excavated soil and indicated that the soil was suitable for recycling at an asphalt batch facility.

4.3 Additional Soil Excavation and Final Perimeter Sampling and Soil Disposal

On July 12, 2004, portions of the former concrete foundation walls and floor east of the former USTs were removed in order to access and excavate the remaining oily soil under the former foundation at the locations shown on Figure 2. Frank Corp. of New Bedford, MA provided excavation services. Soil beneath the foundation in this area consisted of organic peat overlying gray fine sand and silt to a depth of about 8 feet below grade. Only minor petroleum impacts were observed. A total of 55 cubic yards of additional soil was removed from the excavation and added to the on-site soil stockpile. After the excavation, no petroleum odors and staining were evident in soil and groundwater located east of the former tanks beneath the concrete foundation wall.

Lightship Engineering collected soil samples from the excavated material and from the eastern sidewalls of the final excavation area. Soil samples collected were field screened for TOVs using a PID. Field screening results indicate that the only TOV concentration detected were in the peat layer adjacent to groundwater monitoring well MW-3. The TOV concentrations detected in the sample were attributed to sensitivity of the instrument to the organic layer that exhibited a strong marine odor.

Final post-excavation samples (T1A-East-North and T2A-East-North) collected from the eastern perimeter of the final excavation on July 12, 2004 were submitted to Groundwater Analytical Laboratory for EPH and PAH analysis by MADEP Method. The laboratory report is included in Appendix C and the results are summarized in Table 1. As shown on Table 1, EPH and PAH compounds were not detected above the analytical detection limits or MCP Reportable Concentrations for S-1 soil.

On August 13, 2004, 143.60 tons of soil was transported to Aggregate Industries for recycling under a Bill of Lading. Details of the soil disposal are in Section 6.

4.4 Soil Boring and Monitoring Well Installation and Sampling

On May 11 and 12, 2004 six soil borings were installed at the Site and completed as groundwater monitoring wells (MW-1 to MW-6) at the locations shown on Figure 2. Soil Exploration Corporation of Leominster, MA provided drilling services using a hollow stem auger drill rig. The soil borings were completed between depths of 10.5 to 16 feet below grade. Soil samples were collected at continuous or two-foot depth intervals during drilling using a split spoon sampler. The soil samples collected were screened for TOVs using a PID equipped with a 10.6 eV bulb and the headspace screening protocol. Soil samples were also field screened for visual and olfactory evidence of contamination. The field screening results are documented on the monitoring well logs in Appendix B.

Major observations during the drilling of the six borings are as follows:

- A concrete floor was located at a depth of less than one-foot across most of the Site. A thin layer of fill material consisting of sand, gravel and debris (concrete and brick) was located above the concrete. The concrete floor was not encountered in boring MW-3, located in the former UST excavation or the boring for MW-5.
- The floor was underlain by layers of gray fine sand and silt, organic peat and fine to coarse sands and gravel. Fill material consisting of sand, gravel and debris was located to depths of about four feet in borings MW-4, MW-5 and MW-6, located in the southern portion of the property.
- TOVs were detected at a concentration of 4 ppm in the peat layer at MW-1, where a marine odor was observed. TOVs were not detected in soil samples collected from borings MW-2 or MW-3. TOV readings in boring MW-4 ranged from 1 to 103 ppm. TOV readings in boring MW-5 ranged from 1 to 5.8 ppm. TOV readings in boring MW-6 ranged from 0 to 0.1 ppm. The only odors detected were "marine-type" odors. In general, TOV readings detected appeared to be associated with the marine odors. No visual evidence of contamination was observed in any of the samples.

Based on the field screening results, select soil samples were submitted to Groundwater Analytical for analysis including the following: EPH, PAH, RCRA 8 Metals, PCBs, VPH and/or VOCs. The laboratory report is included in Appendix C and the results are summarized in Table 3. As shown on Table 3, three of the samples (MW-2 (4-6'), MW-4 (2-4') and MW-5 (5-7')) contained detectable concentrations of EPH, PAHs, metals, VPH and/ or VOCs. The concentrations detected were all less than the Method 1 Standards except for lead that was detected in the sample collected from MW-4 at a concentration of 670 milligrams per kilogram (mg/kg).

The six soil borings were completed as groundwater monitoring wells constructed of two-inch diameter PVC well materials. Monitoring well construction specifications are documented in the Well Logs in Appendix B.

The six wells were surveyed, gauged and sampled on May 21, 2004. The top-of-casing elevations were surveyed. The depth to groundwater was measured using a water level meter. As indicated in Table 4, the depth to groundwater ranged from approximately 1.21 to 4.04 feet below ground. Groundwater elevation contours are depicted in Figure 2. Based on these contours groundwater appears to flow in a southeasterly direction across the Site.

The six wells were sampled using low flow sampling methodology. Each well was purged of five well volumes prior to sampling. Groundwater samples were collected from the pump discharge line and submitted to Groundwater Analytical for analysis including: EPH, PAH, RCRA 8 Dissolved Metals, VPH and VOCs. The laboratory report is included in Appendix C and the results are summarized in Table 5. As shown on Table 5, four of the samples (MW to MW-4) contained detectable concentrations of PAHs, metals, VPH and/ or VOCs. The concentrations detected were all less than the Reportable Concentrations for RC-GW2 Groundwater and Method 1 Standards.

4.5 Laboratory Quality Assurance/Quality Control

The analytical results for the QA/QC samples indicate that the laboratory data is suitable for the purposes of site assessment and risk characterization. Surrogate recoveries, spikes, and method blanks were within acceptable ranges and samples were submitted with appropriate preservatives except as noted in the Project Narratives of the laboratory reports. The laboratory reports for the MCP-detection limit analyses noted that all required QA/QC procedures were followed and that performance/acceptance standards were achieved except as noted in the Project Narratives of the laboratory reports. "Presumptive Certainty" was achieved for all sample sets. Copies of the laboratory reports are attached in Appendix C.

5.0 DISPOSAL SITE BOUNDARIES

The estimated Disposal Site boundary is shown on Figure 2 as the property boundary for the 45 Cove Street parcel.

6.0 REMEDIATION WASTE MANAGEMENT

Remedial waste generated during completion of the IRA included: the oil-water mixture pumped from the USTs; drums of oily solids generated during cleaning of the USTs; and soil excavated from around the USTs. A total of 8,560 gallons of oil and water pumped from the USTs was taken to Olson's Greenhouse, Inc. of Raynham, Massachusetts under Uniform Hazardous Waste Manifests for disposal on May 5 and 6, 2004. Two drums of oily solids generated during the cleaning of the USTs were taken to Jones Environmental Services of Lowell, Massachusetts under a Uniform Hazardous Waste Manifest for disposal on May 10, 2004. A total of 143.6 tons of soil excavated from around the USTs on May 5 and 6 and July 12, 2004 was taken to Aggregate Industries of Stoughton, Massachusetts for asphalt batching under a MADEP Bill of Lading on August 13, 2004.

The original Uniform Hazardous Waste Manifests and Bill of Lading documentation have been submitted to the MADEP under separate cover. A copy of the Manifests and Bill of Lading are attached in Appendix D.

7.0 IMMEDIATE RESPONSE ACTION COMPLETION

The objective of the IRA was to confirm that the USEPA/MADEP removal actions had eliminated the threat of release from drums and tanks left in the abandoned building; to remove the two abandoned USTs and impacted soil; and to complete a subsurface investigation to determine if conditions warranted continuation of the IRA. Since the assessment results have showed that conditions at the Disposal Site, as demonstrated in Section 8, are compatible with a level of *No Significant Risk* (NSR), continuation of the IRA is not warranted and the IRA can be considered complete.

8.0 RISK CHARACTERIZATION

To evaluate conditions at the Disposal Site relative to the *No Significant Risk* Standard, Roberts Consulting conducted a Method 1 Risk Characterization. Data used in the risk characterization is presented in Tables 1, 3 and 5, but includes only soil samples representing soil that was not excavated and excludes PAH compounds detected in urban fill at the site associated with ash residuals. The PAH compounds associated with ash residuals are considered *Background* conditions under the Massachusetts Contingency Plan (MCP) and do not require evaluation in a risk characterization. A Method 1 Risk Characterization is appropriate for this Disposal Site since all the criteria for use of Method 1 are met.

8.1 Soil Classification

Applicable soil categories are selected based upon the frequency, intensity of use and accessibility of the disposal site by adults and children. The risk characterization considers current and reasonably foreseeable disposal site activities.

8.1.1 Frequency of Use

Frequency of use indicates how often a receptor makes use of or has access to a disposal site. Frequency of use is classified as either High, Low or Not Present based upon specific criteria in the MCP. Frequency at the Disposal Site would be classified as High, because a potential future use of the Disposal Site could be residential. Also, if conditions are compatible with residential use, conditions would automatically be compatible with any other use.

8.1.2 Intensity of Use

The intensity of use is based upon the activities and uses that occur at a disposal site. The intensity of use is classified as either High or Low. Disposal site activities and uses that have the potential to disturb soil, and result in either direct contact with the soil itself or inhalation of soil-derived dust are characterized as

high intensity uses. Examples of such activities include gardening, digging and recreational sports. Passive activities, which do not disturb the soil, such as walking, are classified as low intensity use activities. Assuming a potential future use could be residential, the intensity of use at the Disposal Site would be classified as High.

8.1.3 *Accessibility*

Soils are classified as Accessible, Potentially Accessible or Isolated based upon the depth of OHM impact and the presence of impervious material (asphalt), if any. Impacted soils located within the first three feet of the surface in an unpaved area would be considered Accessible. Soils from three to 15 feet below grade in unpaved areas, or soils from less than three feet below grade in paved areas, would be considered Potentially Accessible. Soils greater than 15 feet below grade or beneath the footprint of a building would be considered Isolated. At this Disposal Site, EPH, PAHs, Metals, VPH and VOCs were detected in the top three feet of soil, which would therefore be classified as Accessible.

8.1.4 *Site Specific Soil Classification*

Soils are classified as S-1 when children are present, the frequency of use is High, the intensity of activities is considered High, and the soils are classified as Accessible. Soil concentrations in this risk characterization will be compared to Method 1 S-1 Standards to allow for future unrestricted use.

8.2 Groundwater Classification

Groundwater classification is based upon several factors, including the current and potential use of water as a drinking water source, proximity to buildings, and ecological risks. The applicable groundwater category must be identified for both the groundwater currently affected by the release of OHM and any area to which the impacted groundwater is expected to migrate. Groundwater is categorized into three categories: GW-1, GW-2 and GW-3.

- GW-1 applies to groundwater located within the boundaries of a current or potential drinking water source area.
- GW-2 applies to groundwater located within 30 feet of an existing occupied building or structure, and where the annual average depth to groundwater is 15 feet or less. The Method 1 GW-2 Groundwater Cleanup Standard addresses the potential exposure to vapors collecting in buildings above or adjacent to impacted groundwater.
- GW-3 applies to all groundwater that can potentially impact surface water bodies. All groundwater is considered a potential source of discharge to a surface water body. Therefore, the GW-3 classification applies to all groundwater within the boundaries of the Commonwealth of Massachusetts.

Unlike the soil classifications, which are mutually exclusive, all three groundwater classifications may apply to a single disposal site.

8.2.1 Site Specific Groundwater Classification

The disposal site is not located within the boundaries of a current or potential drinking water source area. Therefore, GW-1 and Method 1 GW-1 Groundwater Cleanup Standards are not applicable to the Disposal Site.

Since the depth to groundwater is approximately 1 to 4 feet below grade and residential re-development is a potential intended future use of the Disposal Site, Method 1 GW-2 Standards would apply. Method 1 GW-3 Groundwater Cleanup Standards are applicable since they apply to all Disposal Sites.

8.3 Contaminants of Concern

Contaminants of Concern (COCs) are those oil or hazardous materials identified at the Site that are not considered *Background* and that, therefore will be evaluated in the risk characterization. As noted previously, PAH compounds were found in the soil at this Disposal Site, but ash residuals were also identified in the subsurface soils and the concentrations of all the PAHs were less than the MADEP recommended *background* values for urban fill containing coal or wood ash. Therefore, PAHs have been eliminated as COCs. Likewise, all heavy metals except lead occurred at concentrations less than the recommended *background* values and will be eliminated as COCs.

8.3.1 Soil

- One metal (lead) was detected in the soil samples collected from MW-4 at a depth of 2 to 4 feet at a concentration that slightly exceeded the urban fill background value for lead in soils containing coal or wood ash. Therefore, lead will be carried through the risk characterization.
- EPH was detected in perimeter samples around the UST graves at concentrations above the expected site-specific background values. Therefore, EPH will be carried through the risk characterization.
- VPH and several VOCs (xylenes, and similar substituted benzenes) were found in two soil borings and will be carried through the risk characterization.
- Aniline, a dye, was detected in one soil sample and will be carried through the risk characterization.

8.3.2 Groundwater

- Arsenic, lead, and chromium were reported in the groundwater and will be carried through the risk characterization.
- The C9-C10 Aromatic VPH fraction was detected in the groundwater and will be carried through the risk characterization.
- Toluene was detected in the groundwater and will be carried through the risk characterization.

8.4 Exposure Point Concentration

Exposure Point Concentration (EPC) means the concentration in a specific medium that a human or environmental receptor may contact at an exposure point. In a Method 1 Risk Characterization, EPCs are usually defined as the arithmetic average of soil concentrations in the area of contamination and the arithmetic average of groundwater concentrations in each monitoring well. The EPCs calculated for soil and groundwater at the Disposal Site are described below.

8.4.1 Soil EPC

Soil EPCs are defined by the combination of the soil classification and the horizontal and vertical distribution of OHM in soil. At this Disposal Site, all samples were collected from the interval from 2 to 8 feet below the surface and will be evaluated as within one interval. In keeping with the MCP, the average EPC of soil containing COCs is the arithmetic average of the concentration of the COC at each exposure point (i.e., each contiguous volume of soil similarly classified). By convention, where a COC has not been detected, one-half the detection limit is used in the average.

The objective in estimating an EPC is to identify a conservative estimate of the arithmetic mean concentration that represents the average concentration contacted by a receptor at an exposure point. The arithmetic average is appropriate if:

- The arithmetic average is less than or equal to the applicable standard or risk-based concentration limit;
- Seventy-five percent of the data points used in the averaging procedure are equal to or less than the applicable standard or risk-based concentration limit; and
- No data point used in the average is ten times greater than the applicable standard or risk-based concentration limit.

As shown in Table 4, all three criteria are met and therefore, use of the arithmetic average concentration is appropriate for this Disposal Site.

8.4.2 Groundwater EPC

Groundwater exposure points are considered the groundwater resource itself as measured at each well screened within the horizontal and vertical distribution of the COCs in groundwater. For the purpose of this Risk Characterization, each monitoring well shall be used to represent a current or potential groundwater exposure point.

8.4.3 Hot Spot Evaluation

A hot spot is defined as a discrete area where the concentrations of COCs are substantially higher than those concentrations in the surrounding area. No hot spots are present at the Disposal Site.

8.5 Soil Risk Characterization

A level of *No Significant Risk* of harm to human health, safety, public welfare, and the environment exists if no EPC exceeds the applicable Method 1 Soil Cleanup Standard. A condition of *No Significant Risk* exists for this Disposal Site because:

- The average EPH concentrations identified in the UST tank graves and in the soil borings were less than Method 1 S-1/GW-3 Soil Standards.
- The average concentration of lead found in samples from the soil borings does not exceed the Method 1 S-1/GW-3 Soil Standards.
- The average VPH concentrations detected in samples from the soil borings does not exceed the Method 1 S-1/GW-3 Soil Standards. .
- The average aniline concentration detected in samples from the soil borings does not exceed the Method 1 S-1/GW-3 Soil Standards.

Therefore, since the EPC for each COC is less than the Method 1 S-1/GW-3 Soil Standards, a condition of *No Significant Risk* exists for all foreseeable future uses.

8.6 Groundwater Risk Characterization

A level of *No Significant Risk* of harm to human health, safety, public welfare, and the environment exists if no EPC exceeds the applicable Method 1 Groundwater Cleanup Standard. A condition of *No Significant Risk* exists for this Disposal Site because:

- The VPH concentrations identified in the groundwater are less than applicable GW-3 Standards.
- The toluene concentration identified in the groundwater is less than applicable GW-3 Standards.
- The concentrations of arsenic, chromium, and lead identified in the groundwater are less than applicable GW-3 Standards.

Since the EPC for each COC is less than the Method 1 GW-3 Standards, a condition of *No Significant Risk* exists. In addition, the EPC for each COC is less than the Method 1 GW-2 Standard; therefore, a condition of *No Significant Risk* would also apply if buildings were constructed at the Disposal Site.

8.7 Feasibility of Achieving Background

The MCP requires and evaluation of the feasibility of achieving or approaching background when remedial actions are conducted at a Disposal Site. At this Disposal Site, soil was removed from the perimeter of the UST graves during and following the tank removals. Initially, about 40 cubic yards of soil was excavated and stockpiled, but following receipt of analytical results, we returned to remove additional soil since it was considered feasible to remove additional soil by removing a foundation that had initially prevented full removal of the minor

UST-related releases. This section will document why conditions associated with the EPH remaining after the second soil removal qualify as "approaching" background.

The fuel stored in the USTs has been reported as No. 4 and No. 6 in various sources. Assuming, as a conservative measure, that the EPH residuals in the soil are due to No. 6 fuel oil, the EPH would be considered a *persistent contaminant,* as defined in *MADEP Policy #WSC-04-160: Conducting Feasibility Evaluations Under the MCP, Final Policy, dated July 16, 2004.* For persistent contaminants, MADEP considers background approached if:

- *The concentration of each persistent contaminant at each sampling location is at or below the Method 1 S-1 standards.*

At this Disposal Site, the concentrations of all EPH constituents at all sample locations are less than Method 1 S-1 soil standards. Therefore, by definition, conditions at this Disposal Site approach background.

9.0 SELECTION OF RESPONSE ACTION OUTCOME CATEGORY

The Massachusetts Contingency Plan specifies that a Class A-2 Response Action Outcome shall apply to disposal sites where remedial actions have been performed, remaining concentrations of contaminants are above background, and a level of *No Significant Risk* exists without the use of an Activity and Use Limitation. All these criteria apply to the Disposal Site. Since, as demonstrated above, soil and groundwater conditions at the Disposal Site are compatible with the *No Significant Risk* requirement of the Massachusetts Contingency Plan for all foreseeable uses of the property and remedial actions have been performed, the requirements for a Class A-2 Response Action Outcome have been met.

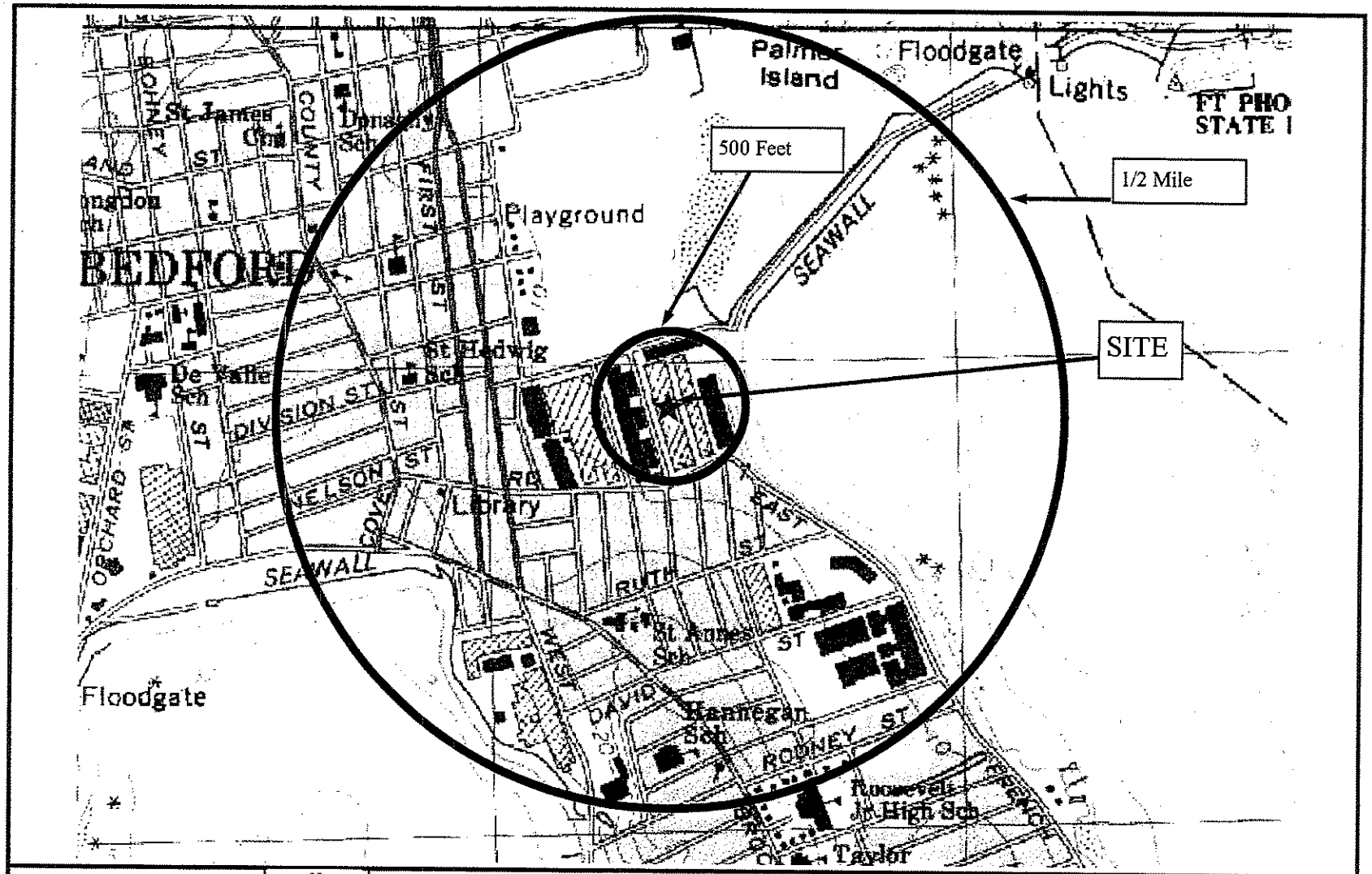
10.0 RESPONSE ACTION CERTIFICATION AND LSP

Charles Kibbee, Development Manager of G&L Bedford Realty, Inc. has certified the accuracy of this submittal. Original copies of transmittal forms containing this certification are attached. Copies are in Appendix A.

Nancy C. Roberts, LSP #6713, has signed and sealed the transmittal forms under the authority granted her by MADEP. Original copies of the transmittal copies containing the seal and signature of the Licensed Site Professional who prepared the RAO Statement, are attached.

11.0 DOCUMENTATION OF PUBLIC NOTICE

The Mayor's Office and the Director of Public Health of the City of New Bedford have been notified of the availability of this Class A-2 RAO at the Southeast Regional Office of MADEP. Copies of these notification letters are in Appendix E.



Scale: 1 inch ~ 1,000 feet

SOURCE: U.S.G.S. New Bedford Topographic Quadrangle

N W E S

PREPARED FOR:

G & L Bedford Realty, Inc.

FIGURE 1

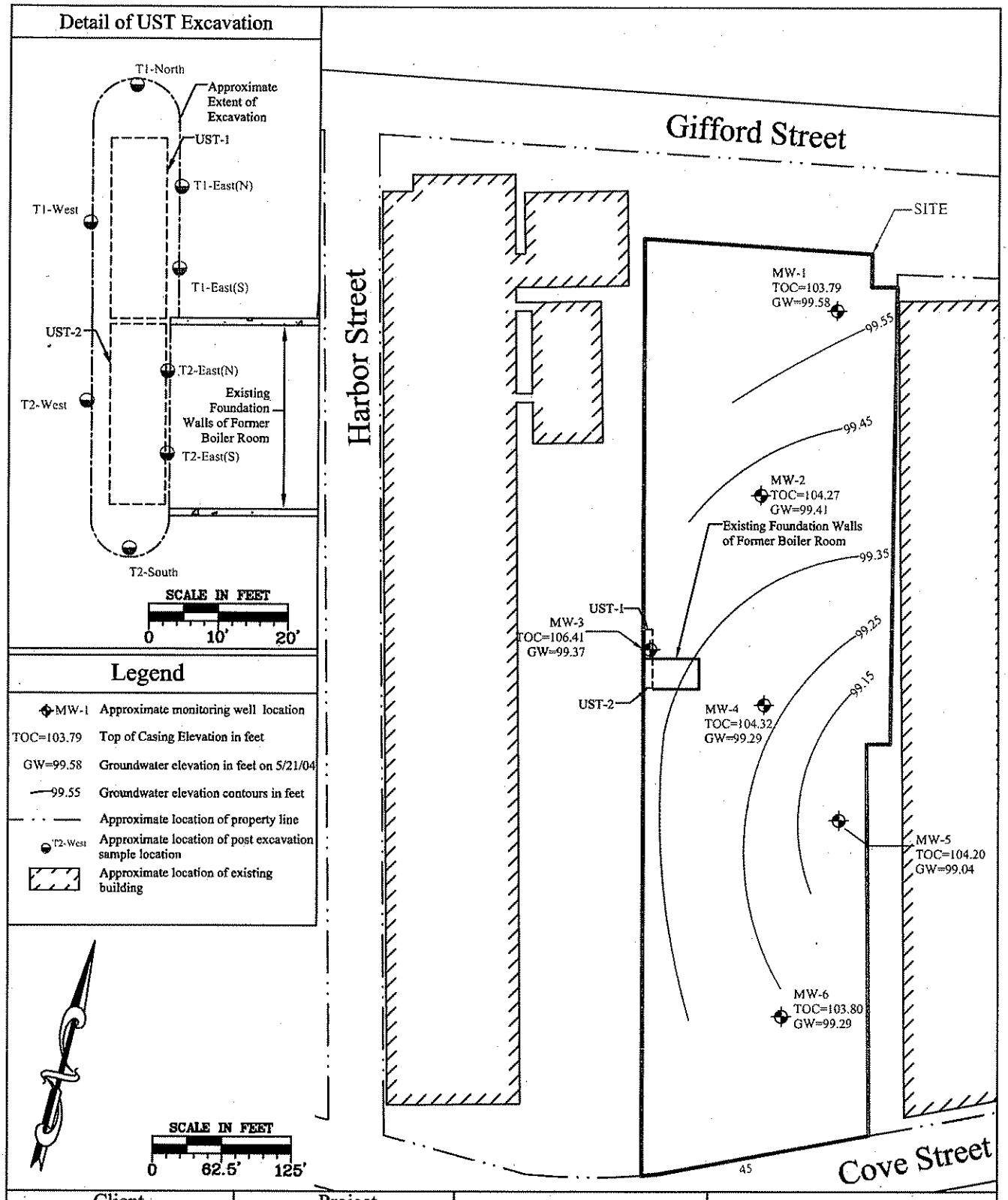
Site Locus Map

45 Cove Street, New Bedford, Massachusetts

ROBERTS CONSULTING, INC.

Environmental Solutions

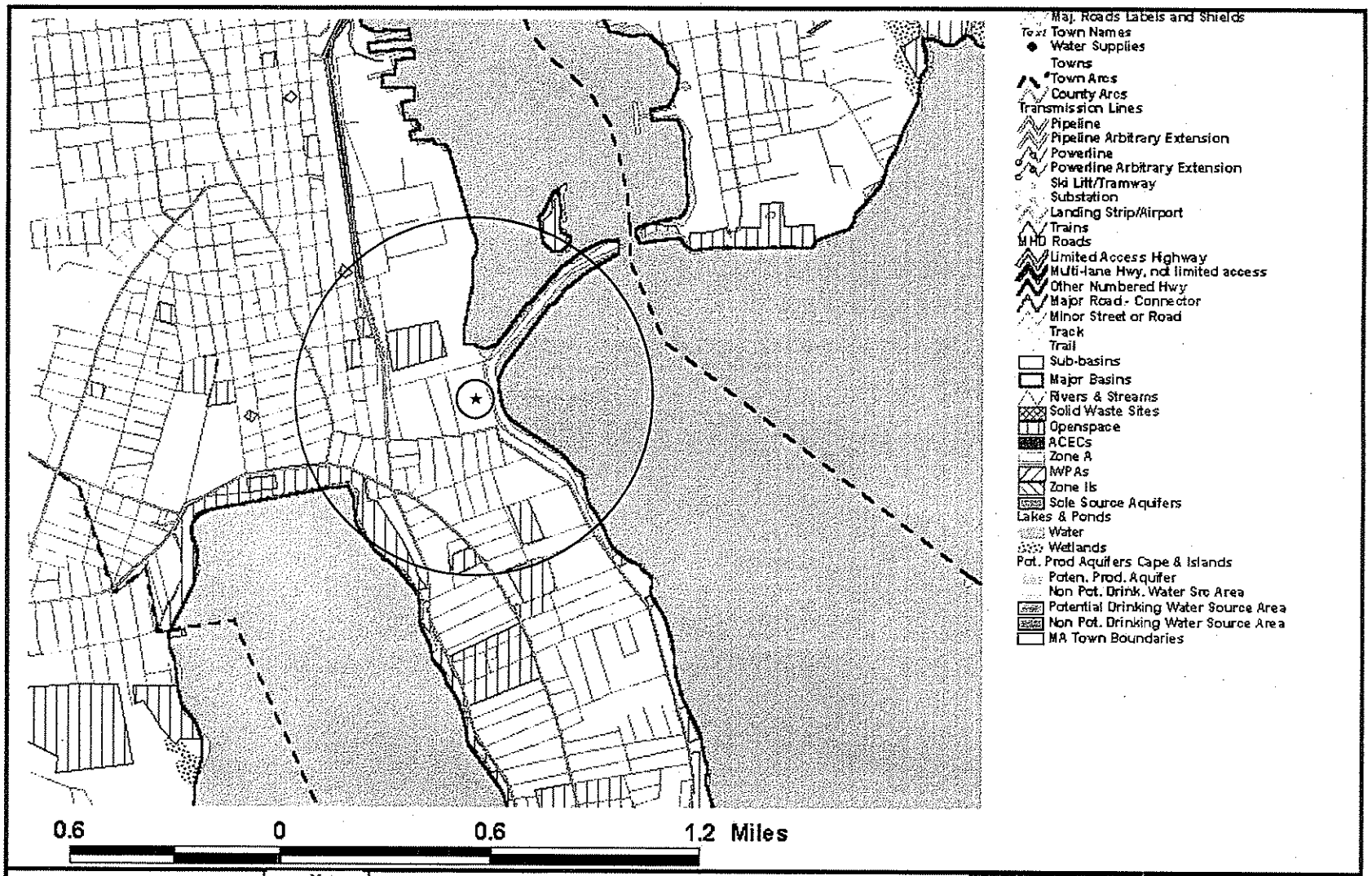
2 Bridle Path Circle, Dover, MA 02030



Client	Project	FIGURE 2	ROBERTS CONSULTING, INC.
G&L Bedford Realty, LLC	45 Cove Street New Bedford, MA	Sample Locations and Groundwater Contour Map	*Environmental Solutions* 2 Bridle Path Circle, Dover MA 02030

Source: City of New Bedford Assessor's Map Number 21and Field Survey Completed on May 21, 2004.

Date: May 2004	**Drawn by: RMT**
Sheet No. 1 of 1	**Scale: 1"=125'**



SOURCE: MassGIS Map

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PREPARED FOR:

G & L Bedford Realty, Inc.

FIGURE 3

MASS GIS Map

45 Cove Street, New Bedford, Massachusetts

ROBERTS CONSULTING, INC.

Environmental Solutions

2 Bridle Path Circle, Dover, MA 02030

TABLE 1
Summarized Soil Results: UST Closure Post-Excavation Sidewalls
EPH and PAH
45 Cove Street - New Bedford, Massachusetts

Analytical Parameters	UST Closure - Post Excavation Soil Sample Results										EPC	Regulatory Standards		
UST	Underground Storage Tank #1					Underground Storage Tank #2					Average Concen.	RCS-1 Reporting Threshold	Method 1 S-1/GW2 & S-1/GW-3 Cleanup	MADEP Urban Fill Background
Excavation Side Wall	North	East	East	East	West	South	East	East	East	West				
Section of Sidewall		North	North	South			North	North	South					
Sample ID	T1-North	T1-East (N)	T1A-East (N)	T1-East (S)	T1-West	T2-South	T2-East (N)	T2A-East (N)	T2-East (S)	T2-West				
Sample Depth (ft)	5	5	8	5	5	5	5	8	5	5				
Comment		Excavated					Excavated							
Sample Date	5/5/04	5/5/2004	7/12/2004	5/5/2004	5/5/2004	5/6/2004	5/6/2004	7/12/2004	5/6/2004	5/6/2004				
Extractable Petroleum Hydrocarbons (EPH) - mg/kg														
C9-C18 Aliphatics	BRL <37	350	BRL <34	46	BRL < 31	BRL<30	300	BRL <35	BRL <33	BRL <31	20	1,000	1,000	Not Published
C19-C36 Aliphatics	79	1,500	BRL <34	400	36	75	1,100	BRL <35	45	430	140	2,500	2,500	Not Published
C11-C22 Aromatics	92	1,500	BRL <34	270	BRL < 31	150	1,000	BRL <35	BRL <33	280	110	200	800	Not Published
Target Polynuclear Aromatic Hydrocarbons (PAH) - mg/kg														
Naphthalene	BRL <0.62	1.8	BRL <0.56	BRL<0.60	BRL <0.51	0.81	BRL<0.70	BRL <0.59	BRL <0.54	BRL <0.51	0.34	4	100	1
2-Methylnaphthalene	BRL <0.62	1.2	BRL <0.56	BRL<0.60	BRL <0.51	1.4	BRL<0.70	BRL <0.59	BRL <0.54	BRL <0.51	0.42	4	500	1
Phenanthrene	BRL <0.62	14	BRL <0.56	4.7	BRL <0.51	10	2.1	BRL <0.59	BRL <0.54	BRL <0.51	2	100	1000/100	20
Acenaphthene	BRL <0.62	2.4	BRL <0.56	BRL<0.60	BRL <0.51	1.5	BRL<0.70	BRL <0.59	BRL <0.54	BRL <0.51	0.43	20	1000	2
Acenaphthylene	BRL <0.62	BRL <0.70	BRL <0.56	BRL<0.60	BRL <0.51	BRL <0.50	BRL<0.70	BRL <0.59	BRL <0.54	BRL <0.51	0.28	100	100	1
Fluorene	BRL <0.62	2.6	BRL <0.56	BRL<0.60	BRL <0.51	1.3	BRL<0.70	BRL <0.59	BRL <0.54	BRL <0.51	0.24	400	1000	2
Anthracene	BRL <0.62	4.5	BRL <0.56	1.1	BRL <0.51	3	BRL<0.70	BRL <0.59	BRL <0.54	BRL <0.51	0.72	1,000	1,000	4
Fluoranthene	BRL <0.62	11	BRL <0.56	5.5	BRL <0.51	10	3	BRL <0.59	BRL <0.54	0.85	2.2	1,000	1,000	10
Pyrene	BRL <0.62	13	BRL <0.56	4.8	BRL <0.51	8.7	3.7	BRL <0.59	BRL <0.54	0.93	2	700	700	20
Benzo (a) anthracene	BRL <0.62	6	BRL <0.56	2.8	BRL <0.51	4.9	1.9	BRL <0.59	BRL <0.54	BRL <0.51	1.2	0.7	0.7	9
Chrysene	BRL <0.62	9	BRL <0.56	3.3	BRL <0.51	5.3	3.4	BRL <0.59	BRL <0.54	0.85	1.4	7	7	7
Benzo (b) fluoranthene	BRL <0.62	42	BRL <0.56	2.7	BRL <0.51	5	4.9	BRL <0.59	BRL <0.54	BRL <0.51	1.2	0.7	0.7	8
Benzo (k) fluoranthene	BRL <0.62	2.7	BRL <0.56	2	BRL <0.51	2.3	1.8	BRL <0.59	BRL <0.54	BRL <0.51	0.75	7	7	4
Benzo (a) pyrene	BRL <0.62	53	BRL <0.56	2.4	BRL <0.51	4	2.3	BRL <0.59	BRL <0.54	BRL <0.51	1	0.7	0.7	7
Indeno (1,2,3-c,d) pyrene	BRL <0.62	14	BRL <0.56	1.4	BRL <0.51	2.0	0.7	BRL <0.59	BRL <0.54	BRL <0.51	0.63	0.7	0.7	3
Dibenzo (a,h) anthracene	BRL <0.62	BRL <0.70	BRL <0.56	BRL <0.60	BRL <0.51	BRL <0.50	BRL<0.70	BRL <0.59	BRL <0.54	BRL <0.51	0.28	0.7	0.7	1
Benzo (g,h,i) perylene	BRL <0.62	14	BRL <0.56	1.2	BRL <0.51	1.9	0.78	BRL <0.59	BRL <0.54	BRL <0.51	0.6	1,000	1,000	3

Notes:
BRL <37 - Indicates concentration, if any, is below reporting limit for analyte.
BOLD -Indicates value exceeds MADEP Method 1 Cleanup standard.
RCS-1 = MADEP Reportable Concentration for Soils classified as S-1.
MADEP Urban Fill Background - MADEP Technical Update, 05/23/2002

TABLE 2
Summarized Soil Results: Soil Stockpile
Waste Characterization
45 Cove Street - New Bedford, Massachusetts

Analytical Parameters	**Excavated Soil**
Sample ID	**Soil Stockpile**
Sample Depth (ft)	**0-1**
Sample Date	**5/6/2004**
Total Petroleum Hydrocarbons (TPH) GC/FID - mg/kg	
TPH	1,900*
Volatile Organic Compounds (VOC) EPA Method 8260B- mg/kg	
TOTAL VOCs	BRL<0.006-0.23
TOTAL CL-VOCS	BRL<0.006-0.23
Polychlorinated Biphenyls (PCBs) - mg/kg	
Aroclor 1016	BRL<0.091
Aroclor 1221	BRL<0.091
Aroclor 1232	BRL<0.091
Aroclor 1242	BRL<0.091
Aroclor 1248	BRL<0.091
Aroclor 1254	BRL<0.091
Aroclor 1260	BRL<0.091
TOTAL PCBs	BRL<0.091
Total Metals (RCRA-8) - mg/kg	
Arsenic	1.3
Cadmium	BRL<0.58
Chromium (Total)	23
Lead	37
Mercury	0.21
General Chemistry	
Corrosivity (as pH)	8.4
Ignitability (as flashpoint)	>165
Reactivity Cyanide -mg/kg	BRL<50
Reactivity Sulfide - mg/kg	BRL<100

Notes:
BRL <0.006 - Indicates concentration, if any, is below reporting limit for analyte.
BOLD -Indicates concentration exceeds Disposal Criteria
* - TPH identified as having GC/FID characteristics similar to petroleum products in the C12 to C36 range and 3 ring to 3 ring PAHs.

TABLE 3

Summarized Soil Results: Borings MW-1 to MW-6

EPH, PAH, Total Metals, PCBs, VPH and VOCs

45 Cove Street - New Bedford, Massachusetts

Analytical Parameters	Soil Boring Sample Identification and Results						EPC	Regulatory Standards		
Sample ID	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	Average Conc.	RCS-1 Reporting Threshold	Method 1 Cleanup Standard	MADEP Urban Fill Background
Sample Depth (ft)	3-4.5	4-6	10-12	2-4	5-7	4-6				
Sample Date	5/11/2004	5/11/2004	5/11/2004	5/11/2004	5/12/2004	5/12/2004				
Extractable Petroleum Hydrocarbons (EPH) - mg/kg										
C9-C18 Aliphatics	BRL <35	BRL <40	BRL <35	150	BRL < 34	BRL < 35	40	1,000	1,000	NS
C19-C36 Aliphatics	BRL <35	100	BRL <35	650	170	BRL < 35	160	2,500	2,500	NS
C11-C22 Aromatics	BRL <35	65	BRL <35	310	51	BRL < 35	80	200	800	NS
Polynuclear Aromatic Hydrocarbons (PAH) - mg/kg (EPH Target & Additional Detected Compounds)										
Analytical Method	**EPA 8270**	**EPH Targets**	**EPH Targets**	**EPA 8270**	**EPA 8270**	**EPH Targets**				
Naphthalene	BRL <0.39	BRL <0.67	BRL <0.58	BRL <0.42	BRL <0.36	BRL <0.58	0.25	4	100	1
2-Methylnaphthalene	BRL <0.39	BRL <0.67	BRL <0.58	BRL <0.42	BRL <0.36	BRL <0.58	0.25	4	500	1
Phenanthrene	BRL <0.39	0.81	BRL <0.58	BRL <0.42	BRL <0.36	BRL <0.58	0.52	100	1000/100	20
Acenaphthene	BRL <0.39	BRL <0.67	BRL <0.58	BRL <0.42	BRL <0.36	BRL <0.58	0.25	20	1000	2
Acenaphthylene	BRL <0.39	BRL <0.67	BRL <0.58	BRL <0.42	BRL <0.36	BRL <0.58	0.25	100	100	1
Fluorene	BRL <0.39	BRL <0.67	BRL <0.58	BRL <0.42	BRL <0.36	BRL <0.58	0.25	400	1000	2
Anthracene	BRL <0.39	BRL <0.67	BRL <0.58	BRL <0.42	BRL <0.36	BRL <0.58	0.25	1,000	1,000	4
Fluoranthene	BRL <0.39	1.3	BRL <0.58	0.59	BRL <0.36	BRL <0.58	0.63	1,000	1,000	10
Pyrene	BRL <0.39	1.1	BRL <0.58	0.46	BRL <0.36	BRL <0.58	0.42	700	700	20
Benzo (a) anthracene	BRL <0.39	0.71	BRL <0.58	BRL <0.42	BRL <0.36	BRL <0.58	0.31	0.7	0.7	9
Chrysene	BRL <0.39	0.69	BRL <0.58	BRL <0.42	BRL <0.36	BRL <0.58	0.31	7	7	7
Benzo (b) fluoranthene	BRL <0.39	0.68	BRL <0.58	BRL <0.42	BRL <0.36	BRL <0.58	0.31	0.7	0.7	8
Benzo (k) fluoranthene	BRL <0.39	BRL <0.67	BRL <0.58	BRL <0.42	BRL <0.36	BRL <0.58	0.25	7	7	4
Benzo (a) pyrene	BRL <0.39	0.68	BRL <0.58	BRL <0.42	BRL <0.36	BRL <0.58	0.31	0.7	0.7	7
Indeno (1,2,3-c,d) pyrene	BRL <0.39	BRL <0.67	BRL <0.58	BRL <0.42	BRL <0.36	BRL <0.58	0.25	0.7	0.7	3
Dibenzo (a,h) anthracene	BRL <0.39	BRL <0.67	BRL <0.58	BRL <0.42	BRL <0.36	BRL <0.58	0.25	0.7	0.7	1
Benzo (g,h,i) perylene	BRL <0.39	BRL <0.67	BRL <0.58	BRL <0.42	BRL <0.36	BRL <0.58	0.25	1,000	1,000	3
Aniline	BRL <0.39	NA	NA	1.2	BRL <0.36	BRL <0.58	0.47	1,000	NS	NS
Total Metals - mg/kg										
Arsenic	BRL <1.2	BRL <1.4	1.4	3.4	BRL <1.2	BRL <1.1	1.2	30	30	20
Barium	BRL <24	BRL <27	BRL <22	36	BRL <23	BRL <23	16	1,000	1,000	50
Cadmium	BRL <0.59	BRL <0.69	BRL <0.56	BRL <0.62	BRL <0.58	BRL <0.57	0.6	30	30	3
Chromium (Total)	BRL <12	BRL <14	BRL <11	26	BRL <12	BRL <11	9.3	1,000	1,000	40
Lead	BRL <12	BRL <14	BRL <11	**670**	12	BRL <11	120	300	300	600
Mercury	BRL <0.04	0.14	0.06	0.087	BRL< 0.037	BRL< 0.039	0.058	20	20	1
Selenium	BRL <24	BRL <27	BRL <22	BRL<25	BRL <23	BRL <23	12.0	400	400	1
Silver	BRL <5.9	BRL <6.9	BRL <5.6	BRL<6.2	BRL <5.8	BRL <5.7	3.0	100	100	5
Polychlorinated Biphenyls (PCBs) - mg/kg										
Aroclor 1016	BRL <0.098	NA	NA	BRL <0.098	BRL <0.087	NA				
Aroclor 1221	BRL <0.098	NA	NA	BRL <0.098	BRL <0.087	NA				
Aroclor 1232	BRL <0.098	NA	NA	BRL <0.098	BRL <0.087	NA				
Aroclor 1242	BRL <0.098	NA	NA	BRL <0.098	BRL <0.087	NA				
Aroclor 1254	BRL <0.098	NA	NA	BRL <0.098	BRL <0.087	NA				
Aroclor 1260	BRL <0.098	NA	NA	BRL <0.098	BRL <0.087	NA				
TOTAL PCBs	BRL <0.098	NA	NA	BRL <0.098	BRL <0.087	NA	0.470	2	2	NS
Volatile Petroleum Hydrocarbons - MADEP - mg/kg										
C5-C8 Aliphatics	BRL <1.1	BRL <1.6	BRL <1.2	2.3	BRL <1.2	BRL <1.0	0.88	100	100	NS
C9-C12 Aliphatics	BRL <1.1	BRL <1.6	BRL <1.2	65	4.2	BRL <1.0	12	1,000	1,000	NS
C9-C10 Aromatics	BRL <1.1	BRL <1.6	BRL <1.2	88	4.7	BRL <1.0	16	100	100	NS
Volatile Organics by GC/MS EPA Method 8260B - mg/kg (Detected Compounds)										
Total xylenes	BRL <0.006	BRL <0.006	BRL <0.007	0.37	0.009	BRL <0.005	0.065	500	500	NS
n-propylbenzene	BRL <0.006	BRL <0.006	BRL <0.007	0.33	0.01	BRL <0.005	0.059	100**	100**	NS
1,3,5-Trimethylbenzene	BRL <0.006	BRL <0.006	BRL <0.007	4.4	0.069	BRL <0.005	0.75	100**	100**	NS
1,2,4-Trimethylbenzene	BRL <0.006	BRL <0.006	BRL <0.007	4.4	0.13	BRL <0.005	0.76	100**	100**	NS
4-Isopropylbenzene	BRL <0.006	BRL <0.006	BRL <0.007	0.82	0.009	BRL <0.005	0.14	100**	100**	NS
Naphthalene	BRL <0.006	BRL <0.006	BRL <0.007	BRL <0.32	0.024	BRL <0.005	0.033	4	100	NS

Notes:

NA - Indicates sample not analyzed for indicated constituent.

NS - No regulatory standard for indicated constituent.

BRL <35 - Indicates concentration, if any, is below reporting limit for analyte.

Method 1 Cleanup Standard for S-1/ GW-2 & GW-3 Soil.

RCS-1 = Massachusetts Department of Environmental Protection Reportable Concentration for Soils classified as S-1.

MADEP Urban Fill Background - MADEP Technical Update, 05/23/2002

BOLD -Indicates concentration exceeds Method 1 Cleanup Standard.

** Compound is included in the C9-C10 Aromatic VPH fraction and that standard is referenced.

TABLE 4
Groundwater Elevation Summary
Monitoring Date: 5/21/2004
45 Cove Street - New Bedford, Massachusetts

Monitoring Well Identification	Top-of-Casing Elevation (feet)	Depth to Water from TOC (feet)	Approx. Depth to Water Below Grade (feet)	Groundwater Elevation (feet)
MW-1	103.79	4.21	1.21	99.58
MW-2	104.27	4.86	1.86	99.41
MW-3	106.41	7.04	4.04	99.37
MW-4	104.32	5.03	2.03	99.29
MW-5	104.20	5.16	2.16	99.04
MW-6	103.80	4.51	1.51	99.29

TABLE 5

Summarized Groundwater Results: Monitoring Wells MW-1 to MW-6

EPH, PAH, Dissolved Metals, VPH and VOCs

45 Cove Street - New Bedford, Massachusetts

Analytical Parameters	Groundwater Sample Identification and Results						Regulatory Standards		
Sample ID	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	Report. Conc. RCGW-2	Method 1 Cleanup Standard	
Sample Date	5/21/2004	5/21/2004	5/21/2004	5/21/2004	5/21/2004	5/21/2004		GW-2	GW-3
Extractable Petroleum Hydrocarbons (EPH) - ug/L									
C9-C18 Aliphatics	BRL <500	BRL <500	BRL <500	BRL <500	BRL <500	BRL <500	1,000	1,000	20,000
C19-C36 Aliphatics	BRL <500	BRL <500	BRL <500	BRL <500	BRL <500	BRL <500	20,000	NS	20,000
C11-C22 Aromatics	BRL <160	BRL <160	BRL <160	BRL <160	BRL <160	BRL <160	30,000	50,000	30,000
Polynuclear Aromatic Hydrocarbons (PAH) - ug/L (EPH Targets)									
Naphthalene	BRL <0.5	BRL <0.5	BRL <0.5	BRL <0.5	BRL <0.5	BRL <0.5	6,000	6,000	6,000
2-Methylnaphthalene	BRL <0.5	BRL <0.5	BRL <0.5	BRL <0.5	BRL <0.5	BRL <0.5	3,000	10,000	3,000
Phenanthrene	BRL <0.5	BRL <0.5	BRL <0.5	BRL <0.5	BRL <0.5	BRL <0.5	50	NS	50
Acenaphthene	BRL <0.5	BRL <0.5	BRL <0.5	BRL <0.5	BRL <0.5	BRL <0.5	5,000	NS	5,000
Acenaphthylene	BRL <0.5	BRL <0.5	BRL <0.5	BRL <0.5	BRL <0.5	BRL <0.5	3,000	NS	3,000
Fluorene	BRL <0.5	BRL <0.5	BRL <0.5	BRL <0.5	BRL <0.5	BRL <0.5	3,000	NS	3,000
Anthracene	BRL <0.5	BRL <0.5	BRL <0.5	BRL <0.5	BRL <0.5	BRL <0.5	600	NS	3,000
Fluoranthene	BRL <0.5	BRL <0.5	BRL <0.5	BRL <0.5	BRL <0.5	BRL <0.5	200	NS	200
Pyrene	BRL <0.5	BRL <0.5	BRL <0.5	BRL <0.5	BRL <0.5	BRL <0.5	3,000	NS	3,000
Benzo (a) anthracene	BRL <0.1	0.2	BRL <0.1	BRL <0.1	BRL <0.1	BRL <0.1	3,000	NS	3,000
Chrysene	BRL <0.1	0.2	BRL <0.1	BRL <0.1	BRL <0.1	BRL <0.1	3,000	NS	3,000
Benzo (b) fluoranthene	BRL <0.1	0.2	BRL <0.1	BRL <0.1	BRL <0.1	BRL <0.1	3,000	NS	3,000
Benzo (k) fluoranthene	BRL <0.1	0.1	BRL <0.1	BRL <0.1	BRL <0.1	BRL <0.1	3,000	NS	3,000
Benzo (a) pyrene	BRL <0.1	0.2	BRL <0.1	BRL <0.1	BRL <0.1	BRL <0.1	3,000	NS	3,000
Indeno (1,2,3-c,d) pyrene	BRL <0.1	0.1	BRL <0.1	BRL <0.1	BRL <0.1	BRL <0.1	3,000	NS	3,000
Dibenzo (a,h) anthracene	BRL <0.1	BRL <0.1	BRL <0.1	BRL <0.1	BRL <0.1	BRL <0.1	3,000	NS	3,000
Benzo (g,h,i) perylene	BRL <0.1	0.1	BRL <0.1	BRL <0.1	BRL <0.1	BRL <0.1	3,000	NS	3,000
Dissolved Metals - ug/L									
Arsenic	BRL <52	20	10	20	BRL <50	BRL <50	400	NS	400
Barium	BRL <1,000	BRL <200	BRL <200	BRL <200	BRL <1,000	BRL <1,000	30,000	NS	30,000
Cadmium	BRL <25	BRL <5	BRL <5	BRL <5	BRL <25	BRL <25	10	NS	10
Chromium (Total)	BRL <50	BRL <10	40	BRL <10	BRL <50	BRL <50	2,000	NS	2,000
Lead	BRL <30	7	28	BRL <50	BRL <30	BRL <30	30	NS	30
Mercury	BRL <0.2	BRL <0.2	BRL <0.2	BRL <0.2	BRL <0.2	BRL <0.2	1	NS	1
Selenium	BRL <300	BRL <50	BRL <50	BRL <50	BRL <300	BRL <300	80	NS	80
Silver	BRL <40	BRL <7	BRL <7	BRL <7	BRL <40	BRL <40	7	NS	7
Volatile Petroleum Hydrocarbons - MADEP - ug/L									
C5-C8 Aliphatics	BRL <20	BRL <20	BRL <20	BRL <20	BRL <20	BRL <20	1,000	1,000	20,000
C9-C12 Aliphatics	BRL <20	BRL <20	BRL <20	BRL <20	BRL <20	BRL <20	20,000	NS	20,000
C9-C10 Aromatics	24	BRL <20	BRL <20	33	BRL <20	BRL <20	30,000	50,000	30,000
Volatile Organics by GC/MS EPA Method 8260B - ug/L (Detected Compound Listed)									
Toluene	BRL <10	BRL <2.5	2	BRL <10	BRL <1.0	BRL <1.0	6,000	6,000	50,000
Other VOCs	BRL <10-10,000	BRL <2.5-2,500	BRL <1.0-1,000	BRL <10-10,000	BRL <1.0-1,000	BRL <1.0-1,000	CSL	CSL	CSL

Notes:

NS - No regulatory standard for indicated constituent.

BRL <35 - Indicates concentration, if any, is below reporting limit for analyte.

Method 1 Cleanup Standard for GW-2 & GW-3 groundwater.

RCGW-2 = Massachusetts Department of Environmental Protection Reportable Concentration for Groundwater classified as GW-2.

CSL- Compound Specific Limit

BOLD -Indicates concentration exceeds Method 1 Cleanup Standard.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC104

RESPONSE ACTION OUTCOME (RAO) STATEMENT

Pursuant to 310 CMR 40.0580 (Subpart E) & 40.1056 (Subpart J)

Release Tracking Number
4 - 12810

A. SITE LOCATION:

1. Site Name/Location Aid: Former Dartmouth Finishing
2. Street Address: 45 Cove Street
3. City/Town: New Bedford 4. ZIP Code: 02744-2409

☐ 5. Check here if a Tier Classification Submittal has been provided to DEP for this disposal site.
☐ a. Tier 1A ☐ b. Tier 1B ☐ c. Tier 1C ☐ d. Tier 2

6. If a Tier I Permit has been issued, provide Permit Number: _____

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

1. List Submittal Date of RAO Statement (if previously submitted): _____ mm/dd/yyyy

☑ 2. Submit a **Response Action Outcome (RAO) Statement**

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

b. Provide additional Release Tracking Number(s) covered by this RAO Statement. ☐ - ☐ ☐ - ☐

☐ 3. Submit a **Revised Response Action Outcome Statement**

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

b. Provide additional Release Tracking Number(s) covered by this RAO Statement. ☐ - ☐ ☐ - ☐

☐ 4. Submit a **Response Action Outcome Partial (RAO-P) Statement**

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

☐ 5. Submit an optional **Phase I Completion Statement** supporting an RAO Statement

☐ 6. Submit a **Periodic Review Opinion evaluating the status of a Temporary Solution** for a Class C RAO Statement (Section E is optional)

☐ 7. Submit a **Retraction** of a previously submitted **Response Action Outcome Statement** (Sections D & E are not required)

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

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC104

RESPONSE ACTION OUTCOME (RAO) STATEMENT

Pursuant to 310 CMR 40.0580 (Subpart E) & 40.1056 (Subpart J)

Release Tracking Number
4 - 12810

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

- ☐ 1. Assessment and/or Monitoring Only
- ☐ 2. Temporary Covers or Caps
- ☐ 3. Deployment of Absorbent or Containment Materials
- ☐ 4. Temporary Water Supplies
- ☐ 5. Structure Venting System
- ☐ 6. Temporary Evacuation or Relocation of Residents
- ☐ 7. Product or NAPL Recovery
- ☐ 8. Fencing and Sign Posting
- ☐ 9. Groundwater Treatment Systems
- ☐ 10. Soil Vapor Extraction
- ☐ 11. Bioremediation
- ☐ 12. Air Sparging
- ☑ 13. Removal of Contaminated Soils

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

☑ ii. Off Site Estimated volume in cubic yards 80

iia. Facility Name: Aggregate Industries Town: Stoughton State: MA

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

iii. Describe: _____

☐ b. Landfill

☐ i. Cover Estimated volume in cubic yards _____

Facility Name: _____ Town: _____ State: _____

☐ ii. Disposal Estimated volume in cubic yards _____

Facility Name: _____ Town: _____ State: _____

☑ 14. Removal of Drums, Tanks or Containers:

a. Describe Quantity and Amount: Two 10,000-gallon USTs

b. Facility Name: Mid City Scrap Yard Town: Westport State: MA

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

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

☐ 15. Removal of Other Contaminated Media:

a. Specify Type and Volume: _____

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

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

☐ 16. Other Response Actions:

Describe: _____

☐ 17. Use of Innovative Technologies:

Describe: _____

D. RESPONSE ACTION OUTCOME CLASS:

Specify the Class of Response Action Outcome that applies to the disposal site, or site of the Threat of Release.
Select **ONLY** one Class.

☐ **1. Class A-1 RAO**: Specify one of the following:

☐ a. Contamination has been reduced to background levels. ☐ b. A Threat of Release has been eliminated.

☑ **2. Class A-2 RAO:** You **MUST** provide justification that reducing contamination to or approaching background levels is infeasible.

☐ **3. Class A-3 RAO**: You **MUST** provide an implemented Activity and Use Limitation (AUL) and justification that reducing contamination to or approaching background levels is infeasible.

☐ **4. Class A-4 RAO**: You **MUST** provide an implemented AUL, justification that reducing contamination to or approaching background levels is infeasible, and justification that reducing contamination to less than Upper Concentration Limits (UCLs) 15 feet below ground surface or below an engineered barrier is infeasible. If the permanent solution relies upon an engineered barrier, you must also provide a Phase III report justifying the selection of the engineered barrier.

D. RESPONSE ACTION OUTCOME CLASS (cont.):

☐ **5. Class B-1 RAO: Specify one of the following:**

☐ a. Contamination is consistent with background levels ☐ b. Contamination is **NOT** consistent with background levels.

☐ **6. Class B-2 RAO:** You **MUST** provide an implemented AUL.

☐ **7. Class B-3 RAO:** You **MUST** provide an implemented AUL and justification that reducing contamination to less than Upper Concentration Limits (UCLs) 15 feet below ground surface is infeasable.

☐ **8. Class C RAO:** Specify one:

☐ a. Monitoring ☐ b. Passive Operation and Maintenance

☐ c. Active Operation and Maintenance (defined at 310 CMR 40.0006)

E. RESPONSE ACTION OUTCOME INFORMATION:

1. Specify the Risk Characterization Method(s) used to achieve the RAO described above:

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

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

2. Specify all Soil and Groundwater Categories. More than one Soil Category and more than one Groundwater Category may apply at a Site. Be sure to check off all **APPLICABLE** categories.

a. Soil Category(ies) Applicable:

☐ i. S-1/GW-1 ☐ iv. S-2/GW-1 ☐ vii. S-3/GW-1

☐ ii. S-1/GW-2 ☐ v. S-2/GW-2 ☐ viii. S-3/GW-2

☑ iii. S-1/GW-3 ☐ vi. S-2/GW-3 ☐ ix. S-3/GW-3

b. Groundwater Category(ies) Impacted:

☐ i. GW-1 ☐ ii. GW-2 ☑ iii. GW-3 ☐ iv. No Groundwater Impacted

3. Specify remediation conducted.

☑ a. Check here if soil remediation was conducted.

☐ b. Check here if groundwater remediation was conducted.

4. Estimate the number of acres this RAO Statement applies to: 4.3

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC104

RESPONSE ACTION OUTCOME (RAO) STATEMENT

Pursuant to 310 CMR 40.0580 (Subpart E) & 40.1056 (Subpart J)

Release Tracking Number
4 - 12810

F. LSP SIGNATURE AND STAMP:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and 309 CMR4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief,

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

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

1. LSP #: 6713

2. First Name: Nancy 3. Last Name: Roberts

4. Telephone: (508) 785-0766 5. Ext.: 6. FAX: (508) 785-9767

7. Signature: Nancy C. Roberts

8. Date: 08/20/2004
mm/dd/yyyy

9. LSP Stamp: COMMONWEALTH OF MASSACHUSETTS NANCY C. ROBERTS No. 6713 REGISTERED LICENSED SITE PROFESSIONAL

G. PERSON MAKING SUBMITTAL:

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

2. Name of Organization: G&L Bedford Realty, Inc.

3. Contact First Name: Charles 4. Last Name: Kibbee

5. Street: 145 Rosemary Street 6. Title: Development Manager

7. City/Town: Needham 8. State: MA 9. ZIP Code: 02194-0000

10. Telephone: (781) 449-9000 11. Ext.: 12. FAX: (781) 449-9050

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC104

RESPONSE ACTION OUTCOME (RAO) STATEMENT

Pursuant to 310 CMR 40.0580 (Subpart E) & 40.1056 (Subpart J)

Release Tracking Number
4 - 12810

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

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

☐ e. Other RP or PRP Specify: _____

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

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

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

I. REQUIRED ATTACHMENT AND SUBMITTALS:

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

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

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

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

☐ 5. Check here if required to submit one or more AULs. You must submit an AUL Transmittal Form (BWSC113) and a copy of each implemented AUL related to this RAO Statement. Specify the type of AUL(s) below: (required for Class A-3, A-4, B-2, B-3 RAO Statements)

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

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

☑ 6. If an RAO Compliance Fee is required for any of the RTNs listed on this transmittal form, check here to certify that an RAO Compliance Fee was submitted to DEP, P. O. Box 4062, Boston, MA 02211.

☐ 7. Check here if any non-updatable information provided on this form is incorrect, e.g. Site Address/Location Aid. Send corrections to the DEP Regional Office.

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

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC104

RESPONSE ACTION OUTCOME (RAO) STATEMENT

Pursuant to 310 CMR 40.0580 (Subpart E) & 40.1056 (Subpart J)

Release Tracking Number
4 - 12810

J. CERTIFICATION OF PERSON MAKING SUBMITTAL:

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

2. By: [signature] (Signature) 3. Title: Development Manager

4. For: G&L Bedford Realty, Inc. (Name of person or entity recorded in Section G) 5. Date: 9/13/04 mm/dd/yyyy

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

7. Street: _____

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

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

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

Date Stamp (DEP USE ONLY:)

I. REQUIRED ATTACHMENT AND SUBMITTALS

1. Order(s), Permit(s) and/or Approval(s) issued by DEP or EPA

Response actions on which this opinion is based were conducted in accordance with Item 60 of the February 10, 2004 MADEP Administrative Consent Order (ACOP-BO-03-Z-002-SETT-AMEND#1): "On or before August 31, 2004, the Petitioner shall file with the Department either an RAO or a Phase I Report with Tier Classification for the Site."

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC105

IMMEDIATE RESPONSE ACTION (IRA) TRANSMITTAL FORM

Pursuant to 310 CMR 40.0424 - 40.0427 (Subpart D)

Release Tracking Number
4 - 12810

A. RELEASE OR THREAT OF RELEASE LOCATION:

1. Release Name/Location Aid: Former Dartmouth Finishing

2. Street Address: 45 Cove Street

3. City/Town: New Bedford 4. ZIP Code: 02744-2409

☐ 5. Check here if a Tier Classification Submittal has been provided to DEP for this disposal site.
☐ a. Tier IA ☐ b. Tier IB ☐ c. Tier IC ☐ d. Tier II

☐ 6. Check here if this location is Adequately Regulated, pursuant to 310 CMR 40.0110-0114. Specify Program (check one):
☐ a. CERCLA ☐ b. HSWA Corrective Action ☐ c. Solid Waste Management
☐ d. RCRA State Program (21C Facilities)

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

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

☐ 2. Submit an **Initial IRA Plan.**

☐ 3. Submit a **Modified IRA Plan** of a previously submitted written IRA Plan.

☐ 4. Submit an **Imminent Hazard Evaluation.** (check one)
☐ a. An Imminent Hazard exists in connection with this Release or Threat of Release.
☐ b. An Imminent Hazard does not exist in connection with this Release or Threat of Release.
☐ c. It is unknown whether an Imminent Hazard exists in connection with this Release or Threat of Release, and further assessment activities will be undertaken.
☐ d. It is unknown whether an Imminent Hazard exists in connection with this Release or Threat of Release. However, response actions will address those conditions that could pose an Imminent Hazard.

☐ 5. Submit a request to **Terminate an Active Remedial System or Response Action(s) Taken to Address an Imminent Hazard.**

☐ 6. Submit an **IRA Status Report.**

☑ 7. Submit an **IRA Completion Statement.**

☐ a. Check here if future response actions addressing this Release or Threat of Release notification condition will be conducted as part of the Response Actions planned or ongoing at a Site that has already been Tier Classified under a different Release Tracking Number (RTN). When linking RTNs, rescoring via the NRS is required if there is a reasonable likelihood that the addition of the new RTN(s) would change the classification of the site.

b. Provide Release Tracking Number of Tier Classified Site (Primary RTN): ☐ - ☐

These additional response actions must occur according to the deadlines applicable to the Primary RTN. Use the Primary RTN when making all future submittals for the site unless specifically relating to this Immediate Response Action.

☐ 8. Submit a **Revised IRA Completion Statement.**

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

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC105

IMMEDIATE RESPONSE ACTION (IRA) TRANSMITTAL FORM Pursuant to 310 CMR 40.0424 - 40.0427 (Subpart D)

Release Tracking Number
4 - 12810

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

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

☐ a. Air ☐ b. Basement ☐ c. Critical Exposure Pathway ☑ d. Groundwater ☐ e. Residence
☐ f. Paved Surface ☐ g. Private Well ☐ h. Public Water Supply ☐ i. School ☐ j. Sediments
☑ k. Soil ☐ l. Storm Drain ☐ m. Surface Water ☐ n. Unknown ☐ o. Wetland ☐ p. Zone 2
☐ q. Others Specify: _____

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

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

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

☐ 1. Assessment and/or Monitoring Only
☐ 2. Temporary Covers or Caps
☐ 3. Deployment of Absorbent or Containment Materials
☐ 4. Temporary Water Supplies
☐ 5. Structure Venting System
☐ 6. Temporary Evacuation or Relocation of Residents
☐ 7. Product or NAPL Recovery
☐ 8. Fencing and Sign Posting
☐ 9. Groundwater Treatment Systems
☐ 10. Soil Vapor Extraction
☐ 11. Bioremediation
☐ 12. Air Sparging
☑ 13. Excavation of Contaminated Soils

☑ a. Re-use, Recycling or Treatment ☐ i. On Site Estimated volume in cubic yards _____
☑ ii. Off Site Estimated volume in cubic yards 80

iia. Receiving Facility: Aggregate Industries Town: Stoughton State: MA

iib. Receiving Facility: _____ Town: _____ State: _____

iii. Describe: _____

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

iia. Receiving Facility: _____ Town: _____ State: _____

iib. Receiving Facility: _____ Town: _____ State: _____

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

☐ c. Landfill

☐ i. Cover Estimated volume in cubic yards _____

Receiving Facility: _____ Town: _____ State: _____

☐ ii. Disposal Estimated volume in cubic yards _____

Receiving Facility: _____ Town: _____ State: _____

☑ 14. Removal of Drums, Tanks or Containers:

a. Describe Quantity and Amount: Two 10,000-gallon USTs

b. Receiving Facility: Mid City Scrap Yard Town: Westport State: MA

c. Receiving Facility: _____ Town: _____ State: _____

☐ 15. Removal of Other Contaminated Media:

a. Specify Type and Volume: _____

b. Receiving Facility: _____ Town: _____ State: _____

c. Receiving Facility: _____ Town: _____ State: _____

☐ 16. Other Response Actions:

Describe: _____

☐ 17. Use of Innovative Technologies:

Describe: _____

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC105

IMMEDIATE RESPONSE ACTION (IRA) TRANSMITTAL FORM

Pursuant to 310 CMR 40.0424 - 40.0427 (Subpart D)

Release Tracking Number
4 - 12810

E. LSP SIGNATURE AND STAMP:

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

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

> *if Section B of this form indicates that an **Imminent Hazard Evaluation** is being submitted*, this Imminent Hazard Evaluation was developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and the assessment activity(ies) undertaken to support this Imminent Hazard Evaluation comply(ies) with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000;

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

> *if Section B of this form indicates that an **Immediate Response Action Completion Statement** or a request to **Terminate an Active Remedial System or Response Action(s) Taken to Address an Imminent Hazard** is being submitted*, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal.

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

1. LSP #: 6713

2. First Name: Nancy 3. Last Name: Roberts

4. Telephone: (508) 785-0766 5. Ext.: 6. FAX: (508) 785-9767

7. Signature: Nancy C. Roberts

8. Date: 08/25/2004 (mm/dd/yyyy)

9. LSP Stamp: COMMONWEALTH OF MASSACHUSETTS NANCY C. ROBERTS No. 6713 REGISTERED LICENSED SITE PROFESSIONAL

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC105

Release Tracking Number
4 - 12810

IMMEDIATE RESPONSE ACTION (IRA) TRANSMITTAL FORM

Pursuant to 310 CMR 40.0424 - 40.0427 (Subpart D)

F. PERSON UNDERTAKING IRA:

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

2. Name of Organization: G & L Bedford Realty, Inc.

3. Contact First Name: Charles 4. Last Name: Kibbee

5. Street: 145 Rosemary Street 6. Title: Development Manager

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

10. Telephone: (781) 449-9000 11. Ext.: 12. FAX: (781) 449-9050

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

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

☐ e. Other RP or PRP Specify:

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

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

☐ 4. Any Other Person Undertaking IRA Specify Relationship:

H. REQUIRED ATTACHMENT AND SUBMITTALS:

☐ 1. Check here if any Remediation Waste, generated as a result of this IRA, will be stored, treated, managed, recycled or reused at the site following submission of the IRA Completion Statement. If this box is checked, you must submit one of the following plans, along with the appropriate transmittal form.

☐ a. A Release Abatement Measure (RAM) Plan (BWSC106) ☐ b. Phase IV Remedy Implementation Plan (BWSC108)

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

☐ 3. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the implementation of an Immediate Response Action taken to control, prevent, abate or eliminate an Imminent Hazard.

☑ 4. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the submittal of a Completion Statement for an Immediate Response Action taken to control, prevent, abate or eliminate an Imminent Hazard.

☐ 5. Check here if any non-updatable information provided on this form is incorrect, e.g. Release Address/Location Aid. Send corrections to the DEP Regional Office.

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

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC105

IMMEDIATE RESPONSE ACTION (IRA) TRANSMITTAL FORM

Pursuant to 310 CMR 40.0424 - 40.0427 (Subpart D)

Release Tracking Number
4 - 12810

I. CERTIFICATION OF PERSON UNDERTAKING IRA:

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

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

4. For: G & L Bedford Realty, Inc. (Name of person or entity recorded in Section F) 5. Date: 8/13/04 (mm/dd/yyyy)

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

7. Street: _____

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

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

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

Date Stamp (DEP USE ONLY:)

H. REQUIRED ATTACHMENTS AND SUBMITTALS:

2. Order(s), Permit(s) and/or Approval(s) issued by DEP or EPA

Response actions on which this opinion is based were conducted in accordance MADEP Administrative Consent Order (ACOP-BO-03-Z-002).

ROBERTS CONSULTING, INC.

Environmental Solutions For Business

2 Bieler Path Circle, Dover, MA 02030

Test Pit ID: Tank 1 (T1) Excavation

Site: Former Dartmouth Finishing

Location: 45 Cove Street, New Bedford

Start Date: May 5, 2004

Project #: 506.17

End Date: May 5, 2004

Client Name: G&L Bedford Realty, Inc.

Project Name: Former Dartmouth Finishing

Site Address: 45 Cove Street

City: New Bedford State: MA

Excavation Company: Tree Line Const.

Excavation Method: Excavator

Operator: Dennis

Lightship Rep.: Tara Walsh

Start Depth	Finish Depth	Sample ID	TOVs (ppmv)	Lithology (USCS)	Description	Test Pit
0	5	T1-Fill Pipe (2')	0.2	Fill	A 10,000-gallon steel UST (T1) was emptied, cleaned and removed from the excavation. Fill surrounding the UST consisted of: Brown, dry, fine to coarse SAND, some gravel and debris (brick, metal, concrete, ash). A slight petroleum odor and visible impacts were observed at the northeast end of UST excavation. All visibly impacted soil was removed except for the northeast corner of the excavation, under the foundation wall. A concrete wall is located in+G16 north-south direction at depth of 0-3 feet on the east side of the excavation. An abandoned drain pipe was located in an east-west direction at depth of 4-5 feet on the north side of the excavation. An active gas line is located in a north-south direction at a depth of 2-3 feet on the west side of the excavation.	
		T1-Excav. Soil (5')	6.7			
		T1-North SW (5')*	0.8			
		T1-South SW (5')	0.1			
		T1-East (N) SW (5')*	2.6			
		T1-East (S) SW (5')*	2.3			
		T1-West SW (5')*	0.1			
5	8	T1-Bottom (N) (8')	2.6	Fill	Brown, wet, fine to medium SAND, some gravel and debris (brick, metal, concrete, ash).	
		T1-Bottom (S) (8')	6.6			

Notes: TOVs: total organic vapors as measured in jar headspace method with photo ionization detector using 10.6 electron volt bulb.
*: Indicates post-excavation composite soil sample collected from the sidewalls of the excavation for laboratory analysis. The southern sidewall sample was not submitted for laboratory analysis, as this material was removed during excavation of the second UST. Samples collected from the bottom of the excavation, beneath the water table, were also not submitted for laboratory analysis.

ROBERTS CONSULTING, INC.

Environmental Solutions For Business

2 Bridle Path Circle, Dover, MA 02030

Test Pit ID: Tank 2 (T2) Excavation

Site: Former Dartmouth Finishing

Location: 45 Cove Street, New Bedford

Start Date: May 6, 2004

Project #: 506.17

End Date: May 6, 2004

Client Name: G&L Bedford Realty, Inc.

Project Name: Former Dartmouth Finishing

Site Address: 45 Cove Street

City: New Bedford State: MA

Excavation Company: Tree Line Const.

Excavation Method: Excavator

Operator: Dennis

Lightship Rep.: Tara Walsh

Start Depth	Finish Depth	Sample ID	TOVs (ppmv)	Lithology (USCS)	Description	Test Pit
0	5	T2-Fill Pipe (2')	0.2	Fill	A 10,000-gallon steel UST (T2) was emptied, cleaned and removed from the excavation. Fill surrounding the UST consisted of: Brown, dry, fine to coarse SAND, some gravel and debris (brick, metal, concrete, ash). A slight petroleum odor and visible impacts were observed at the northeast end of UST excavation. All visibly impacted soil was removed except for the northeast corner of the excavation, under the foundation wall. A concrete wall is located in a north-south direction at depth of 0-3 feet on the east side of the excavation. An active gas line is located in a north-south direction at a depth of 2-3 feet on the west side of the excavation.	
		T2-Excav. Soil (5')	5.5			
		T2-South SW (5')*	3.3			
		T2-East (N) SW (5')*	0.3			
		T2-East (S) SW (5')*	0			
		T2-West SW (5')*	0			
5	8	T2-Bottom (N) (8')	5.1	Fill	Brown, wet, fine to medium SAND, some gravel and debris (brick, metal, concrete, ash).	
		T2-Bottom (S) (8')	0.5			

Notes: TOVs: total organic vapors as measured in jar headspace method with photo ionization detector using 10.6 electron volt bulb.
*: Indicates post-excavation composite soil sample collected from the sidewalls of the excavation for laboratory analysis.
Samples collected from the bottom of the excavation, beneath the water table, were not submitted for laboratory analysis.

ROBERTS CONSULTING, INC.

Environmental Solutions For Business

2 Bridle Path Circle, Dover, MA 02030

Test Pit ID: MW-1 | Page 1 of 1

Site: Former Dartmouth Finishing | Project #: 506.17

Location: 45 Cove St., New Bedford

Start Date: May 11, 2004 | End Date: May 11, 2004

Client Name: G & L Bedford Realty

Project Name: Former Dartmouth Finishing

Site Address: 45 Cove Street

City: New Bedford State: MA

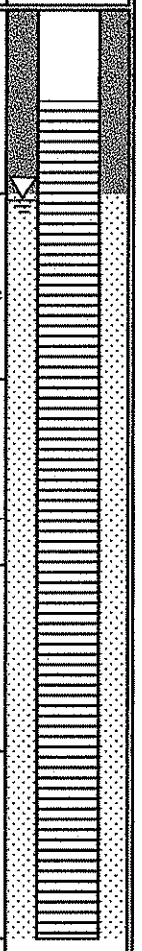
Drilling Company: Soil Exploration Corp.

Drilling Method: Hollow Stem Auger

Operator: George and Mark

Lightship Rep.: Tara Walsh

Start Depth	Finish Depth	Sample ID	TOVs (ppmv)	Lithology (USCS)	Description	Well
0	1		0.0	Fill/Foundation	0-8", Brown, dry, fine to coarse SAND, GRAVEL and DEBRIS (concrete, brick). 8-12", Concrete (Former Foundation Floor).	
1	3		0	SM	Blow Count 5-4-2-1, 2" Recovery 1-3', Dark gray, wet, fine SAND and SILT, some medium to coarse sand and fine gravel.	
3	5	MW-1(3-4.5')*	4	PT	Blow Count 1-4-6-5, 20" Recovery 3-4.5', Black, wet, PEAT with layers of organic silty sand. Marine odor.	
			0	SW	4.5-5', Gray, wet, fine to coarse SAND.	
5	7		0	SW	Blow Count 2-3-3-4, 20" Recovery 5-7', Gray, wet, fine to coarse SAND.	
7	10.5		NA	SW	Grab samples collected from auger flights. Soil same as above.	



Notes: Monitoring Well Construction Specifications: 10 feet of 2-inch diameter schedule 40 PVC 0.010-inch slotted screen set from 0.5 to 10.5 feet below grade with about 4 feet of 2-inch diameter schedule 40 PVC riser above. Annular space between the borehole and well was completed with filter sand pack from 1 to 10.5 feet below grade and a bentonite and concrete seal from 0 to 1 feet. The well was finished above grade with a locking steel standpipe.

* Indicates that soil sample was submitted for laboratory analysis.

ROBERTS CONSULTING, INC.

Environmental Solutions For Business

2 Bridle Path Circle, Dover, MA 02030

Test Pit ID: MW-2 | Page 1 of 1

Site: Former Dartmouth Finishing | Project #: 506.17

Location: 45 Cove St., New Bedford

Start Date: May 11, 2004 | End Date: May 11, 2004

Client Name: G & L Bedford Realty

Project Name: Former Dartmouth Finishing

Site Address: 45 Cove Street

City: New Bedford State: MA

Drilling Company: Soil Exploration Corp.

Drilling Method: Hollow Stem Auger

Operator: George and Mark

Lightship Rep.: Tara Walsh

Start Depth	Finish Depth	Sample ID	TOVs (ppmv)	Lithology (USCS)	Description	Well
0	2		NA	Fill/Foundation SM	0-8", Brown, dry, fine to coarse SAND, GRAVEL and DEBRIS (concrete, brick). 8-10", Concrete (Former Foundation Floor). 10-24", Dark gray, wet, fine SAND and SILT, some medium to coarse sand and fine gravel.	
2	4		0	SM	Blow Count 4-3-2-3, 3" Recovery 2-4', Dark gray, wet, fine SAND and SILT, some medium to coarse sand and fine gravel.	
4	6	MW-2(4-6')*	0	PT/SW	Blow Count 1-1-1-4, 12" Recovery 4-5.5', Black, wet, PEAT with layers of organic silty sand. Marine odor. 5.5-6', Gray, wet, fine to coarse SAND.	
7	9		0	SW	Blow Count 6-9-7-11, 18" Recovery 7-9', Gray, wet, fine to coarse SAND.	
9	11		NA	GW	Blow Count 17-23-30-29, 18" Recovery 9-10', Gray, wet, fine to coarse SAND. 10-11', Gray, wet, fine to coarse SAND and GRAVEL.	

Notes: Monitoring Well Construction Specifications: 10 feet of 2-inch diameter schedule 40 PVC 0.010-inch slotted screen set from 1 to 11 feet below grade with about 4 feet of 2-inch diameter schedule 40 PVC riser above. Annular space between the borehole and well was completed with filter sand pack from 1 to 11 feet below grade and a bentonite and concrete seal from 0 to 1 feet. The well was finished above grade with a locking steel standpipe. * Indicates that soil sample was submitted for laboratory analysis.

ROBERTS CONSULTING, INC.

Environmental Solutions For Business

2 Bridle Path Circle, Dover, MA 02030

Test Pit ID: MW-3

Site: Former Dartmouth Finishing

Project #: 506.17

Location: 45 Cove St., New Bedford

Start Date: May 11, 2004

End Date: May 11, 2004

Client Name: G & L Bedford Realty

Project Name: Former Dartmouth Finishing

Site Address: 45 Cove Street

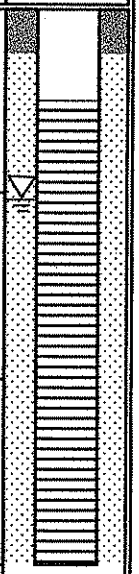
City: New Bedford State: MA

Drilling Company: Soil Exploration Corp.

Drilling Method: Hollow Stem Auger

Operator: George and Mark

Lightship Rep.: Tara Walsh

Start Depth	Finish Depth	Sample ID	TOVs (ppmv)	Lithology (USCS)	Description	Well
0	8		NA	Fill	0-8', Not sampled. Soil consists of clean fill used to backfill former UST excavation.	
8	10		0	SM	Blow Count 3-3-5-5, 18" Recovery 8-10', Brown, wet, fine to medium SAND, some coarse sand, little fine gravel.	
10	12	MW-3(10-12')*	0	SW	Blow Count 5-6-26-31, 20" Recovery 10-12', Gray, wet, fine to coarse SAND, some fine gravel.	
14	16		0	SW	Blow Count 28-45-100R, 14" Recovery 14-16', Gray, wet, fine to coarse SAND and GRAVEL.	

Notes: Monitoring Well Construction Specifications: 10 feet of 2-inch diameter schedule 40 PVC 0.010-inch slotted screen set from 4 to 14 feet below grade with about 7 feet of 2-inch diameter schedule 40 PVC riser above. Annular space between the borehole and well was completed with: filter sand pack from 3 to 14 feet below grade, a bentonite seal from 2 to 3 feet, native fill material from 1 to 2 feet and concrete from 0 to 1 feet. The well was finished above grade with a locking steel standpipe. * Indicates that soil sample was submitted for laboratory analysis.

ROBERTS CONSULTING, INC.

Environmental Solutions For Business

2 Bridle Path Circle, Dover, MA 02030

Test Pit ID: MW-4

Site: Former Dartmouth Finishing

Location: 45 Cove St., New Bedford

Start Date: May 11, 2004

Project #: 506.17

End Date: May 11, 2004

Client Name: G & L Bedford Realty

Project Name: Former Dartmouth Finishing

Site Address: 45 Cove Street

City: New Bedford State: MA

Drilling Company: Soil Exploration Corp.

Drilling Method: Hollow Stem Auger

Operator: George and Mark

Lightship Rep.: Tara Walsh

Start Depth	Finish Depth	Sample ID	TOVs (ppmv)	Lithology (USCS)	Description	Well
0	2		NA	Fill/Foundation SM	0-8", Brown, dry, fine to coarse SAND, GRAVEL and DEBRIS (concrete, brick). 8-10", Concrete (Former Foundation Floor). 10-24", Dark gray, wet, fine SAND and SILT, some medium to coarse sand and fine gravel.	
2	4	MW-4 (2-4')*	103	SM	Blow Count 17-2-1-1, 6" Recovery 2-4', Dark gray, wet, fine SAND and SILT, some medium to coarse sand, fine gravel and debris (concrete).	
4	6		1	OL	Blow Count -4-20-36-47, 16" Recovery 4-6', Dark gray, wet, fine to coarse SAND, trace silt and organics. Marine odor.	
8	10		2.7	SW	Blow Count 46-39-27-32, 20" Recovery 8-8.5', Same as above. 8.5-9.5', Gray/brown, wet, coarse gravel (rock fragments) 9.5-10', Gray, wet, fine to coarse SAND and GRAVEL.	
10	11		NA	SW	Grab sample collected from auger flights. Soil same as above.	

Notes: Monitoring Well Construction Specifications: 10 feet of 2-inch diameter schedule 40 PVC 0.010-inch slotted screen set from 1 to 11 feet below grade with about 4 feet of 2-inch diameter schedule 40 PVC riser above. Annular space between the borehole and well was completed with filter sand pack from 1 to 11 feet below grade and a bentonite and concrete seal from 0 to 1 feet. The well was finished above grade with a locking steel standpipe. * Indicates that soil sample was submitted for laboratory analysis.

ROBERTS CONSULTING, INC.

Environmental Solutions For Business

2 Bridle Path Circle, Dover, MA 02030

Test Pit ID: MW-5

Site: Former Dartmouth Finishing Project #: 506.17

Location: 45 Cove St., New Bedford

Start Date: May 12, 2004 End Date: May 12, 2004

Client Name: G & L Bedford Realty

Project Name: Former Dartmouth Finishing

Site Address: 45 Cove Street

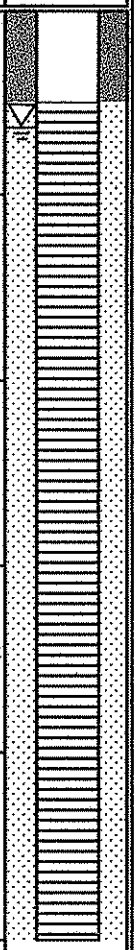
City: New Bedford State: MA

Drilling Company: Soil Exploration Corp.

Drilling Method: Hollow Stem Auger

Operator: George and Mark

Lightship Rep.: Tara Walsh

Start Depth	Finish Depth	Sample ID	TOVs (ppmv)	Lithology (USCS)	Description	Well
0	2		NA	Fill	0-2', Brown, dry, fine to coarse SAND, some gravel and debris (concrete, brick). No concrete foundation floor detected.	
2	4		1.5	Fill	Blow Count 1-1-1-7, 6" Recovery 2-4', Dark brown, damp, fine to coarse SAND, some gravel and debris (brick, wood) and organics.	
5	7	MW-5 (5-7')*	5.8	OL/SW	Blow Count 10-16-13-25, 8" Recovery 5-5.5', Black, wet, PEAT with silty fine sand, marine odor. 5.5-7', Gray/ brown, wet, fine to coarse SAND and fine GRAVEL.	
8	10		1	SM/SW	Blow Count 15-23-25-25, 20" Recovery 8-9', Brown, wet, fine to coarse SAND, some silt and fine gravel. 9-10', Brown, wet, fine to coarse SAND and GRAVEL.	
10	11		NA	SW	Grab sample collected from auger flights. Soil same as above.	

Notes: Monitoring Well Construction Specifications: 10 feet of 2-inch diameter schedule 40 PVC 0.010-inch slotted screen set from 1 to 11 feet below grade with about 4 feet of 2-inch diameter schedule 40 PVC riser above. Annular space between the borehole and well was completed with filter sand pack from 1 to 11 feet below grade and a bentonite and concrete seal from 0 to 1 feet. The well was finished above grade with a locking steel standpipe. * Indicates that soil sample was submitted for laboratory analysis.

ROBERTS CONSULTING, INC.

Environmental Solutions For Business

2 Bridle Path Circle, Dover, MA 02030

Test Pit ID: MW-6

Site: Former Dartmouth Finishing

Location: 45 Cove St., New Bedford

Start Date: May 12, 2004

Project #: 506.17

End Date: May 12, 2004

Client Name: G & L Bedford Realty

Project Name: Former Dartmouth Finishing

Site Address: 45 Cove Street

City: New Bedford State: MA

Drilling Company: Soil Exploration Corp.

Drilling Method: Hollow Stem Auger

Operator: George and Mark

Lightship Rep.: Tara Walsh

Start Depth	Finish Depth	Sample ID	TOVs (ppmv)	Lithology (USCS)	Description	Well
0	1		0	Fill/Foundation	0-8", Brown, dry, fine to coarse SAND, GRAVEL and DEBRIS (concrete, brick). 8-12", Concrete (Former Foundation Floor).	
1	3		0	SM	Blow Count 18-17-15-10, 8" Recovery 1-3', Brown, damp, fine to coarse SAND and fine GRAVEL, trace silt, organics and debris (brick).	
4	6	MW-6 (4-6')*	0.1	SW/SM	Blow Count 10-16-9-11, 22" Recovery 4-4.5', Brown, wet, fine to coarse SAND and GRAVEL. 4.5-6', Brown, wet, fine SAND, little medium to coarse sand and fine gravel.	
8	10		0	SP	Blow Count 8-9-8-6, 1" Recovery 8-10', Brown, wet, fine to medium SAND and fine GRAVEL, trace coarse sand and organics.	
10	11		NA	SP	Grab sample collected from auger flights. Soil same as above.	

Notes: Monitoring Well Construction Specifications: 10 feet of 2-inch diameter schedule 40 PVC 0.010-inch slotted screen set from 1 to 11 feet below grade with about 4 feet of 2-inch diameter schedule 40 PVC riser above. Annular space between the borehole and well was completed with filter sand pack from 1 to 11 feet below grade and a bentonite and concrete seal from 0 to 1 feet. The well was finished above grade with a locking steel standpipe. * Indicates that soil sample was submitted for laboratory analysis.

Appendix B

Weston&Sampson

APPENDIX B

Field Documents

TEST PIT LOG

PROJECT NAME/NO.	45 Cove Street New Bedford MA			**TEST PIT NUMBER**	
LOCATION	New Bedford MA			TP -9N	
CLIENT	City of New Bedford			GROUND SURFACE	
CONTRACTOR	A-Zoulias Env. Enterpr.	FOREMAN:	B. Zoulias	ELEVATION	Grade
OBSERVED BY	Steve Pisch	DATE	4/30/12	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	

DEPTH BELOW GROUND SURFACE (ft.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION
0-3'	FILL - Fine to Coarse SAND and GRAVEL with some Organic Material, steel pipe, brick, wood, concrete.
	End of excavation @ 3'

NOTES:

PID Samples: 0-3' 2.83

TEST PIT NUMBER

TP -9N

WESTON & SAMPSON ENGINEERS, INC.

O:\New Bedford - Cove St\Cove St\Reports\Phase II Documents\Supplemental Phase II\Field Notes\[Test pit_New Bedford 2012.xls]TP-2W

TEST PIT LOG

PROJECT NAME/NO.	45 Cove Street New Bedford MA			**TEST PIT NUMBER**	
LOCATION	New Bedford MA			TP -9E	
CLIENT	City of New Bedford			GROUND SURFACE	
CONTRACTOR	A-Zoulias Env. Enterpr.	FOREMAN:	B. Zoulias	ELEVATION	Grade
OBSERVED BY	Steve Pisch	DATE	4/30/12	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	

DEPTH BELOW GROUND SURFACE (ft.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION
0-3'	FILL - BLACK/GREY Fine to Coarse SAND and GRAVEL with some Organic Material, metal, brick, wood.
	End of excavation @ 3'

NOTES:

PID Samples: 0-3' 1.50

TEST PIT NUMBER

TP -9E

WESTON & SAMPSON ENGINEERS, INC.

O:\New Bedford - Cove St\Cove St\Reports\Phase II Documents\Supplemental Phase II\Field Notes\[Test pit_New Bedford 2012.xls]TP-2W

TEST PIT LOG

PROJECT NAME/NO.	45 Cove Street New Bedford MA			**TEST PIT NUMBER**	
LOCATION	New Bedford MA			TP -9S	
CLIENT	City of New Bedford			GROUND SURFACE	
CONTRACTOR	A-Zoulias Env. Enterpr.	FOREMAN:	B. Zoulias	ELEVATION	Grade
OBSERVED BY	Steve Pisch	DATE	4/30/12	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	

DEPTH BELOW GROUND SURFACE (ft.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION
0-3'	FILL - BLACK/GREY Fine to Coarse SAND and GRAVEL with some Organic Material, metal, brick, wood.
	End of excavation @ 3'

NOTES:

PID Samples: 0-3' 19

TEST PIT NUMBER

TP -9S

WESTON & SAMPSON ENGINEERS, INC.

O:\New Bedford - Cove St\Cove St\Reports\Phase II Documents\Supplemental Phase II\Field Notes\[Test pit_New Bedford 2012.xls]TP-2W

TEST PIT LOG

PROJECT NAME/NO.	45 Cove Street New Bedford MA			**TEST PIT NUMBER**	
LOCATION	New Bedford MA			TP -9W	
CLIENT	City of New Bedford			GROUND SURFACE	
CONTRACTOR	A-Zoulias Env. Enterpr.	FOREMAN:	B. Zoulias	ELEVATION	Grade
OBSERVED BY	Steve Pisch	DATE	4/30/12	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	

DEPTH BELOW GROUND SURFACE (ft.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION
0-3'	FILL - Fine to Coarse SAND and GRAVEL with some Organic Material, brick, wood.
	End of excavation @ 3'

NOTES:

PID Samples: 0-3' 1.3

TEST PIT NUMBER

TP -9W

WESTON & SAMPSON ENGINEERS, INC.

O:\New Bedford - Cove St\Cove St\Reports\Phase II Documents\Supplemental Phase II\Field Notes\[Test pit_New Bedford 2012.xls]TP-2W

TEST PIT LOG

PROJECT NAME/NO.	45 Cove Street New Bedford MA			**TEST PIT NUMBER**	
LOCATION	New Bedford MA			TP -8S	
CLIENT	City of New Bedford			GROUND SURFACE	
CONTRACTOR	A-Zoulias Env. Enterpr.	FOREMAN:	B. Zoulias	ELEVATION	Grade
OBSERVED BY	Steve Pisch	DATE	5/7/12	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	

DEPTH BELOW GROUND SURFACE (ft.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION
0-3'	FILL - Fine to Coarse SAND and GRAVEL with some Organic Material, brick, wood.
	End of excavation @ 3'

NOTES:

PID Samples: 0-3' 2.4

TEST PIT NUMBER

TP -8S

WESTON & SAMPSON ENGINEERS, INC.

O:\New Bedford - Cove St\Cove St\Reports\Phase II Documents\Supplemental Phase II\Field Notes\[Test pit_New Bedford 2012.xls]TP-2W

TEST PIT LOG

PROJECT NAME/NO.	45 Cove Street New Bedford MA			**TEST PIT NUMBER**	
LOCATION	New Bedford MA			TP -8E	
CLIENT	City of New Bedford			GROUND SURFACE	
CONTRACTOR	A-Zoulias Env. Enterpr.	FOREMAN:	B. Zoulias	ELEVATION	Grade
OBSERVED BY	Steve Pisch	DATE	5/7/12	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	

DEPTH BELOW GROUND SURFACE (ft.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION
0-3'	FILL - Fine to Coarse SAND and GRAVEL with some Organic Material, brick, wood.
	End of excavation @ 3'

NOTES:

PID Samples: 0-3' 2.9

TEST PIT NUMBER

TP -8E

WESTON & SAMPSON ENGINEERS, INC.

O:\New Bedford - Cove St\Cove St\Reports\Phase II Documents\Supplemental Phase II\Field Notes\[Test pit_New Bedford 2012.xls]TP-2W

TEST PIT LOG

PROJECT NAME/NO.	45 Cove Street New Bedford MA			**TEST PIT NUMBER**	
LOCATION	New Bedford MA			TP -8N	
CLIENT	City of New Bedford			GROUND SURFACE	
CONTRACTOR	A-Zoulias Env. Enterpr.	FOREMAN:	B. Zoulias	ELEVATION	Grade
OBSERVED BY	Steve Pisch	DATE	5/7/12	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	

DEPTH BELOW GROUND SURFACE (ft.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION
0-3'	FILL - Fine to Coarse SAND and GRAVEL with some Organic Material, brick, wood.
	End of excavation @ 3'

NOTES:

PID Samples: 0-3' 0.5

TEST PIT NUMBER

TP -8N

WESTON & SAMPSON ENGINEERS, INC.

O:\New Bedford - Cove St\Cove St\Reports\Phase II Documents\Supplemental Phase II\Field Notes\[Test pit_New Bedford 2012.xls]TP-2W

TEST PIT LOG

PROJECT NAME/NO.	45 Cove Street New Bedford MA			**TEST PIT NUMBER**	
LOCATION	New Bedford MA			TP -8W	
CLIENT	City of New Bedford			GROUND SURFACE	
CONTRACTOR	A-Zoulias Env. Enterpr.	FOREMAN:	B. Zoulias	ELEVATION	Grade
OBSERVED BY	Steve Pisch	DATE	5/7/12	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	

DEPTH BELOW GROUND SURFACE (ft.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION
0-3'	FILL - Fine to Coarse SAND and GRAVEL with some Organic Material, brick, wood.
	End of excavation @ 3'

NOTES:

PID Samples: 0-3' 1.0

TEST PIT NUMBER

TP -8W

WESTON & SAMPSON ENGINEERS, INC.

O:\New Bedford - Cove St\Cove St\Reports\Phase II Documents\Supplemental Phase II\Field Notes\[Test pit_New Bedford 2012.xls]TP-2W

TEST PIT LOG

PROJECT NAME/NO.	45 Cove Street New Bedford MA			**TEST PIT NUMBER**	
LOCATION	New Bedford MA			TP -19N	
CLIENT	City of New Bedford			GROUND SURFACE	
CONTRACTOR	A-Zoulias Env. Enterpr.	FOREMAN:	B. Zoulias	ELEVATION	Grade
OBSERVED BY	Steve Pisch	DATE	5/7/12	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	

DEPTH BELOW GROUND SURFACE (ft.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION
0-3'	FILL - BLACK/GREY Fine to Coarse SAND and GRAVEL with brick and wood.
	End of excavation @ 3'

NOTES:

PID Samples: 0-3' 53.0

TEST PIT NUMBER

TP -19N

WESTON & SAMPSON ENGINEERS, INC.

O:\New Bedford - Cove St\Cove St\Reports\Phase II Documents\Supplemental Phase II\Field Notes\[Test pit_New Bedford 2012.xls]TP-2W

TEST PIT LOG

PROJECT NAME/NO.	45 Cove Street New Bedford MA			**TEST PIT NUMBER**	
LOCATION	New Bedford MA			TP -19E	
CLIENT	City of New Bedford			GROUND SURFACE	
CONTRACTOR	A-Zoulias Env. Enterpr.	FOREMAN:	B. Zoulias	ELEVATION	Grade
OBSERVED BY	Steve Pisch	DATE	4/30/12	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	

DEPTH BELOW GROUND SURFACE (ft.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION
0-3'	FILL - BLACK/GREY Fine to Coarse SAND and GRAVEL with brick, wood, fabric, and Organic Material.
	End of excavation @ 3'

NOTES:

PID Samples: 0-3' 650

TEST PIT NUMBER

TP -19E

WESTON & SAMPSON ENGINEERS, INC.

O:\New Bedford - Cove St\Cove St\Reports\Phase II Documents\Supplemental Phase II\Field Notes\[Test pit_New Bedford 2012.xls]TP-2W

TEST PIT LOG

PROJECT NAME/NO.	45 Cove Street New Bedford MA			**TEST PIT NUMBER**	
LOCATION	New Bedford MA			TP -19S	
CLIENT	City of New Bedford			GROUND SURFACE	
CONTRACTOR	A-Zoulias Env. Enterpr.	FOREMAN:	B. Zoulias	ELEVATION	Grade
OBSERVED BY	Steve Pisch	DATE	5/7/12	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	

DEPTH BELOW GROUND SURFACE (ft.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION
0-3'	FILL - BLACK/GREY Fine to Coarse SAND and GRAVEL with some Organic Material, brick, wood, steel pipe, glass, concrete. Water in excavation has oily sheen.
	End of excavation @ 3'

NOTES:

PID Samples: 0-3' 4.4

TEST PIT NUMBER

TP -19S

WESTON & SAMPSON ENGINEERS, INC.

O:\New Bedford - Cove St\Cove St\Reports\Phase II Documents\Supplemental Phase II\Field Notes\[Test pit_New Bedford 2012.xls]TP-2W

TEST PIT LOG

PROJECT NAME/NO.	45 Cove Street New Bedford MA			**TEST PIT NUMBER**	
LOCATION	New Bedford MA			TP -19W	
CLIENT	City of New Bedford			GROUND SURFACE	
CONTRACTOR	A-Zoulias Env. Enterpr.	FOREMAN:	B. Zoulias	ELEVATION	Grade
OBSERVED BY	Steve Pisch	DATE	5/7/12	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	

DEPTH BELOW GROUND SURFACE (ft.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION
0-3'	FILL - Fine to Coarse SAND and GRAVEL with some Organic Material, brick, wood, metal, concrete.
	End of excavation @ 3'

NOTES:

PID Samples: 0-3' 2.8

TEST PIT NUMBER

TP -19W

WESTON & SAMPSON ENGINEERS, INC.

O:\New Bedford - Cove St\Cove St\Reports\Phase II Documents\Supplemental Phase II\Field Notes\[Test pit_New Bedford 2012.xls]TP-2W

TEST PIT LOG

PROJECT NAME/NO.	45 Cove Street New Bedford MA			**TEST PIT NUMBER**	
LOCATION	New Bedford MA			TP -18S	
CLIENT	City of New Bedford			GROUND SURFACE	
CONTRACTOR	A-Zoulias Env. Enterpr.	FOREMAN:	B. Zoulias	ELEVATION	Grade
OBSERVED BY	Steve Pisch	DATE	5/7/12	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	

DEPTH BELOW GROUND SURFACE (ft.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION
0-3'	FILL - Fine to Coarse SAND and GRAVEL with some Organic Material, peat, brick, concrete.
	End of excavation @ 3'

NOTES:

PID Samples: 0-3' 2.5

TEST PIT NUMBER

TP -18S

WESTON & SAMPSON ENGINEERS, INC.

O:\New Bedford - Cove St\Cove St\Reports\Phase II Documents\Supplemental Phase II\Field Notes\[Test pit_New Bedford 2012.xls]TP-2W

TEST PIT LOG

PROJECT NAME/NO.	45 Cove Street New Bedford MA			**TEST PIT NUMBER**	
LOCATION	New Bedford MA			TP -18W	
CLIENT	City of New Bedford			GROUND SURFACE	
CONTRACTOR	A-Zoulias Env. Enterpr.	FOREMAN:	B. Zoulias	ELEVATION	Grade
OBSERVED BY	Steve Pisch	DATE	5/7/12	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	

DEPTH BELOW GROUND SURFACE (ft.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION
0-3'	FILL - GREY/BROWN Fine to Coarse SAND and GRAVEL with some Organic Material, peat, brick, concrete.
	End of excavation @ 3'

NOTES:

PID Samples: 0-3' 0.5

TEST PIT NUMBER

TP -18W

WESTON & SAMPSON ENGINEERS, INC.

O:\New Bedford - Cove St\Cove St\Reports\Phase II Documents\Supplemental Phase II\Field Notes\[Test pit_New Bedford 2012.xls]TP-2W

TEST PIT LOG

PROJECT NAME/NO.	45 Cove Street New Bedford MA			**TEST PIT NUMBER**	
LOCATION	New Bedford MA			TP -12N	
CLIENT	City of New Bedford			GROUND SURFACE	
CONTRACTOR	A-Zoulias Env. Enterpr.	FOREMAN:	B. Zoulias	ELEVATION	Grade
OBSERVED BY	Steve Pisch	DATE	5/7/12	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	

DEPTH BELOW GROUND SURFACE (ft.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION
0-3'	FILL - GREY Fine to Coarse SAND and GRAVEL with some Organic Material, brick, wood.
	End of excavation @ 3'

NOTES:

PID Samples: 0-3' 0.5

TEST PIT NUMBER

TP -12N

WESTON & SAMPSON ENGINEERS, INC.

O:\New Bedford - Cove St\Cove St\Reports\Phase II Documents\Supplemental Phase II\Field Notes\[Test pit_New Bedford 2012.xls]TP-2W

TEST PIT LOG

PROJECT NAME/NO.	45 Cove Street New Bedford MA			**TEST PIT NUMBER**	
LOCATION	New Bedford MA			TP -2W	
CLIENT	City of New Bedford			GROUND SURFACE	
CONTRACTOR	A-Zoulias Env. Enterpr.	FOREMAN:	B. Zoulias	ELEVATION	Grade
OBSERVED BY	Steve Pisch	DATE	5/7/12	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	

DEPTH BELOW GROUND SURFACE (ft.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION
0-3'	FILL - GREY Fine to Coarse SAND and GRAVEL with some Organic Material.
	End of excavation @ 3'

NOTES:

PID Samples: 0-3' 35.6

TEST PIT NUMBER

TP -2W

WESTON & SAMPSON ENGINEERS, INC.

O:\New Bedford - Cove St\Cove St\Reports\Phase II Documents\Supplemental Phase II\Field Notes\[Test pit_New Bedford 2012.xls]TP-2W

Well Purging/Groundwater Sampling Report

Project Name: # 45 CONE STREET Project #: Date: 4.16.12
Well ID: MW-4 Well Diameter (in) 2 Casing Type: PVC
Depth to Water: 4.60 Total Depth: 13.15 Screen Length: 10'
Sampling Method: low flow peristaltic pump
Tube Intake Set at: ~ 8.75 Depth to Water with Tube: 4.60 Sampled By: JKS
Tube Diameter: ¼" OD Notes:

	mL\min	Ft.	NTU's	mV	°C		mg\L	Units	
Time	Flow	DTW	Turb	ORP	Temp	SpC	DO	PH	Comments
Min	ml/min	+/- 0.02	+/- 10%	+/- 10	+/- 3%	+/- 3%	+/- 10%	+/- 0.1	
1116	~ 100	4.60							INITIAL COND:
1117		4.60							WATER CLEAR/YELLOW,
1118		4.61							NO SHEEN, SLIGHT
1119		4.61							ORGANIC ODOR, NO
1120		4.61							SEDS
1121		4.61							
1122		4.61	SETTING UP	YSI					
1125		4.61	3.8	-149.0	14.84	34720	1.11	7.28	
1130		4.61	2.4	-140.9	14.10	33900	1.20	7.21	
1135		4.61	1.9	-137.8	13.99	33648	1.29	7.20	
1140		4.61	1.8	-137.4	13.94	33595	1.29	7.19	
			SAMPLING						
									FINAL COND:
									WATER CLEAR TO
									YELLOW, NO SHEEN,
									ORGANIC ODOR,
									NO SEDS
									PURGED ~ 1 gal

Sample(s) Collected	Time	Preservative
DISSOLVED Ag	1150	HNO_3

Well Purging/Groundwater Sampling Report

Project Name: 45 COVE STREET, NEW BEDFORD Project #: _____ Date: 4.16.12
Well ID: WS-1 Well Diameter (in) 2 Casing Type: PVC
Depth to Water: 2.62 Total Depth: 11.7 Screen Length: 10'
Sampling Method: ____ low flow peristaltic pump
Tube Intake Set at: ~7' Depth to Water with Tube: 2.62 Sampled By: JRS
Tube Diameter: ¼" OD Notes: _____

	mL\min	Ft.	NTU's	mV	°C	MS/cm	mg\L	Units	
Time	Flow	DTW	Turb	ORP	Temp	SpC	DO	PH	Comments
Min	ml/min	+/- 0.02	+/- 10%	+/- 10	+/- 3%	+/- 3%	+/- 10%	+/- 0.1	
0830	~150	2.62							INITIAL CONDITIONS
0831		2.66							WATER CLEAR, SLIGHT
0832		2.68							ORGANIC ODOR, NO
0833		2.69							SHEEN
0834		2.70							
0835		2.70							
0836		2.70	SETTING UP YSI						
0841		2.70	112.6	-270.2	12.87	5232	1.57	7.87	
0846		2.70	76.1	-349.1	12.95	5258	0.20	8.50	
0851		2.70	101.9	-244.6	13.40	5449	1.47	8.88	
0856		2.70	108.4	-241.1	13.51	5449	1.53	8.88	
0901		2.70	109.0	-238.4	13.50	5448	1.53	8.89	
			SAMPLING						
									FINAL COND:
									WATER CLEAR,
									ORGANIC ODOR, NO
									SHEEN
									PURGED ~ 1.5 gal

Sample(s) Collected	Time	Preservative
Dissolved Ag + ~~DUPE~~ JRS	0908	HNO_3

Well Purging/Groundwater Sampling Report

Project Name: 45 COVE STREET Project #: Date: 4·16·12
Well ID: WS-8 Well Diameter (in) 2 Casing Type: PVC
Depth to Water: 3.42 Total Depth: 12.68 Screen Length: ~~11~~ 10'
Sampling Method: low flow peristaltic pump
Tube Intake Set at: ~8' Depth to Water with Tube: 3.42 Sampled By: JKS
Tube Diameter: ¼" OD Notes:

	mL\min	Ft.	NTU's	mV	°C		mg\L	Units	
Time	Flow	DTW	Turb	ORP	Temp	SpC	DO	PH	Comments
Min	ml/min	+/- 0.02	+/- 10%	+/- 10	+/- 3%	+/- 3%	+/- 10%	+/- 0.1	
1029	~120	3.42							INITIAL COND:
1030		3.48							WATER BROWN-
1031		3.51							TINTED, NO ODOR
1032		3.56							NO SHEEN, FINE
1033		3.60							SEDS
1034		3.63							
1035		3.65							
1036		3.68	SETTING UP VSI						
1041		3.78	15.4	-241.0	16.94	14325	0.26	9.34	
1046	~100	3.94	21.3	-298.8	16.00	13994	0.30	9.33	
1051		3.96	23.8	-277.0	15.90	13893	0.35	9.33	
1056		3.96	24.5	-269.1	15.98	13871	0.36	9.33	
1101		3.96	24.1	-268.9	15.98	13861	0.36	9.33	
1105		SAMPLING							
									FINAL COND:
									WATER BROWN-TINTED,
									NO SHEEN, ~~ORGANIC~~ H_2S
									ODOR, FINE SEDS
									PURGED~

Sample(s) Collected	Time	Preservative
DISSOLVED Ag	1105	HNO_3

Well Purging/Groundwater Sampling Report

Project Name: 45 CONE STREET Project #: Date: 4-16-12
Well ID: WS-4 Well Diameter (in) 2 Casing Type: PVC
Depth to Water: 3.22' Total Depth: 12.80' Screen Length: 10'
Sampling Method: low flow peristaltic pump
Tube Intake Set at: ~8' Depth to Water with Tube: 3.22' Sampled By: JRS
Tube Diameter: ¼" OD Notes:

	mL\min	Ft.	NTU's	mV	°C		mg\L	Units	
Time	Flow	DTW	Turb	ORP	Temp	SpC	DO	PH	Comments
Min	ml/min	+/- 0.02	+/- 10%	+/- 10	+/- 3%	+/- 3%	+/- 10%	+/- 0.1	
0930	~150	3.22							INITIAL COND:
0931	↓	3.41							WATER CLEAR,
0932		3.55							W/ ORGANIC SEDS,
0933	120	3.60							NO ODOR, NO
0934		3.62							SHEEN.
0935		3.62							
0936		3.62	SETTING UP		YSI				
0941		3.62	10.2	-102.7	14.97	2130	1.83	8.63	
0946		3.62	9.4	-210.8	14.33	2070	0.41	8.60	
0951		3.62	8.9	-214.3	14.16	2107	0.34	8.60	
0956	↓	3.62	9.0	-214.4	13.95	2120	0.33	8.61	
		SAMPLING							
									FINAL COND: WATER
									CLEAR, NO ODOR,
									NO SHEEN, NO SEDS.
									PURGED ~1 gal

Sample(s) Collected	Time	Preservative
DISSOLVED Ag	1000	HNO_3

Appendix C

Weston&Sampson

APPENDIX C

Laboratory Analytical Reports

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

August 16, 2012

Jim Currier
Weston & Sampson Engineers MA
5 Centennial Drive
Peabody, MA 01960

Project Location: Cove St., New Bedford
Client Job Number:
Project Number: 2100655.B
Laboratory Work Order Number: 12H0316

Enclosed are results of analyses for samples received by the laboratory on August 9, 2012. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Lisa A. Worthington
Project Manager

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Weston & Sampson Engineers MA
5 Centennial Drive
Peabody, MA 01960
ATTN: Jim Currier

REPORT DATE: 8/16/2012

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 2100655.B

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 12H0316

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Cove St., New Bedford

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
TP-9 N (0-3')	12H0316-01	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SM2580 A	
				SW-846 6010C	
				SW-846 7196A	
				SW-846 9045C	
TP-9 E (0-3')	12H0316-02	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SM2580 A	
				SW-846 6010C	
				SW-846 7196A	
				SW-846 9045C	
TP-9 S (0-3')	12H0316-03	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SM2580 A	
				SW-846 6010C	
				SW-846 7196A	
				SW-846 9045C	
TP-9 W (0-3')	12H0316-04	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SM2580 A	
				SW-846 6010C	
				SW-846 7196A	
				SW-846 9045C	
TP-8 N (0-3')	12H0316-05	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SM2580 A	
				SW-846 6010C	
				SW-846 7196A	
				SW-846 9045C	
TP-8 S (0-3')	12H0316-06	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SM2580 A	
				SW-846 6010C	
				SW-846 7196A	
				SW-846 9045C	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Weston & Sampson Engineers MA
5 Centennial Drive
Peabody, MA 01960
ATTN: Jim Currier

REPORT DATE: 8/16/2012

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 2100655.B

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 12H0316

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Cove St., New Bedford

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
TP-8 E (0-3')	12H0316-07	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SM2580 A	
				SW-846 6010C	
				SW-846 7196A	
				SW-846 9045C	
TP-8 W (0-3')	12H0316-08	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SM2580 A	
				SW-846 6010C	
				SW-846 7196A	
				SW-846 9045C	
TP-19 N (0-3')	12H0316-09	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SM2580 A	
				SW-846 6010C	
				SW-846 7196A	
				SW-846 9045C	
TP-19 E (0-3')	12H0316-10	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SM2580 A	
				SW-846 6010C	
				SW-846 7196A	
				SW-846 9045C	

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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

For method 6010, only chromium results were requested and reported.

MADEP-EPH-04-1.1

Qualifications:

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

Analyte & Samples(s) Qualified:

n-Nonane

B056770-BSD1

SW-846 7196A

Qualifications:

For solid method SW846-7196A, the matrix spike is outside of control limits. pH and ORP results were indicative of reducing conditions. Reanalysis is not required. Analysis is in control based on LCS recoveries.

Analyte & Samples(s) Qualified:

Hexavalent Chromium

12H0316-10[TP-19 E (0-3')], B056930-MS1, B056930-MS2, B056930-MS3, B056930-MSD1

Elevated method reporting limit due to intense color of sample

Analyte & Samples(s) Qualified:

Hexavalent Chromium

12H0316-01[TP-9 N (0-3')], 12H0316-02[TP-9 E (0-3')], 12H0316-03[TP-9 S (0-3')], 12H0316-04[TP-9 W (0-3')], 12H0316-05[TP-8 N (0-3')], 12H0316-06[TP-8 S (0-3')], 12H0316-08[TP-8 W (0-3')], 12H0316-09[TP-19 N (0-3')], 12H0316-10[TP-19 E (0-3')]

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

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Cove St., New Bedford | Sample Description: | Work Order: 12H0316

Date Received: 8/9/2012

Field Sample #: TP-9 N (0-3') | Sampled: 8/9/2012 09:15

Sample ID: 12H0316-01

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:32	SCS
C19-C36 Aliphatics	58	14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:32	SCS
Unadjusted C11-C22 Aromatics	130	14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:32	SCS
C11-C22 Aromatics	100	14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:32	SCS
Acenaphthene	0.28	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:32	SCS
Acenaphthylene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:32	SCS
Anthracene	0.58	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:32	SCS
Benzo(a)anthracene	2.3	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:32	SCS
Benzo(a)pyrene	1.9	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:32	SCS
Benzo(b)fluoranthene	2.9	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:32	SCS
Benzo(g,h,i)perylene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:32	SCS
Benzo(k)fluoranthene	0.98	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:32	SCS
Chrysene	2.4	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:32	SCS
Dibenz(a,h)anthracene	0.39	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:32	SCS
Fluoranthene	5.2	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:32	SCS
Fluorene	0.36	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:32	SCS
Indeno(1,2,3-cd)pyrene	1.4	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:32	SCS
2-Methylnaphthalene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:32	SCS
Naphthalene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:32	SCS
Phenanthrene	2.6	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:32	SCS
Pyrene	4.8	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:32	SCS

Surrogates	% Recovery	Recovery Limits	Flag	
Chlorooctadecane (COD)	58.7	40-140		8/11/12 20:32
o-Terphenyl (OTP)	59.7	40-140		8/11/12 20:32
2-Bromonaphthalene	82.9	40-140		8/11/12 20:32
2-Fluorobiphenyl	88.0	40-140		8/11/12 20:32

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Cove St., New Bedford
Sample Description:
Work Order: 12H0316

Date Received: 8/9/2012

Field Sample #: TP-9 N (0-3')
Sampled: 8/9/2012 09:15

Sample ID: 12H0316-01

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Chromium	25	0.65	mg/Kg dry	1		SW-846 6010C	8/10/12	8/13/12 13:09	OP

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Project Location: Cove St., New Bedford | Sample Description: | Work Order: 12H0316

Date Received: 8/9/2012

Field Sample #: TP-9 N (0-3') | Sampled: 8/9/2012 09:15

Sample ID: 12H0316-01

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
Hexavalent Chromium	ND	1.1	mg/Kg dry	5	W-06	SW-846 7196A	8/14/12	8/15/12 12:25	AED
Oxidation/Reduction Potential	68		mV	1		SM2580 A	8/10/12	8/10/12 8:30	LL
pH @22.1°C	7.4		pH Units	1		SW-846 9045C	8/10/12	8/10/12 8:30	LL
% Solids	72.2		% Wt	1		SM 2540G	8/10/12	8/13/12 7:41	CMF

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Project Location: Cove St., New Bedford | Sample Description: | Work Order: 12H0316

Date Received: 8/9/2012

Field Sample #: TP-9 E (0-3') | Sampled: 8/9/2012 09:40

Sample ID: 12H0316-02

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:53	SCS
C19-C36 Aliphatics	17	14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:53	SCS
Unadjusted C11-C22 Aromatics	41	14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:53	SCS
C11-C22 Aromatics	35	14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:53	SCS
Acenaphthene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:53	SCS
Acenaphthylene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:53	SCS
Anthracene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:53	SCS
Benzo(a)anthracene	0.45	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:53	SCS
Benzo(a)pyrene	0.46	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:53	SCS
Benzo(b)fluoranthene	0.64	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:53	SCS
Benzo(g,h,i)perylene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:53	SCS
Benzo(k)fluoranthene	0.21	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:53	SCS
Chrysene	0.54	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:53	SCS
Dibenz(a,h)anthracene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:53	SCS
Fluoranthene	1.0	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:53	SCS
Fluorene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:53	SCS
Indeno(1,2,3-cd)pyrene	0.36	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:53	SCS
2-Methylnaphthalene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:53	SCS
Naphthalene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:53	SCS
Phenanthrene	0.66	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:53	SCS
Pyrene	0.97	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 20:53	SCS

Surrogates	% Recovery	Recovery Limits	Flag	
Chlorooctadecane (COD)	67.9	40-140		8/11/12 20:53
o-Terphenyl (OTP)	69.1	40-140		8/11/12 20:53
2-Bromonaphthalene	86.3	40-140		8/11/12 20:53
2-Fluorobiphenyl	90.2	40-140		8/11/12 20:53

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Project Location: Cove St., New Bedford
Sample Description:
Work Order: 12H0316

Date Received: 8/9/2012

Field Sample #: TP-9 E (0-3')
Sampled: 8/9/2012 09:40

Sample ID: 12H0316-02

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Chromium	10	0.65	mg/Kg dry	1		SW-846 6010C	8/10/12	8/13/12 13:15	OP

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Project Location: Cove St., New Bedford | Sample Description: | Work Order: 12H0316

Date Received: 8/9/2012

Field Sample #: TP-9 E (0-3') | Sampled: 8/9/2012 09:40

Sample ID: 12H0316-02

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
Hexavalent Chromium	ND	1.1	mg/Kg dry	5	W-06	SW-846 7196A	8/14/12	8/15/12 12:25	AED
Oxidation/Reduction Potential	89		mV	1		SM2580 A	8/10/12	8/10/12 8:30	LL
pH @20.6°C	7.8		pH Units	1		SW-846 9045C	8/10/12	8/10/12 8:30	LL
% Solids	71.6		% Wt	1		SM 2540G	8/10/12	8/13/12 7:41	CMF

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Cove St., New Bedford | Sample Description: | Work Order: 12H0316

Date Received: 8/9/2012

Field Sample #: TP-9 S (0-3') | Sampled: 8/9/2012 10:30

Sample ID: 12H0316-03

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:15	SCS
C19-C36 Aliphatics	18	12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:15	SCS
Unadjusted C11-C22 Aromatics	240	12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:15	SCS
C11-C22 Aromatics	140	12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:15	SCS
Acenaphthene	0.48	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:15	SCS
Acenaphthylene	0.41	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:15	SCS
Anthracene	3.1	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:15	SCS
Benzo(a)anthracene	6.8	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:15	SCS
Benzo(a)pyrene	6.1	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:15	SCS
Benzo(b)fluoranthene	8.3	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:15	SCS
Benzo(g,h,i)perylene	5.5	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:15	SCS
Benzo(k)fluoranthene	3.1	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:15	SCS
Chrysene	7.2	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:15	SCS
Dibenz(a,h)anthracene	0.95	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:15	SCS
Fluoranthene	19	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:15	SCS
Fluorene	1.2	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:15	SCS
Indeno(1,2,3-cd)pyrene	4.3	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:15	SCS
2-Methylnaphthalene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:15	SCS
Naphthalene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:15	SCS
Phenanthrene	14	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:15	SCS
Pyrene	17	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:15	SCS

Surrogates	% Recovery	Recovery Limits	Flag	
Chlorooctadecane (COD)	69.5	40-140		8/11/12 21:15
o-Terphenyl (OTP)	71.2	40-140		8/11/12 21:15
2-Bromonaphthalene	85.1	40-140		8/11/12 21:15
2-Fluorobiphenyl	89.4	40-140		8/11/12 21:15

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Cove St., New Bedford
Sample Description:
Work Order: 12H0316

Date Received: 8/9/2012

Field Sample #: TP-9 S (0-3')
Sampled: 8/9/2012 10:30

Sample ID: 12H0316-03

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Chromium	11	0.60	mg/Kg dry	1		SW-846 6010C	8/10/12	8/13/12 13:20	OP

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Cove St., New Bedford
Sample Description:
Work Order: 12H0316

Date Received: 8/9/2012

Field Sample #: TP-9 S (0-3')
Sampled: 8/9/2012 10:30

Sample ID: 12H0316-03

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
Hexavalent Chromium	ND	0.98	mg/Kg dry	5	W-06	SW-846 7196A	8/14/12	8/15/12 12:25	AED
Oxidation/Reduction Potential	90		mV	1		SM2580 A	8/10/12	8/10/12 8:30	LL
pH @22.6°C	7.9		pH Units	1		SW-846 9045C	8/10/12	8/10/12 8:30	LL
% Solids	81.3		% Wt	1		SM 2540G	8/10/12	8/13/12 7:41	CMF

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Cove St., New Bedford | Sample Description: | Work Order: 12H0316

Date Received: 8/9/2012

Field Sample #: TP-9 W (0-3') | Sampled: 8/9/2012 10:00

Sample ID: 12H0316-04

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	310	73	mg/Kg dry	5		MADEP-EPH-04-1.1	8/10/12	8/14/12 16:57	SCS
C19-C36 Aliphatics	1100	360	mg/Kg dry	25		MADEP-EPH-04-1.1	8/10/12	8/15/12 16:42	SCS
Unadjusted C11-C22 Aromatics	2200	73	mg/Kg dry	5		MADEP-EPH-04-1.1	8/10/12	8/14/12 16:57	SCS
C11-C22 Aromatics	2000	73	mg/Kg dry	5		MADEP-EPH-04-1.1	8/10/12	8/14/12 16:57	SCS
Acenaphthene	2.0	0.73	mg/Kg dry	5		MADEP-EPH-04-1.1	8/10/12	8/14/12 16:57	SCS
Acenaphthylene	ND	0.73	mg/Kg dry	5		MADEP-EPH-04-1.1	8/10/12	8/14/12 16:57	SCS
Anthracene	5.3	0.73	mg/Kg dry	5		MADEP-EPH-04-1.1	8/10/12	8/14/12 16:57	SCS
Benzo(a)anthracene	13	0.73	mg/Kg dry	5		MADEP-EPH-04-1.1	8/10/12	8/14/12 16:57	SCS
Benzo(a)pyrene	12	0.73	mg/Kg dry	5		MADEP-EPH-04-1.1	8/10/12	8/14/12 16:57	SCS
Benzo(b)fluoranthene	16	0.73	mg/Kg dry	5		MADEP-EPH-04-1.1	8/10/12	8/14/12 16:57	SCS
Benzo(g,h,i)perylene	4.6	0.73	mg/Kg dry	5		MADEP-EPH-04-1.1	8/10/12	8/14/12 16:57	SCS
Benzo(k)fluoranthene	6.3	0.73	mg/Kg dry	5		MADEP-EPH-04-1.1	8/10/12	8/14/12 16:57	SCS
Chrysene	13	0.73	mg/Kg dry	5		MADEP-EPH-04-1.1	8/10/12	8/14/12 16:57	SCS
Dibenz(a,h)anthracene	2.0	0.73	mg/Kg dry	5		MADEP-EPH-04-1.1	8/10/12	8/14/12 16:57	SCS
Fluoranthene	38	0.73	mg/Kg dry	5		MADEP-EPH-04-1.1	8/10/12	8/14/12 16:57	SCS
Fluorene	3.1	0.73	mg/Kg dry	5		MADEP-EPH-04-1.1	8/10/12	8/14/12 16:57	SCS
Indeno(1,2,3-cd)pyrene	5.8	0.73	mg/Kg dry	5		MADEP-EPH-04-1.1	8/10/12	8/14/12 16:57	SCS
2-Methylnaphthalene	ND	0.73	mg/Kg dry	5		MADEP-EPH-04-1.1	8/10/12	8/14/12 16:57	SCS
Naphthalene	0.81	0.73	mg/Kg dry	5		MADEP-EPH-04-1.1	8/10/12	8/14/12 16:57	SCS
Phenanthrene	34	0.73	mg/Kg dry	5		MADEP-EPH-04-1.1	8/10/12	8/14/12 16:57	SCS
Pyrene	40	0.73	mg/Kg dry	5		MADEP-EPH-04-1.1	8/10/12	8/14/12 16:57	SCS

Surrogates	% Recovery	Recovery Limits	Flag	
Chlorooctadecane (COD)	45.5	40-140		8/14/12 16:57
o-Terphenyl (OTP)	41.3	40-140		8/14/12 16:57
2-Bromonaphthalene	75.7	40-140		8/14/12 16:57
2-Fluorobiphenyl	97.5	40-140		8/14/12 16:57

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Cove St., New Bedford
Sample Description:
Work Order: 12H0316

Date Received: 8/9/2012

Field Sample #: TP-9 W (0-3')
Sampled: 8/9/2012 10:00

Sample ID: 12H0316-04

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Chromium	170	0.71	mg/Kg dry	1		SW-846 6010C	8/10/12	8/13/12 13:26	OP

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Cove St., New Bedford
Sample Description:
Work Order: 12H0316

Date Received: 8/9/2012

Field Sample #: TP-9 W (0-3')
Sampled: 8/9/2012 10:00

Sample ID: 12H0316-04

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
Hexavalent Chromium	ND	0.46	mg/Kg dry	2	W-06	SW-846 7196A	8/14/12	8/15/12 12:25	AED
Oxidation/Reduction Potential	76		mV	1		SM2580 A	8/10/12	8/10/12 9:00	LL
pH @23.2°C	7.4		pH Units	1		SW-846 9045C	8/10/12	8/10/12 9:00	LL
% Solids	68.0		% Wt	1		SM 2540G	8/10/12	8/13/12 7:41	CMF

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Cove St., New Bedford | Sample Description: | Work Order: 12H0316

Date Received: 8/9/2012

Field Sample #: TP-8 N (0-3') | Sampled: 8/9/2012 12:00

Sample ID: 12H0316-05

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:57	SCS
C19-C36 Aliphatics	20	14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:57	SCS
Unadjusted C11-C22 Aromatics	33	14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:57	SCS
C11-C22 Aromatics	31	14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:57	SCS
Acenaphthene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:57	SCS
Acenaphthylene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:57	SCS
Anthracene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:57	SCS
Benzo(a)anthracene	0.31	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:57	SCS
Benzo(a)pyrene	0.18	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:57	SCS
Benzo(b)fluoranthene	0.24	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:57	SCS
Benzo(g,h,i)perylene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:57	SCS
Benzo(k)fluoranthene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:57	SCS
Chrysene	0.25	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:57	SCS
Dibenz(a,h)anthracene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:57	SCS
Fluoranthene	0.38	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:57	SCS
Fluorene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:57	SCS
Indeno(1,2,3-cd)pyrene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:57	SCS
2-Methylnaphthalene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:57	SCS
Naphthalene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:57	SCS
Phenanthrene	0.27	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:57	SCS
Pyrene	0.36	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 21:57	SCS

Surrogates	% Recovery	Recovery Limits	Flag	
Chlorooctadecane (COD)	61.4	40-140		8/11/12 21:57
o-Terphenyl (OTP)	67.0	40-140		8/11/12 21:57
2-Bromonaphthalene	85.5	40-140		8/11/12 21:57
2-Fluorobiphenyl	90.5	40-140		8/11/12 21:57

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Cove St., New Bedford
Sample Description:
Work Order: 12H0316

Date Received: 8/9/2012

Field Sample #: TP-8 N (0-3')
Sampled: 8/9/2012 12:00

Sample ID: 12H0316-05

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Chromium	11	0.67	mg/Kg dry	1		SW-846 6010C	8/10/12	8/13/12 13:31	OP

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Project Location: Cove St., New Bedford
Sample Description:
Work Order: 12H0316

Date Received: 8/9/2012

Field Sample #: TP-8 N (0-3')
Sampled: 8/9/2012 12:00

Sample ID: 12H0316-05

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
Hexavalent Chromium	ND	0.44	mg/Kg dry	2	W-06	SW-846 7196A	8/14/12	8/15/12 12:25	AED
Oxidation/Reduction Potential	96		mV	1		SM2580 A	8/10/12	8/10/12 9:00	LL
pH @22.7°C	7.8		pH Units	1		SW-846 9045C	8/10/12	8/10/12 9:00	LL
% Solids	71.4		% Wt	1		SM 2540G	8/10/12	8/13/12 7:41	CMF

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Cove St., New Bedford | Sample Description: | Work Order: 12H0316

Date Received: 8/9/2012

Field Sample #: TP-8 S (0-3') | Sampled: 8/9/2012 12:30

Sample ID: 12H0316-06

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	34	27	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 22:18	SCS
C19-C36 Aliphatics	250	27	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 22:18	SCS
Unadjusted C11-C22 Aromatics	190	27	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 22:18	SCS
C11-C22 Aromatics	160	27	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 22:18	SCS
Acenaphthene	ND	0.27	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 22:18	SCS
Acenaphthylene	ND	0.27	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 22:18	SCS
Anthracene	0.47	0.27	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 22:18	SCS
Benzo(a)anthracene	5.6	0.27	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 22:18	SCS
Benzo(a)pyrene	2.1	0.27	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 22:18	SCS
Benzo(b)fluoranthene	3.0	0.27	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 22:18	SCS
Benzo(g,h,i)perylene	1.4	0.27	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 22:18	SCS
Benzo(k)fluoranthene	1.1	0.27	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 22:18	SCS
Chrysene	2.8	0.27	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 22:18	SCS
Dibenz(a,h)anthracene	0.41	0.27	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 22:18	SCS
Fluoranthene	4.3	0.27	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 22:18	SCS
Fluorene	0.30	0.27	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 22:18	SCS
Indeno(1,2,3-cd)pyrene	1.4	0.27	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 22:18	SCS
2-Methylnaphthalene	ND	0.27	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 22:18	SCS
Naphthalene	ND	0.27	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 22:18	SCS
Phenanthrene	2.8	0.27	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 22:18	SCS
Pyrene	4.3	0.27	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/11/12 22:18	SCS

Surrogates	% Recovery	Recovery Limits	Flag	
Chlorooctadecane (COD)	54.9	40-140		8/11/12 22:18
o-Terphenyl (OTP)	64.8	40-140		8/11/12 22:18
2-Bromonaphthalene	87.2	40-140		8/11/12 22:18
2-Fluorobiphenyl	91.8	40-140		8/11/12 22:18

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Project Location: Cove St., New Bedford
Sample Description:
Work Order: 12H0316

Date Received: 8/9/2012

Field Sample #: TP-8 S (0-3')
Sampled: 8/9/2012 12:30

Sample ID: 12H0316-06

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Chromium	36	1.3	mg/Kg dry	1		SW-846 6010C	8/10/12	8/13/12 13:37	OP

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Project Location: Cove St., New Bedford
Sample Description:
Work Order: 12H0316

Date Received: 8/9/2012

Field Sample #: TP-8 S (0-3')
Sampled: 8/9/2012 12:30

Sample ID: 12H0316-06

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
Hexavalent Chromium	ND	4.4	mg/Kg dry	10	W-06	SW-846 7196A	8/14/12	8/15/12 12:25	AED
Oxidation/Reduction Potential	110		mV	1		SM2580 A	8/10/12	8/10/12 9:00	LL
pH @21.1°C	7.8		pH Units	1		SW-846 9045C	8/10/12	8/10/12 9:00	LL
% Solids	35.9		% Wt	1		SM 2540G	8/10/12	8/13/12 7:41	CMF

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Project Location: Cove St., New Bedford | Sample Description: | Work Order: 12H0316

Date Received: 8/9/2012

Field Sample #: TP-8 E (0-3') | Sampled: 8/9/2012 11:25

Sample ID: 12H0316-07

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 15:51	SCS
C19-C36 Aliphatics	ND	13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 15:51	SCS
Unadjusted C11-C22 Aromatics	ND	13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 15:51	SCS
C11-C22 Aromatics	ND	13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 15:51	SCS
Acenaphthene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 15:51	SCS
Acenaphthylene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 15:51	SCS
Anthracene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 15:51	SCS
Benzo(a)anthracene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 15:51	SCS
Benzo(a)pyrene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 15:51	SCS
Benzo(b)fluoranthene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 15:51	SCS
Benzo(g,h,i)perylene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 15:51	SCS
Benzo(k)fluoranthene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 15:51	SCS
Chrysene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 15:51	SCS
Dibenz(a,h)anthracene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 15:51	SCS
Fluoranthene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 15:51	SCS
Fluorene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 15:51	SCS
Indeno(1,2,3-cd)pyrene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 15:51	SCS
2-Methylnaphthalene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 15:51	SCS
Naphthalene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 15:51	SCS
Phenanthrene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 15:51	SCS
Pyrene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 15:51	SCS

Surrogates	% Recovery	Recovery Limits	Flag	
Chlorooctadecane (COD)	43.0	40-140		8/16/12 15:51
o-Terphenyl (OTP)	50.4	40-140		8/16/12 15:51
2-Bromonaphthalene	56.9	40-140		8/16/12 15:51
2-Fluorobiphenyl	64.5	40-140		8/16/12 15:51

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Cove St., New Bedford
Sample Description:
Work Order: 12H0316

Date Received: 8/9/2012

Field Sample #: TP-8 E (0-3')
Sampled: 8/9/2012 11:25

Sample ID: 12H0316-07

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Chromium	11	0.61	mg/Kg dry	1		SW-846 6010C	8/10/12	8/13/12 13:42	OP

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Cove St., New Bedford
Sample Description:
Work Order: 12H0316

Date Received: 8/9/2012

Field Sample #: TP-8 E (0-3')
Sampled: 8/9/2012 11:25

Sample ID: 12H0316-07

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
Hexavalent Chromium	1.0	0.39	mg/Kg dry	2		SW-846 7196A	8/14/12	8/15/12 12:25	AED
Oxidation/Reduction Potential	100		mV	1		SM2580 A	8/10/12	8/10/12 9:00	LL
pH @22.6°C	8.0		pH Units	1		SW-846 9045C	8/10/12	8/10/12 9:00	LL
% Solids	78.5		% Wt	1		SM 2540G	8/10/12	8/13/12 7:41	CMF

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Cove St., New Bedford | Sample Description: | Work Order: 12H0316

Date Received: 8/9/2012

Field Sample #: TP-8 W (0-3') | Sampled: 8/9/2012 12:15

Sample ID: 12H0316-08

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	18	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 16:12	SCS
C19-C36 Aliphatics	23	18	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 16:12	SCS
Unadjusted C11-C22 Aromatics	43	18	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 16:12	SCS
C11-C22 Aromatics	43	18	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 16:12	SCS
Acenaphthene	ND	0.18	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 16:12	SCS
Acenaphthylene	ND	0.18	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 16:12	SCS
Anthracene	ND	0.18	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 16:12	SCS
Benzo(a)anthracene	ND	0.18	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 16:12	SCS
Benzo(a)pyrene	ND	0.18	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 16:12	SCS
Benzo(b)fluoranthene	ND	0.18	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 16:12	SCS
Benzo(g,h,i)perylene	ND	0.18	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 16:12	SCS
Benzo(k)fluoranthene	ND	0.18	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 16:12	SCS
Chrysene	ND	0.18	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 16:12	SCS
Dibenz(a,h)anthracene	ND	0.18	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 16:12	SCS
Fluoranthene	ND	0.18	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 16:12	SCS
Fluorene	ND	0.18	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 16:12	SCS
Indeno(1,2,3-cd)pyrene	ND	0.18	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 16:12	SCS
2-Methylnaphthalene	ND	0.18	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 16:12	SCS
Naphthalene	ND	0.18	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 16:12	SCS
Phenanthrene	ND	0.18	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 16:12	SCS
Pyrene	0.39	0.18	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 16:12	SCS

Surrogates	% Recovery	Recovery Limits	Flag	
Chlorooctadecane (COD)	40.5	40-140		8/16/12 16:12
o-Terphenyl (OTP)	53.2	40-140		8/16/12 16:12
2-Bromonaphthalene	58.6	40-140		8/16/12 16:12
2-Fluorobiphenyl	64.1	40-140		8/16/12 16:12

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Project Location: Cove St., New Bedford
Sample Description:
Work Order: 12H0316

Date Received: 8/9/2012

Field Sample #: TP-8 W (0-3')
Sampled: 8/9/2012 12:15

Sample ID: 12H0316-08

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Chromium	20	0.90	mg/Kg dry	1		SW-846 6010C	8/10/12	8/13/12 13:47	OP

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Project Location: Cove St., New Bedford
Sample Description:
Work Order: 12H0316

Date Received: 8/9/2012

Field Sample #: TP-8 W (0-3')
Sampled: 8/9/2012 12:15

Sample ID: 12H0316-08

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
Hexavalent Chromium	ND	1.4	mg/Kg dry	5	W-06	SW-846 7196A	8/14/12	8/15/12 12:25	AED
Oxidation/Reduction Potential	100		mV	1		SM2580 A	8/10/12	8/10/12 9:00	LL
pH @21.7°C	8.1		pH Units	1		SW-846 9045C	8/10/12	8/10/12 9:00	LL
% Solids	54.8		% Wt	1		SM 2540G	8/10/12	8/13/12 7:41	CMF

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Project Location: Cove St., New Bedford | Sample Description: | Work Order: 12H0316

Date Received: 8/9/2012

Field Sample #: TP-19 N (0-3') | Sampled: 8/9/2012 13:30

Sample ID: 12H0316-09

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	19	12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:11	SCS
C19-C36 Aliphatics	36	12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:11	SCS
Unadjusted C11-C22 Aromatics	67	12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:11	SCS
C11-C22 Aromatics	49	12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:11	SCS
Acenaphthene	0.26	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:11	SCS
Acenaphthylene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:11	SCS
Anthracene	0.46	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:11	SCS
Benzo(a)anthracene	1.5	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:11	SCS
Benzo(a)pyrene	1.2	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:11	SCS
Benzo(b)fluoranthene	1.7	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:11	SCS
Benzo(g,h,i)perylene	0.70	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:11	SCS
Benzo(k)fluoranthene	0.57	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:11	SCS
Chrysene	1.6	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:11	SCS
Dibenz(a,h)anthracene	0.27	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:11	SCS
Fluoranthene	2.9	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:11	SCS
Fluorene	0.35	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:11	SCS
Indeno(1,2,3-cd)pyrene	0.84	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:11	SCS
2-Methylnaphthalene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:11	SCS
Naphthalene	0.19	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:11	SCS
Phenanthrene	2.5	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:11	SCS
Pyrene	2.7	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:11	SCS

Surrogates	% Recovery	Recovery Limits	Flag	
Chlorooctadecane (COD)	43.9	40-140		8/16/12 13:11
o-Terphenyl (OTP)	61.4	40-140		8/16/12 13:11
2-Bromonaphthalene	64.0	40-140		8/16/12 13:11
2-Fluorobiphenyl	66.1	40-140		8/16/12 13:11

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Project Location: Cove St., New Bedford
Sample Description:
Work Order: 12H0316

Date Received: 8/9/2012

Field Sample #: TP-19 N (0-3')
Sampled: 8/9/2012 13:30

Sample ID: 12H0316-09

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Chromium	11	0.61	mg/Kg dry	1		SW-846 6010C	8/10/12	8/13/12 14:08	OP

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Project Location: Cove St., New Bedford | Sample Description: | Work Order: 12H0316

Date Received: 8/9/2012

Field Sample #: TP-19 N (0-3') | Sampled: 8/9/2012 13:30

Sample ID: 12H0316-09

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
Hexavalent Chromium	ND	0.39	mg/Kg dry	2	W-06	SW-846 7196A	8/14/12	8/15/12 12:25	AED
Oxidation/Reduction Potential	86		mV	1		SM2580 A	8/10/12	8/10/12 9:00	LL
pH @22.5°C	7.8		pH Units	1		SW-846 9045C	8/10/12	8/10/12 9:00	LL
% Solids	80.1		% Wt	1		SM 2540G	8/10/12	8/13/12 7:41	CMF

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Project Location: Cove St., New Bedford | Sample Description: | Work Order: 12H0316

Date Received: 8/9/2012

Field Sample #: TP-19 E (0-3') | Sampled: 8/9/2012 14:00

Sample ID: 12H0316-10

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	60	38	mg/Kg dry	2		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:33	SCS
C19-C36 Aliphatics	140	38	mg/Kg dry	2		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:33	SCS
Unadjusted C11-C22 Aromatics	260	38	mg/Kg dry	2		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:33	SCS
C11-C22 Aromatics	180	38	mg/Kg dry	2		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:33	SCS
Acenaphthene	0.70	0.38	mg/Kg dry	2		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:33	SCS
Acenaphthylene	ND	0.38	mg/Kg dry	2		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:33	SCS
Anthracene	1.5	0.38	mg/Kg dry	2		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:33	SCS
Benzo(a)anthracene	6.8	0.38	mg/Kg dry	2		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:33	SCS
Benzo(a)pyrene	5.5	0.38	mg/Kg dry	2		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:33	SCS
Benzo(b)fluoranthene	8.0	0.38	mg/Kg dry	2		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:33	SCS
Benzo(g,h,i)perylene	3.7	0.38	mg/Kg dry	2		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:33	SCS
Benzo(k)fluoranthene	2.8	0.38	mg/Kg dry	2		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:33	SCS
Chrysene	7.1	0.38	mg/Kg dry	2		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:33	SCS
Dibenz(a,h)anthracene	1.2	0.38	mg/Kg dry	2		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:33	SCS
Fluoranthene	12	0.38	mg/Kg dry	2		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:33	SCS
Fluorene	0.78	0.38	mg/Kg dry	2		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:33	SCS
Indeno(1,2,3-cd)pyrene	3.9	0.38	mg/Kg dry	2		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:33	SCS
2-Methylnaphthalene	ND	0.38	mg/Kg dry	2		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:33	SCS
Naphthalene	ND	0.38	mg/Kg dry	2		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:33	SCS
Phenanthrene	8.4	0.38	mg/Kg dry	2		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:33	SCS
Pyrene	12	0.38	mg/Kg dry	2		MADEP-EPH-04-1.1	8/10/12	8/16/12 13:33	SCS

Surrogates	% Recovery	Recovery Limits	Flag	
Chlorooctadecane (COD)	40.7	40-140		8/16/12 13:33
o-Terphenyl (OTP)	60.7	40-140		8/16/12 13:33
2-Bromonaphthalene	130	40-140		8/16/12 13:33
2-Fluorobiphenyl	133	40-140		8/16/12 13:33

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Project Location: Cove St., New Bedford
Sample Description:
Work Order: 12H0316

Date Received: 8/9/2012

Field Sample #: TP-19 E (0-3')
Sampled: 8/9/2012 14:00

Sample ID: 12H0316-10

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Chromium	48	0.93	mg/Kg dry	1		SW-846 6010C	8/10/12	8/13/12 14:14	OP

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Project Location: Cove St., New Bedford | Sample Description: | Work Order: 12H0316

Date Received: 8/9/2012

Field Sample #: TP-19 E (0-3') | Sampled: 8/9/2012 14:00

Sample ID: 12H0316-10

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
Hexavalent Chromium	ND	0.61	mg/Kg dry	2	MS-16, W-06	SW-846 7196A	8/14/12	8/15/12 12:25	AED
Oxidation/Reduction Potential	100		mV	1		SM2580 A	8/10/12	8/10/12 9:00	LL
pH @21.6°C	7.8		pH Units	1		SW-846 9045C	8/10/12	8/10/12 9:00	LL
% Solids	52.1		% Wt	1		SM 2540G	8/10/12	8/13/12 7:41	CMF

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Sample Extraction Data

Prep Method: SW-846 3546-MADEP-EPH-04-1.1

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
12H0316-01 [TP-9 N (0-3')]	B056770	20.3	2.00	08/10/12
12H0316-02 [TP-9 E (0-3')]	B056770	20.2	2.00	08/10/12
12H0316-03 [TP-9 S (0-3')]	B056770	20.0	2.00	08/10/12
12H0316-04 [TP-9 W (0-3')]	B056770	20.2	2.00	08/10/12
12H0316-05 [TP-8 N (0-3')]	B056770	20.2	2.00	08/10/12
12H0316-06 [TP-8 S (0-3')]	B056770	20.3	2.00	08/10/12
12H0316-07 [TP-8 E (0-3')]	B056770	20.3	2.00	08/10/12
12H0316-08 [TP-8 W (0-3')]	B056770	20.2	2.00	08/10/12
12H0316-09 [TP-19 N (0-3')]	B056770	20.2	2.00	08/10/12
12H0316-10 [TP-19 E (0-3')]	B056770	20.0	2.00	08/10/12

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
12H0316-01 [TP-9 N (0-3')]	B056780	08/10/12
12H0316-02 [TP-9 E (0-3')]	B056780	08/10/12
12H0316-03 [TP-9 S (0-3')]	B056780	08/10/12
12H0316-04 [TP-9 W (0-3')]	B056780	08/10/12
12H0316-05 [TP-8 N (0-3')]	B056780	08/10/12
12H0316-06 [TP-8 S (0-3')]	B056780	08/10/12
12H0316-07 [TP-8 E (0-3')]	B056780	08/10/12
12H0316-08 [TP-8 W (0-3')]	B056780	08/10/12
12H0316-09 [TP-19 N (0-3')]	B056780	08/10/12
12H0316-10 [TP-19 E (0-3')]	B056780	08/10/12

SM2580 A

Lab Number [Field ID]	Batch	Initial [g]	Date
12H0316-01 [TP-9 N (0-3')]	B056791	20.0	08/10/12
12H0316-02 [TP-9 E (0-3')]	B056791	20.0	08/10/12
12H0316-03 [TP-9 S (0-3')]	B056791	20.0	08/10/12
12H0316-04 [TP-9 W (0-3')]	B056791	20.0	08/10/12
12H0316-05 [TP-8 N (0-3')]	B056791	20.0	08/10/12
12H0316-06 [TP-8 S (0-3')]	B056791	20.0	08/10/12
12H0316-07 [TP-8 E (0-3')]	B056791	20.0	08/10/12
12H0316-08 [TP-8 W (0-3')]	B056791	20.0	08/10/12
12H0316-09 [TP-19 N (0-3')]	B056791	20.0	08/10/12
12H0316-10 [TP-19 E (0-3')]	B056791	20.0	08/10/12

Prep Method: SW-846 3050B-SW-846 6010C

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
12H0316-01 [TP-9 N (0-3')]	B056776	1.06	50.0	08/10/12
12H0316-02 [TP-9 E (0-3')]	B056776	1.07	50.0	08/10/12
12H0316-03 [TP-9 S (0-3')]	B056776	1.02	50.0	08/10/12
12H0316-04 [TP-9 W (0-3')]	B056776	1.04	50.0	08/10/12
12H0316-05 [TP-8 N (0-3')]	B056776	1.04	50.0	08/10/12
12H0316-06 [TP-8 S (0-3')]	B056776	1.05	50.0	08/10/12
12H0316-07 [TP-8 E (0-3')]	B056776	1.05	50.0	08/10/12
12H0316-08 [TP-8 W (0-3')]	B056776	1.02	50.0	08/10/12
12H0316-09 [TP-19 N (0-3')]	B056776	1.02	50.0	08/10/12

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Sample Extraction Data

Prep Method: SW-846 3050B-SW-846 6010C

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
12H0316-10 [TP-19 E (0-3')]	B056776	1.04	50.0	08/10/12

SW-846 7196A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
12H0316-01 [TP-9 N (0-3')]	B056930	2.54	100	08/14/12
12H0316-02 [TP-9 E (0-3')]	B056930	2.50	100	08/14/12
12H0316-03 [TP-9 S (0-3')]	B056930	2.52	100	08/14/12
12H0316-04 [TP-9 W (0-3')]	B056930	2.57	100	08/14/12
12H0316-05 [TP-8 N (0-3')]	B056930	2.55	100	08/14/12
12H0316-06 [TP-8 S (0-3')]	B056930	2.51	100	08/14/12
12H0316-07 [TP-8 E (0-3')]	B056930	2.59	100	08/14/12
12H0316-08 [TP-8 W (0-3')]	B056930	2.57	100	08/14/12
12H0316-09 [TP-19 N (0-3')]	B056930	2.59	100	08/14/12
12H0316-10 [TP-19 E (0-3')]	B056930	2.51	100	08/14/12

SW-846 9045C

Lab Number [Field ID]	Batch	Initial [g]	Date
12H0316-01 [TP-9 N (0-3')]	B056792	20.0	08/10/12
12H0316-02 [TP-9 E (0-3')]	B056792	20.0	08/10/12
12H0316-03 [TP-9 S (0-3')]	B056792	20.0	08/10/12
12H0316-04 [TP-9 W (0-3')]	B056792	20.0	08/10/12
12H0316-05 [TP-8 N (0-3')]	B056792	20.0	08/10/12
12H0316-06 [TP-8 S (0-3')]	B056792	20.0	08/10/12
12H0316-07 [TP-8 E (0-3')]	B056792	20.0	08/10/12
12H0316-08 [TP-8 W (0-3')]	B056792	20.0	08/10/12
12H0316-09 [TP-19 N (0-3')]	B056792	20.0	08/10/12
12H0316-10 [TP-19 E (0-3')]	B056792	20.0	08/10/12

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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 B056770 - SW-846 3546										
Blank (B056770-BLK1)				Prepared: 08/10/12 Analyzed: 08/11/12						
C9-C18 Aliphatics	ND	10	mg/Kg wet							
C19-C36 Aliphatics	ND	10	mg/Kg wet							
Unadjusted C11-C22 Aromatics	ND	10	mg/Kg wet							
C11-C22 Aromatics	ND	10	mg/Kg wet							
Acenaphthene	ND	0.10	mg/Kg wet							
Acenaphthylene	ND	0.10	mg/Kg wet							
Anthracene	ND	0.10	mg/Kg wet							
Benzo(a)anthracene	ND	0.10	mg/Kg wet							
Benzo(a)pyrene	ND	0.10	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.10	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.10	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.10	mg/Kg wet							
Chrysene	ND	0.10	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.10	mg/Kg wet							
Fluoranthene	ND	0.10	mg/Kg wet							
Fluorene	ND	0.10	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.10	mg/Kg wet							
2-Methylnaphthalene	ND	0.10	mg/Kg wet							
Naphthalene	ND	0.10	mg/Kg wet							
Phenanthrene	ND	0.10	mg/Kg wet							
Pyrene	ND	0.10	mg/Kg wet							
Surrogate: Chlorooctadecane (COD)	*4.02*		mg/Kg wet	4.99		80.5	40-140			
Surrogate: o-Terphenyl (OTP)	*3.91*		mg/Kg wet	5.00		78.3	40-140			
Surrogate: 2-Bromonaphthalene	*4.20*		mg/Kg wet	5.00		84.0	40-140			
Surrogate: 2-Fluorobiphenyl	*4.40*		mg/Kg wet	5.00		87.9	40-140			
LCS (B056770-BS1)				Prepared: 08/10/12 Analyzed: 08/11/12						
Acenaphthene	4.36	0.10	mg/Kg wet	5.00		87.3	40-140			
Acenaphthylene	4.29	0.10	mg/Kg wet	5.00		85.9	40-140			
Anthracene	4.75	0.10	mg/Kg wet	5.00		95.1	40-140			
Benzo(a)anthracene	4.70	0.10	mg/Kg wet	5.00		94.0	40-140			
Benzo(a)pyrene	4.31	0.10	mg/Kg wet	5.00		86.2	40-140			
Benzo(b)fluoranthene	4.63	0.10	mg/Kg wet	5.00		92.6	40-140			
Benzo(g,h,i)perylene	4.64	0.10	mg/Kg wet	5.00		92.8	40-140			
Benzo(k)fluoranthene	4.50	0.10	mg/Kg wet	5.00		90.0	40-140			
Chrysene	4.41	0.10	mg/Kg wet	5.00		88.1	40-140			
Dibenz(a,h)anthracene	4.63	0.10	mg/Kg wet	5.00		92.7	40-140			
Fluoranthene	4.68	0.10	mg/Kg wet	5.00		93.7	40-140			
Fluorene	4.55	0.10	mg/Kg wet	5.00		91.1	40-140			
Indeno(1,2,3-cd)pyrene	4.63	0.10	mg/Kg wet	5.00		92.6	40-140			
2-Methylnaphthalene	4.19	0.10	mg/Kg wet	5.00		83.8	40-140			
Naphthalene	3.84	0.10	mg/Kg wet	5.00		76.7	40-140			
Phenanthrene	4.66	0.10	mg/Kg wet	5.00		93.2	40-140			
Pyrene	4.57	0.10	mg/Kg wet	5.00		91.4	40-140			
n-Decane	2.14	0.10	mg/Kg wet	5.00		42.8	40-140			
n-Docosane	3.89	0.10	mg/Kg wet	5.00		77.8	40-140			
n-Dodecane	2.70	0.10	mg/Kg wet	5.00		54.0	40-140			
n-Eicosane	3.83	0.10	mg/Kg wet	5.00		76.5	40-140			
n-Hexacosane	3.85	0.10	mg/Kg wet	5.00		76.9	40-140			
n-Hexadecane	3.61	0.10	mg/Kg wet	5.00		72.1	40-140			
n-Hexatriacontane	3.84	0.10	mg/Kg wet	5.00		76.9	40-140			
n-Nonadecane	3.86	0.10	mg/Kg wet	5.00		77.3	40-140			

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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 B056770 - SW-846 3546											
LCS (B056770-BS1)				Prepared: 08/10/12 Analyzed: 08/11/12							
n-Nonane	1.55	0.10	mg/Kg wet	5.00		30.9		30-140			
n-Octacosane	3.72	0.10	mg/Kg wet	5.00		74.4		40-140			
n-Octadecane	3.79	0.10	mg/Kg wet	5.00		75.8		40-140			
n-Tetracosane	3.87	0.10	mg/Kg wet	5.00		77.4		40-140			
n-Tetradecane	3.17	0.10	mg/Kg wet	5.00		63.3		40-140			
n-Triacontane	3.82	0.10	mg/Kg wet	5.00		76.4		40-140			
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00				0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00				0-5			
Surrogate: Chlorooctadecane (COD)	*3.58*		mg/Kg wet	4.99		71.8		40-140			
Surrogate: o-Terphenyl (OTP)	*3.83*		mg/Kg wet	5.00		76.6		40-140			
Surrogate: 2-Bromonaphthalene	*4.23*		mg/Kg wet	5.00		84.6		40-140			
Surrogate: 2-Fluorobiphenyl	*4.44*		mg/Kg wet	5.00		88.8		40-140			
LCS Dup (B056770-BSD1)				Prepared: 08/10/12 Analyzed: 08/11/12							
Acenaphthene	4.31	0.10	mg/Kg wet	5.00		86.3		40-140	1.16	25	
Acenaphthylene	4.25	0.10	mg/Kg wet	5.00		84.9		40-140	1.07	25	
Anthracene	4.68	0.10	mg/Kg wet	5.00		93.6		40-140	1.63	25	
Benzo(a)anthracene	4.60	0.10	mg/Kg wet	5.00		91.9		40-140	2.25	25	
Benzo(a)pyrene	4.23	0.10	mg/Kg wet	5.00		84.6		40-140	1.99	25	
Benzo(b)fluoranthene	4.55	0.10	mg/Kg wet	5.00		91.0		40-140	1.72	25	
Benzo(g,h,i)perylene	4.56	0.10	mg/Kg wet	5.00		91.2		40-140	1.69	25	
Benzo(k)fluoranthene	4.41	0.10	mg/Kg wet	5.00		88.2		40-140	2.09	25	
Chrysene	4.30	0.10	mg/Kg wet	5.00		86.0		40-140	2.36	25	
Dibenz(a,h)anthracene	4.58	0.10	mg/Kg wet	5.00		91.7		40-140	1.11	25	
Fluoranthene	4.59	0.10	mg/Kg wet	5.00		91.9		40-140	1.94	25	
Fluorene	4.49	0.10	mg/Kg wet	5.00		89.9		40-140	1.30	25	
Indeno(1,2,3-cd)pyrene	4.56	0.10	mg/Kg wet	5.00		91.1		40-140	1.61	25	
2-Methylnaphthalene	4.15	0.10	mg/Kg wet	5.00		83.1		40-140	0.870	25	
Naphthalene	3.80	0.10	mg/Kg wet	5.00		75.9		40-140	1.05	25	
Phenanthrene	4.60	0.10	mg/Kg wet	5.00		91.9		40-140	1.40	25	
Pyrene	4.48	0.10	mg/Kg wet	5.00		89.5		40-140	2.06	25	
n-Decane	2.05	0.10	mg/Kg wet	5.00		41.0		40-140	4.19	25	
n-Docosane	3.84	0.10	mg/Kg wet	5.00		76.8		40-140	1.29	25	
n-Dodecane	2.67	0.10	mg/Kg wet	5.00		53.3		40-140	1.30	25	
n-Eicosane	3.83	0.10	mg/Kg wet	5.00		76.6		40-140	0.0627	25	
n-Hexacosane	3.86	0.10	mg/Kg wet	5.00		77.1		40-140	0.278	25	
n-Hexadecane	3.58	0.10	mg/Kg wet	5.00		71.7		40-140	0.642	25	
n-Hexatriacontane	3.85	0.10	mg/Kg wet	5.00		77.0		40-140	0.107	25	
n-Nonadecane	3.86	0.10	mg/Kg wet	5.00		77.2		40-140	0.0570	25	
n-Nonane	1.45	0.10	mg/Kg wet	5.00		**29.1**	*	30-140	6.16	25	L-07
n-Octacosane	3.72	0.10	mg/Kg wet	5.00		74.5		40-140	0.0806	25	
n-Octadecane	3.79	0.10	mg/Kg wet	5.00		75.8		40-140	0.0211	25	
n-Tetracosane	3.88	0.10	mg/Kg wet	5.00		77.5		40-140	0.0852	25	
n-Tetradecane	3.15	0.10	mg/Kg wet	5.00		63.1		40-140	0.332	25	
n-Triacontane	3.83	0.10	mg/Kg wet	5.00		76.6		40-140	0.212	25	
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00				0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00				0-5			
Surrogate: Chlorooctadecane (COD)	*3.45*		mg/Kg wet	4.99		69.2		40-140			
Surrogate: o-Terphenyl (OTP)	*3.72*		mg/Kg wet	5.00		74.3		40-140			
Surrogate: 2-Bromonaphthalene	*4.24*		mg/Kg wet	5.00		84.7		40-140			
Surrogate: 2-Fluorobiphenyl	*4.43*		mg/Kg wet	5.00		88.7		40-140			

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B056776 - SW-846 3050B										
Blank (B056776-BLK1)				Prepared: 08/10/12 Analyzed: 08/13/12						
Chromium	ND	0.50	mg/Kg wet							
LCS (B056776-BS1)				Prepared: 08/10/12 Analyzed: 08/13/12						
Chromium	114	0.99	mg/Kg wet	119		95.5	81.6-117.6			
LCS Dup (B056776-BSD1)				Prepared: 08/10/12 Analyzed: 08/13/12						
Chromium	117	1.0	mg/Kg wet	119		98.7	81.6-117.6	3.35	30	

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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD		RPD Limit	Notes
Batch B056780 - % Solids												
Duplicate (B056780-DUP1)		**Source: 12H0316-01**		Prepared: 08/10/12 Analyzed: 08/13/12								
% Solids	64.9		% Wt		72.2				10.6		20	
Batch B056791 - SM2580 A												
Duplicate (B056791-DUP1)		**Source: 12H0316-03**		Prepared & Analyzed: 08/10/12								
Oxidation/Reduction Potential	86.0		mV		90				4.55		16.2	
Batch B056792 - SW-846 9045C												
LCS (B056792-BS1)				Prepared & Analyzed: 08/10/12								
pH	6.05		pH Units	6.00		101		93.7-106				
LCS (B056792-BS2)				Prepared & Analyzed: 08/10/12								
pH	6.03		pH Units	6.00		100		93.7-106				
Duplicate (B056792-DUP1)		**Source: 12H0316-03**		Prepared & Analyzed: 08/10/12								
pH	8.3		pH Units		7.9				5.31		7.49	
Batch B056930 - SW-846 7196A												
Blank (B056930-BLK1)				Prepared: 08/14/12 Analyzed: 08/15/12								
Hexavalent Chromium	ND	0.16	mg/Kg wet									
LCS (B056930-BS1)				Prepared: 08/14/12 Analyzed: 08/15/12								
Hexavalent Chromium	180	9.4	mg/Kg wet	204		88.5		80-120				
LCS Dup (B056930-BSD1)				Prepared: 08/14/12 Analyzed: 08/15/12								
Hexavalent Chromium	190	9.7	mg/Kg wet	211		88.5		80-120	3.19		20	
Matrix Spike (B056930-MS1) Soluble MS 316		**Source: 12H0316-10**		Prepared: 08/14/12 Analyzed: 08/15/12								
Hexavalent Chromium	5.5	3.0	mg/Kg dry	74.7	ND	**7.39**	*	75-125				MS-16
Matrix Spike (B056930-MS2) PDMS 316		**Source: 12H0316-10**		Prepared: 08/14/12 Analyzed: 08/15/12								
Hexavalent Chromium	5.6	3.0	mg/Kg dry	75.8	ND	**7.39**	*	75-125				MS-16
Matrix Spike (B056930-MS3) Insoluble MS 316		**Source: 12H0316-10**		Prepared: 08/14/12 Analyzed: 08/15/12								
Hexavalent Chromium	320	31	mg/Kg dry	1220	ND	**26.4**	*	75-125				MS-16
Matrix Spike Dup (B056930-MSD1) Soluble MS Dup 316		**Source: 12H0316-10**		Prepared: 08/14/12 Analyzed: 08/15/12								
Hexavalent Chromium	8.8	3.0	mg/Kg dry	74.0	ND	**11.9**	*	75-125	**46.2**	*	35	MS-16

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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.
L-07	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
MS-16	For solid method SW846-7196A, the matrix spike is outside of control limits. pH and ORP results were indicative of reducing conditions. Reanalysis is not required. Analysis is in control based on LCS recoveries.
W-06	Elevated method reporting limit due to intense color of sample

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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
SW-846 6010C in Soil	
Chromium	CT,NH,NY,ME,NC
SW-846 7196A in Soil	
Hexavalent Chromium	NY,CT,NH,NC,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	06/30/2013
CT	Connecticut Department of Publilc 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	06/30/2013
FL	Florida Department of Health	E871027 NELAP	06/30/2013
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2013
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

CHAIN OF CUSTODY RECORD

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Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com
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East longmeadow, MA 01028

Page_____of_____

12H0316

Company Name: WESTON & SAMPSON
Address: 5 CENTENNIAL DRIVE PEABODY MA
Attention: JIM CURRIER
Project Location: COVE ST. NEW BEDFORD
Sampled By: P. KAVANAUGH 781-710-4391

Telephone: 1 800 SAMPSON
Project # 2100655.B
Client PO#

DATA DELIVERY (check all that apply)
O FAX ☒ EMAIL O WEBSITE
Fax #
Email:
Format: O PDF O EXCEL O GIS
O OTHER
O "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
O yes _____ proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	EPH	HEX Cr	TOT. Cr	pH	ORP							# of Containers	** Preservation	***Container Code
								1	1	1	1								1	I	G
								I	I	I	I								I	I	G
01	TP-9 N (0-3')	8/9	9:15		X	S		X	X	X	X	X									
02	TP-9 E (0-3')		9:40																		
03	TP-9 S (0-3')		10:30																		
04	TP-9 W (0-3')		10:00																		
05	TP-8 N (0-3')		12:00																		
06	TP-8 S (0-3')		12:30																		
07	TP-8 E (0-3')		11:25																		
08	TP-8 W (0-3')		12:15																		
09	TP-19 N (0-3')		13:30																		
10	TP-19 E (0-3')		14:00																		

Comments: PLEASE INVOICE PREMIER LABS

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

Relinquished by: (signature)	Date/Time: 8/9 1425
Received by: (signature)	Date/Time: 8-9 1425
Relinquished by: (signature)	Date/Time: 8-9-12 1755
Received by: (signature)	Date/Time: 8-9-12 1755

Turnaround ††
☒ 7-Day
☐ 10-Day
☐ Other ____
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: S-1 GW-2/3
Connecticut:
Other:

Is your project MCP or RCP ?
☒ MCP Analytical Certification Form Required
O RCP Analysis Certification Form Required
O MA State DW Form Required PWSID # _____

ACCREDITED IN ACCORDANCE WITH nelac
ACCREDITED LABORATORY AIHA
NELAC & AIHA Certified
WBE/DBE Certified

*Dissolved Metals
O Field Filtered
O Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other_____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other_____

†† TURNAROUND TIME (business days) STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

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Sample Receipt Checklist

CLIENT NAME: Weston and Sampson RECEIVED BY: JSM DATE: 8-9-12

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 3.4

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) _____

10) **Was the PC notified of any discrepancies with the CoC vs the samples:** Yes No (N/A)

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	10
500 mL Amber		4 oz amber/clear jar	30
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 #: 12H0316
Project Location: Cove St., New Bedford	RTN:

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

12H0316-01 thru 12H0316-10

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 (X)	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 (X)	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 throughF is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ 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?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ 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).	☑ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ 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 Qestions A through E)?	☑ Yes	☐ 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)?	☐ Yes	☑ No[1]

***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☐ Yes	☑ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes	☑ No[1]

[1] *All Negative responses must be addressed in an attached 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: M Erickson Position: Laboratory Director

Printed Name: Michael A. Erickson Date: 08/16/12

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August 23, 2012

Jim Currier
Weston & Sampson Engineers MA
5 Centennial Drive
Peabody, MA 01960

Project Location: Cove St., New Bedford
Client Job Number:
Project Number: 2100655.B
Laboratory Work Order Number: 12H0355

Enclosed are results of analyses for samples received by the laboratory on August 10, 2012. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Lisa A. Worthington
Project Manager

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Weston & Sampson Engineers MA
5 Centennial Drive
Peabody, MA 01960
ATTN: Jim Currier

REPORT DATE: 8/23/2012

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 2100655.B

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 12H0355

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Cove St., New Bedford

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
TP-19S (0-3ft)	12H0355-01	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SM2580 A	
				SW-846 6010C	
				SW-846 7196A	
				SW-846 9045C	
TP-19W (0-3ft)	12H0355-02	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SM2580 A	
				SW-846 6010C	
				SW-846 7196A	
				SW-846 9045C	
TP-18S (0-3ft)	12H0355-03	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SM2580 A	
				SW-846 6010C	
				SW-846 7196A	
				SW-846 9045C	
TP-18W (0-3ft)	12H0355-04	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SM2580 A	
				SW-846 6010C	
				SW-846 7196A	
				SW-846 9045C	
TP-2N (0-3ft)	12H0355-05	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SM2580 A	
				SW-846 6010C	
				SW-846 7196A	
				SW-846 9045C	
TP-2W (0-3ft)	12H0355-06	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SM2580 A	
				SW-846 6010C	
				SW-846 7196A	
				SW-846 9045C	

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Weston & Sampson Engineers MA
5 Centennial Drive
Peabody, MA 01960
ATTN: Jim Currier

REPORT DATE: 8/23/2012

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 2100655.B

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 12H0355

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Cove St., New Bedford

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
Dup-1	12H0355-07	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SM2580 A	
				SW-846 6010C	
				SW-846 7196A	
				SW-846 9045C	

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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

For method 6010, only chromium results were requested and reported.

MADEP-EPH-04-1.1

Qualifications:

Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

C9-C18 Aliphatics, n-Decane, n-Nonane

12H0355-02RE1[TP-19W (0-3ft)], 12H0355-03RE1[TP-18S (0-3ft)], 12H0355-06RE1[TP-2W (0-3ft)], B057434-BLK1, B057434-BS1, B057434-BSD1

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

Analyte & Samples(s) Qualified:

Naphthalene

B056863-BS1

Matrix spike and spike duplicate recovery is outside of control limits. Analysis is in control based on laboratory fortified blank recovery. Possiblity of matrix effects that lead to low bias or non-homogeneous sample aliquot cannot be eliminated.

Analyte & Samples(s) Qualified:

C9-C18 Aliphatics, Naphthalene, n-Nonane, Unadjusted C11-C22 Aromatics

B056863-MS1, B056863-MSD1

Either matrix spike or MS duplicate is outside of control limits, but the other is within limits. RPD between the two MS/MSD results is within method specified criteria.

Analyte & Samples(s) Qualified:

2-Methylnaphthalene, C19-C36 Aliphatics

B056863-MSD1

SW-846 7196A

Qualifications:

For solid method SW846-7196A, the matrix spike is outside of control limits. pH and ORP results were indicative of reducing conditions. Reanalysis is not required. Analysis is in control based on LCS recoveries.

Analyte & Samples(s) Qualified:

Hexavalent Chromium

12H0355-01[TP-19S (0-3ft)], B057103-MS4, B057103-MS5, B057103-MS6, B057103-MSD4

Elevated method reporting limit due to intense color of sample

Analyte & Samples(s) Qualified:

Hexavalent Chromium

12H0355-01[TP-19S (0-3ft)], 12H0355-02[TP-19W (0-3ft)], 12H0355-03[TP-18S (0-3ft)], 12H0355-04[TP-18W (0-3ft)], 12H0355-05[TP-2N (0-3ft)], 12H0355-06[TP-2W (0-3ft)], 12H0355-07[Dup-1]

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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

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Cove St., New Bedford | Sample Description: | Work Order: 12H0355

Date Received: 8/10/2012

Field Sample #: TP-19S (0-3ft) | Sampled: 8/10/2012 08:45

Sample ID: 12H0355-01

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	120	80	mg/Kg dry	5		MADEP-EPH-04-1.1	8/13/12	8/20/12 13:38	SCS
C19-C36 Aliphatics	350	80	mg/Kg dry	5		MADEP-EPH-04-1.1	8/13/12	8/20/12 13:38	SCS
Unadjusted C11-C22 Aromatics	330	80	mg/Kg dry	5		MADEP-EPH-04-1.1	8/13/12	8/20/12 13:38	SCS
C11-C22 Aromatics	300	80	mg/Kg dry	5		MADEP-EPH-04-1.1	8/13/12	8/20/12 13:38	SCS
Acenaphthene	1.3	0.80	mg/Kg dry	5		MADEP-EPH-04-1.1	8/13/12	8/20/12 13:38	SCS
Acenaphthylene	0.85	0.80	mg/Kg dry	5		MADEP-EPH-04-1.1	8/13/12	8/20/12 13:38	SCS
Anthracene	ND	0.80	mg/Kg dry	5		MADEP-EPH-04-1.1	8/13/12	8/20/12 13:38	SCS
Benzo(a)anthracene	2.2	0.80	mg/Kg dry	5		MADEP-EPH-04-1.1	8/13/12	8/20/12 13:38	SCS
Benzo(a)pyrene	1.8	0.80	mg/Kg dry	5		MADEP-EPH-04-1.1	8/13/12	8/20/12 13:38	SCS
Benzo(b)fluoranthene	3.0	0.80	mg/Kg dry	5		MADEP-EPH-04-1.1	8/13/12	8/20/12 13:38	SCS
Benzo(g,h,i)perylene	ND	0.80	mg/Kg dry	5		MADEP-EPH-04-1.1	8/13/12	8/20/12 13:38	SCS
Benzo(k)fluoranthene	1.6	0.80	mg/Kg dry	5		MADEP-EPH-04-1.1	8/13/12	8/20/12 13:38	SCS
Chrysene	1.9	0.80	mg/Kg dry	5		MADEP-EPH-04-1.1	8/13/12	8/20/12 13:38	SCS
Dibenz(a,h)anthracene	ND	0.80	mg/Kg dry	5		MADEP-EPH-04-1.1	8/13/12	8/20/12 13:38	SCS
Fluoranthene	4.3	0.80	mg/Kg dry	5		MADEP-EPH-04-1.1	8/13/12	8/20/12 13:38	SCS
Fluorene	0.86	0.80	mg/Kg dry	5		MADEP-EPH-04-1.1	8/13/12	8/20/12 13:38	SCS
Indeno(1,2,3-cd)pyrene	ND	0.80	mg/Kg dry	5		MADEP-EPH-04-1.1	8/13/12	8/20/12 13:38	SCS
2-Methylnaphthalene	11	0.80	mg/Kg dry	5		MADEP-EPH-04-1.1	8/13/12	8/20/12 13:38	SCS
Naphthalene	0.86	0.80	mg/Kg dry	5		MADEP-EPH-04-1.1	8/13/12	8/20/12 13:38	SCS
Phenanthrene	2.5	0.80	mg/Kg dry	5		MADEP-EPH-04-1.1	8/13/12	8/20/12 13:38	SCS
Pyrene	4.3	0.80	mg/Kg dry	5		MADEP-EPH-04-1.1	8/13/12	8/20/12 13:38	SCS

Surrogates	% Recovery	Recovery Limits	Flag	
Chlorooctadecane (COD)	46.0	40-140		8/20/12 13:38
o-Terphenyl (OTP)	55.3	40-140		8/20/12 13:38
2-Bromonaphthalene	70.7	40-140		8/20/12 13:38
2-Fluorobiphenyl	79.0	40-140		8/20/12 13:38

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Project Location: Cove St., New Bedford
Sample Description:
Work Order: 12H0355

Date Received: 8/10/2012

Field Sample #: TP-19S (0-3ft)
Sampled: 8/10/2012 08:45

Sample ID: 12H0355-01

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Chromium	46	0.82	mg/Kg dry	1		SW-846 6010C	8/11/12	8/13/12 19:33	OP

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Project Location: Cove St., New Bedford
Sample Description:
Work Order: 12H0355

Date Received: 8/10/2012

Field Sample #: TP-19S (0-3ft)
Sampled: 8/10/2012 08:45

Sample ID: 12H0355-01

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
Hexavalent Chromium	ND	0.52	mg/Kg dry	2	MS-16, W-06	SW-846 7196A	8/15/12	8/16/12 15:45	AED
Oxidation/Reduction Potential	83		mV	1		SM2580 A	8/11/12	8/11/12 8:00	LL
pH @19.5°C	7.8		pH Units	1		SW-846 9045C	8/11/12	8/11/12 8:00	LL
% Solids	61.2		% Wt	1		SM 2540G	8/13/12	8/13/12 14:09	CMF

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Project Location: Cove St., New Bedford | Sample Description: | Work Order: 12H0355

Date Received: 8/10/2012

Field Sample #: TP-19W (0-3ft) | Sampled: 8/10/2012 09:00

Sample ID: 12H0355-02

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 dry	1	L-04	MADEP-EPH-04-1.1	8/22/12	8/23/12 12:49	SCS
C19-C36 Aliphatics	ND	20	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 12:49	SCS
Unadjusted C11-C22 Aromatics	ND	20	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 12:49	SCS
C11-C22 Aromatics	ND	20	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 12:49	SCS
Acenaphthene	ND	0.20	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 12:49	SCS
Acenaphthylene	ND	0.20	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 12:49	SCS
Anthracene	ND	0.20	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 12:49	SCS
Benzo(a)anthracene	0.20	0.20	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 12:49	SCS
Benzo(a)pyrene	ND	0.20	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 12:49	SCS
Benzo(b)fluoranthene	ND	0.20	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 12:49	SCS
Benzo(g,h,i)perylene	ND	0.20	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 12:49	SCS
Benzo(k)fluoranthene	ND	0.20	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 12:49	SCS
Chrysene	0.22	0.20	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 12:49	SCS
Dibenz(a,h)anthracene	ND	0.20	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 12:49	SCS
Fluoranthene	0.27	0.20	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 12:49	SCS
Fluorene	ND	0.20	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 12:49	SCS
Indeno(1,2,3-cd)pyrene	ND	0.20	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 12:49	SCS
2-Methylnaphthalene	ND	0.20	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 12:49	SCS
Naphthalene	ND	0.20	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 12:49	SCS
Phenanthrene	0.20	0.20	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 12:49	SCS
Pyrene	0.27	0.20	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 12:49	SCS

Surrogates	% Recovery	Recovery Limits	Flag	
Chlorooctadecane (COD)	51.1	40-140		8/23/12 12:49
o-Terphenyl (OTP)	58.5	40-140		8/23/12 12:49
2-Bromonaphthalene	65.4	40-140		8/23/12 12:49
2-Fluorobiphenyl	68.3	40-140		8/23/12 12:49

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Cove St., New Bedford
Sample Description:
Work Order: 12H0355

Date Received: 8/10/2012

Field Sample #: TP-19W (0-3ft)
Sampled: 8/10/2012 09:00

Sample ID: 12H0355-02

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Chromium	12	0.99	mg/Kg dry	1		SW-846 6010C	8/11/12	8/13/12 19:37	OP

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Cove St., New Bedford
Sample Description:
Work Order: 12H0355

Date Received: 8/10/2012

Field Sample #: TP-19W (0-3ft)
Sampled: 8/10/2012 09:00

Sample ID: 12H0355-02

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
Hexavalent Chromium	ND	7.8	mg/Kg dry	25	W-06	SW-846 7196A	8/15/12	8/16/12 15:45	AED
Oxidation/Reduction Potential	98		mV	1		SM2580 A	8/11/12	8/11/12 8:00	LL
pH @19.4°C	7.6		pH Units	1		SW-846 9045C	8/11/12	8/11/12 8:00	LL
% Solids	50.3		% Wt	1		SM 2540G	8/13/12	8/13/12 14:09	CMF

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Cove St., New Bedford | Sample Description: | Work Order: 12H0355

Date Received: 8/10/2012

Field Sample #: TP-18S (0-3ft) | Sampled: 8/10/2012 09:30

Sample ID: 12H0355-03

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	14	mg/Kg dry	1	L-04	MADEP-EPH-04-1.1	8/22/12	8/23/12 13:09	SCS
C19-C36 Aliphatics	ND	14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:09	SCS
Unadjusted C11-C22 Aromatics	ND	14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:09	SCS
C11-C22 Aromatics	ND	14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:09	SCS
Acenaphthene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:09	SCS
Acenaphthylene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:09	SCS
Anthracene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:09	SCS
Benzo(a)anthracene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:09	SCS
Benzo(a)pyrene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:09	SCS
Benzo(b)fluoranthene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:09	SCS
Benzo(g,h,i)perylene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:09	SCS
Benzo(k)fluoranthene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:09	SCS
Chrysene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:09	SCS
Dibenz(a,h)anthracene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:09	SCS
Fluoranthene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:09	SCS
Fluorene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:09	SCS
Indeno(1,2,3-cd)pyrene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:09	SCS
2-Methylnaphthalene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:09	SCS
Naphthalene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:09	SCS
Phenanthrene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:09	SCS
Pyrene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:09	SCS

Surrogates	% Recovery	Recovery Limits	Flag	
Chlorooctadecane (COD)	61.3	40-140		8/23/12 13:09
o-Terphenyl (OTP)	62.2	40-140		8/23/12 13:09
2-Bromonaphthalene	62.4	40-140		8/23/12 13:09
2-Fluorobiphenyl	69.0	40-140		8/23/12 13:09

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Cove St., New Bedford
Sample Description:
Work Order: 12H0355

Date Received: 8/10/2012

Field Sample #: TP-18S (0-3ft)
Sampled: 8/10/2012 09:30

Sample ID: 12H0355-03

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Chromium	6.4	0.67	mg/Kg dry	1		SW-846 6010C	8/11/12	8/13/12 19:42	OP

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Cove St., New Bedford
Sample Description:
Work Order: 12H0355

Date Received: 8/10/2012

Field Sample #: TP-18S (0-3ft)
Sampled: 8/10/2012 09:30

Sample ID: 12H0355-03

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
Hexavalent Chromium	ND	1.1	mg/Kg dry	5	W-06	SW-846 7196A	8/15/12	8/16/12 15:45	AED
Oxidation/Reduction Potential	86		mV	1		SM2580 A	8/11/12	8/11/12 8:00	LL
pH @19.4°C	7.4		pH Units	1		SW-846 9045C	8/11/12	8/11/12 8:00	LL
% Solids	72.1		% Wt	1		SM 2540G	8/13/12	8/13/12 14:09	CMF

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Cove St., New Bedford | Sample Description: | Work Order: 12H0355

Date Received: 8/10/2012

Field Sample #: TP-18W (0-3ft) | Sampled: 8/10/2012 10:00

Sample ID: 12H0355-04

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/20/12 14:41	SCS
C19-C36 Aliphatics	24	13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/20/12 14:41	SCS
Unadjusted C11-C22 Aromatics	39	13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/20/12 14:41	SCS
C11-C22 Aromatics	35	13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/20/12 14:41	SCS
Acenaphthene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/20/12 14:41	SCS
Acenaphthylene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/20/12 14:41	SCS
Anthracene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/20/12 14:41	SCS
Benzo(a)anthracene	0.45	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/20/12 14:41	SCS
Benzo(a)pyrene	0.42	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/20/12 14:41	SCS
Benzo(b)fluoranthene	0.53	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/20/12 14:41	SCS
Benzo(g,h,i)perylene	0.60	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/20/12 14:41	SCS
Benzo(k)fluoranthene	0.26	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/20/12 14:41	SCS
Chrysene	0.33	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/20/12 14:41	SCS
Dibenz(a,h)anthracene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/20/12 14:41	SCS
Fluoranthene	0.71	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/20/12 14:41	SCS
Fluorene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/20/12 14:41	SCS
Indeno(1,2,3-cd)pyrene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/20/12 14:41	SCS
2-Methylnaphthalene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/20/12 14:41	SCS
Naphthalene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/20/12 14:41	SCS
Phenanthrene	0.19	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/20/12 14:41	SCS
Pyrene	0.80	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/20/12 14:41	SCS

Surrogates	% Recovery	Recovery Limits	Flag	
Chlorooctadecane (COD)	44.9	40-140		8/20/12 14:41
o-Terphenyl (OTP)	48.6	40-140		8/20/12 14:41
2-Bromonaphthalene	74.0	40-140		8/20/12 14:41
2-Fluorobiphenyl	82.3	40-140		8/20/12 14:41

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Cove St., New Bedford
Sample Description:
Work Order: 12H0355

Date Received: 8/10/2012

Field Sample #: TP-18W (0-3ft)
Sampled: 8/10/2012 10:00

Sample ID: 12H0355-04

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Chromium	130	0.62	mg/Kg dry	1		SW-846 6010C	8/11/12	8/13/12 19:47	OP

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Project Location: Cove St., New Bedford
Sample Description:
Work Order: 12H0355

Date Received: 8/10/2012

Field Sample #: TP-18W (0-3ft)
Sampled: 8/10/2012 10:00

Sample ID: 12H0355-04

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
Hexavalent Chromium	ND	1.0	mg/Kg dry	5	W-06	SW-846 7196A	8/15/12	8/16/12 15:45	AED
Oxidation/Reduction Potential	82		mV	1		SM2580 A	8/11/12	8/11/12 8:00	LL
pH @20.2°C	7.2		pH Units	1		SW-846 9045C	8/11/12	8/11/12 8:00	LL
% Solids	75.1		% Wt	1		SM 2540G	8/13/12	8/13/12 14:09	CMF

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Project Location: Cove St., New Bedford | Sample Description: | Work Order: 12H0355

Date Received: 8/10/2012

Field Sample #: TP-2N (0-3ft) | Sampled: 8/10/2012 10:30

Sample ID: 12H0355-05

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 12:43	SCS
C19-C36 Aliphatics	41	14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 12:43	SCS
Unadjusted C11-C22 Aromatics	69	14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 12:43	SCS
C11-C22 Aromatics	55	14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 12:43	SCS
Acenaphthene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 12:43	SCS
Acenaphthylene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 12:43	SCS
Anthracene	0.37	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 12:43	SCS
Benzo(a)anthracene	1.0	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 12:43	SCS
Benzo(a)pyrene	0.91	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 12:43	SCS
Benzo(b)fluoranthene	1.3	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 12:43	SCS
Benzo(g,h,i)perylene	0.53	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 12:43	SCS
Benzo(k)fluoranthene	0.46	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 12:43	SCS
Chrysene	1.2	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 12:43	SCS
Dibenz(a,h)anthracene	0.22	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 12:43	SCS
Fluoranthene	2.5	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 12:43	SCS
Fluorene	0.21	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 12:43	SCS
Indeno(1,2,3-cd)pyrene	0.65	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 12:43	SCS
2-Methylnaphthalene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 12:43	SCS
Naphthalene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 12:43	SCS
Phenanthrene	1.7	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 12:43	SCS
Pyrene	2.3	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 12:43	SCS

Surrogates	% Recovery	Recovery Limits	Flag	
Chlorooctadecane (COD)	44.7	40-140		8/21/12 12:43
o-Terphenyl (OTP)	55.1	40-140		8/21/12 12:43
2-Bromonaphthalene	67.0	40-140		8/21/12 12:43
2-Fluorobiphenyl	75.0	40-140		8/21/12 12:43

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Project Location: Cove St., New Bedford
Sample Description:
Work Order: 12H0355

Date Received: 8/10/2012

Field Sample #: TP-2N (0-3ft)
Sampled: 8/10/2012 10:30

Sample ID: 12H0355-05

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Chromium	30	0.69	mg/Kg dry	1		SW-846 6010C	8/11/12	8/13/12 19:52	OP

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Project Location: Cove St., New Bedford
Sample Description:
Work Order: 12H0355

Date Received: 8/10/2012

Field Sample #: TP-2N (0-3ft)
Sampled: 8/10/2012 10:30

Sample ID: 12H0355-05

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
Hexavalent Chromium	ND	1.1	mg/Kg dry	5	W-06	SW-846 7196A	8/15/12	8/16/12 15:45	AED
Oxidation/Reduction Potential	78		mV	1		SM2580 A	8/11/12	8/11/12 8:00	LL
pH @20.2°C	7.4		pH Units	1		SW-846 9045C	8/11/12	8/11/12 8:00	LL
% Solids	68.8		% Wt	1		SM 2540G	8/13/12	8/13/12 14:09	CMF

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Project Location: Cove St., New Bedford | Sample Description: | Work Order: 12H0355

Date Received: 8/10/2012

Field Sample #: TP-2W (0-3ft) | Sampled: 8/10/2012 10:50

Sample ID: 12H0355-06

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	13	mg/Kg dry	1	L-04	MADEP-EPH-04-1.1	8/22/12	8/23/12 13:29	SCS
C19-C36 Aliphatics	ND	13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:29	SCS
Unadjusted C11-C22 Aromatics	29	13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:29	SCS
C11-C22 Aromatics	23	13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:29	SCS
Acenaphthene	0.13	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:29	SCS
Acenaphthylene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:29	SCS
Anthracene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:29	SCS
Benzo(a)anthracene	0.62	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:29	SCS
Benzo(a)pyrene	0.43	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:29	SCS
Benzo(b)fluoranthene	0.51	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:29	SCS
Benzo(g,h,i)perylene	0.35	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:29	SCS
Benzo(k)fluoranthene	0.15	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:29	SCS
Chrysene	0.55	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:29	SCS
Dibenz(a,h)anthracene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:29	SCS
Fluoranthene	0.82	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:29	SCS
Fluorene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:29	SCS
Indeno(1,2,3-cd)pyrene	0.27	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:29	SCS
2-Methylnaphthalene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:29	SCS
Naphthalene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:29	SCS
Phenanthrene	0.82	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:29	SCS
Pyrene	0.93	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/22/12	8/23/12 13:29	SCS

Surrogates	% Recovery	Recovery Limits	Flag	
Chlorooctadecane (COD)	66.4	40-140		8/23/12 13:29
o-Terphenyl (OTP)	66.5	40-140		8/23/12 13:29
2-Bromonaphthalene	63.3	40-140		8/23/12 13:29
2-Fluorobiphenyl	69.9	40-140		8/23/12 13:29

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Project Location: Cove St., New Bedford
Sample Description:
Work Order: 12H0355

Date Received: 8/10/2012

Field Sample #: TP-2W (0-3ft)
Sampled: 8/10/2012 10:50

Sample ID: 12H0355-06

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Chromium	9.0	0.62	mg/Kg dry	1		SW-846 6010C	8/11/12	8/13/12 19:57	OP

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Project Location: Cove St., New Bedford
Sample Description:
Work Order: 12H0355

Date Received: 8/10/2012

Field Sample #: TP-2W (0-3ft)
Sampled: 8/10/2012 10:50

Sample ID: 12H0355-06

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
Hexavalent Chromium	ND	0.40	mg/Kg dry	2	W-06	SW-846 7196A	8/15/12	8/16/12 15:45	AED
Oxidation/Reduction Potential	66		mV	1		SM2580 A	8/11/12	8/11/12 8:00	LL
pH @20.5°C	7.1		pH Units	1		SW-846 9045C	8/11/12	8/11/12 8:00	LL
% Solids	77.2		% Wt	1		SM 2540G	8/13/12	8/13/12 14:09	CMF

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Project Location: Cove St., New Bedford | Sample Description: | Work Order: 12H0355

Date Received: 8/10/2012

Field Sample #: Dup-1 | Sampled: 8/10/2012 00:00

Sample ID: 12H0355-07

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 13:04	SCS
C19-C36 Aliphatics	13	13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 13:04	SCS
Unadjusted C11-C22 Aromatics	17	13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 13:04	SCS
C11-C22 Aromatics	16	13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 13:04	SCS
Acenaphthene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 13:04	SCS
Acenaphthylene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 13:04	SCS
Anthracene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 13:04	SCS
Benzo(a)anthracene	0.35	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 13:04	SCS
Benzo(a)pyrene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 13:04	SCS
Benzo(b)fluoranthene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 13:04	SCS
Benzo(g,h,i)perylene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 13:04	SCS
Benzo(k)fluoranthene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 13:04	SCS
Chrysene	0.16	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 13:04	SCS
Dibenz(a,h)anthracene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 13:04	SCS
Fluoranthene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 13:04	SCS
Fluorene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 13:04	SCS
Indeno(1,2,3-cd)pyrene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 13:04	SCS
2-Methylnaphthalene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 13:04	SCS
Naphthalene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 13:04	SCS
Phenanthrene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 13:04	SCS
Pyrene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	8/13/12	8/21/12 13:04	SCS

Surrogates	% Recovery	Recovery Limits	Flag	
Chlorooctadecane (COD)	43.1	40-140		8/21/12 13:04
o-Terphenyl (OTP)	47.0	40-140		8/21/12 13:04
2-Bromonaphthalene	63.7	40-140		8/21/12 13:04
2-Fluorobiphenyl	67.4	40-140		8/21/12 13:04

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Project Location: Cove St., New Bedford
Sample Description:
Work Order: 12H0355

Date Received: 8/10/2012

Field Sample #: Dup-1
Sampled: 8/10/2012 00:00

Sample ID: 12H0355-07

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Chromium	6.2	0.64	mg/Kg dry	1		SW-846 6010C	8/11/12	8/13/12 20:02	OP

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Project Location: Cove St., New Bedford
Sample Description:
Work Order: 12H0355

Date Received: 8/10/2012

Field Sample #: Dup-1
Sampled: 8/10/2012 00:00

Sample ID: 12H0355-07

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
Hexavalent Chromium	ND	0.41	mg/Kg dry	2	W-06	SW-846 7196A	8/15/12	8/16/12 15:45	AED
Oxidation/Reduction Potential	83		mV	1		SM2580 A	8/11/12	8/11/12 8:00	LL
pH @20.6°C	7.3		pH Units	1		SW-846 9045C	8/11/12	8/11/12 8:00	LL
% Solids	77.0		% Wt	1		SM 2540G	8/13/12	8/13/12 14:09	CMF

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Sample Extraction Data

Prep Method: SW-846 3546-MADEP-EPH-04-1.1

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
12H0355-01 [TP-19S (0-3ft)]	B056863	20.3	2.00	08/13/12
12H0355-04 [TP-18W (0-3ft)]	B056863	20.0	2.00	08/13/12
12H0355-05 [TP-2N (0-3ft)]	B056863	20.1	2.00	08/13/12
12H0355-07 [Dup-1]	B056863	20.3	2.00	08/13/12

Prep Method: SW-846 3546-MADEP-EPH-04-1.1

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
12H0355-02RE1 [TP-19W (0-3ft)]	B057434	20.3	2.00	08/22/12
12H0355-03RE1 [TP-18S (0-3ft)]	B057434	20.2	2.00	08/22/12
12H0355-06RE1 [TP-2W (0-3ft)]	B057434	20.2	2.00	08/22/12

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
12H0355-01 [TP-19S (0-3ft)]	B056854	08/13/12
12H0355-02 [TP-19W (0-3ft)]	B056854	08/13/12
12H0355-03 [TP-18S (0-3ft)]	B056854	08/13/12
12H0355-04 [TP-18W (0-3ft)]	B056854	08/13/12
12H0355-05 [TP-2N (0-3ft)]	B056854	08/13/12
12H0355-06 [TP-2W (0-3ft)]	B056854	08/13/12
12H0355-07 [Dup-1]	B056854	08/13/12

SM2580 A

Lab Number [Field ID]	Batch	Initial [g]	Date
12H0355-01 [TP-19S (0-3ft)]	B056832	20.0	08/11/12
12H0355-02 [TP-19W (0-3ft)]	B056832	20.0	08/11/12
12H0355-03 [TP-18S (0-3ft)]	B056832	20.0	08/11/12
12H0355-04 [TP-18W (0-3ft)]	B056832	20.0	08/11/12
12H0355-05 [TP-2N (0-3ft)]	B056832	20.0	08/11/12
12H0355-06 [TP-2W (0-3ft)]	B056832	20.0	08/11/12
12H0355-07 [Dup-1]	B056832	20.0	08/11/12

Prep Method: SW-846 3050B-SW-846 6010C

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
12H0355-01 [TP-19S (0-3ft)]	B056840	1.00	50.0	08/11/12
12H0355-02 [TP-19W (0-3ft)]	B056840	1.01	50.0	08/11/12
12H0355-03 [TP-18S (0-3ft)]	B056840	1.03	50.0	08/11/12
12H0355-04 [TP-18W (0-3ft)]	B056840	1.08	50.0	08/11/12
12H0355-05 [TP-2N (0-3ft)]	B056840	1.05	50.0	08/11/12
12H0355-06 [TP-2W (0-3ft)]	B056840	1.05	50.0	08/11/12
12H0355-07 [Dup-1]	B056840	1.02	50.0	08/11/12

SW-846 7196A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
12H0355-01 [TP-19S (0-3ft)]	B057103	2.53	100	08/15/12

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Sample Extraction Data

SW-846 7196A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
12H0355-02 [TP-19W (0-3ft)]	B057103	2.54	100	08/15/12
12H0355-03 [TP-18S (0-3ft)]	B057103	2.55	100	08/15/12
12H0355-04 [TP-18W (0-3ft)]	B057103	2.57	100	08/15/12
12H0355-05 [TP-2N (0-3ft)]	B057103	2.60	100	08/15/12
12H0355-06 [TP-2W (0-3ft)]	B057103	2.59	100	08/15/12
12H0355-07 [Dup-1]	B057103	2.56	100	08/15/12

SW-846 9045C

Lab Number [Field ID]	Batch	Initial [g]	Date
12H0355-01 [TP-19S (0-3ft)]	B056833	20.0	08/11/12
12H0355-02 [TP-19W (0-3ft)]	B056833	20.0	08/11/12
12H0355-03 [TP-18S (0-3ft)]	B056833	20.0	08/11/12
12H0355-04 [TP-18W (0-3ft)]	B056833	20.0	08/11/12
12H0355-05 [TP-2N (0-3ft)]	B056833	20.0	08/11/12
12H0355-06 [TP-2W (0-3ft)]	B056833	20.0	08/11/12
12H0355-07 [Dup-1]	B056833	20.0	08/11/12

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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 B056863 - SW-846 3546											
Blank (B056863-BLK1)				Prepared: 08/13/12 Analyzed: 08/20/12							
C9-C18 Aliphatics	ND	10	mg/Kg wet								
C19-C36 Aliphatics	ND	10	mg/Kg wet								
Unadjusted C11-C22 Aromatics	ND	10	mg/Kg wet								
C11-C22 Aromatics	ND	10	mg/Kg wet								
Acenaphthene	ND	0.10	mg/Kg wet								
Acenaphthylene	ND	0.10	mg/Kg wet								
Anthracene	ND	0.10	mg/Kg wet								
Benzo(a)anthracene	ND	0.10	mg/Kg wet								
Benzo(a)pyrene	ND	0.10	mg/Kg wet								
Benzo(b)fluoranthene	ND	0.10	mg/Kg wet								
Benzo(g,h,i)perylene	ND	0.10	mg/Kg wet								
Benzo(k)fluoranthene	ND	0.10	mg/Kg wet								
Chrysene	ND	0.10	mg/Kg wet								
Dibenz(a,h)anthracene	ND	0.10	mg/Kg wet								
Fluoranthene	ND	0.10	mg/Kg wet								
Fluorene	ND	0.10	mg/Kg wet								
Indeno(1,2,3-cd)pyrene	ND	0.10	mg/Kg wet								
2-Methylnaphthalene	ND	0.10	mg/Kg wet								
Naphthalene	ND	0.10	mg/Kg wet								
Phenanthrene	ND	0.10	mg/Kg wet								
Pyrene	ND	0.10	mg/Kg wet								
Surrogate: Chlorooctadecane (COD)	*2.83*		mg/Kg wet	4.99		56.8		40-140			
Surrogate: o-Terphenyl (OTP)	*2.84*		mg/Kg wet	5.00		56.8		40-140			
Surrogate: 2-Bromonaphthalene	*30.3*		µg/mL	50.0		60.5		40-140			
Surrogate: 2-Fluorobiphenyl	*33.1*		µg/mL	50.0		66.3		40-140			
LCS (B056863-BS1)				Prepared: 08/13/12 Analyzed: 08/20/12							
Acenaphthene	2.61	0.10	mg/Kg wet	5.00		52.2		40-140			
Acenaphthylene	2.43	0.10	mg/Kg wet	5.00		48.5		40-140			
Anthracene	2.93	0.10	mg/Kg wet	5.00		58.6		40-140			
Benzo(a)anthracene	3.30	0.10	mg/Kg wet	5.00		66.0		40-140			
Benzo(a)pyrene	2.89	0.10	mg/Kg wet	5.00		57.7		40-140			
Benzo(b)fluoranthene	3.08	0.10	mg/Kg wet	5.00		61.6		40-140			
Benzo(g,h,i)perylene	3.06	0.10	mg/Kg wet	5.00		61.2		40-140			
Benzo(k)fluoranthene	3.11	0.10	mg/Kg wet	5.00		62.2		40-140			
Chrysene	2.93	0.10	mg/Kg wet	5.00		58.5		40-140			
Dibenz(a,h)anthracene	3.22	0.10	mg/Kg wet	5.00		64.5		40-140			
Fluoranthene	2.87	0.10	mg/Kg wet	5.00		57.4		40-140			
Fluorene	2.76	0.10	mg/Kg wet	5.00		55.2		40-140			
Indeno(1,2,3-cd)pyrene	2.93	0.10	mg/Kg wet	5.00		58.5		40-140			
2-Methylnaphthalene	2.20	0.10	mg/Kg wet	5.00		44.1		40-140			
Naphthalene	1.95	0.10	mg/Kg wet	5.00		**39.0**	*	40-140			L-07
Phenanthrene	2.97	0.10	mg/Kg wet	5.00		59.5		40-140			
Pyrene	2.99	0.10	mg/Kg wet	5.00		59.8		40-140			
n-Decane	2.24	0.10	mg/Kg wet	5.00		44.9		40-140			
n-Docosane	4.32	0.10	mg/Kg wet	5.00		86.4		40-140			
n-Dodecane	2.90	0.10	mg/Kg wet	5.00		57.9		40-140			
n-Eicosane	4.34	0.10	mg/Kg wet	5.00		86.8		40-140			
n-Hexacosane	4.00	0.10	mg/Kg wet	5.00		79.9		40-140			
n-Hexadecane	3.88	0.10	mg/Kg wet	5.00		77.5		40-140			
n-Hexatriacontane	4.20	0.10	mg/Kg wet	5.00		84.1		40-140			
n-Nonadecane	3.94	0.10	mg/Kg wet	5.00		78.8		40-140			

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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 B056863 - SW-846 3546										
LCS (B056863-BS1)				Prepared: 08/13/12 Analyzed: 08/20/12						
n-Nonane	1.52	0.10	mg/Kg wet	5.00		30.4	30-140			
n-Octacosane	3.86	0.10	mg/Kg wet	5.00		77.1	40-140			
n-Octadecane	4.51	0.10	mg/Kg wet	5.00		90.3	40-140			
n-Tetracosane	4.05	0.10	mg/Kg wet	5.00		81.0	40-140			
n-Tetradecane	3.40	0.10	mg/Kg wet	5.00		68.0	40-140			
n-Triacontane	3.91	0.10	mg/Kg wet	5.00		78.1	40-140			
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	0.174	0.10	mg/Kg wet	5.00		3.47	0-5			
Surrogate: Chlorooctadecane (COD)	*2.44*		mg/Kg wet	4.99		48.8	40-140			
Surrogate: o-Terphenyl (OTP)	*3.06*		mg/Kg wet	5.00		61.1	40-140			
Surrogate: 2-Bromonaphthalene	*33.2*		µg/mL	50.0		66.3	40-140			
Surrogate: 2-Fluorobiphenyl	*38.4*		µg/mL	50.0		76.7	40-140			
LCS Dup (B056863-BSD1)				Prepared: 08/13/12 Analyzed: 08/20/12						
Acenaphthene	2.82	0.10	mg/Kg wet	5.00		56.5	40-140	7.95	25	
Acenaphthylene	2.63	0.10	mg/Kg wet	5.00		52.6	40-140	8.07	25	
Anthracene	3.12	0.10	mg/Kg wet	5.00		62.4	40-140	6.27	25	
Benzo(a)anthracene	3.52	0.10	mg/Kg wet	5.00		70.4	40-140	6.44	25	
Benzo(a)pyrene	3.09	0.10	mg/Kg wet	5.00		61.7	40-140	6.74	25	
Benzo(b)fluoranthene	3.28	0.10	mg/Kg wet	5.00		65.5	40-140	6.20	25	
Benzo(g,h,i)perylene	3.27	0.10	mg/Kg wet	5.00		65.4	40-140	6.62	25	
Benzo(k)fluoranthene	3.27	0.10	mg/Kg wet	5.00		65.4	40-140	5.06	25	
Chrysene	3.13	0.10	mg/Kg wet	5.00		62.6	40-140	6.70	25	
Dibenz(a,h)anthracene	3.48	0.10	mg/Kg wet	5.00		69.6	40-140	7.57	25	
Fluoranthene	3.06	0.10	mg/Kg wet	5.00		61.1	40-140	6.32	25	
Fluorene	2.98	0.10	mg/Kg wet	5.00		59.5	40-140	7.61	25	
Indeno(1,2,3-cd)pyrene	3.13	0.10	mg/Kg wet	5.00		62.6	40-140	6.71	25	
2-Methylnaphthalene	2.37	0.10	mg/Kg wet	5.00		47.4	40-140	7.29	25	
Naphthalene	2.09	0.10	mg/Kg wet	5.00		41.7	40-140	6.64	25	
Phenanthrene	3.17	0.10	mg/Kg wet	5.00		63.5	40-140	6.50	25	
Pyrene	3.17	0.10	mg/Kg wet	5.00		63.5	40-140	5.98	25	
n-Decane	2.34	0.10	mg/Kg wet	5.00		46.8	40-140	4.17	25	
n-Docosane	4.36	0.10	mg/Kg wet	5.00		87.3	40-140	0.981	25	
n-Dodecane	3.03	0.10	mg/Kg wet	5.00		60.6	40-140	4.55	25	
n-Eicosane	4.44	0.10	mg/Kg wet	5.00		88.8	40-140	2.27	25	
n-Hexacosane	3.98	0.10	mg/Kg wet	5.00		79.6	40-140	0.394	25	
n-Hexadecane	3.95	0.10	mg/Kg wet	5.00		79.0	40-140	1.83	25	
n-Hexatriacontane	4.27	0.10	mg/Kg wet	5.00		85.4	40-140	1.51	25	
n-Nonadecane	4.01	0.10	mg/Kg wet	5.00		80.2	40-140	1.77	25	
n-Nonane	1.55	0.10	mg/Kg wet	5.00		30.9	30-140	1.85	25	
n-Octacosane	3.85	0.10	mg/Kg wet	5.00		77.1	40-140	0.0700	25	
n-Octadecane	4.59	0.10	mg/Kg wet	5.00		91.8	40-140	1.61	25	
n-Tetracosane	4.06	0.10	mg/Kg wet	5.00		81.2	40-140	0.215	25	
n-Tetradecane	3.51	0.10	mg/Kg wet	5.00		70.1	40-140	3.13	25	
n-Triacontane	3.90	0.10	mg/Kg wet	5.00		78.0	40-140	0.200	25	
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	*2.60*		mg/Kg wet	4.99		52.1	40-140			
Surrogate: o-Terphenyl (OTP)	*3.18*		mg/Kg wet	5.00		63.7	40-140			
Surrogate: 2-Bromonaphthalene	*36.2*		µg/mL	50.0		72.4	40-140			
Surrogate: 2-Fluorobiphenyl	*41.5*		µg/mL	50.0		83.1	40-140			

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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 B056863 - SW-846 3546											
Matrix Spike (B056863-MS1)		**Source: 12H0355-04**		Prepared: 08/13/12 Analyzed: 08/20/12							
C9-C18 Aliphatics	22.6	13	mg/Kg dry	39.6	12.6	**25.2**	*	40-140			MS-07A
C19-C36 Aliphatics	45.6	13	mg/Kg dry	52.7	24.0	40.8		40-140			
Unadjusted C11-C22 Aromatics	92.5	13	mg/Kg dry	112	39.0	47.7		40-140			MS-07A
Acenaphthene	3.60	0.13	mg/Kg dry	6.59	0.00	54.7		40-140			
Acenaphthylene	3.31	0.13	mg/Kg dry	6.59	0.00	50.2		40-140			
Anthracene	4.16	0.13	mg/Kg dry	6.59	0.00	63.1		40-140			
Benzo(a)anthracene	4.19	0.13	mg/Kg dry	6.59	0.445	56.9		40-140			
Benzo(a)pyrene	3.67	0.13	mg/Kg dry	6.59	0.422	49.3		40-140			
Benzo(b)fluoranthene	4.03	0.13	mg/Kg dry	6.59	0.535	53.1		40-140			
Benzo(g,h,i)perylene	3.72	0.13	mg/Kg dry	6.59	0.600	47.3		40-140			
Benzo(k)fluoranthene	3.85	0.13	mg/Kg dry	6.59	0.261	54.5		40-140			
Chrysene	3.90	0.13	mg/Kg dry	6.59	0.326	54.2		40-140			
Dibenz(a,h)anthracene	3.74	0.13	mg/Kg dry	6.59	0.00	56.7		40-140			
Fluoranthene	4.57	0.13	mg/Kg dry	6.59	0.709	58.5		40-140			
Fluorene	4.01	0.13	mg/Kg dry	6.59	0.00	60.8		40-140			
Indeno(1,2,3-cd)pyrene	3.80	0.13	mg/Kg dry	6.59	0.00	57.6		40-140			
2-Methylnaphthalene	2.76	0.13	mg/Kg dry	6.59	0.00	41.9		40-140			
Naphthalene	2.09	0.13	mg/Kg dry	6.59	0.00	**31.6**	*	40-140			MS-07A
Phenanthrene	4.50	0.13	mg/Kg dry	6.59	0.193	65.4		40-140			
Pyrene	4.39	0.13	mg/Kg dry	6.59	0.798	54.5		40-140			
n-Nonane	0.909	0.13	mg/Kg dry	6.59	0.00	**13.8**	*	30-140			MS-07A
Surrogate: Chlorooctadecane (COD)	*3.46*		mg/Kg dry	6.58		52.6		40-140			
Surrogate: o-Terphenyl (OTP)	*4.10*		mg/Kg dry	6.59		62.2		40-140			
Surrogate: 2-Bromonaphthalene	*43.2*		µg/mL	50.0		86.4		40-140			
Surrogate: 2-Fluorobiphenyl	*44.9*		µg/mL	50.0		89.8		40-140			
Matrix Spike Dup (B056863-MSD1)		**Source: 12H0355-04**		Prepared: 08/13/12 Analyzed: 08/20/12							
C9-C18 Aliphatics	20.0	13	mg/Kg dry	39.6	12.6	**18.8**	*	40-140	11.8	50	MS-07A
C19-C36 Aliphatics	40.6	13	mg/Kg dry	52.7	24.0	**31.4**	*	40-140	11.5	50	MS-22
Unadjusted C11-C22 Aromatics	95.3	13	mg/Kg dry	112	39.0	50.2		40-140	2.95	50	MS-07A
Acenaphthene	2.88	0.13	mg/Kg dry	6.59	0.00	43.6		40-140	22.4	50	
Acenaphthylene	2.71	0.13	mg/Kg dry	6.59	0.00	41.0		40-140	20.1	50	
Anthracene	3.72	0.13	mg/Kg dry	6.59	0.00	56.4		40-140	11.2	50	
Benzo(a)anthracene	4.34	0.13	mg/Kg dry	6.59	0.445	59.0		40-140	3.38	50	
Benzo(a)pyrene	3.83	0.13	mg/Kg dry	6.59	0.422	51.7		40-140	4.12	50	
Benzo(b)fluoranthene	4.18	0.13	mg/Kg dry	6.59	0.535	55.3		40-140	3.50	50	
Benzo(g,h,i)perylene	3.62	0.13	mg/Kg dry	6.59	0.600	45.8		40-140	2.73	50	
Benzo(k)fluoranthene	3.74	0.13	mg/Kg dry	6.59	0.261	52.8		40-140	2.89	50	
Chrysene	3.97	0.13	mg/Kg dry	6.59	0.326	55.3		40-140	1.96	50	
Dibenz(a,h)anthracene	3.49	0.13	mg/Kg dry	6.59	0.00	53.0		40-140	6.87	50	
Fluoranthene	4.85	0.13	mg/Kg dry	6.59	0.709	62.9		40-140	6.10	50	
Fluorene	3.48	0.13	mg/Kg dry	6.59	0.00	52.8		40-140	14.1	50	
Indeno(1,2,3-cd)pyrene	3.77	0.13	mg/Kg dry	6.59	0.00	57.3		40-140	0.568	50	
2-Methylnaphthalene	2.08	0.13	mg/Kg dry	6.59	0.00	**31.6**	*	40-140	28.1	50	MS-22
Naphthalene	1.61	0.13	mg/Kg dry	6.59	0.00	**24.4**	*	40-140	25.7	50	MS-07A
Phenanthrene	4.00	0.13	mg/Kg dry	6.59	0.193	57.7		40-140	11.9	50	
Pyrene	4.70	0.13	mg/Kg dry	6.59	0.798	59.2		40-140	6.81	50	
n-Nonane	0.852	0.13	mg/Kg dry	6.59	0.00	**12.9**	*	30-140	6.42	50	MS-07A
Surrogate: Chlorooctadecane (COD)	*2.89*		mg/Kg dry	6.58		43.9		40-140			
Surrogate: o-Terphenyl (OTP)	*3.60*		mg/Kg dry	6.59		54.7		40-140			
Surrogate: 2-Bromonaphthalene	*37.5*		µg/mL	50.0		75.0		40-140			
Surrogate: 2-Fluorobiphenyl	*38.5*		µg/mL	50.0		77.0		40-140			

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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 B057434 - SW-846 3546											
Blank (B057434-BLK1)				Prepared: 08/22/12 Analyzed: 08/23/12							
C9-C18 Aliphatics	ND	10	mg/Kg wet								L-04
C19-C36 Aliphatics	ND	10	mg/Kg wet								
Unadjusted C11-C22 Aromatics	ND	10	mg/Kg wet								
C11-C22 Aromatics	ND	10	mg/Kg wet								
Acenaphthene	ND	0.10	mg/Kg wet								
Acenaphthylene	ND	0.10	mg/Kg wet								
Anthracene	ND	0.10	mg/Kg wet								
Benzo(a)anthracene	ND	0.10	mg/Kg wet								
Benzo(a)pyrene	ND	0.10	mg/Kg wet								
Benzo(b)fluoranthene	ND	0.10	mg/Kg wet								
Benzo(g,h,i)perylene	ND	0.10	mg/Kg wet								
Benzo(k)fluoranthene	ND	0.10	mg/Kg wet								
Chrysene	ND	0.10	mg/Kg wet								
Dibenz(a,h)anthracene	ND	0.10	mg/Kg wet								
Fluoranthene	ND	0.10	mg/Kg wet								
Fluorene	ND	0.10	mg/Kg wet								
Indeno(1,2,3-cd)pyrene	ND	0.10	mg/Kg wet								
2-Methylnaphthalene	ND	0.10	mg/Kg wet								
Naphthalene	ND	0.10	mg/Kg wet								
Phenanthrene	ND	0.10	mg/Kg wet								
Pyrene	ND	0.10	mg/Kg wet								
Surrogate: Chlorooctadecane (COD)	*3.05*		mg/Kg wet	4.99		61.2		40-140			
Surrogate: o-Terphenyl (OTP)	*3.34*		mg/Kg wet	5.00		66.9		40-140			
Surrogate: 2-Bromonaphthalene	*3.32*		mg/Kg wet	5.00		66.5		40-140			
Surrogate: 2-Fluorobiphenyl	*3.43*		mg/Kg wet	5.00		68.6		40-140			
LCS (B057434-BS1)				Prepared: 08/22/12 Analyzed: 08/23/12							
Acenaphthene	2.85	0.10	mg/Kg wet	5.00		57.1		40-140			
Acenaphthylene	2.77	0.10	mg/Kg wet	5.00		55.4		40-140			
Anthracene	3.34	0.10	mg/Kg wet	5.00		66.9		40-140			
Benzo(a)anthracene	3.48	0.10	mg/Kg wet	5.00		69.7		40-140			
Benzo(a)pyrene	3.26	0.10	mg/Kg wet	5.00		65.3		40-140			
Benzo(b)fluoranthene	3.53	0.10	mg/Kg wet	5.00		70.5		40-140			
Benzo(g,h,i)perylene	3.58	0.10	mg/Kg wet	5.00		71.7		40-140			
Benzo(k)fluoranthene	3.42	0.10	mg/Kg wet	5.00		68.4		40-140			
Chrysene	3.26	0.10	mg/Kg wet	5.00		65.3		40-140			
Dibenz(a,h)anthracene	3.56	0.10	mg/Kg wet	5.00		71.2		40-140			
Fluoranthene	3.42	0.10	mg/Kg wet	5.00		68.5		40-140			
Fluorene	3.13	0.10	mg/Kg wet	5.00		62.6		40-140			
Indeno(1,2,3-cd)pyrene	3.57	0.10	mg/Kg wet	5.00		71.4		40-140			
2-Methylnaphthalene	2.59	0.10	mg/Kg wet	5.00		51.8		40-140			
Naphthalene	2.29	0.10	mg/Kg wet	5.00		45.7		40-140			
Phenanthrene	3.38	0.10	mg/Kg wet	5.00		67.6		40-140			
Pyrene	3.32	0.10	mg/Kg wet	5.00		66.4		40-140			
n-Decane	1.79	0.10	mg/Kg wet	5.00		**35.8**	*	40-140			L-04
n-Docosane	3.53	0.10	mg/Kg wet	5.00		70.6		40-140			
n-Dodecane	2.33	0.10	mg/Kg wet	5.00		46.5		40-140			
n-Eicosane	3.56	0.10	mg/Kg wet	5.00		71.3		40-140			
n-Hexacosane	3.66	0.10	mg/Kg wet	5.00		73.1		40-140			
n-Hexadecane	3.19	0.10	mg/Kg wet	5.00		63.9		40-140			
n-Hexatriacontane	3.82	0.10	mg/Kg wet	5.00		76.4		40-140			
n-Nonadecane	3.56	0.10	mg/Kg wet	5.00		71.2		40-140			

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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 B057434 - SW-846 3546											
LCS (B057434-BS1)				Prepared: 08/22/12 Analyzed: 08/23/12							
n-Nonane	1.23	0.10	mg/Kg wet	5.00		**24.5**	*	30-140			L-04
n-Octacosane	3.51	0.10	mg/Kg wet	5.00		70.1		40-140			
n-Octadecane	3.54	0.10	mg/Kg wet	5.00		70.8		40-140			
n-Tetracosane	3.69	0.10	mg/Kg wet	5.00		73.7		40-140			
n-Tetradecane	2.80	0.10	mg/Kg wet	5.00		56.1		40-140			
n-Triacontane	3.60	0.10	mg/Kg wet	5.00		72.0		40-140			
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00				0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00				0-5			
Surrogate: Chlorooctadecane (COD)	*2.82*		mg/Kg wet	4.99		56.6		40-140			
Surrogate: o-Terphenyl (OTP)	*3.32*		mg/Kg wet	5.00		66.3		40-140			
Surrogate: 2-Bromonaphthalene	*3.32*		mg/Kg wet	5.00		66.4		40-140			
Surrogate: 2-Fluorobiphenyl	*3.49*		mg/Kg wet	5.00		69.9		40-140			
LCS Dup (B057434-BSD1)				Prepared: 08/22/12 Analyzed: 08/23/12							
Acenaphthene	3.25	0.10	mg/Kg wet	5.00		65.0		40-140	13.0	25	
Acenaphthylene	3.20	0.10	mg/Kg wet	5.00		64.1		40-140	14.6	25	
Anthracene	3.90	0.10	mg/Kg wet	5.00		77.9		40-140	15.2	25	
Benzo(a)anthracene	3.99	0.10	mg/Kg wet	5.00		79.8		40-140	13.5	25	
Benzo(a)pyrene	3.73	0.10	mg/Kg wet	5.00		74.7		40-140	13.4	25	
Benzo(b)fluoranthene	4.01	0.10	mg/Kg wet	5.00		80.2		40-140	12.8	25	
Benzo(g,h,i)perylene	4.09	0.10	mg/Kg wet	5.00		81.9		40-140	13.3	25	
Benzo(k)fluoranthene	3.90	0.10	mg/Kg wet	5.00		77.9		40-140	13.0	25	
Chrysene	3.73	0.10	mg/Kg wet	5.00		74.5		40-140	13.3	25	
Dibenz(a,h)anthracene	4.07	0.10	mg/Kg wet	5.00		81.4		40-140	13.4	25	
Fluoranthene	3.98	0.10	mg/Kg wet	5.00		79.6		40-140	15.0	25	
Fluorene	3.57	0.10	mg/Kg wet	5.00		71.3		40-140	13.0	25	
Indeno(1,2,3-cd)pyrene	4.09	0.10	mg/Kg wet	5.00		81.9		40-140	13.6	25	
2-Methylnaphthalene	3.00	0.10	mg/Kg wet	5.00		59.9		40-140	14.6	25	
Naphthalene	2.66	0.10	mg/Kg wet	5.00		53.2		40-140	15.1	25	
Phenanthrene	3.92	0.10	mg/Kg wet	5.00		78.4		40-140	14.8	25	
Pyrene	3.88	0.10	mg/Kg wet	5.00		77.7		40-140	15.7	25	
n-Decane	1.89	0.10	mg/Kg wet	5.00		**37.8**	*	40-140	5.36	25	L-04
n-Docosane	3.96	0.10	mg/Kg wet	5.00		79.3		40-140	11.6	25	
n-Dodecane	2.38	0.10	mg/Kg wet	5.00		47.7		40-140	2.41	25	
n-Eicosane	3.93	0.10	mg/Kg wet	5.00		78.7		40-140	9.88	25	
n-Hexacosane	4.01	0.10	mg/Kg wet	5.00		80.2		40-140	9.26	25	
n-Hexadecane	3.36	0.10	mg/Kg wet	5.00		67.2		40-140	5.14	25	
n-Hexatriacontane	4.10	0.10	mg/Kg wet	5.00		82.0		40-140	7.08	25	
n-Nonadecane	3.94	0.10	mg/Kg wet	5.00		78.8		40-140	10.1	25	
n-Nonane	1.33	0.10	mg/Kg wet	5.00		**26.6**	*	30-140	7.99	25	L-04
n-Octacosane	3.86	0.10	mg/Kg wet	5.00		77.1		40-140	9.55	25	
n-Octadecane	3.82	0.10	mg/Kg wet	5.00		76.4		40-140	7.64	25	
n-Tetracosane	4.06	0.10	mg/Kg wet	5.00		81.1		40-140	9.53	25	
n-Tetradecane	2.85	0.10	mg/Kg wet	5.00		57.0		40-140	1.60	25	
n-Triacontane	3.96	0.10	mg/Kg wet	5.00		79.1		40-140	9.45	25	
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00				0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00				0-5			
Surrogate: Chlorooctadecane (COD)	*3.11*		mg/Kg wet	4.99		62.3		40-140			
Surrogate: o-Terphenyl (OTP)	*3.84*		mg/Kg wet	5.00		76.8		40-140			
Surrogate: 2-Bromonaphthalene	*3.82*		mg/Kg wet	5.00		76.4		40-140			
Surrogate: 2-Fluorobiphenyl	*4.15*		mg/Kg wet	5.00		83.0		40-140			

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B056840 - SW-846 3050B										
Blank (B056840-BLK1)				Prepared: 08/11/12 Analyzed: 08/13/12						
Chromium	ND	0.50	mg/Kg wet							
LCS (B056840-BS1)				Prepared: 08/11/12 Analyzed: 08/13/12						
Chromium	125	1.0	mg/Kg wet	119		105	81.6-117.6			
LCS Dup (B056840-BSD1)				Prepared: 08/11/12 Analyzed: 08/13/12						
Chromium	119	1.0	mg/Kg wet	119		100	81.6-117.6	4.28	30	

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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B056832 - SM2580 A											
Duplicate (B056832-DUP1)		**Source: 12H0355-05**		Prepared & Analyzed: 08/11/12							
Oxidation/Reduction Potential	79.0		mV		78				1.27	16.2	
Batch B056833 - SW-846 9045C											
LCS (B056833-BS1)				Prepared & Analyzed: 08/11/12							
pH	6.05		pH Units	6.00		101		93.7-106			
LCS (B056833-BS2)				Prepared & Analyzed: 08/11/12							
pH	6.04		pH Units	6.00		101		93.7-106			
Duplicate (B056833-DUP1)		**Source: 12H0355-05**		Prepared & Analyzed: 08/11/12							
pH	7.5		pH Units		7.4				1.21	7.49	
Duplicate (B056833-DUP2)		**Source: 12H0355-07**		Prepared & Analyzed: 08/11/12							
pH	7.1		pH Units		7.3				2.64	7.49	
Batch B057103 - SW-846 7196A											
Blank (B057103-BLK1)				Prepared: 08/15/12 Analyzed: 08/16/12							
Hexavalent Chromium	ND	0.15	mg/Kg wet								
LCS (B057103-BS1)				Prepared: 08/15/12 Analyzed: 08/16/12							
Hexavalent Chromium	200	10	mg/Kg wet	217		91.0		80-120			
LCS Dup (B057103-BSD1)				Prepared: 08/15/12 Analyzed: 08/16/12							
Hexavalent Chromium	230	9.9	mg/Kg wet	215		105		80-120	13.3	20	
Matrix Spike (B057103-MS4) Soluble MS 355		**Source: 12H0355-01**		Prepared: 08/15/12 Analyzed: 08/16/12							
Hexavalent Chromium	17	2.5	mg/Kg dry	63.7	ND	**26.6**	*	75-125			MS-16
Matrix Spike (B057103-MS5) PDMS 355		**Source: 12H0355-01**		Prepared: 08/15/12 Analyzed: 08/16/12							
Hexavalent Chromium	22	2.6	mg/Kg dry	64.2	ND	**34.1**	*	75-125			MS-16
Matrix Spike (B057103-MS6) Insoluble MS 355		**Source: 12H0355-01**		Prepared: 08/15/12 Analyzed: 08/16/12							
Hexavalent Chromium	92	25	mg/Kg dry	1020	ND	**9.09**	*	75-125			MS-16
Matrix Spike Dup (B057103-MSD4) Soluble MS Dup 355		**Source: 12H0355-01**		Prepared: 08/15/12 Analyzed: 08/16/12							
Hexavalent Chromium	15	2.6	mg/Kg dry	64.4	ND	**23.6**	*	75-125	10.8	35	MS-16

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

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.
L-04	Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the low side.
L-07	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
MS-07A	Matrix spike and spike duplicate recovery is outside of control limits. Analysis is in control based on laboratory fortified blank recovery. Possiblity of matrix effects that lead to low bias or non-homogeneous sample aliquot cannot be eliminated.
MS-16	For solid method SW846-7196A, the matrix spike is outside of control limits. pH and ORP results were indicative of reducing conditions. Reanalysis is not required. Analysis is in control based on LCS recoveries.
MS-22	Either matrix spike or MS duplicate is outside of control limits, but the other is within limits. RPD between the two MS/MSD results is within method specified criteria.
W-06	Elevated method reporting limit due to intense color of sample

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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
SW-846 6010C in Soil	
Chromium	CT,NH,NY,ME,NC
SW-846 7196A in Soil	
Hexavalent Chromium	NY,CT,NH,NC,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	06/30/2013
CT	Connecticut Department of Publilc 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	06/30/2013
FL	Florida Department of Health	E871027 NELAP	06/30/2013
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2013
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

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
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Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

12H0355

39 Spruce Street
East longmeadow, MA 01028

Page_____of_____

Company Name: WESTON & SAMPSON
Address: 5 CENTENNIAL DRIVE PEABODY, MA
Attention: JIM CURRIER
Project Location: COVE ST NEW BEDFORD
Sampled By: P. KAVANAGH (781-710 4391)

Telephone: 1800 SAMPSON
Project # 2100655.B
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ☒ EMAIL ○ WEBSITE
Fax #
Email: CURRIERJ@WSEINC.COM
Format: ☒ PDF ○ EXCEL ○ GIS
○ OTHER_____
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	EPH	HEX CR	TOTAL CR	ORP / #	PH							# of Containers	** Preservation	***Container Code
																			1	I	G
01	TP-19S (0-3')	8/10/12	8:45		X	S		X	X	X	X	X							1	I	G
02	TP-19W (0-3')		9:00																1	I	G
03	TP-18S (0-3')		9:30																1	I	G
04	TP-18W (0-3')		10:00																1	I	G
05	TP-2N (0-3')		10:30																1	I	G
06	TP-2W (0-3')		10:50																1	I	G
07	DUP-1	8/10/12																	1	I	G

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other_____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other_____

Comments: PLEASE INVOICE PREMIER LABS

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

Relinquished by: (signature)	Date/Time:
Jaclyn Kavanagh	8/10/12
Received by: (signature)	Date/Time:
[illegible]	8/10/12
Relinquished by: (signature)	Date/Time:
[illegible]	8/10/12 1624
Received by: (signature)	Date/Time:
Kenny McGee 2.8C	8-10-12 15:25

Turnaround ††
☒ 7-Day
☐ 10-Day
☐ Other ____
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: S-1 GW-2/3
Connecticut:
Other:

Is your project MCP or RCP ?
☒ MCP Analytical Certification Form Required
○ RCP Analysis Certification Form Required
○ MA State DW Form Required PWSID # _____

ACCREDITED IN ACCORDANCE WITH nelac
ACCREDITED LABORATORY AIHA Environmental Lead & Industrial Hygiene

NELAC & AIHA Certified
WBE/DBE Certified

†† TURNAROUND TIME (business days) STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

39 Spruce St.
East Longmeadow, MA. 01028
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F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: Weston & Sampson RECEIVED BY: KKM DATE: 8-10-12

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 2.8C
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 LL Date 8-10-12 Time 15:30
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) _____
10) **Was the PC notified of any discrepancies with the CoC vs the samples:** Yes No (N/A)

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	7
500 mL Amber		4 oz amber/clear jar	21
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 #: 12H0355
Project Location: Cove St., New Bedford	RTN:

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

12H0355-01 thru 12H0355-07

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 (X)	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 (X)	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 throughF is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ 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?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ 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).	☑ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ 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 Qestions A through E)?	☑ Yes	☐ 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)?	☐ Yes	☑ No[1]

***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☐ Yes	☑ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes	☑ No[1]

[1] *All Negative responses must be addressed in an attached 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: M Erickson Position: Laboratory Director

Printed Name: Michael A. Erickson Date: 08/23/12

Premier
Laboratory, Inc

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 Currier

Report Number: E204A38
Project: Environmental Samples

Received Date: 04/17/2012
Report Date: 04/19/2012

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)

101-000000335518

Premier
Laboratory, Inc

61 Louisa Viens Drive
Dayville, CT 06241
Fax: 860-774-2689
Phone: 860-774-6814
Toll-Free: 800-334-0103

Report No: E204A38
Client: Weston and Sampson
Project: Environmental Samples

CASE NARRATIVE / METHOD CONFORMANCE SUMMARY

Premier Laboratory, Inc received five samples from Weston and Sampson on 04/17/2012. The samples were analyzed for the following list of analyses:

Trace Metals by 6010B
6010B[3000]

Non-Conformances:

Work Order:

None

Sample:

None

Analysis:

None

Premier Laboratory, Inc
Analytical Data Report

Report No: E204A38
Date Received: 04/17/2012 15:25

Customer: Weston and Sampson
Project: Environmental Samples

Parameter	Result	DL	Units	Completed	By	Dilution
(1) WS-8						
Date Collected: 04/16/2012 11:05 **Matrix: Aqueous**						
Trace Metals by 6010B, Dissolved						
Silver	ND	0.0020	mg/L	04/18/2012 11:53	NJB	
(2) WS-4						
Date Collected: 04/16/2012 10:00 **Matrix: Aqueous**						
Trace Metals by 6010B, Dissolved						
Silver	ND	0.0020	mg/L	04/18/2012 11:56	NJB	
(3) WS-1						
Date Collected: 04/16/2012 11:50 **Matrix: Aqueous**						
Trace Metals by 6010B, Dissolved						
Silver	ND	0.0020	mg/L	04/18/2012 11:59	NJB	
(4) MW-4						
Date Collected: 04/16/2012 09:08 **Matrix: Aqueous**						
Trace Metals by 6010B, Dissolved						
Silver	ND	0.0020	mg/L	04/18/2012 12:02	NJB	
(5) DUP-1						
Date Collected: 04/16/2012 **Matrix: Aqueous**						
Trace Metals by 6010B, Dissolved						
Silver	ND	0.0020	mg/L	04/18/2012 12:05	NJB	

Premier Laboratory, Inc.
61 Louisa Viens Drive
Dayville, CT 06241
(800) 334-0103

Chain of Custody:

WWW.PREMIERLABORATORY.COM

Lab WO #: E204A38 MR
Project Manager: BRAD GAUTHIER

Copy of Report To

CUSTOMER: WESTON & SAMPSON
ADDRESS: 5 Centennial Drive
Peabody, MA
DELIVERY: EMAIL PLEASE
E-MAIL: currierj@wseinc.com; pitts@wseinc.com
PHONE: 800 SAMPSON Fax:

Billing Information

BILL TO: CITY OF NEW BEDFORD
ADDRESS: 133 William St. Rm 304
Env. Stewardship Dept.
ATTENTION: Cheryl Henlin
PHONE:
PURCHASE ORDER # :

Project Information

Project: 45 Cove Street
Location: NEW BEDFORD
Project Mgr: JIM CURRIER
IN CASE WE HAVE ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL:
E-MAIL: spencerj@wseinc.com
PHONE: 781 443 2779
FAX:

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: Dissolved As	Preservatives: H_2SO_4	HCL	HNO_3	NON-PRES	Mixed
WS-8	4-16-12	1105		X	GW	1	X			X		
WS-4		1000										
WS-1		1150										
MW-4		0900										
DUP-1		—										

PRESERVATIVE VERIFIED Initials

SCANNED

CUSTODY TRANSFER	DATE	Time
SAMPLER:	4-16-12	1400
RECEIVED:		
RELINQUISHED:	4-17-12	11:30
RECEIVED:	4-17-12	11:30
RELINQUISHED:	4-17-12	15:25
RECEIVED: Michael Gosle	4/17/12	15:25

TURNAROUND (INDICATE IN CALENDAR DAYS): 7 STANDARD
FAX | HARD COPY | E-MAIL X

EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS: ACTING AS CONSULTANT FOR CITY OF NEW BEDFORD, PLEASE SEND INVOICE TO CITY OF NEW BEDFORD

CONDITIONS UPON RECEIPT: (CHECK ONE)
COOLED ☑ AMBIENT ☐ 2-4 °C Upon receipt at lab

Premier
Laboratory, Inc

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 Currier

Report Number: E205204
Revision 2
Project: New Bedford - 45 Cove Street

Received Date: 05/02/2012
Report Date: 06/05/2012
Revision Date: 06/05/2012

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)

101-000000336865

Premier
Laboratory, Inc

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Dayville, CT 06241
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Phone: 860-774-6814
Toll-Free: 800-334-0103

MADEP Analytical Protocol Certification Form

Laboratory Name: Premier Laboratory, Inc — Project #: E205204

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

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

CAM Protocol (check all that apply below):

8260 VOC CAM II A ☐	7470/7471 Hg CAM III B ☐	MassDEP VPH CAM IV A ☑	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☑	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☐	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☑	8151A 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 Responses to Questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all indentified performance standard non-conformances?	☑ Yes	☐ 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"?	☑ Yes	☐ 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).	☑ Yes	☐ No[1]
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ 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)?	☑ Yes	☐ 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)?	☑ Yes	☐ No[1]

***Data User Note**: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40 (2)(k) and WSC-07-350*

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	☑ Yes	☐ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes	☑ No[1]

[1]*All negative responses must be addressed in an attached laboratory narrative.*

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: R. Warila — Position: Laboratory Director

Printed Name: Ronald Warila — Date: 6/5/2012

101-000000336865

Premier
Laboratory, Inc

61 Louisa Viens Drive
Dayville, CT 06241
Fax: 860-774-2689
Phone: 860-774-6814
Toll-Free: 800-334-0103

Report No: E205204
Client: Weston and Sampson
Project: New Bedford - 45 Cove Street

CASE NARRATIVE / METHOD CONFORMANCE SUMMARY

Premier Laboratory, Inc received six samples from Weston and Sampson on 05/02/2012. The samples were analyzed for the following list of analyses:

Extractable Petroleum Hydrocarbon (EPH)
MADEP EPH[MADEP EPH]
Trace Metals by 6010B
6010B[3000]
MCP - Hexavalent Chromium by 7196A (soil)
7196A[3060], 9045, ASTM D1498-08
Volatile Petroleum Hydrocarbon (VPH)
MADEP VPH

MCP regulations for the VPH method allow up to 10% of compounds in the initial calibration verification to have percent recoveries outside of 80-120%. Nonane and decane in the ICV had percent recoveries outside of this range.

A quadratic equation curve fit was used in the initial calibration for the VPH method for n-butylcyclohexane and the aliphatic C9-C12 range.

The requested compound list is not inclusive of all of the MCP Target Analytes for Method 6010B.

The reported compound list is not inclusive of all of the MCP Target Analytes for MassDEP EPH Method.

Non-Conformances:

Work Order:

Hexavalent Chromium- The soluble Matrix spike/ matrix spike duplicate sample recovery was less than the required >30% recovery limits due to matrix interference. The associated LCS recoveries were within the established quality control limits. The ph/ORP measurments indicate that the affected samples are in a reducing condition and no further action is required.

The holding time was exceeded for the pH and ORP measurements associated with the hexavalent chromium analysis. The measurements were not performed within 24 hours of sample collection as required in WSC-CAM-VI B.

Sample:

None

Analysis:

Sample 1A, TP9N, Extractable Petroleum Hydrocarbon (EPH): Reported TPH result exceeds the calibration curve and is estimated. A dilution was unable to be performed on the sample extract.

Sample 1B, TP9N, Volatile Petroleum Hydrocarbon (VPH): Several compound recoveries for the matrix spike/ matrix spike duplicate were outside of the established control limits due to matrix interference. The associated LCS recoveries were within the established quality control limits.

Premier
Laboratory, Inc

61 Louisa Viens Drive
Dayville, CT 06241
Fax: 860-774-2689
Phone: 860-774-6814
Toll-Free: 800-334-0103

Report No: E205204
Client: Weston and Sampson
Project: New Bedford - 45 Cove Street

CASE NARRATIVE / METHOD CONFORMANCE SUMMARY

Non-Conformances:

Analysis:

Sample 2A, TP9S, Extractable Petroleum Hydrocarbon (EPH): Reported TPH result exceeds the calibration curve and is estimated. A dilution was unable to be performed on the sample extract.

Sample 3A, TP9E, Extractable Petroleum Hydrocarbon (EPH): Reported TPH result exceeds the calibration curve and is estimated. A dilution was unable to be performed on the sample extract.

Sample 4A, TP9W, Extractable Petroleum Hydrocarbon (EPH): Reported TPH result exceeds the calibration curve and is estimated. A dilution was unable to be performed on the sample extract.

Sample 5A, TP DUP, Extractable Petroleum Hydrocarbon (EPH): Reported TPH result exceeds the calibration curve and is estimated. A dilution was unable to be performed on the sample extract.

Sample 6A, TP19E, Extractable Petroleum Hydrocarbon (EPH): Reported TPH result exceeds the calibration curve and is estimated. A dilution was unable to be performed on the sample extract.

Premier Laboratory, Inc
Analytical Data Report

Report No: E205204
Date Received: 05/02/2012 15:19

Customer: Weston and Sampson
Project: New Bedford - 45 Cove Street

Parameter	Result	DL	Units	Completed	By	Dilution
(1) TP9N						
Date Collected: 04/30/2012 08:45	**Matrix: Solid**					
Hexavalent Chromium by SW-846 7196A (soil)	ND	1.4	mg/kg	05/23/2012 23:22	DSW	
ORP (Eh) by ASTM D1498-08	240		mV	05/10/2012 22:52	DSW	
pH in Soil by 9045	7.7		pH Units	05/10/2012 22:03	DSW	
Trace Metals by 6010B						
Chromium	28	0.14	mg/kg	05/09/2012 12:28	NJB	
Lead	120	0.14	mg/kg	05/09/2012 12:28	NJB	
(2) TP9S						
Date Collected: 04/30/2012 09:00	**Matrix: Solid**					
Hexavalent Chromium by SW-846 7196A (soil)	ND	5.7	mg/kg	05/23/2012 23:22	DSW	
ORP (Eh) by ASTM D1498-08	260		mV	05/10/2012 22:52	DSW	
pH in Soil by 9045	7.8		pH Units	05/10/2012 22:03	DSW	
Trace Metals by 6010B						
Chromium	8.4	0.57	mg/kg	05/09/2012 12:40	NJB	
Lead	9.4	0.57	mg/kg	05/09/2012 12:40	NJB	
(3) TP9E						
Date Collected: 04/30/2012 09:15	**Matrix: Solid**					
Hexavalent Chromium by SW-846 7196A (soil)	ND	1.2	mg/kg	05/23/2012 23:22	DSW	
ORP (Eh) by ASTM D1498-08	190		mV	05/10/2012 22:52	DSW	
pH in Soil by 9045	9.1		pH Units	05/10/2012 22:03	DSW	
Trace Metals by 6010B						
Chromium	13	0.12	mg/kg	05/09/2012 12:43	NJB	
Lead	58	0.12	mg/kg	05/09/2012 12:43	NJB	
(4) TP9W						
Date Collected: 04/30/2012 09:30	**Matrix: Solid**					
Hexavalent Chromium by SW-846 7196A (soil)	ND	1.2	mg/kg	05/23/2012 23:22	DSW	
ORP (Eh) by ASTM D1498-08	190		mV	05/10/2012 22:52	DSW	
pH in Soil by 9045	9.1		pH Units	05/10/2012 22:03	DSW	
Trace Metals by 6010B						
Chromium	10	0.12	mg/kg	05/09/2012 12:46	NJB	
Lead	25	0.12	mg/kg	05/09/2012 12:46	NJB	
(5) TP DUP						
Date Collected: 04/30/2012 09:30	**Matrix: Solid**					
Hexavalent Chromium by SW-846 7196A (soil)	ND	1.2	mg/kg	05/23/2012 23:22	DSW	
ORP (Eh) by ASTM D1498-08	170		mV	05/10/2012 22:52	DSW	
pH in Soil by 9045	9.2		pH Units	05/10/2012 22:03	DSW	
Trace Metals by 6010B						
Chromium	12	0.12	mg/kg	05/09/2012 12:49	NJB	
Lead	33	0.12	mg/kg	05/09/2012 12:49	NJB	

Premier Laboratory, Inc
Analytical Data Report

Report No: E205204
Date Received: 05/02/2012 15:19

Customer: Weston and Sampson
Project: New Bedford - 45 Cove Street

Parameter	Result	DL	Units	Completed	By	Dilution
(6) TP19E						
Date Collected: 04/30/2012 12:45 **Matrix: Solid**						
Hexavalent Chromium by SW-846 7196A (soil)	ND	1.5	mg/kg	05/23/2012 23:22	DSW	
ORP (Eh) by ASTM D1498-08	170		mV	05/10/2012 22:52	DSW	
pH in Soil by 9045	8.4		pH Units	05/10/2012 22:03	DSW	
Trace Metals by 6010B						
Chromium	7.6	0.15	mg/kg	05/09/2012 12:52	NJB	
Lead	160	0.15	mg/kg	05/09/2012 12:52	NJB	

Premier Laboratory, Inc
Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
		Location:	New Bedford, MA
Report No:	E205204	Project:	New Bedford - 45 Cove Street
Sample No:	1	Sample Description:	TP9N
Preservative:			
		Dilution (Target):	50
Date Collected:	4/30/2012		
Date Received:	5/2/2012	Matrix:	Solid
Date Extracted:		Percent Moisture:	27
Date Analyzed:	5/9/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	50	ND	9200	ug/kg
C9-C12 Aliphatics**	50	ND	9200	ug/kg
C9-C10 Aromatics***	50	ND	9200	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	90%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	ND	92	ug/kg
Benzene	ND	460	ug/kg
Toluene	ND	460	ug/kg
Ethylbenzene	ND	460	ug/kg
m,p-Xylenes	ND	460	ug/kg
o-Xylene	ND	460	ug/kg
Naphthalene	ND	460	ug/kg

Premier Laboratory, Inc
Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
		Location:	New Bedford, MA
Report No:	E205204	Project:	New Bedford - 45 Cove Street
Sample No:	2	Sample Description:	TP9S
Preservative:			
		Dilution (Target):	50
Date Collected:	4/30/2012		
Date Received:	5/2/2012	Matrix:	Solid
Date Extracted:		Percent Moisture:	83
Date Analyzed:	5/9/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	50	ND	78000	ug/kg
C9-C12 Aliphatics**	50	ND	78000	ug/kg
C9-C10 Aromatics***	50	ND	78000	ug/kg

* Excludes MTBE, Benzene, and Toluene
** Excludes Ethylbenzene, Xylenes
*** Excludes Naphthalene

SURROGATE RECOVERIES

Surrogate	% Recovery	Acceptance Range
2,5-dibromotoluene #2	100%	70%-130%
2,5-dibromotoluene	95%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	ND	780	ug/kg
Benzene	ND	3900	ug/kg
Toluene	ND	3900	ug/kg
Ethylbenzene	ND	3900	ug/kg
m,p-Xylenes	ND	3900	ug/kg
o-Xylene	ND	3900	ug/kg
Naphthalene	ND	3900	ug/kg

Premier Laboratory, Inc
Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
		Location:	New Bedford, MA
Report No:	E205204	Project:	New Bedford - 45 Cove Street
Sample No:	3	Sample Description:	TP9E
Preservative:			
		Dilution (Target):	50
Date Collected:	4/30/2012		
Date Received:	5/2/2012	Matrix:	Solid
Date Extracted:		Percent Moisture:	20
Date Analyzed:	5/9/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	50	ND	6300	ug/kg
C9-C12 Aliphatics**	50	23000	6300	ug/kg
C9-C10 Aromatics***	50	12000	6300	ug/kg

* Excludes MTBE, Benzene, and Toluene
** Excludes Ethylbenzene, Xylenes
*** Excludes Naphthalene

SURROGATE RECOVERIES

Surrogate	% Recovery	Acceptance Range
2,5-dibromotoluene #2	97%	70%-130%
2,5-dibromotoluene	95%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	ND	63	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
		Location:	New Bedford, MA
Report No:	E205204	Project:	New Bedford - 45 Cove Street
Sample No:	4	Sample Description:	TP9W
Preservative:			
		Dilution (Target):	50
Date Collected:	4/30/2012		
Date Received:	5/2/2012	Matrix:	Solid
Date Extracted:		Percent Moisture:	20
Date Analyzed:	5/9/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	50	ND	5900	ug/kg
C9-C12 Aliphatics**	50	ND	5900	ug/kg
C9-C10 Aromatics***	50	ND	5900	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	89%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	ND	59	ug/kg
Benzene	ND	300	ug/kg
Toluene	ND	300	ug/kg
Ethylbenzene	ND	300	ug/kg
m,p-Xylenes	500	300	ug/kg
o-Xylene	ND	300	ug/kg
Naphthalene	ND	300	ug/kg

Premier Laboratory, Inc
Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
		Location:	New Bedford, MA
Report No:	E205204	Project:	New Bedford - 45 Cove Street
Sample No:	5	Sample Description:	TP DUP
Preservative:			
		Dilution (Target):	50
Date Collected:	4/30/2012		
Date Received:	5/2/2012	Matrix:	Solid
Date Extracted:		Percent Moisture:	20
Date Analyzed:	5/9/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	50	ND	5300	ug/kg
C9-C12 Aliphatics**	50	ND	5300	ug/kg
C9-C10 Aromatics***	50	ND	5300	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	94%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	ND	53	ug/kg
Benzene	ND	270	ug/kg
Toluene	ND	270	ug/kg
Ethylbenzene	ND	270	ug/kg
m,p-Xylenes	ND	270	ug/kg
o-Xylene	ND	270	ug/kg
Naphthalene	ND	270	ug/kg

Premier Laboratory, Inc
Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
		Location:	New Bedford, MA
Report No:	E205204	Project:	New Bedford - 45 Cove Street
Sample No:	6	Sample Description:	TP19E
Preservative:			
		Dilution (Target):	400
Date Collected:	4/30/2012		
Date Received:	5/2/2012	Matrix:	Solid
Date Extracted:		Percent Moisture:	32
Date Analyzed:	5/16/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	400	ND	83000	ug/kg
C9-C12 Aliphatics**	400	1800000	83000	ug/kg
C9-C10 Aromatics***	400	1600000	83000	ug/kg

* Excludes MTBE, Benzene, and Toluene
** Excludes Ethylbenzene, Xylenes
*** Excludes Naphthalene

SURROGATE RECOVERIES

Surrogate	% Recovery	Acceptance Range
2,5-dibromotoluene #2	90%	70%-130%
2,5-dibromotoluene	113%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	ND	830	ug/kg
Benzene	ND	4100	ug/kg
Toluene	ND	4100	ug/kg
Ethylbenzene	ND	4100	ug/kg
m,p-Xylenes	ND	4100	ug/kg
o-Xylene	ND	4100	ug/kg
Naphthalene	28000	4100	ug/kg

Premier Laboratory, Inc.
TPH Analytical Data Report

Sample Information

Matrix	☐ Aqueous ☑ Soil ☐ Sediment ☐ Other:
Containers	☑ Satisfactory ☐ Broken ☐ Leaking:
Aqueous Preservatives	☑ N/A ☐ pH≤2 ☐ pH>2 Comment:
Temperature	☐ Received on Ice ☑ Received at 4 ± 2 °C ☐ Other: °C
Extraction Method	Water: Soil/Sediment: 3545

TPH Analytical Results

Method for Ranges: MADEP EPH 03-1		Client ID		TP 9N	TP 9S	TP 9E	TP 9W	TP 9W Dup
Method for Target Analytes:		Lab ID		E205204-1A	E205204-2A	E205204-3A	E205204-4A	E205204-5A
TPH Surrogate Standards: COD, OTP		Date Collected		04/30/2012	04/30/2012	04/30/2012	04/30/2012	04/30/2012
		Date Received		05/02/2012	05/02/2012	05/02/2012	05/02/2012	05/02/2012
		Date Thawed		NA	NA	NA	NA	NA
		Date Extracted		05/14/2012	05/14/2012	05/14/2012	05/14/2012	05/14/2012
		Date Analyzed		05/17/2012	05/16/2012	05/17/2012	05/17/2012	05/17/2012
		Time Analyzed		13:16	16:25	10:02	10:51	11.39
		Dilution Factor		1	1	1	1	1
		% Moisture (soil/sediment)		27	83	20	20	20
Range/Target Analyte		RL	Units					
Unadjusted Total Petroleum Hydrocarbons[1]		10	mg/kg	660 E	990 E	180 E	320 E	630 E
Diesel PAH Analytes	Naphthalene							
	2-Methylnaphthalene							
	Phenanthrene							
	Acenaphthene							
Other PAH Target Analytes								
Total Petroleum Hydrocarbons[2]								
Sample Surrogate % Recovery - COD				115	76	99	116	114
Sample Surrogate % Recovery - OTP				125	77	97	113	139
Sample Surrogate Acceptance Range				40-140%	40-140%	40-140%	40-140%	40-140%

[1] Hydrocarbon Range data exclude area counts of any surrogate(s) and/or internal standards eluting in that range

[2] Total Petroleum Hydrocarbons exclude the concentration of PAH Target Analytes only if determined by GC/MS

Premier Laboratory, Inc.
TPH Analytical Data Report

Sample Information

Matrix	☐ Aqueous ☑ Soil ☐ Sediment ☐ Other:
Containers	☑ Satisfactory ☐ Broken ☐ Leaking:
Aqueous Preservatives	☑ N/A ☐ pH≤2 ☐ pH>2 Comment:
Temperature	☐ Received on Ice ☑ Received at 4 ± 2 °C ☐ Other: °C
Extraction Method	Water: Soil/Sediment: 3545

TPH Analytical Results

Method for Ranges: MADEP EPH 03-1		Client ID		TP 19E	TP 9N	TP 9N		
Method for Target Analytes:		Lab ID		E205204-6A	E205204-1A MS	E205204-1A MSD		
TPH Surrogate Standards: COD, OTP		Date Collected		04/30/2012	04/30/2012	04/30/2012		
		Date Received		05/02/2012	05/02/2012	05/02/2012		
		Date Thawed		NA	NA	NA		
		Date Extracted		05/14/2012	05/14/2012	05/14/2012		
		Date Analyzed		05/17/2012	05/16/2012	05/16/2012		
		Time Analyzed		12:28	14:05	14:54		
		Dilution Factor		1	1	1		
		% Moisture (soil/sediment)		32	27	27		
Range/Target Analyte		RL	Units					
Unadjusted Total Petroleum Hydrocarbons[1]		10	mg/kg	2700 E	860 E	950 E		
Diesel PAH Analytes	Naphthalene							
	2-Methylnaphthalene							
	Phenanthrene							
	Acenaphthene							
Other PAH Target Analytes								
Total Petroleum Hydrocarbons[2]								
Sample Surrogate % Recovery - COD				133	51	111		
Sample Surrogate % Recovery - OTP				133	99	123		
Sample Surrogate Acceptance Range				40-140%	40-140%	40-140%	40-140%	40-140%

[1] Hydrocarbon Range data exclude area counts of any surrogate(s) and/or internal standards eluting in that range

[2] Total Petroleum Hydrocarbons exclude the concentration of PAH Target Analytes only if determined by GC/MS

FORM 3
Water MADEP VPH Lab Control Sample

Lab Name: Premier Laboratory, Inc Date Analyzed 5/9/2012

Project No.: E205204 Project: New Bedford - 45 Cove Stre

Sample No.: VLCS0509 Location: New Bedford, MA

Lab File ID: 2050902.D Batch No.: 94914

Compound	Spike Added (ug/L)	Sample Concentration (ug/L)	% Rec #	QC Limits Rec
1,2,4-Trimethylbenzene	20.00	20.84	104	70-130
2-Methylpentane	20.00	25.94	130	70-130
Benzene	20.00	23.62	118	70-130
C5-C8 Aliphatics	60.00	76.55	128	70-130
C9-C10 Aromatics	20.00	25.32	127	70-130
C9-C12 Aliphatics	60.00	67.56	113	70-130
Decane	20.00	21.53	108	70-130
Ethylbenzene	20.00	22.84	114	70-130
m,p-Xylenes	40.00	45.54	114	70-130
Methyl tert-butyl ether (M	20.00	23.56	118	70-130
n-Butylcyclohexane	20.00	24.66	123	70-130
Naphthalene	20.00	23.74	119	70-130
Nonane	20.00	21.37	107	70-130
o-Xylene	20.00	22.36	112	70-130
Toluene	20.00	22.94	115	70-130
Benzene #2	20.00	22.58	113	70-130
Ethylbenzene #2	20.00	24.72	124	70-130
m,p-Xylenes #2	40.00	50.83	127	70-130
Methyl tert-butyl ether (M	20.00	21.76	109	70-130
Naphthalene #2	20.00	25.31	126	70-130
o-Xylene #2	20.00	24.01	120	70-130
Toluene #2	20.00	21.94	110	70-130

FORM 3
Water MADEP VPH Lab Control Sample Duplicate

Lab Name: Premier Laboratory, Inc Date Analyzed 5/9/2012

Project No.: E205204 Project: New Bedford - 45 Cove Stre

Sample No.: VLCS0509 Location: New Bedford, MA

Lab File ID: 2050905.D Batch No.: 94914

Compound	Spike Added (ug/L)	Sample Concentration (ug/L)	% Rec #	RPD #	QC Limits RPD	QC Limits Rec
1,2,4-Trimethylbenzene	20.00	20.91	104	0	25	70-130
2-Methylpentane	20.00	22.93	115	12.2	25	70-130
Benzene	20.00	22.52	113	4.33	25	70-130
C5-C8 Aliphatics	60.00	68.81	115	10.7	25	70-130
C9-C10 Aromatics	20.00	23.94	120	5.67	25	70-130
C9-C12 Aliphatics	60.00	62.09	103	9.26	25	70-130
Decane	20.00	19.62	98	9.71	25	70-130
Ethylbenzene	20.00	21.68	108	5.40	25	70-130
m,p-Xylenes	40.00	43.37	108	5.40	25	70-130
Methyl tert-butyl ether (M	20.00	23.22	116	1.71	25	70-130
n-Butylcyclohexane	20.00	23.10	116	5.86	25	70-130
Naphthalene	20.00	21.11	106	11.6	25	70-130
Nonane	20.00	19.38	97	9.80	25	70-130
o-Xylene	20.00	21.32	107	4.57	25	70-130
Toluene	20.00	21.91	110	4.44	25	70-130
Benzene #2	20.00	21.03	105	7.34	25	70-130
Ethylbenzene #2	20.00	23.45	117	5.81	25	70-130
m,p-Xylenes #2	40.00	48.11	120	5.67	25	70-130
Methyl tert-butyl ether (M	20.00	21.47	107	1.85	25	70-130
Naphthalene #2	20.00	22.86	114	10.0	25	70-130
o-Xylene #2	20.00	22.80	114	5.13	25	70-130
Toluene #2	20.00	21.25	106	3.70	25	70-130

FORM 3
Water MADEP VPH Lab Control Sample

Lab Name: Premier Laboratory, Inc Date Analyzed 5/16/2012

Project No.: E205204 Project: New Bedford - 45 Cove Stre

Sample No.: VLCS0516 Location: New Bedford, MA

Lab File ID: 2051602.D Batch No.: 95156

Compound	Spike Added (ug/L)	Sample Concentration (ug/L)	% Rec #	QC Limits Rec
1,2,4-Trimethylbenzene	20.00	20.04	100	70-130
2-Methylpentane	20.00	21.44	107	70-130
Benzene	20.00	21.04	105	70-130
C5-C8 Aliphatics	60.00	64.70	108	70-130
C9-C10 Aromatics	20.00	24.00	120	70-130
C9-C12 Aliphatics	60.00	64.02	107	70-130
Decane	20.00	21.67	108	70-130
Ethylbenzene	20.00	21.00	105	70-130
m,p-Xylenes	40.00	41.63	104	70-130
Methyl tert-butyl ether (M	20.00	21.92	110	70-130
n-Butylcyclohexane	20.00	20.60	103	70-130
Naphthalene	20.00	21.70	108	70-130
Nonane	20.00	21.74	109	70-130
o-Xylene	20.00	20.17	101	70-130
Toluene	20.00	20.59	103	70-130
Benzene #2	20.00	19.42	97	70-130
Ethylbenzene #2	20.00	22.15	111	70-130
m,p-Xylenes #2	40.00	48.18	120	70-130
Methyl tert-butyl ether (M	20.00	19.90	99	70-130
Naphthalene #2	20.00	24.86	124	70-130
o-Xylene #2	20.00	22.46	112	70-130
Toluene #2	20.00	19.68	98	70-130

FORM 3
Water MADEP VPH Lab Control Sample Duplicate

Lab Name: Premier Laboratory, Inc Date Analyzed 5/16/2012

Project No.: E205204 Project: New Bedford - 45 Cove Stre

Sample No.: VLCS0516 Location: New Bedford, MA

Lab File ID: 2051603.D Batch No.: 95156

Compound	Spike Added (ug/L)	Sample Concentration (ug/L)	% Rec #	RPD #	QC Limits RPD	QC Limits Rec
1,2,4-Trimethylbenzene	20.00	20.18	101	1.0	20	70-130
2-Methylpentane	20.00	21.02	105	1.89	20	70-130
Benzene	20.00	21.25	106	0.95	20	70-130
C5-C8 Aliphatics	60.00	63.27	105	2.82	20	70-130
C9-C10 Aromatics	20.00	24.05	120	0	20	70-130
C9-C12 Aliphatics	60.00	61.83	103	3.81	20	70-130
Decane	20.00	20.96	105	2.82	20	70-130
Ethylbenzene	20.00	21.21	106	0.95	20	70-130
m,p-Xylenes	40.00	42.11	105	0.96	20	70-130
Methyl tert-butyl ether (M	20.00	21.48	107	2.76	20	70-130
n-Butylcyclohexane	20.00	19.74	99	3.96	20	70-130
Naphthalene	20.00	20.28	101	6.70	20	70-130
Nonane	20.00	21.13	106	2.79	20	70-130
o-Xylene	20.00	20.45	102	0.98	20	70-130
Toluene	20.00	20.82	104	0.97	20	70-130
Benzene #2	20.00	20.33	102	5.02	20	70-130
Ethylbenzene #2	20.00	22.72	114	2.67	20	70-130
m,p-Xylenes #2	40.00	48.59	121	0.83	20	70-130
Methyl tert-butyl ether (M	20.00	19.87	99	0	20	70-130
Naphthalene #2	20.00	23.14	116	6.67	20	70-130
o-Xylene #2	20.00	22.71	114	1.77	20	70-130
Toluene #2	20.00	20.48	102	4.00	20	70-130

FORM 4
MADEP VPH Method Blank Summary

Project No.: E205204 Project: New Bedford - 45 Cove Stre

Lab File ID: 2050907.D Lab Sample ID: VBLK0509

Matrix: Water Date Analyzed: 5/9/2012

Instrument ID: GC2

Batch No.: 94914 Time Analyzed: 1203

This Method Blank Applies To The Following Samples, MS and MSD:

	Lab Sample No.	Client Sample ID	Lab File ID	Date Analyzed
1	E205204-1B	TP9N	2050908.D	5/9/2012
2	E205204-2B	TP9S	2050909.D	5/9/2012
3	E205204-3B	TP9E	2050910.D	5/9/2012
4	E205204-4B	TP9W	2050911.D	5/9/2012
5	E205204-5B	TP DUP	2050912.D	5/9/2012
6	VLCS0509	VLCS0509	2050902.D	5/9/2012
7	VLCSD0509	VLCSD0509	2050905.D	5/9/2012

FORM 4
MADEP VPH Method Blank Summary

Project No.: E205204 Project: New Bedford - 45 Cove Stre

Lab File ID: 2051605.D Lab Sample ID: VBLK0516

Matrix: Water Date Analyzed: 5/16/2012

Instrument ID: GC2

Batch No.: 95156 Time Analyzed: 1031

This Method Blank Applies To The Following Samples, MS and MSD:

	Lab Sample No.	Client Sample ID	Lab File ID	Date Analyzed
1	E205204-6B	TP19E	2051611.D	5/16/2012
2	VLCS0516	VLCS0516	2051602.D	5/16/2012
3	VLCSD0516	VLCSD0516	2051603.D	5/16/2012

FORM 3

Soil MADEP EPH Lab Control Sample/Lab Control Sample Duplicate

Lab Name: Premier Laboratory, Inc Date Analyzed 5/16/2012

Project No.: E205204 Project: New Bedford - 45 Cove Stre

Sample No.: LCS0514S-1 Location: New Bedford, MA

Lab File ID: A051604.D Batch No.: 95771

Compound	Spike Added (ug/kg)	Sample Concentration (ug/kg)	% Rec #	QC Limits Rec
C9-C36 TPH	700.00	429.43	61	40-140

Lab Name: Premier Laboratory, Inc Date Analyzed 5/16/2012

Project No.: E205204 Project: New Bedford - 45 Cove Stre

Sample No.: LCS0514S-1 Location: New Bedford, MA

Lab File ID: A051606.D Batch No.: 95771

Compound	Spike Added (ug/kg)	Sample Concentration (ug/kg)	% Rec #	% RPD #	QC Limits RPD	Rec
C9-C36 TPH	700.00	427.29	61	0	25	40-140

FORM 3
Soil MADEP EPH Matrix Spike/Matrix Spike Duplicate Recovery

Lab Name: Premier Laboratory, Inc Date Analyzed 5/17/2012 1:16:00PM

Project No.: E205204 Project: New Bedford - 45 Cove Stre

Sample No.: E205204-1A Location: New Bedford, MA

Batch No.: 95771

Compound	Spike Added (ug/kg)	Sample Concentration (ug/kg)	MS Concentration (ug/kg)	MS % Rec #	QC Limits Rec
C9-C36 TPH	1550.00	4832.90	6296.41	94	40-140

Compound	Spike Added (ug/kg)	MSD Concentration (ug/kg)	MSD % Rec #	% RPD #	QC Limits RPD	QC Limits Rec
C9-C36 TPH	1550.00	6914.04	134	35 #	25	40-140

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: 0 out of 2 outside limits

FORM 4
MADEP EPH Method Blank Summary

Project No.: E205204 Project: New Bedford - 45 Cove Stre

Lab File ID: A051603.D Lab Sample ID: E0514BS-1

Matrix: Soil Date Analyzed: 5/16/2012

Instrument ID: GC1

Batch No.: 95771 Time Analyzed: 1232

This Method Blank Applies To The Following Samples, MS and MSD:

	Lab Sample No.	Client Sample ID	Lab File ID	Date Analyzed
1	E205204-1A	TP9N	A051614.D	5/17/2012
2	E205204-2A	TP9S	A051607.D	5/16/2012
3	E205204-3A	TP9E	A051610.D	5/17/2012
4	E205204-4A	TP9W	A051611.D	5/17/2012
5	E205204-5A	TP DUP	A051612.D	5/17/2012
6	E205204-6A	TP19E	A051613.D	5/17/2012
7	E205204-1A MS	E205204-1A MS	A051615.D	5/17/2012
8	E205204-1A MSD	E205204-1A MSD	A051616.D	5/17/2012
9	LCS0514S-1	LCS0514S-1	A051604.D	5/16/2012
10	LCSD0514S-1	LCSD0514S-1	A051606.D	5/16/2012

Premier Laboratory, Inc.
61 Louisa Viens Drive
Dayville, CT 06241
(800) 334-0103

Chain of Custody:

WWW.PREMIERLABORATORY.COM

Lab WO #: E205204
Project Manager: Tyrell Gale

Copy of Report To

CUSTOMER: WESTON + SAMPSON
ADDRESS: 5 CENTENNIAL DRIVE
PEABODY, MA 01960
DELIVERY: ATTN: JIM CURRIER
E-MAIL: currierj@wseinc.com
PHONE: 978-532-1900 x2226 Fax: 978-573-4012

Billing Information

BILL TO: CITY OF NEW BEDFORD
ADDRESS: 133 WILLIAM STREET, ROOM 304
NEW BEDFORD, MA 02740
ATTENTION: CHERYL HENLIN
PHONE: 508-961-4576
PURCHASE ORDER #: 45 COVE STREET

Project Information

Project: NEW BEDFORD
Location: 45 COVE STREET
Project Mgr: JIM CURRIER
IN CASE WE HAVE ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL:
E-MAIL: currierj@wseinc.com
PHONE: 978-532-1900 x2226
FAX: 978-573-4012

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	VPH-MADEP	EPH-MADEP	Chromium	Hex. Chromium	Lead	pH	ORP	MS/MSD				Preservatives: H_2SO_4	HCL	HNO_3	NON-PRES	Mixed
TP9N	4/30/12	8:45	X		SOIL	5	X	X	X	X	X	X	X	X								X
TP9S	4/30/12	9:00	X		SOIL	5	X	X	X	X	X	X	X									X
TP9E	4/30/12	9:15	X		SOIL	5	X	X	X	X	X	X	X									X
TP9W	4/30/12	9:30	X		SOIL	5	X	X	X	X	X	X	X									X
~~TP8N~~	~~4/30/12~~	~~11:00~~	~~X~~		~~SOIL~~	~~5~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~									~~X~~
~~TP8S~~	~~4/30/12~~	~~11:15~~	~~X~~		~~SOIL~~	~~5~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~									~~X~~
~~TP8E~~	~~4/30/12~~	~~11:30~~	~~X~~		~~SOIL~~	~~5~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~									~~X~~
~~TP8W~~	~~4/30/12~~	~~11:45~~	~~X~~		~~SOIL~~	~~5~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~									~~X~~
TPDUP	4/30/12	9:30	X		SOIL	5	X	X	X	X	X	X	X									X

CUSTODY TRANSFER	DATE	Time
SAMPLER: STEVEN PISCH (WSE)	5/1/12	
RECEIVED: " "	"	
RELINQUISHED: [signature]	5/2/12	11:43
RECEIVED: [signature]	5-2-12	11:43
RELINQUISHED: [signature]	5-2-12	15:19
RECEIVED: Michael Noble	5/2/12	15:19

TURNAROUND (INDICATE IN CALENDAR DAYS):
FAX | HARD COPY | E-MAIL X

EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS: MCP METHOD 1 S-1 CLEANUP STANDARDS
FOLLOW MASSDEP CAM PROTOCOLS

CONDITIONS UPON RECEIPT: (CHECK ONE)
COOLED ☑ | AMBIENT ☐ | 1.6 °C Upon receipt at lab

Premier Laboratory, Inc.
61 Louisa Viens Drive
Dayville, CT 06241
(800) 334-0103

Chain of Custody:

WWW.PREMIERLABORATORY.COM

Lab WO #: E205204
Project Manager: Bradford Gaston

Copy of Report To
CUSTOMER: WESTON + SAMPSON
ADDRESS: 5 CENTENNIAL DRIVE
PEABODY, MA 01960
DELIVERY: ATTN: JIM CURRIER
E-MAIL: currierj@wseinc.com
PHONE: 978-532-1900x2226 Fax: 978-573-4012

Billing Information
BILL TO: CITY OF NEW BEDFORD
133 WILLIAM STREET Room 304
NEW BEDFORD, MA 02740
ATTENTION: CHERYL HENLIN
PHONE: 508-961-4576
PURCHASE ORDER #: 45 COVE STREET

Project Information
Project: NEW BEDFORD
Location: 45 COVE STREET
Project Mgr: JIM CURRIER
IN CASE WE HAVE ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL:
E-MAIL: currierj@wseinc.com
PHONE: 978-532-1900 x 2226
FAX: 978-573-4012

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	VPH-MADEP	EPH-MADEP	Chromium	Hex. Chromium	Lead	pH	ORP					Preservatives: H_2SO_4	HCL	HNO_3	NON-PRES	Mixed
TP19N	4/30/12		X		SOIL	5	X	X	X	X	X	X	X									X
TP19S	4/30/12		X		SOIL	5	X	X	X	X	X	X	X									X
TP19E	4/30/12	12:45	X		SOIL	5	X	X	X	X	X	X	X									X
TP19W	4/30/12		X		SOIL	5	X	X	X	X	X	X	X									X
TP2N			X		SOIL	5	X	X	X	X	X	X	X									X
TP2W			X		SOIL	5	X	X	X	X	X	X	X									X
TP18W			X		SOIL	5	X	X	X	X	X	X	X									X
TP18S			X		SOIL	5	X	X	X	X	X	X	X									X

CUSTODY TRANSFER	DATE	Time
* SAMPLER: STEVEN PISCH (WSE)	5/1/12	
RECEIVED:		
RELINQUISHED:	5/2/12	11:43
RECEIVED:	5-2-12	11:43
RELINQUISHED:	5-2-12	15:19
RECEIVED:	5/2/12	15:19

TURNAROUND (INDICATE IN CALENDAR DAYS): FAX | HARD COPY | E-MAIL X
EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS: MCP METHOD 1 S-1 CLEANUP STANDARDS
FOLLOW MASSDEP CAM PROTOCOLS

CONDITIONS UPON RECEIPT: (CHECK ONE)
COOLED ☑ AMBIENT ☐ 1.6 °C Upon receipt at lab

Premier
Laboratory, Inc

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 Currier

Report Number: E205528
Revision 2
Project: New Bedford - 45 Cove Street

Received Date: 05/08/2012
Report Date: 06/05/2012
Revision Date: 06/05/2012

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)

101-000000337349

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MADEP Analytical Protocol Certification Form

Laboratory Name: Premier Laboratory, Inc — Project #: E205528

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

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

CAM Protocol (check all that apply below):

8260 VOC CAM II A ☐	7470/7471 Hg CAM III B ☐	MassDEP VPH CAM IV A ☑	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☑	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☐	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☑	8151A 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 Responses to Questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all indentified performance standard non-conformances?	☑ Yes	☐ 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"?	☑ Yes	☐ 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).	☑ Yes	☐ No[1]
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ 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)?	☑ Yes	☐ 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)?	☑ Yes	☐ No[1]

***Data User Note**: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40 (2)(k) and WSC-07-350*

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	☑ Yes	☐ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes	☑ No[1]

[1]*All negative responses must be addressed in an attached laboratory narrative.*

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: R. Warila — Position: Laboratory Director

Printed Name: Ronald Warila — Date: 6/5/2012

101-000000337349

Premier
Laboratory, Inc

61 Louisa Viens Drive
Dayville, CT 06241
Fax: 860-774-2689
Phone: 860-774-6814
Toll-Free: 800-334-0103

Report No: E205528
Client: Weston and Sampson
Project: New Bedford - 45 Cove Street

CASE NARRATIVE / METHOD CONFORMANCE SUMMARY

Premier Laboratory, Inc received 11 samples from Weston and Sampson on 05/08/2012. The samples were analyzed for the following list of analyses:

Total Petroleum Hydrocarbon (TPH)
MADEP EPH[MADEP EPH]
MCP - Trace Metals by 6010B
6010B[3000]
MCP - Hexavalent Chromium by 7196A (soil)
3060, 7196A[3060], 9045, ASTM D1498-08
Volatile Petroleum Hydrocarbon (VPH)
MADEP VPH

MCP regulations for the VPH method allow up to 10% of compounds in the initial calibration verification to have percent recoveries outside of 80-120%. Nonane and decane in the ICV had percent recoveries outside of this range for samples 1-6.

A quadratic equation curve fit was used in the initial calibration for the VPH method for n-butylcyclohexane and the aliphatic C9-C12 range for samples 1-6.

The requested compound list is not inclusive of all of the MCP Target Analytes for Method 6010B.

The reported compound list is not inclusive of all of the MCP Target Analytes for MassDEP EPH Method.

Non-Conformances:

Work Order:

Hexavalent Chromium- The soluble Matrix spike/ matrix spike duplicate sample recovery was less than the required >30% recovery limits due to matrix interference. The associated LCS recoveries were within the established quality control limits. The ph/ORP measurments indicate that the affected samples are in a reducing condition and no further action is required.

The holding time was exceeded for the pH and ORP measurements associated with the hexavalent chromium analysis. The measurements were not performed within 24 hours of sample collection as required in WSC-CAM-VI B.

Sample:

Sample 1A, TP19N: The duplicate analysis for lead was outside of the established limits.

Analysis:

Sample 10A, TP8E, Extractable Petroleum Hydrocarbon (EPH): Reported TPH result exceeds the calibration curve and is estimated. A dilution was unable to be performed on the sample extract.

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Report No: E205528
Client: Weston and Sampson
Project: New Bedford - 45 Cove Street

CASE NARRATIVE / METHOD CONFORMANCE SUMMARY

Non-Conformances:

Analysis:

Sample 11A, TP8W, Extractable Petroleum Hydrocarbon (EPH): Reported TPH result exceeds the calibration curve and is estimated. A dilution was unable to be performed on the sample extract.

Sample 3A, TP19W, Extractable Petroleum Hydrocarbon (EPH): Reported TPH result exceeds the calibration curve and is estimated. A dilution was unable to be performed on the sample extract.

Sample 4A, TP2N, Extractable Petroleum Hydrocarbon (EPH): Reported TPH result exceeds the calibration curve and is estimated. A dilution was unable to be performed on the sample extract.

Sample 5A, TP2W, Extractable Petroleum Hydrocarbon (EPH): Reported TPH result exceeds the calibration curve and is estimated. A dilution was unable to be performed on the sample extract.

Sample 6A, TP18W, Extractable Petroleum Hydrocarbon (EPH): Reported TPH result exceeds the calibration curve and is estimated. A dilution was unable to be performed on the sample extract.

Sample 9A, TP8S, Extractable Petroleum Hydrocarbon (EPH): Reported TPH result exceeds the calibration curve and is estimated. A dilution was unable to be performed on the sample extract.

Premier Laboratory, Inc
Analytical Data Report

Report No: E205528
Date Received: 05/08/2012 17:35

Customer: Weston and Sampson
Project: New Bedford - 45 Cove Street

Parameter	Result	DL	Units	Completed	By	Dilution
(1) TP19N						
Date Collected: 05/07/2012 11:15	**Matrix: Solid**					
Hexavalent Chromium by SW-846 7196A (soil)	ND	1.3	mg/kg	05/24/2012 23:00	DSW	
ORP (Eh) by ASTM D1498-08	180		mV	05/10/2012 22:52	DSW	
pH in Soil by 9045	7.4		pH Units	05/10/2012 22:27	DSW	
Trace Metals by 6010B						
Chromium	8.2	0.13	mg/kg	05/29/2012 13:35	NJB	
Lead	21	0.13	mg/kg	05/29/2012 13:35	NJB	
(2) TP19S						
Date Collected: 05/07/2012 11:45	**Matrix: Solid**					
Hexavalent Chromium by SW-846 7196A (soil)	ND	1.1	mg/kg	05/24/2012 23:00	DSW	
ORP (Eh) by ASTM D1498-08	220		mV	05/10/2012 22:52	DSW	
pH in Soil by 9045	7.8		pH Units	05/10/2012 22:27	DSW	
Trace Metals by 6010B						
Chromium	9.3	0.11	mg/kg	05/29/2012 13:47	NJB	
Lead	20	0.11	mg/kg	05/29/2012 13:47	NJB	
(3) TP19W						
Date Collected: 05/07/2012 11:30	**Matrix: Solid**					
Hexavalent Chromium by SW-846 7196A (soil)	ND	1.1	mg/kg	05/24/2012 23:00	DSW	
ORP (Eh) by ASTM D1498-08	170		mV	05/10/2012 22:52	DSW	
pH in Soil by 9045	8.3		pH Units	05/10/2012 22:27	DSW	
Trace Metals by 6010B						
Chromium	8.6	0.11	mg/kg	05/29/2012 13:49	NJB	
Lead	51	0.11	mg/kg	05/29/2012 13:49	NJB	
(4) TP2N						
Date Collected: 05/07/2012 09:45	**Matrix: Solid**					
Hexavalent Chromium by SW-846 7196A (soil)	ND	1.6	mg/kg	05/24/2012 23:00	DSW	
ORP (Eh) by ASTM D1498-08	220		mV	05/10/2012 22:52	DSW	
pH in Soil by 9045	7.9		pH Units	05/10/2012 22:27	DSW	
Trace Metals by 6010B						
Chromium	94	0.16	mg/kg	05/29/2012 13:52	NJB	
Lead	200	0.16	mg/kg	05/29/2012 13:52	NJB	
(5) TP2W						
Date Collected: 05/07/2012 10:00	**Matrix: Solid**					
Hexavalent Chromium by SW-846 7196A (soil)	ND	1.8	mg/kg	05/24/2012 23:00	DSW	
ORP (Eh) by ASTM D1498-08	200		mV	05/10/2012 22:52	DSW	
pH in Soil by 9045	8.2		pH Units	05/10/2012 22:27	DSW	
Trace Metals by 6010B						
Chromium	39	0.18	mg/kg	05/29/2012 14:01	NJB	
Lead	200	0.18	mg/kg	05/29/2012 14:01	NJB	

Premier Laboratory, Inc
Analytical Data Report

Report No: E205528
Date Received: 05/08/2012 17:35

Customer: Weston and Sampson
Project: New Bedford - 45 Cove Street

Parameter	Result	DL	Units	Completed	By	Dilution
(6) TP18W						
Date Collected: 05/07/2012 10:15	**Matrix: Solid**					
Hexavalent Chromium by SW-846 7196A (soil)	ND	2.2	mg/kg	05/24/2012 23:00	DSW	
ORP (Eh) by ASTM D1498-08	210		mV	05/10/2012 22:52	DSW	
pH in Soil by 9045	8.0		pH Units	05/10/2012 22:27	DSW	
Trace Metals by 6010B						
Chromium	12	0.22	mg/kg	05/29/2012 14:04	NJB	
Lead	730	0.22	mg/kg	05/29/2012 14:04	NJB	
(7) TP18S						
Date Collected: 05/07/2012 10:30	**Matrix: Solid**					
Hexavalent Chromium by SW-846 7196A (soil)	ND	1.6	mg/kg	05/24/2012 23:00	DSW	
ORP (Eh) by ASTM D1498-08	220		mV	05/10/2012 22:52	DSW	
pH in Soil by 9045	7.9		pH Units	05/10/2012 22:27	DSW	
Trace Metals by 6010B						
Chromium	12	0.16	mg/kg	05/29/2012 14:07	NJB	
Lead	51	0.16	mg/kg	05/29/2012 14:07	NJB	
(8) TP8N						
Date Collected: 05/07/2012 12:45	**Matrix: Solid**					
Hexavalent Chromium by SW-846 7196A (soil)	ND	1.9	mg/kg	05/24/2012 23:00	DSW	
ORP (Eh) by ASTM D1498-08	200		mV	05/10/2012 22:52	DSW	
pH in Soil by 9045	8.2		pH Units	05/10/2012 22:27	DSW	
Trace Metals by 6010B						
Chromium	18	0.19	mg/kg	05/29/2012 14:10	NJB	
Lead	15	0.19	mg/kg	05/29/2012 14:10	NJB	
(9) TP8S						
Date Collected: 05/07/2012 12:30	**Matrix: Solid**					
Hexavalent Chromium by SW-846 7196A (soil)	ND	1.9	mg/kg	05/24/2012 23:00	DSW	
ORP (Eh) by ASTM D1498-08	190		mV	05/10/2012 22:52	DSW	
pH in Soil by 9045	8.4		pH Units	05/10/2012 22:27	DSW	
Trace Metals by 6010B						
Chromium	28	0.19	mg/kg	05/29/2012 14:13	NJB	
Lead	120	0.19	mg/kg	05/29/2012 14:13	NJB	
(10) TP8E						
Date Collected: 05/07/2012 12:15	**Matrix: Solid**					
Hexavalent Chromium by SW-846 7196A (soil)	ND	2.8	mg/kg	05/24/2012 23:00	DSW	
ORP (Eh) by ASTM D1498-08	190		mV	05/10/2012 22:52	DSW	
pH in Soil by 9045	8.3		pH Units	05/10/2012 22:27	DSW	
Trace Metals by 6010B						
Chromium	15	0.28	mg/kg	05/29/2012 14:16	NJB	
Lead	50	0.28	mg/kg	05/29/2012 14:16	NJB	

Premier Laboratory, Inc
Analytical Data Report

Report No: E205528
Date Received: 05/08/2012 17:35

Customer: Weston and Sampson
Project: New Bedford - 45 Cove Street

Parameter	Result	DL	Units	Completed	By	Dilution
(11) TP8W						
Date Collected: 05/07/2012 13:00	**Matrix: Solid**					
Hexavalent Chromium by SW-846 7196A (soil)	ND	1.5	mg/kg	05/24/2012 23:00	DSW	
ORP (Eh) by ASTM D1498-08	190		mV	05/10/2012 22:52	DSW	
pH in Soil by 9045	8.6		pH Units	05/10/2012 22:27	DSW	
Trace Metals by 6010B						
Chromium	9.9	0.15	mg/kg	05/29/2012 14:19	NJB	
Lead	31	0.15	mg/kg	05/29/2012 14:19	NJB	

Premier Laboratory, Inc
Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
		Location:	New Bedford, MA
Report No:	E205528	Project:	New Bedford - 45 Cove Street
Sample No:	1	Sample Description:	TP19N
Preservative:			
		Dilution (Target):	50
Date Collected:	5/7/2012		
Date Received:	5/8/2012	Matrix:	Solid
Date Extracted:		Percent Moisture:	24
Date Analyzed:	5/10/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	50	ND	7800	ug/kg
C9-C12 Aliphatics**	50	20000	7800	ug/kg
C9-C10 Aromatics***	50	110000	7800	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	104%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	ND	78	ug/kg
Benzene	ND	390	ug/kg
Toluene	ND	390	ug/kg
Ethylbenzene	ND	390	ug/kg
m,p-Xylenes	ND	390	ug/kg
o-Xylene	ND	390	ug/kg
Naphthalene	400	390	ug/kg

Premier Laboratory, Inc
Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
		Location:	New Bedford, MA
Report No:	E205528	Project:	New Bedford - 45 Cove Street
Sample No:	2	Sample Description:	TP19S
Preservative:			
		Dilution (Target):	50
Date Collected:	5/7/2012		
Date Received:	5/8/2012	Matrix:	Solid
Date Extracted:		Percent Moisture:	10
Date Analyzed:	5/10/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	50	ND	4300	ug/kg
C9-C12 Aliphatics**	50	14000	4300	ug/kg
C9-C10 Aromatics***	50	13000	4300	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	90%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	ND	43	ug/kg
Benzene	ND	210	ug/kg
Toluene	ND	210	ug/kg
Ethylbenzene	ND	210	ug/kg
m,p-Xylenes	ND	210	ug/kg
o-Xylene	ND	210	ug/kg
Naphthalene	ND	210	ug/kg

Premier Laboratory, Inc
Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
		Location:	New Bedford, MA
Report No:	E205528	Project:	New Bedford - 45 Cove Street
Sample No:	3	Sample Description:	TP19W
Preservative:			
		Dilution (Target):	50
Date Collected:	5/7/2012		
Date Received:	5/8/2012	Matrix:	Solid
Date Extracted:		Percent Moisture:	11
Date Analyzed:	5/10/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	50	ND	4400	ug/kg
C9-C12 Aliphatics**	50	11000	4400	ug/kg
C9-C10 Aromatics***	50	6600	4400	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	87%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	ND	44	ug/kg
Benzene	ND	220	ug/kg
Toluene	ND	220	ug/kg
Ethylbenzene	ND	220	ug/kg
m,p-Xylenes	ND	220	ug/kg
o-Xylene	ND	220	ug/kg
Naphthalene	ND	220	ug/kg

Premier Laboratory, Inc
Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
		Location:	New Bedford, MA
Report No:	E205528	Project:	New Bedford - 45 Cove Street
Sample No:	4	Sample Description:	TP2N
Preservative:			
		Dilution (Target):	50
Date Collected:	5/7/2012		
Date Received:	5/8/2012	Matrix:	Solid
Date Extracted:		Percent Moisture:	38
Date Analyzed:	5/10/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	50	ND	13000	ug/kg
C9-C12 Aliphatics**	50	ND	13000	ug/kg
C9-C10 Aromatics***	50	ND	13000	ug/kg

* Excludes MTBE, Benzene, and Toluene
** Excludes Ethylbenzene, Xylenes
*** Excludes Naphthalene

SURROGATE RECOVERIES

Surrogate	% Recovery	Acceptance Range
2,5-dibromotoluene #2	94%	70%-130%
2,5-dibromotoluene	90%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	ND	130	ug/kg
Benzene	ND	670	ug/kg
Toluene	ND	670	ug/kg
Ethylbenzene	ND	670	ug/kg
m,p-Xylenes	ND	670	ug/kg
o-Xylene	ND	670	ug/kg
Naphthalene	ND	670	ug/kg

Premier Laboratory, Inc
Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
		Location:	New Bedford, MA
Report No:	E205528	Project:	New Bedford - 45 Cove Street
Sample No:	5	Sample Description:	TP2W
Preservative:			
		Dilution (Target):	50
Date Collected:	5/7/2012		
Date Received:	5/8/2012	Matrix:	Solid
Date Extracted:		Percent Moisture:	44
Date Analyzed:	5/10/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	50	ND	16000	ug/kg
C9-C12 Aliphatics**	50	ND	16000	ug/kg
C9-C10 Aromatics***	50	ND	16000	ug/kg

* Excludes MTBE, Benzene, and Toluene
** Excludes Ethylbenzene, Xylenes
*** Excludes Naphthalene

SURROGATE RECOVERIES

Surrogate	% Recovery	Acceptance Range
2,5-dibromotoluene #2	91%	70%-130%
2,5-dibromotoluene	88%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	ND	160	ug/kg
Benzene	ND	780	ug/kg
Toluene	ND	780	ug/kg
Ethylbenzene	ND	780	ug/kg
m,p-Xylenes	ND	780	ug/kg
o-Xylene	ND	780	ug/kg
Naphthalene	ND	780	ug/kg

Premier Laboratory, Inc
Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
		Location:	New Bedford, MA
Report No:	E205528	Project:	New Bedford - 45 Cove Street
Sample No:	6	Sample Description:	TP18W
Preservative:			
		Dilution (Target):	50
Date Collected:	5/7/2012		
Date Received:	5/8/2012	Matrix:	Solid
Date Extracted:		Percent Moisture:	54
Date Analyzed:	5/10/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	50	ND	31000	ug/kg
C9-C12 Aliphatics**	50	ND	31000	ug/kg
C9-C10 Aromatics***	50	ND	31000	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	89%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	ND	310	ug/kg
Benzene	ND	1500	ug/kg
Toluene	ND	1500	ug/kg
Ethylbenzene	ND	1500	ug/kg
m,p-Xylenes	ND	1500	ug/kg
o-Xylene	ND	1500	ug/kg
Naphthalene	ND	1500	ug/kg

Premier Laboratory, Inc
Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
		Location:	New Bedford, MA
Report No:	E205528	Project:	New Bedford - 45 Cove Street
Sample No:	7	Sample Description:	TP18S
Preservative:			
		Dilution (Target):	50
Date Collected:	5/7/2012		
Date Received:	5/8/2012	Matrix:	Solid
Date Extracted:		Percent Moisture:	38
Date Analyzed:	5/16/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	50	ND	21000	ug/kg
C9-C12 Aliphatics**	50	ND	21000	ug/kg
C9-C10 Aromatics***	50	ND	21000	ug/kg

* Excludes MTBE, Benzene, and Toluene
** Excludes Ethylbenzene, Xylenes
*** Excludes Naphthalene

SURROGATE RECOVERIES

Surrogate	% Recovery	Acceptance Range
2,5-dibromotoluene #2	93%	70%-130%
2,5-dibromotoluene	87%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	ND	210	ug/kg
Benzene	ND	1000	ug/kg
Toluene	ND	1000	ug/kg
Ethylbenzene	ND	1000	ug/kg
m,p-Xylenes	ND	1000	ug/kg
o-Xylene	ND	1000	ug/kg
Naphthalene	ND	1000	ug/kg

Premier Laboratory, Inc
Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
		Location:	New Bedford, MA
Report No:	E205528	Project:	New Bedford - 45 Cove Street
Sample No:	8	Sample Description:	TP8N
Preservative:			
		Dilution (Target):	50
Date Collected:	5/7/2012		
Date Received:	5/8/2012	Matrix:	Solid
Date Extracted:		Percent Moisture:	48
Date Analyzed:	5/16/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	50	ND	14000	ug/kg
C9-C12 Aliphatics**	50	ND	14000	ug/kg
C9-C10 Aromatics***	50	ND	14000	ug/kg

* Excludes MTBE, Benzene, and Toluene
** Excludes Ethylbenzene, Xylenes
*** Excludes Naphthalene

SURROGATE RECOVERIES

Surrogate	% Recovery	Acceptance Range
2,5-dibromotoluene #2	94%	70%-130%
2,5-dibromotoluene	88%	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	ND	720	ug/kg

Premier Laboratory, Inc
Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
		Location:	New Bedford, MA
Report No:	E205528	Project:	New Bedford - 45 Cove Street
Sample No:	9	Sample Description:	TP8S
Preservative:			
		Dilution (Target):	50
Date Collected:	5/7/2012		
Date Received:	5/8/2012	Matrix:	Solid
Date Extracted:		Percent Moisture:	48
Date Analyzed:	5/16/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	50	ND	12000	ug/kg
C9-C12 Aliphatics**	50	ND	12000	ug/kg
C9-C10 Aromatics***	50	ND	12000	ug/kg

* Excludes MTBE, Benzene, and Toluene
** Excludes Ethylbenzene, Xylenes
*** Excludes Naphthalene

SURROGATE RECOVERIES

Surrogate	% Recovery	Acceptance Range
2,5-dibromotoluene #2	99%	70%-130%
2,5-dibromotoluene	90%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	ND	120	ug/kg
Benzene	ND	620	ug/kg
Toluene	ND	620	ug/kg
Ethylbenzene	ND	620	ug/kg
m,p-Xylenes	ND	620	ug/kg
o-Xylene	ND	620	ug/kg
Naphthalene	ND	620	ug/kg

Premier Laboratory, Inc
Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
		Location:	New Bedford, MA
Report No:	E205528	Project:	New Bedford - 45 Cove Street
Sample No:	10	Sample Description:	TP8E
Preservative:			
		Dilution (Target):	50
Date Collected:	5/7/2012		
Date Received:	5/8/2012	Matrix:	Solid
Date Extracted:		Percent Moisture:	64
Date Analyzed:	5/16/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	50	ND	26000	ug/kg
C9-C12 Aliphatics**	50	ND	26000	ug/kg
C9-C10 Aromatics***	50	ND	26000	ug/kg

* Excludes MTBE, Benzene, and Toluene
** Excludes Ethylbenzene, Xylenes
*** Excludes Naphthalene

SURROGATE RECOVERIES

Surrogate	% Recovery	Acceptance Range
2,5-dibromotoluene #2	100%	70%-130%
2,5-dibromotoluene	93%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	ND	260	ug/kg
Benzene	ND	1300	ug/kg
Toluene	ND	1300	ug/kg
Ethylbenzene	ND	1300	ug/kg
m,p-Xylenes	ND	1300	ug/kg
o-Xylene	ND	1300	ug/kg
Naphthalene	ND	1300	ug/kg

Premier Laboratory, Inc
Analytical Data Report

VOLATILE PETROLEUM HYDROCARBON (VPH)

Laboratory:	Premier Laboratory, Inc	Client:	Weston and Sampson
		Location:	New Bedford, MA
Report No:	E205528	Project:	New Bedford - 45 Cove Street
Sample No:	11	Sample Description:	TP8W
Preservative:			
		Dilution (Target):	50
Date Collected:	5/7/2012		
Date Received:	5/8/2012	Matrix:	Solid
Date Extracted:		Percent Moisture:	34
Date Analyzed:	5/16/2012	Method:	MADEP VPH
		Ext Method:	5030B

(VPH) RANGE RESULTS

Parameter	Parameter Dilution	Results	QL	Units
C5-C8 Aliphatics*	50	ND	22000	ug/kg
C9-C12 Aliphatics**	50	ND	22000	ug/kg
C9-C10 Aromatics***	50	ND	22000	ug/kg

* Excludes MTBE, Benzene, and Toluene
** Excludes Ethylbenzene, Xylenes
*** Excludes Naphthalene

SURROGATE RECOVERIES

Surrogate	% Recovery	Acceptance Range
2,5-dibromotoluene #2	99%	70%-130%
2,5-dibromotoluene	91%	70%-130%

TARGETED VPH ANALYTES

Parameter	Results	QL	Units
Methyl tert-butyl ether (MTBE)	ND	220	ug/kg
Benzene	ND	1100	ug/kg
Toluene	ND	1100	ug/kg
Ethylbenzene	ND	1100	ug/kg
m,p-Xylenes	ND	1100	ug/kg
o-Xylene	ND	1100	ug/kg
Naphthalene	ND	1100	ug/kg

Premier Laboratory, Inc.
TPH Analytical Data Report

Sample Information

Matrix	☐ Aqueous ☑ Soil ☐ Sediment ☐ Other:
Containers	☑ Satisfactory ☐ Broken ☐ Leaking:
Aqueous Preservatives	☑ N/A ☐ pH≤2 ☐ pH>2 Comment:
Temperature	☐ Received on Ice ☑ Received at 4 ± 2 °C ☐ Other: °C
Extraction Method	Water: Soil/Sediment: 3545

TPH Analytical Results

Method for Ranges: MADEP EPH 03-1		Client ID		TP 19N	TP 19S	TP 19W	TP2N	TP 2W
Method for Target Analytes:		Lab ID		E205528-1A	E205528-2A	E205528-3A	E205528-4A	E205528-5A
TPH Surrogate Standards: COD, OTP		Date Collected		05/07/2012	05/07/2012	05/07/2012	05/07/2012	05/07/2012
		Date Received		05/08/2012	05/08/2012	05/08/2012	05/08/2012	05/08/2012
		Date Thawed		NA	NA	NA	NA	NA
		Date Extracted		05/10/2012	05/10/2012	05/10/2012	05/10/2012	05/10/2012
		Date Analyzed		05/14/2012	05/14/2012	05/14/2012	05/15/2012	05/15/2012
		Time Analyzed		15:22	16:10	16:58	16:30	17:18
		Dilution Factor		1	1	1	1	1
		% Moisture (soil/sediment)		24	10	11	38	44
Range/Target Analyte		RL	Units					
Unadjusted Total Petroleum Hydrocarbons[1]		10	mg/kg	150	125	240 E	290 E	800 E
Diesel PAH Analytes	Naphthalene							
	2-Methylnaphthalene							
	Phenanthrene							
	Acenaphthene							
Other PAH Target Analytes								
Total Petroleum Hydrocarbons[2]								
Sample Surrogate % Recovery - COD				83	97	98	89	99
Sample Surrogate % Recovery - OTP				73	91	95	97	125
Sample Surrogate Acceptance Range				40-140%	40-140%	40-140%	40-140%	40-140%

[1] Hydrocarbon Range data exclude area counts of any surrogate(s) and/or internal standards eluting in that range

[2] Total Petroleum Hydrocarbons exclude the concentration of PAH Target Analytes only if determined by GC/MS

Premier Laboratory, Inc.
TPH Analytical Data Report

Sample Information

Matrix	☐ Aqueous ☑ Soil ☐ Sediment ☐ Other:
Containers	☑ Satisfactory ☐ Broken ☐ Leaking:
Aqueous Preservatives	☑ N/A ☐ pH≤2 ☐ pH>2 Comment:
Temperature	☐ Received on Ice ☑ Received at 4 ± 2 °C ☐ Other: °C
Extraction Method	Water: Soil/Sediment: 3545

TPH Analytical Results

Method for Ranges: MADEP EPH 03-1		Client ID		TP 18W	TP 18S	TP 8N	TP 8S	TP 8E
Method for Target Analytes:		Lab ID		E205528-6A	E205528-7A	E205528-8A	E205528-9A	E205528-10A
TPH Surrogate Standards: COD, OTP		Date Collected		05/07/2012	05/07/2012	05/07/2012	05/07/2012	05/07/2012
		Date Received		05/08/2012	05/08/2012	05/08/2012	05/08/2012	05/08/2012
		Date Thawed		NA	NA	NA	NA	NA
		Date Extracted		05/10/2012	05/10/2012	05/10/2012	05/10/2012	05/10/2012
		Date Analyzed		05/15/2012	05/15/2012	05/15/2012	05/15/2012	05/15/2012
		Time Analyzed		12:28	14:05	14:54	15:42	13:17
		Dilution Factor		1	1	1	1	1
		% Moisture (soil/sediment)		54	38	47	47	64
Range/Target Analyte		RL	Units					
Unadjusted Total Petroleum Hydrocarbons[1]		10	mg/kg	380 E	220	260	290 E	390 E
Diesel PAH Analytes	Naphthalene							
	2-Methylnaphthalene							
	Phenanthrene							
	Acenaphthene							
Other PAH Target Analytes								
Total Petroleum Hydrocarbons[2]								
Sample Surrogate % Recovery - COD				82	80	89	81	62
Sample Surrogate % Recovery - OTP				86	92	84	86	69
Sample Surrogate Acceptance Range				40-140%	40-140%	40-140%	40-140%	40-140%

[1] Hydrocarbon Range data exclude area counts of any surrogate(s) and/or internal standards eluting in that range

[2] Total Petroleum Hydrocarbons exclude the concentration of PAH Target Analytes only if determined by GC/MS

Premier Laboratory, Inc.
TPH Analytical Data Report

Sample Information

Matrix	☐ Aqueous ☑ Soil ☐ Sediment ☐ Other:
Containers	☑ Satisfactory ☐ Broken ☐ Leaking:
Aqueous Preservatives	☑ N/A ☐ pH≤2 ☐ pH>2 Comment:
Temperature	☐ Received on Ice ☑ Received at 4 ± 2 °C ☐ Other: °C
Extraction Method	Water: Soil/Sediment: 3545

TPH Analytical Results

Method for Ranges: MADEP EPH 03-1		**Client ID**		**TP 8W**				
Method for Target Analytes:		**Lab ID**		**E205528-11A**				
TPH Surrogate Standards: COD, OTP		**Date Collected**		**05/07/2012**				
		Date Received		**05/08/2012**				
		Date Thawed		**NA**				
		Date Extracted		**05/10/2012**				
		Date Analyzed		**05/15/2012**				
		Time Analyzed		**18:07**				
		Dilution Factor		**1**				
		% Moisture (soil/sediment)		**34**				
Range/Target Analyte		**RL**	**Units**					
Unadjusted Total Petroleum Hydrocarbons[1]		**10**	**mg/kg**	**440 E**				
Diesel PAH Analytes	**Naphthalene**							
	2-Methylnaphthalene							
	Phenanthrene							
	Acenaphthene							
Other PAH Target Analytes								
Total Petroleum Hydrocarbons[2]								
Sample Surrogate % Recovery - COD				**83**				
Sample Surrogate % Recovery - OTP				**87**				
Sample Surrogate Acceptance Range				**40-140%**	**40-140%**	**40-140%**	**40-140%**	**40-140%**

[1] Hydrocarbon Range data exclude area counts of any surrogate(s) and/or internal standards eluting in that range

[2] Total Petroleum Hydrocarbons exclude the concentration of PAH Target Analytes only if determined by GC/MS

FORM 3
Water MADEP VPH Lab Control Sample

Lab Name: Premier Laboratory, Inc Date Analyzed 5/10/2012

Project No.: E205528 Project: New Bedford - 45 Cove Stre

Sample No.: VLCS0510 Location: New Bedford, MA

Lab File ID: 2051006.D Batch No.: 94981

Compound	Spike Added (ug/L)	Sample Concentration (ug/L)	% Rec #	QC Limits Rec
1,2,4-Trimethylbenzene	20.00	19.46	97	70-130
2-Methylpentane	20.00	20.97	105	70-130
Benzene	20.00	20.73	104	70-130
C5-C8 Aliphatics	60.00	62.12	104	70-130
C9-C10 Aromatics	20.00	22.04	110	70-130
C9-C12 Aliphatics	60.00	64.78	108	70-130
Decane	20.00	20.27	101	70-130
Ethylbenzene	20.00	19.97	100	70-130
m,p-Xylenes	40.00	39.99	100	70-130
Methyl tert-butyl ether (M	20.00	22.13	111	70-130
n-Butylcyclohexane	20.00	24.25	121	70-130
Naphthalene	20.00	23.42	117	70-130
Nonane	20.00	20.26	101	70-130
o-Xylene	20.00	19.71	98	70-130
Toluene	20.00	20.14	101	70-130
Benzene #2	20.00	17.14	86	70-130
Ethylbenzene #2	20.00	20.60	103	70-130
m,p-Xylenes #2	40.00	43.73	109	70-130
Methyl tert-butyl ether (M	20.00	19.68	98	70-130
Naphthalene #2	20.00	24.90	124	70-130
o-Xylene #2	20.00	20.77	104	70-130
Toluene #2	20.00	18.22	91	70-130

FORM 3
Water MADEP VPH Lab Control Sample Duplicate

Lab Name: Premier Laboratory, Inc Date Analyzed 5/10/2012

Project No.: E205528 Project: New Bedford - 45 Cove Stre

Sample No.: VLCS0510 Location: New Bedford, MA

Lab File ID: 2051007.D Batch No.: 94981

Compound	Spike Added (ug/L)	Sample Concentration (ug/L)	% Rec #	RPD #	QC Limits RPD	QC Limits Rec
1,2,4-Trimethylbenzene	20.00	21.90	110	12.6	25	70-130
2-Methylpentane	20.00	23.55	118	11.6	25	70-130
Benzene	20.00	23.55	118	12.6	25	70-130
C5-C8 Aliphatics	60.00	70.11	117	11.8	25	70-130
C9-C10 Aromatics	20.00	24.60	123	11.2	25	70-130
C9-C12 Aliphatics	60.00	61.62	103	4.74	25	70-130
Decane	20.00	19.75	99	2.00	25	70-130
Ethylbenzene	20.00	22.73	114	13.1	25	70-130
m,p-Xylenes	40.00	45.46	114	13.1	25	70-130
Methyl tert-butyl ether (M	20.00	24.06	120	7.79	25	70-130
n-Butylcyclohexane	20.00	22.81	114	5.96	25	70-130
Naphthalene	20.00	23.14	116	0.86	25	70-130
Nonane	20.00	19.06	95	6.12	25	70-130
o-Xylene	20.00	22.33	112	13.3	25	70-130
Toluene	20.00	22.91	114	12.1	25	70-130
Benzene #2	20.00	19.69	98	13.0	25	70-130
Ethylbenzene #2	20.00	23.93	120	15.2	25	70-130
m,p-Xylenes #2	40.00	49.53	124	12.9	25	70-130
Methyl tert-butyl ether (M	20.00	21.69	108	9.71	25	70-130
Naphthalene #2	20.00	24.56	123	0.81	25	70-130
o-Xylene #2	20.00	23.40	117	11.8	25	70-130
Toluene #2	20.00	21.28	106	15.2	25	70-130

FORM 3
Water MADEP VPH Lab Control Sample

Lab Name: Premier Laboratory, Inc Date Analyzed 5/16/2012

Project No.: E205528 Project: New Bedford - 45 Cove Stre

Sample No.: VLCS0516 Location: New Bedford, MA

Lab File ID: 2051602.D Batch No.: 95156

Compound	Spike Added (ug/L)	Sample Concentration (ug/L)	% Rec #	QC Limits Rec
1,2,4-Trimethylbenzene	20.00	20.04	100	70-130
2-Methylpentane	20.00	21.44	107	70-130
Benzene	20.00	21.04	105	70-130
C5-C8 Aliphatics	60.00	64.70	108	70-130
C9-C10 Aromatics	20.00	24.00	120	70-130
C9-C12 Aliphatics	60.00	64.02	107	70-130
Decane	20.00	21.67	108	70-130
Ethylbenzene	20.00	21.00	105	70-130
m,p-Xylenes	40.00	41.63	104	70-130
Methyl tert-butyl ether (M	20.00	21.92	110	70-130
n-Butylcyclohexane	20.00	20.60	103	70-130
Naphthalene	20.00	21.70	108	70-130
Nonane	20.00	21.74	109	70-130
o-Xylene	20.00	20.17	101	70-130
Toluene	20.00	20.59	103	70-130
Benzene #2	20.00	19.42	97	70-130
Ethylbenzene #2	20.00	22.15	111	70-130
m,p-Xylenes #2	40.00	48.18	120	70-130
Methyl tert-butyl ether (M	20.00	19.90	99	70-130
Naphthalene #2	20.00	24.86	124	70-130
o-Xylene #2	20.00	22.46	112	70-130
Toluene #2	20.00	19.68	98	70-130

FORM 3
Water MADEP VPH Lab Control Sample Duplicate

Lab Name: Premier Laboratory, Inc Date Analyzed 5/16/2012

Project No.: E205528 Project: New Bedford - 45 Cove Stre

Sample No.: VLCS0516 Location: New Bedford, MA

Lab File ID: 2051603.D Batch No.: 95156

Compound	Spike Added (ug/L)	Sample Concentration (ug/L)	% Rec #	RPD #	QC Limits RPD	QC Limits Rec
1,2,4-Trimethylbenzene	20.00	20.18	101	1.0	20	70-130
2-Methylpentane	20.00	21.02	105	1.89	20	70-130
Benzene	20.00	21.25	106	0.95	20	70-130
C5-C8 Aliphatics	60.00	63.27	105	2.82	20	70-130
C9-C10 Aromatics	20.00	24.05	120	0	20	70-130
C9-C12 Aliphatics	60.00	61.83	103	3.81	20	70-130
Decane	20.00	20.96	105	2.82	20	70-130
Ethylbenzene	20.00	21.21	106	0.95	20	70-130
m,p-Xylenes	40.00	42.11	105	0.96	20	70-130
Methyl tert-butyl ether (M	20.00	21.48	107	2.76	20	70-130
n-Butylcyclohexane	20.00	19.74	99	3.96	20	70-130
Naphthalene	20.00	20.28	101	6.70	20	70-130
Nonane	20.00	21.13	106	2.79	20	70-130
o-Xylene	20.00	20.45	102	0.98	20	70-130
Toluene	20.00	20.82	104	0.97	20	70-130
Benzene #2	20.00	20.33	102	5.02	20	70-130
Ethylbenzene #2	20.00	22.72	114	2.67	20	70-130
m,p-Xylenes #2	40.00	48.59	121	0.83	20	70-130
Methyl tert-butyl ether (M	20.00	19.87	99	0	20	70-130
Naphthalene #2	20.00	23.14	116	6.67	20	70-130
o-Xylene #2	20.00	22.71	114	1.77	20	70-130
Toluene #2	20.00	20.48	102	4.00	20	70-130

FORM 4
MADEP VPH Method Blank Summary

Project No.: E205528 Project: New Bedford - 45 Cove Stre

Lab File ID: 2051009.D Lab Sample ID: VBLK0510

Matrix: Water Date Analyzed: 5/10/2012

Instrument ID: GC2

Batch No.: 94981 Time Analyzed: 1316

This Method Blank Applies To The Following Samples, MS and MSD:

	Lab Sample No.	Client Sample ID	Lab File ID	Date Analyzed
1	E205528-1B	TP19N	2051016.D	5/10/2012
2	E205528-2B	TP19S	2051017.D	5/10/2012
3	E205528-3B	TP19W	2051018.D	5/10/2012
4	E205528-4B	TP2N	2051019.D	5/10/2012
5	E205528-5B	TP2W	2051020.D	5/10/2012
6	E205528-6B	TP18W	2051021.D	5/10/2012
7	E205204-1B MED	E205204-1B MED	2051010.D	5/10/2012
8	E205204-1B MED	E205204-1B MED	2051011.D	5/10/2012
9	VLCS0510	VLCS0510	2051006.D	5/10/2012
10	VLCSD0510	VLCSD0510	2051007.D	5/10/2012

FORM 4
MADEP VPH Method Blank Summary

Project No.: E205528 Project: New Bedford - 45 Cove Stre

Lab File ID: 2051605.D Lab Sample ID: VBLK0516

Matrix: Water Date Analyzed: 5/16/2012

Instrument ID: GC2

Batch No.: 95156 Time Analyzed: 1031

This Method Blank Applies To The Following Samples, MS and MSD:

	Lab Sample No.	Client Sample ID	Lab File ID	Date Analyzed
1	E205528-7B	TP18S	2051606.D	5/16/2012
2	E205528-8B	TP8N	2051607.D	5/16/2012
3	E205528-9B	TP8S	2051608.D	5/16/2012
4	E205528-10B	TP8E	2051609.D	5/16/2012
5	E205528-11B	TP8W	2051610.D	5/16/2012
6	VLCS0516	VLCS0516	2051602.D	5/16/2012
7	VLCSD0516	VLCSD0516	2051603.D	5/16/2012

FORM 3

Soil MADEP EPH Lab Control Sample/Lab Control Sample Duplicate

Lab Name: Premier Laboratory, Inc Date Analyzed 5/14/2012

Project No.: E205528 Project: New Bedford - 45 Cove Stre

Sample No.: LCS0510S-1 Location: New Bedford, MA

Lab File ID: A051404.D Batch No.: 95764

Compound	Spike Added (ug/kg)	Sample Concentration (ug/kg)	% Rec #	QC Limits Rec
C9-C36 TPH	700.00	414.39	59	40-140

Lab Name: Premier Laboratory, Inc Date Analyzed 5/14/2012

Project No.: E205528 Project: New Bedford - 45 Cove Stre

Sample No.: LCS0510S-1 Location: New Bedford, MA

Lab File ID: A051405.D Batch No.: 95764

Compound	Spike Added (ug/L)	Sample Concentration (ug/L)	% Rec #	RPD #	QC Limits RPD	QC Limits Rec
C9-C36 TPH	700.00	408.99	58	1.71	58	40-140

FORM 4
MADEP EPH Method Blank Summary

Project No.: E205528 Project: New Bedford - 45 Cove Stre

Lab File ID: A051403.D Lab Sample ID: E0510BS-1

Matrix: Soil Date Analyzed: 5/14/2012

Instrument ID: GC1

Batch No.: 95764 Time Analyzed: 1255

This Method Blank Applies To The Followinq Samples, MS and MSD:

	Lab Sample No.	Client Sample ID	Lab File ID	Date Analyzed
1	E205528-1A	TP19N	A051406.D	5/14/2012
2	E205528-2A	TP19S	A051407.D	5/14/2012
3	E205528-3A	TP19W	A051408.D	5/14/2012
4	E205528-4A	TP2N	A051416.D	5/15/2012
5	E205528-5A	TP2W	A051417.D	5/15/2012
6	E205528-6A	TP18W	A051411.D	5/15/2012
7	E205528-7A	TP18S	A051413.D	5/15/2012
8	E205528-8A	TP8N	A051414.D	5/15/2012
9	E205528-9A	TP8S	A051415.D	5/15/2012
10	E205528-10A	TP8E	A051412.D	5/15/2012
11	E205528-11A	TP8W	A051418.D	5/15/2012
12	LCS0510S-1	LCS0510S-1	A051404.D	5/14/2012
13	LCSD0510S-1	LCSD0510S-1	A051405.D	5/14/2012

Premier Laboratory, Inc.
61 Louisa Viens Drive
Dayville, CT 06241
(800) 334-0103

Chain of Custody:

WWW.PREMIERLABORATORY.COM

Lab WO #: E205528
Project Manager: Bradford C Gauthier

Copy of Report To
CUSTOMER: WESTON + SAMPSON
ADDRESS: 5 CONTENNIAL DRIVE
PEABODY, MA 01960

DELIVERY: ATTN: JIM CURRIER
E-MAIL: currierj@wseinc.com
PHONE: 978-532-1900x2226 Fax: 978-573-4012

Billing Information
BILL TO: CITY OF NEW BEDFORD
133 WILLIAM STREET Room 304
NEW BEDFORD, MA 02740

ATTENTION: CHERYL HENLIN
PHONE: 508-961-4576
PURCHASE ORDER #: 45 COVE STREET

Project Information
Project: NEW BEDFORD
Location: 45 COVE STREET
Project Mgr: JIM CURRIER
IN CASE WE HAVE ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL:
E-MAIL: currierj@wseinc.com
PHONE: 978-532-1900 x 2226
FAX: 978-573-4012

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: VPH-MADEP	Analysis: EPH-MADEP	Analysis: Chromium	Analysis: Hex. Chromium	Analysis: Lead	Analysis: pH	Analysis: ORP	Preservatives: H_2SO_4	Preservatives: HCL	Preservatives: HNO_3	Preservatives: NON-PRES	Preservatives: Mixed
TP19N 5/7/12	~~4/30/12~~	11:15	X		SOIL	5	X	X	X	X	X	X	X					X
TP19S 5/7/12	~~4/30/12~~	11:45	X		SOIL	5	X	X	X	X	X	X	X					X
~~TP19E~~	~~4/30/12~~	~~12:45~~	~~X~~		~~SOIL~~	~~5~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~					~~X~~
TP19W 5/7/12	~~4/30/12~~	11:30	X		SOIL	5	X	X	X	X	X	X	X					X
TP2N	5/7/12	9:45	X		SOIL	5	X	X	X	X	X	X	X					X
TP2W	5/7/12	10:00	X		SOIL	5	X	X	X	X	X	X	X					X
TP18W	5/7/12	10:15	X		SOIL	5	X	X	X	X	X	X	X					X
TP18S	5/7/12	10:30	X		SOIL	5	X	X	X	X	X	X	X					X
~~TP DUP~~			~~X~~		~~SOIL~~	~~5~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~					~~X~~

CUSTODY TRANSFER	DATE	Time
SAMPLER: STEVEN PISCIA	5/7/12	
RECEIVED:	/ /	
RELINQUISHED: [signature]	5-8-12	10:19
RECEIVED: [signature]	5-8-12	10:19
RELINQUISHED: [signature]	5-8-12	17:35
RECEIVED: Michael Noble	5/8/12	17:35

TURNAROUND (INDICATE IN CALENDAR DAYS): FAX | HARD COPY | E-MAIL X

EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS: MCP METHOD 1 S-1 CLEANUP STANDARDS
FOLLOW MASSDEP CAM PROTOCOLS

CONDITIONS UPON RECEIPT: (CHECK ONE)
COOLED ☑ AMBIENT ☐ 3.9 °C Upon receipt at lab

Premier Laboratory, Inc.
61 Louisa Viens Drive
Dayville, CT 06241
(800) 334-0103

Chain of Custody:

WWW.PREMIERLABORATORY.COM

Lab WO #: E205528
Project Manager: Bradford C Gaudette

Copy of Report To

CUSTOMER: Weston + Sampson
ADDRESS: 5 Centennial Drive
Peabody, MA 0960
DELIVERY: Attn: Jim Cloerier
E-MAIL: cumerj@wseinc.com
PHONE: 978-532-1900 x2226 Fax: 978-573-4012

Billing Information

BILL TO: City of New Bedford
ADDRESS: 133 William Street, Room 304
New Bedford, MA 02740
ATTENTION: Cheryl Henlin
PHONE: 508-961-4576
PURCHASE ORDER #: 45 Cove Street

Project Information

Project: New Bedford
Location: 45 Cove Street
Project Mgr: Jim Cloerier
IN CASE WE HAVE ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL:
E-MAIL: cumerj@wseinc.com
PHONE: 978-532-1900 x2226
FAX: 978-573-4012

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: VPH-MADEP	Analysis: EPH-MADEP	Analysis: Chromium	Analysis: Hex. Chromium	Analysis: Lead	Analysis: pH	Analysis: CRP	Analysis: MS/MSD				Preservatives: H_2SO_4	Preservatives: HCL	Preservatives: HNO_3	Preservatives: NON-PRES	Preservatives: Mixed
~~TP9N~~	~~4/30/12~~	~~9:45~~	~~X~~		~~Soil~~	~~5~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~								~~X~~
~~TP9S~~	~~4/30/12~~	~~9:00~~	~~X~~		~~Soil~~	~~5~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~									~~X~~
~~TP9E~~	~~4/30/12~~	~~9:15~~	~~X~~		~~Soil~~	~~5~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~									~~X~~
~~TP9W~~	~~4/30/12~~	~~9:30~~	~~X~~		~~Soil~~	~~5~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~									~~X~~
TP8N	5/7/12	~~4/30/12~~ ~~11:00~~ 12:15	X		Soil	5	X	X	X	X	X	X	X									X
TP8S	5/7/12	~~4/30/12~~ ~~11:15~~ 12:30	X		Soil	5	X	X	X	X	X	X	X									X
TP8E	5/7/12	~~4/30/12~~ ~~11:30~~ 12:15	X		Soil	5	X	X	X	X	X	X	X									X
TP8W	5/7/12	~~4/30/12~~ ~~11:45~~ 1:00	X		Soil	5	X	X	X	X	X	X	X									X
~~TPDUP~~	~~4/30/12~~	~~9:30~~	~~X~~		~~Soil~~	~~5~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~									~~X~~

CUSTODY TRANSFER		DATE	Time
SAMPLER:	Steven Piscoa (WSE)	5/7/12	
RECEIVED:			
RELINQUISHED:	[illegible]	5-8-12	10:19
RECEIVED:	[illegible]	5-8-12	10:19
RELINQUISHED:	[illegible]	5-8-12	17:35
RECEIVED:	Michael Noble	5/8/12	17:35

TURNAROUND (INDICATE IN CALENDAR DAYS): FAX | HARD COPY | E-MAIL X

EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS: MCP METHOD 1 S-1 CLEANUP STANDARDS
FOLLOW MASSDEP CAM PROTOCOLS

CONDITIONS UPON RECEIPT: (CHECK ONE)
COOLED ☑ AMBIENT ☐ 3.9 °C Upon receipt at lab

Appendix D

Weston&Sampson

APPENDIX D

DUA Tables

Appendix D
Data Usability Assessment
45 Cove Street
New Bedford, MA
April-May 2012

Lab Project Number	CAM Protocol	Lab and Sample ID	Date Collected	Sample Type	CAM Compliant	Analyte(s) Qualified	Reference ID	Data Bias	Resolution	Data Usability Issue
E205204 E205528	Cr(VI)-7196A	All Samples	4/30/2012	Soil and Lab QA/QC Samples	No	Chromium (VI)	Cr-01	No bias expected	The ph/ORP measurements indicate that the affected samples are in a reducing condition; however, the pH and ORP were taken past the allowable holding time.	Yes
E205204 E205528	Cr(VI)-7196A	All Samples	4/30/2012	Soil and Lab QA/QC Samples	No	Chromium (VI)	Cr-02	No bias expected	The holding time was exceeded for the pH and ORP measurements associated with the hexavalent chromium analysis.	Yes
E205528	Metal-6010B	Sample 1A, TP19N		Soil	Yes	Lead	M-01	No bias expected	The LFM/LFMD recoveries are within the allowable limits. Data validation is not affected. No further action was taken.	No
E205204	VPH-04-1.1	Sample 1B, TP9N	4/30/2012	Soil and Lab QA/QC Samples	Yes	Several compounds	VPH-01	Varies depending on recovery exceedence - high or low	The associated LCS recoveries were within the established quality control limits.	No
E205204 E205528	EPH-04-1.1	All Samples	4/30/2012	Soil	No	TPH	EPH-01	Varies depending on exceedance	MA CAM requires the dilution of samples in which target analytes exceed the concentration of their respective highest calibration standard.	Yes

Reference ID:
Cr-01 - The soluble Matrix spike/ matrix spike duplicate sample recovery was less than the required >30% recovery limits due to matrix interference. The associated LCS recoveries were within the established quality control limits.
Cr-02 - The holding time was exceeded for the pH and ORP measurements associated with the hexavalent chromium analysis. The measurements were not performed within 24 hours of sample collection as required in WSC-CAM-VI B.
M-01 - The duplicate analysis for lead was outside of the established limits.
VPH-01 - Several compound recoveries for the matrix spike/ matrix spike duplicate were outside of the established control limits due to matrix interference. The associated LCS recoveries were within the established quality control limits.
EPH-01 - Reported TPH result exceeds the calibration curve and is estimated. A dilution was unable to be performed on the sample extract.

Appendix D
Data Usability Assessment
45 Cove Street
New Bedford, MA
April-May 2012

Lab Project Number	CAM Protocol	Lab and Sample ID	Date Collected	Sample Type	CAM Compliant	Analyte(s) Qualified	Reference ID	Data Bias	Resolution	Data Usability Issue
E204A38	Metal-6010B	All Samples	4/16/2012	Groundwater	Yes	Silver	Premier	No bias encountered	No further action was necessary.	No

Appendix D
Data Usability Assessment
45 Cove Street
New Bedford, MA
August 2012

Lab Project Number	CAM Protocol	Lab and Sample ID	Date Collected	Sample Type	CAM Compliant	Analyte(s) Qualified	Reference ID	Data Bias	Resolution	Data Usability Issue
12H0316	EPH-04-1.1	All Samples	8/9/2012	Soil and Lab QA/QC Samples	Yes	n-Nonane	L-01	No bias expected	RPD between the two LFB/LCS results is within the method specified criteria. Data validity is not affected.	Yes
12H0316	Cr(VI)-7196A	All Samples	8/9/2012	Soil Samples	Yes	Chromium (VI)	MS-16	No bias expected	Analysis is in control based on LCS recoveries. Reanalysis is not required.	Yes
12H0316	Cr(VI)-7196A	All Samples	8/9/2012	Soil Samples	Yes	Chromium (VI)	W-06	No bias expected	Analyte not detected. Data validity is not affected	No

Reference ID:
L-07 - Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within control limits. established quality control limits.
MS-16 - For solid method SW846-7196A, the matrix spike is outside of control limits. pH and ORP results were indicative of reducing conditions.
W-06 - Elevated method reporting limit due to intense color of sample.